

**PUB. 132**  
**SAILING DIRECTIONS**  
**(ENROUTE)**



**EASTERN**  
**MEDITERRANEAN**



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### Explanatory Remarks

Sailing Directions are published by the National Geospatial-Intelligence Agency (NGA), under the authority of Department of Defense Directive 5105.40, dated 12 December 1988, and pursuant to the authority contained in U. S. Code Title 10, Sections 2791 and 2792 and Title 44, Section 1336. Sailing Directions, covering the harbors, coasts, and waters of the world, provide information that cannot be shown graphically on nautical charts and is not readily available elsewhere.

Sailing Directions (Enroute) include detailed coastal and port approach information which supplements the largest scale chart produced by the National Geospatial-Intelligence Agency. This publication is divided into geographic areas called "Sectors."

**Bearings.**—Bearings are true, and are expressed in degrees from 000° (north) to 360°, measured clockwise. General bearings are expressed by initial letters of points of the compass (e.g. N, NNE, NE, etc.). Adjective and adverb endings have been discarded. Wherever precise bearings are intended degrees are used.

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**Courses.**—Courses are true, and are expressed in the same manner as bearings. The directives "steer" and "make good" a course mean, without exception, to proceed from a point of origin along a track having the identical meridional angle as the designated course. Vessels following the directives must allow for every influence tending to cause deviation from such track, and navigate so that the designated course is continuously being made good.

**Currents.**—Current directions are the true directions toward which currents set.

**Dangers.**—As a rule outer dangers are fully described, but inner dangers which are well-charted are, for the most part, omitted. Numerous offshore dangers, grouped together, are mentioned only in general terms. Dangers adjacent to a coastal passage or fairway are described.

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**Heights.**—Heights are referred to the plane of reference used for that purpose on the charts and are expressed in meters.

**Index-Gazetteer.**—Navigational features and place-names are listed alphabetically in the back of the book. The approximate position, along with the Sector and paragraph numbers (e.g. 1.1), facilitate location in the text.

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**Light and Fog Signals.**—Lights and fog signals are not described, and light sectors are not usually defined. The Light Lists should be consulted for complete information.

**Ports.**—Directions for entering ports are depicted where appropriate by means of chartlets, sketches, and photos, which facilitate positive identification of landmarks and navigational aids. These chartlets and sketches are not always to scale, however, and should be used only as a general informational guide in conjunction with the best scale chart. Specific port facilities are omitted from the standard format. They are tabulated in Pub. 150, World Port Index.

**Radio Navigational Aids.**—Radio navigational aids are not described in detail. Publication No. 117 Radio Navigational Aids and NOAA Publication, Selected Worldwide Marine Broadcasts, should be consulted.

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**Soundings.**—Soundings are referred to the datum of the charts and are expressed in meters.

**Special Warnings.**—A Special Warning may be in force for the geographic area covered by this publication. Special Warnings are printed in the weekly Notice to Mariners upon promulgation and are reprinted annually in Notice to Mariners No. 1. A listing of Special Warnings currently in force is printed in each weekly Notice to Mariners, Section III, Broadcast Warnings, along with the notice number of promulgation. Special Warnings are also available on the Maritime Division website.

**Wind Directions.**—Wind directions are the true directions from which winds blow.

### Reference List

The principal sources examined in the preparation of this publication were:

- British Hydrographic Department Sailing Directions.
- Croatian Sailing Directions
- French Sailing Directions.
- Greek Sailing Directions
- Various port handbooks.
- Reports from United States naval and merchant vessels and various shipping companies.
- Other U.S. Government publications, reports, and documents.
- Charts, light lists, tide and current tables, and other documents in possession of the Agency.
- Internet Web sites, as follows:
  1. Aksaz, Port of  
<http://www.aksaz.com>
  2. Ashdod, Port of  
<http://www.ashdodport.org.il>
  3. Holiday Suites Hotel and Resort  
<http://HolidaySuites.com>
  4. Tripoli, Port of  
<http://tripoli-city.org>

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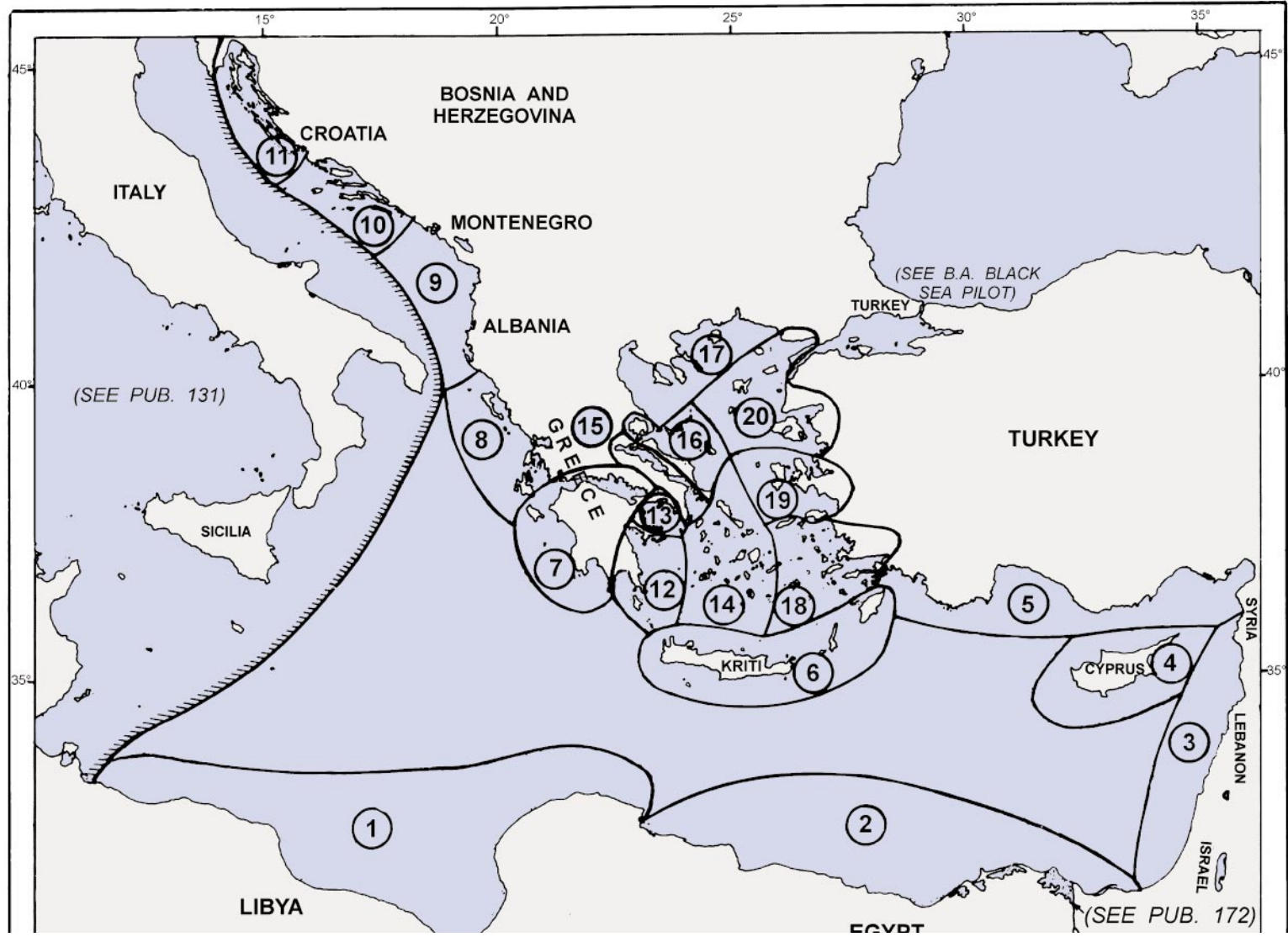
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SECTOR LIMITS—PUB. 132

## Conversion Tables

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### Feet to Meters

Feet	0	1	2	3	4	5	6	7	8	9
<b>0</b>	0.00	0.30	0.61	0.91	1.22	1.52	1.83	2.13	2.44	2.74
<b>10</b>	3.05	3.35	3.66	3.96	4.27	4.57	4.88	5.18	5.49	5.79
<b>20</b>	6.10	6.40	6.71	7.01	7.32	7.62	7.92	8.23	8.53	8.84
<b>30</b>	9.14	9.45	9.75	10.06	10.36	10.67	10.97	11.28	11.58	11.89
<b>40</b>	12.19	12.50	12.80	13.11	13.41	13.72	14.02	14.33	14.63	14.93
<b>50</b>	15.24	15.54	15.85	16.15	16.46	16.76	17.07	17.37	17.68	17.98
<b>60</b>	18.29	18.59	18.90	19.20	19.51	19.81	20.12	20.42	20.73	21.03
<b>70</b>	21.34	21.64	21.95	22.25	22.55	22.86	23.16	23.47	23.77	24.08
<b>80</b>	24.38	24.69	24.99	25.30	25.60	25.91	26.21	26.52	26.82	27.13
<b>90</b>	27.43	27.74	28.04	28.35	28.65	28.96	29.26	29.57	29.87	30.17

### Fathoms to Meters

Fathoms	0	1	2	3	4	5	6	7	8	9
<b>0</b>	0.00	1.83	3.66	5.49	7.32	9.14	10.97	12.80	14.63	16.46
<b>10</b>	18.29	20.12	21.95	23.77	25.60	27.43	29.26	31.09	32.92	34.75
<b>20</b>	36.58	38.40	40.23	42.06	43.89	45.72	47.55	49.38	51.21	53.03
<b>30</b>	54.86	56.69	58.52	60.35	62.18	64.01	65.84	67.67	69.49	71.32
<b>40</b>	73.15	74.98	76.81	78.64	80.47	82.30	84.12	85.95	87.78	89.61
<b>50</b>	91.44	93.27	95.10	96.93	98.75	100.58	102.41	104.24	106.07	107.90
<b>60</b>	109.73	111.56	113.39	115.21	117.04	118.87	120.70	122.53	124.36	126.19
<b>70</b>	128.02	129.85	131.67	133.50	135.33	137.16	138.99	140.82	142.65	144.47
<b>80</b>	146.30	148.13	149.96	151.79	153.62	155.45	157.28	159.11	160.93	162.76
<b>90</b>	164.59	166.42	168.25	170.08	171.91	173.74	175.56	177.39	179.22	181.05

### Meters to Feet

Meters	0	1	2	3	4	5	6	7	8	9
<b>0</b>	0.00	3.28	6.56	9.84	13.12	16.40	19.68	22.97	26.25	29.53
<b>10</b>	32.81	36.09	39.37	42.65	45.93	49.21	52.49	55.77	59.06	62.34
<b>20</b>	65.62	68.90	72.18	75.46	78.74	82.02	85.30	88.58	91.86	95.14
<b>30</b>	98.42	101.71	104.99	108.27	111.55	114.83	118.11	121.39	124.67	127.95
<b>40</b>	131.23	134.51	137.80	141.08	144.36	147.64	150.92	154.20	157.48	160.76
<b>50</b>	164.04	167.32	170.60	173.88	177.16	180.45	183.73	187.01	190.29	193.57
<b>60</b>	196.85	200.13	203.41	206.69	209.97	213.25	216.54	219.82	223.10	226.38
<b>70</b>	229.66	232.94	236.22	239.50	242.78	246.06	249.34	252.62	255.90	259.19
<b>80</b>	262.47	265.75	269.03	272.31	275.59	278.87	282.15	285.43	288.71	291.99
<b>90</b>	295.28	298.56	301.84	305.12	308.40	311.68	314.96	318.24	321.52	324.80

### Meters to Fathoms

Meters	0	1	2	3	4	5	6	7	8	9
<b>0</b>	0.00	0.55	1.09	1.64	2.19	2.73	3.28	3.83	4.37	4.92
<b>10</b>	5.47	6.01	6.56	7.11	7.66	8.20	8.75	9.30	9.84	10.39
<b>20</b>	10.94	11.48	12.03	12.58	13.12	13.67	14.22	14.76	15.31	15.86
<b>30</b>	16.40	16.95	17.50	18.04	18.59	19.14	19.68	20.23	20.78	21.33
<b>40</b>	21.87	22.42	22.97	23.51	24.06	24.61	25.15	25.70	26.25	26.79
<b>50</b>	27.34	27.89	28.43	28.98	29.53	30.07	30.62	31.17	31.71	32.26
<b>60</b>	32.81	33.36	33.90	34.45	35.00	35.54	36.09	36.64	37.18	37.73
<b>70</b>	38.28	38.82	39.37	39.92	40.46	41.01	41.56	42.10	42.65	43.20
<b>80</b>	43.74	44.29	44.84	45.38	45.93	46.48	47.03	47.57	48.12	48.67
<b>90</b>	49.21	49.76	50.31	50.85	51.40	51.95	52.49	53.04	53.59	54.13

## Abbreviations

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The following abbreviations may be used in the text:

### Units

°C	degree(s) Centigrade	km	kilometer(s)
cm	centimeter(s)	m	meter(s)
cu.m.	cubic meter(s)	mb	millibars
dwt	deadweight tons	MHz	megahertz
FEU	forty-foot equivalent units	mm	millimeter(s)
grt	gross registered tons	nrt	net registered tons
kHz	kilohertz	TEU	twenty-foot equivalent units

### Directions

N	north	S	south
NNE	northeast	SSW	southsouthwest
NE	northeast	SW	southwest
ENE	eastnortheast	WSW	westsouthwest
E	east	W	west
ESE	eastsoutheast	WNW	westnorthwest
SE	southeast	NW	northwest
SSE	southsoutheast	NNW	northnorthwest

### Vessel types

LASH	Lighter Aboard Ship	ro-ro	Roll-on Roll-off
LNG	Liquified Natural Gas	ULCC	Ultra Large Crude Carrier
LPG	Liquified Petroleum Gas	VLCC	Very Large Crude Carrier
OBO	Ore/Bulk/Oil		

### Time

ETA	estimated time of arrival	GMT	Greenwich Mean Time
ETD	estimated time of departure	UTC	Coordinated Universal Time

### Water level

MSL	mean sea level	LWS	low water springs
HW	high water	MHWN	mean high water neaps
LW	low water	MHWS	mean high water springs
MHW	mean high water	MLWN	mean low water neaps
MLW	mean low water	MLWS	mean low water springs
HWN	high water neaps	HAT	highest astronomical tide
HWS	high water springs	LAT	lowest astronomical tide
LWN	low water neaps		

### Communications

D/F	direction finder	MF	medium frequency
R/T	radiotelephone	HF	high frequency
GMDSS	Global Maritime Distress and Safety System	VHF	very high frequency
LF	low frequency	UHF	ultra high frequency

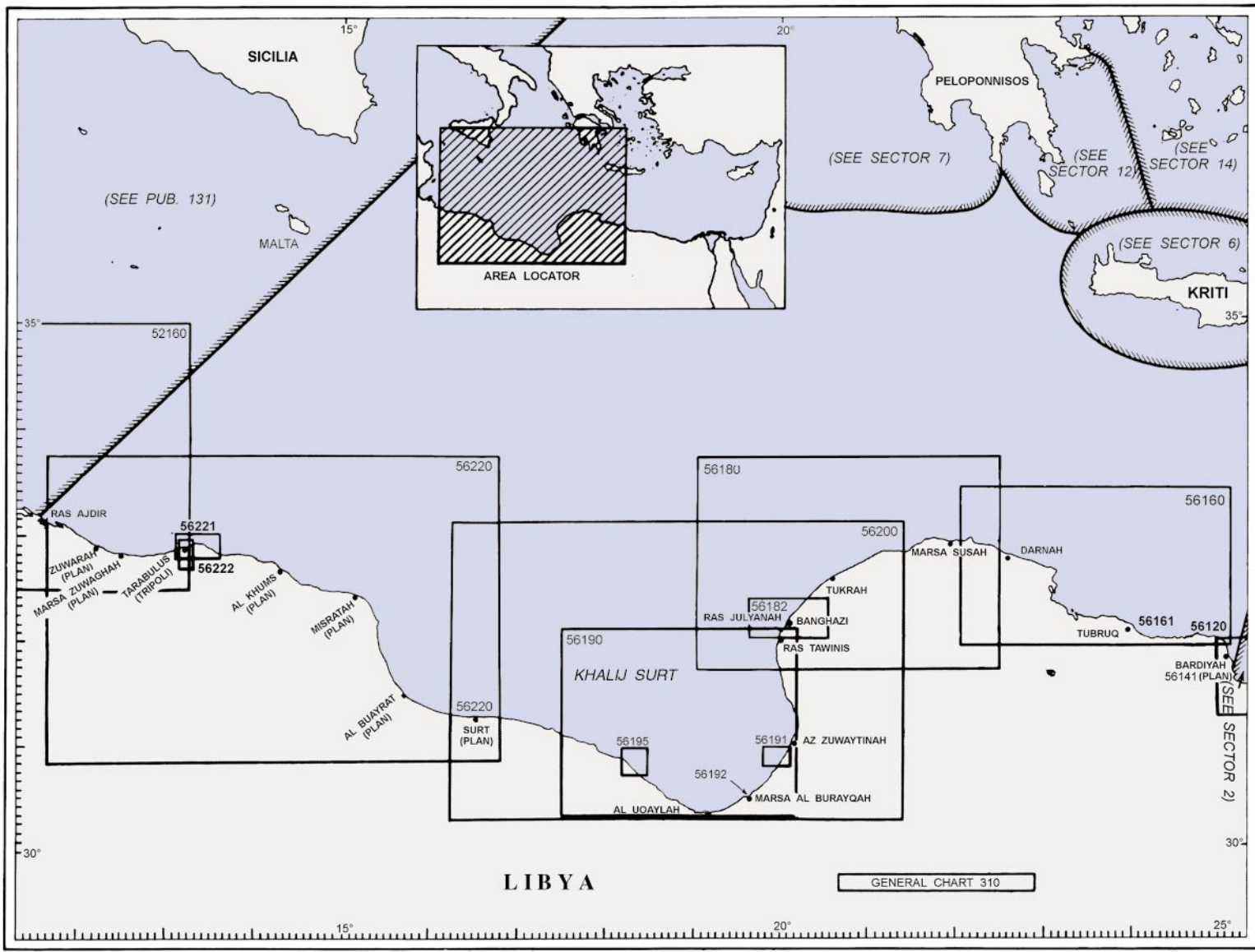
### Navigation

LANBY	Large Automatic Navigation Buoy	SPM	Single Point Mooring
NAVSAT	Navigation Satellite	TSS	Traffic Separation Scheme
ODAS	Ocean Data Acquisition System	VTC	Vessel Traffic Center
SBM	Single Buoy Mooring	VTS	Vessel Traffic Service

### Miscellaneous

COLREGS	Collision Regulations		
IALA	International Association of Lighthouse Authorities	No./Nos.	Number/Numbers
		PA	Position approximate
IHO	International Hydrographic Office	PD	Position doubtful
IMO	International Maritime Organization	Pub.	Publication
loa	length overall	St./Ste.	Saint/Sainte





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 1 — CHART INFORMATION**

# SECTOR 1

## LIBYA

**Plan.**—This sector describes the coast of Libya. The descriptive sequence is W to E from the border with Tunisia to the border with Egypt.

### General Remarks

**1.1** The greater part of this stretch of coast is only charted at small scale and inshore obstructions are shown only symbolically, with many of them remaining uncharted. From Ras Ajdir, the coast extends E for 860 miles to the border with the Arab Republic of Egypt. Important ports along this coast include Tarabulus, Banghazi, and Tubruq.

**Regulations.**—See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea for information concerning special regulations for Libyan waters.

The following are declared prohibited areas:

1. Zone A—An area bound by lines joining the following positions:

- a. 32°52.8'N., 13°24.5'E.
- b. 32°57.7'N., 13°24.5'E.
- c. 32°57.7'N., 13°18.0'E.
- d. 32°53.8'N., 13°22.3'E.

2. Zone B—An area bound by lines joining the following positions:

- a. 32°53.7'N., 13°20.6'E.
- b. 32°55.9'N., 13°18.0'E.
- c. 32°55.9'N., 13°15.0'E.
- d. 32°54.5'N., 13°15.0'E.

3. Zone C—An area bound by lines joining the following positions:

- a. 31°09.0'N., 19°42.0'E.
- b. 31°09.0'N., 19°19.0'E.
- c. 31°56.0'N., 19°42.0'E.
- d. 31°56.0'N., 19°19.0'E.

4. Zone D—An area bound by lines joining the following positions:

- a. 32°58.0'N., 13°06.0'E.
- b. 32°53.0'N., 13°06.0'E.
- c. 32°58.0'N., 12°48.0'E.
- d. 32°52.0'N., 12°44.0'E.

**Caution.**—Tunny nets may extend up to 6 miles offshore from many of the fishing harbors along the coast and constitute a hazard. A detailed description of these nets is given in Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

Submarines exercise off the coasts described within this sector.

Libyan authorities have established cable protection zones around many submarine cables. Damaging a submarine cable is likely to result in heavy penalties.

During the winter, vessels anchoring in the roadsteads off the coast of Libya and working cargo by day are advised to anchor farther out for the night as at that time of year there are frequent strong winds and occasional NW gales.

Special Warnings are in effect for vessels calling at Libyan ports. See Notice to Mariners No. 1 for details.

### Ras Ajdir to Tarabulus

**1.2 Ras Ajdir** (33°10'N., 11°34'E.) is a low and inconspicuous point marked by a beacon. The boundary between Libya and Tunisia is situated in its vicinity.

The current from Ras Ajdir to Zuwarah is strong and sets SE close inshore.

**Ras at Talijah** (33°07'N., 11°41'E.), located 8 miles SE of Ras Ajdir, is the NW extremity of a low and narrow peninsula which forms the only unusual feature along this coast. Shoals extend up to 6 miles E and N from both of the above points and some are visible in clear weather. A light is shown from a building situated 2 miles ESE of Ras at Talijah.

**Abu Kammash Industrial Complex** (33°04'N., 11°49'E.) is situated 7 miles SE of Ras at Talijah. A jetty, suitable for coasters, extends 0.4 mile N from the shore fronting the complex and has a depth of 6.7m at its head.

The complex can be easily identified from seaward by two white tanks, one larger than the other, and by two marabouts standing on a hill, 21m high, 1 mile E.

A fairway channel, dredged to a depth of 7.9m over a width of 150m and marked by buoys which are liable to be washed away, extends about 1.8 miles SW from the fairway to a turning basin off the jetty.

Permission to use this jetty should be obtained from Zuwarah, giving 24 hours notice so that a local pilot can be made available. The complex monitors VHF channels 10 and 16.

**Bouri Oil Field** (33°54'N., 12°39'E.), consisting of two production platforms and an offshore loading platform (SPM), lies about 70 miles NE of Ras at Talijah. All vessels waiting to load should remain 2 miles S of the SPM. A storage tanker is moored to the SPM and vessels up to 150,000 dwt may load alongside it. Pilotage is compulsory for all vessels. An ETA message should be sent 72 hours, 48 hours, and 24 hours in advance to AGIP Oil Tripoli. Changes to the ETA of more than 12 hours should be reported immediately. The pilots and terminal are available on VHF channels 6, 16, and 70. The pilot boards in the waiting area 2 miles S of the storage tanker. Racons are situated at all the platforms.

**1.3 Zuwarah Marina** (32°56'N., 12°07'E.) (World Port Index No. 45350), a village, lies 24 miles SE of Ras at Talijah and is fronted by a small harbor. This harbor has depths of 4 to 5m and is formed by two moles. Shoals and irregular depths lie in the approaches and it is only entered by small vessels with local knowledge. A light is shown from a framework structure standing on a peninsula close W of the harbor.

The town of Zuwarah stands 1.5 miles NW of the harbor and can be identified by a palm oasis and three conspicuous water towers. Anchorage is available in an area, 1 mile in radius,

centered about 3 miles NE of the light. A dangerous wreck lies about 4.5 miles N of the harbor.

Marsa Zuwaghah, a small indentation, lies 18 miles ESE of Zuwarah and is mostly used by fishing vessels. Fish canneries, painted white, and four conspicuous chimneys stand on the shore. Marsa Sabrathah, another small indentation, lies 2 miles E of Marsa Zuwaghah and is used by fishing vessels and small craft. The ruins of a prominent amphitheater stand on the shore. Anchorage is obtainable by small vessels, in depths of 5 to 7m, rocky bottom, within these two indentations.

**1.4 Zawia Oil Terminal** (32°48'N., 12°43'E.) (World Port Index No. 45335) lies 10 miles E of Marsa Sabrathah and fronts the shore close to the town of Sidi Nasir. A refinery, with two conspicuous burn-off flares and a water tank, are situated in this vicinity. A prominent wind motor stands 1 mile E of the town. A small jetty fronts the refinery.

The offshore facilities include the following:

1. No. 1 Berth, lying 0.8 miles NNE of the jetty, consists of an SPM (SALM) moored in a depth of 22m. Vessels up to 100,000 dwt and 17m draft can be accommodated.

2. No. 2 Berth, lying 1.5 miles ENE of the jetty, consists of a SPM (CBM) moored in a depth of 21m. Vessels up to 25,000 dwt and 10m draft can be accommodated. The berth uses two stern anchors secured to mooring buoys.

3. No. 3 Berth, lying 1.2 miles NE of the jetty, consists of an SPM (SALM) moored in a depth of 24m. Vessels up to 140,000 dwt and 19m draft can be accommodated.

Pilotage is compulsory from the anchorage to the berths. The terminal can be contacted on VHF channels 12 and 16 and vessels should do so as soon as possible upon approaching. The pilot boards in the tanker anchorage area. Vessels awaiting a berth should anchor, in a depth of 25m, sand over rock, about 1 mile N of the loading berths. The berths are in the open sea and vessels must have their main engines ready for immediate use at all times. Operations may be interrupted by strong winds, particularly during the winter.

**1.5 Zanzur** (Janzur) (32°50'N., 13°04'E.), a settlement, is situated 20 miles ENE of Sidi Nasser. The white buildings and chimneys of a tuna cannery stand near the shore and are prominent. Two radio masts stand close to the coast, 1.5 miles ENE of Zanzur.

The coast between Zanzur and Ras el Ahmar, 6 miles ENE, is rugged and uncultivated. A prominent radio mast stands 12 miles S of Ras el Ahmar.

**Caution.**—Several submarine cables, which may best be seen on the chart, extend seaward from a point on the coast, 1 mile ENE of Ras el Ahmar.

### Tarabulus (32°54'N., 13°11'E.)

World Port Index No. 45330

**1.6** Tarabulus, the principal port in Libya, lies in a flat coastal oasis. The old part of the city stands on a rocky promontory and is surrounded by a wall. The harbor fronts the NE side of the city and is protected by breakwaters.

**Winds—Weather.**—In winter, the prevailing winds are from the N and NW which occasionally attain gale force. Dur-

ing summer, the prevailing winds are from the NE. During spring and autumn, a hot dust-laden wind from the S may limit visibility and interrupt port operations. With a sudden squall or NW sea, entering the harbor may be difficult. Strong NW winds are reported to raise heavy seas in the entrance.

Refraction (Fata Morgana) is frequent and errors in estimating distances are possible. Mist or haze is common, especially with winds from between the E to S, and visibility may be reduced. With winds from the S and SW, the coast appears considerably nearer, while the opposite occurs with winds from the E and SE.

**Tides—Currents.**—The tidal rise is slight, being only about 0.5m at springs. The water level in the harbor may be raised by as much as 1m by strong N winds, or by the Marrobbio, which consists of a series of waves or surges.

The current off the port sets SE with a rate of 0.5 to 1 knot. Because of the prevailing NE winds during the summer, a set in the opposite direction may be experienced. A surface current associated with the Marrobbio may set across or through the harbor entrance. This current may be very strong and has been reported to attain a rate of over 3 knots, causing eddies and rips. It does not set in one direction for more than 30 minutes after which it may set strongly in the opposite direction and then gradually dissipate.

**Depths—Limitations.**—It has been reported that the approach and entrance channels are dredged to a depth of 12m over a minimum width of 150m.

The harbor is divided into inner and outer parts by two moles. Small naval bases lie in the SE corner of the outer harbor and the SE corner of the inner harbor. Several mooring buoys are situated within the harbor.

There is 4,100m of total commercial berthing space, with depths of 3 to 12m alongside. There are facilities for ro-ro, container, bulk, and tanker vessels. Vessels of any size up to 8.3m draft can be accommodated.

**Aspect.**—From seaward, the white buildings and minarets of the city stand out clearly against the green of the surroundings.

Spanish Mole extends 1 mile NE from the N part of the town and forms the N side of the harbor. The N breakwater extends 1.1 miles NE from the NE end of Spanish Mole and then turns SE to form the entrance. The S breakwater extends 0.6 mile NNW from the S shore of the harbor.

A light is shown a prominent structure, 27m high, standing near the root of the N breakwater.

Conspicuous landmarks include a water tower, 30m high, standing 0.3 mile SW of the light; The Castle, with two flag-staffs, situated 0.5 mile SSE of the light; the belfry of the church of Santa Maria degli Angeli standing 0.4 mile S of the light; the cathedral, with its octagonal dome and belfry, situated 1 mile SE of the light; and the square tower of the Hotel Waddan standing 0.9 mile SE of the light.



Tarabulus—The Castle

Ras Az Zur Reef is composed of small islets and rocks and fronts the N side of Spanish Mole and the S part of the N breakwater.

Kaliyusha Reef (Caliuscia Bank), with a least depth of 2.7m, extends between 1.5 miles and 3.7 miles ENE of the light. This reef breaks in strong N winds and a dangerous wreck lies on its E part.

The approach channel, which leads S through Kaliyusha Reef, is marked by lighted buoys and beacons. The approach and entrance fairways are indicated by lighted ranges which may best be seen on the chart.

A radiobeacon is situated 1.5 miles ESE of the light.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 16 and board vessels about 0.5 mile N of the entrance to the approach channel. Vessels should send an ETA 12 hours in advance.

**Signals.**—The following traffic signals may be displayed:

1. Black cone, point up—Port open to vessels entering.
2. Two black cones, bases together—Port open to vessels leaving.
3. Three black balls, vertically disposed—Port closed.
4. Red flag or red flashing light—Port closed due to bad weather.

The following whistle or siren signals may be sounded within the port or anchorage:

1. Succession of short blasts—Fire alarm.
2. One short blast, two long blasts, short blast—Police required.
3. One short blast, two long blasts—Doctor required.
4. One long blast—Lighters required.
5. Two long blasts—Floating crane required.
6. Three long blasts—Pilot required.
7. Four long blasts—Tug required.

**Anchorage.**—A designated anchorage area, the limits of which are shown on the chart, lies centered 2 miles NW of the head of the N breakwater. The holding ground in this vicinity is reported to be good.

**Caution.**—Several mined areas lie in the approaches to Tarabulus and may best be seen on the chart.

Sudden wind squalls, especially between October and February, can make anchoring in the harbor very hazardous.

Due to the existence of submarine cables, a prohibited anchoring area lies E of the N breakwater and may best be seen on the chart.

Construction is being carried out within the port.

## Tarabulus to Khalij Surt (Gulf of Sidra)

**1.7 Ras Tajura** (32°54'N., 13°24'E.), a low point, is located 9 miles E of the E breakwater at Tarabulus and is marked by a light. The coast between is sandy and numerous rocks extend up to 0.5 mile offshore along the first 6 miles.

A prominent group of five small oil tanks stands on the summit of a low and brown cliff, 2.2 miles ENE of the SE breakwater at Tarabulus. A water tower stands 0.5 mile SE of this group of tanks and an aeronautical light is occasionally shown from it.

Ockba Ben-Nafah Airfield (Wheelus Airfield) is situated in the vicinity of this water tank; a dark grey hangar building is

situated near it. A control tower stands 0.3 mile S of the water tank and a similar water tower stands 0.8 mile E.

A conspicuous tower stands 5.5 miles E of the SE breakwater at Tarabulus and is situated among oil installations. A submarine pipeline extends 1 mile NNE from the shore fronting this tower to an offshore tanker berth. This berth consists of mooring buoys and lies in a depth of 16m. The approach to the berth is indicated by range beacons which may best be seen on the chart.

**Caution.**—A restricted area, which may best be seen on the chart, lies in the vicinity of the offshore tanker berth.

Mined areas, which may best be seen on the chart, front the coast in places between Tarabulus and Ras Tajura.

A prohibited area, which may best be seen on the chart, fronts the coast to the E of Tarabulus.

**1.8 Ras al Hallab** (32°48'N., 13°48'E.), marked by a light, is located 2 miles ESE of Ras Tajura and is formed by rocky promontory, 13m high.

Trig el Gefara, a prominent disused fort, stands 1.5 miles SSE of Ras Tajura; a conspicuous wind pump is situated 3.2 miles SE of it.

**Caution.**—Due to the existence of submarine cables, an anchoring and fishing prohibited area, which may best be seen on the chart, extends up to 9 miles NE from a point on the coast, 3 miles SE of Ras Tajura.

**1.9 Ras al Misann** (32°41'N., 14°14'E.), a low and rocky point, is located 23 miles ESE of Ras al Hallab and is fronted by a reef. Anchorage, with good holding ground and sheltered from NW winds, can be taken, in depths of 5 to 7m, about 0.2 mile S of the reef.

Qasr Al Jifarah, a prominent building, stands 7 miles SSE of Ras al Hallab.

Bintal Rock lies close offshore, 10.2 miles SE of Ras al Hallab. This rock has a pointed top and is prominent from seaward. Sidi Abd al Ghani, a prominent marabout, stands 3.8 miles SSW of Bintal Rock.

A radio mast stands 3 miles S of Ras al Misann. Gasr al Misann, a massive isolated fort, is situated close SSW of the mast.

**Ras al Wazif** (32°40'N., 14°15'E.) is located 2.7 miles SE of Ras al Misann. A light is shown from a tower, 19m high, standing on this point. Al Khums, a small town, is situated within Ras al Wazif and is backed by hills. A prominent minaret stands 0.3 mile S of the light. The town is fronted by a small boat harbor. Anchorage can be taken, in a depth of 10m, rocky bottom, about 0.4 mile E of the light.

Sidi Barku, a low and conical hill, stands 2.5 miles SE of Ras al Wazif and is surmounted by a ruined fort.

**1.10 Al Khums** (32°41'N., 14°15'E.) is an artificial harbor situated on the SE side of Ras al Misann. The town is located 1.5 miles SE of Ras al Wazif. The port handles motor vehicles, containers, and other cargo. The port is approached directly from seaward. It has been reported (1999) that the coast line gives good radar ranges up to 18 miles.

**Tides—Currents.**—From Al Khums to Qasr Ahmad, the current sets SW at a rate of from 0.2 to 4 knots, being influ-

enced by the NW winds at the latter point. In summer, the current is weak and sets NW and N at 0.2 to 1 knot.

**Depths—Limitations.**—The controlling depth in the approach is 13m. The maximum size vessel handled has been reported to be 14,500 dwt. The harbor consists of a basin enclosed on its NE side by a breakwater and on its SE side by a mole. The harbor entrance, between the mole and the breakwater, is 90m wide. Three sides of the basin are quayed. There is a T-shaped jetty in the S part of the harbor. It has been reported (1999) that there are nine berths within the harbor, with alongside depths of between 8 and 12m.

**Pilotage.**—Pilotage is compulsory and is available during daylight hours only. Pilots must be arranged in advance as the pilot is based in Tarabulus. The pilot boards either side of the anchorage or 1 mile ESE of the breakwater head.

**Regulations.**—The port is unlit; movement of vessels is restricted to daylight hours only.

**Anchorage.**—It has been reported (1999) that vessels may anchor between 1.5 and 3 miles E to ESE of the breakwater head.

**Directions.**—From the pilot boarding station, the track leads WSW then NW towards the harbor entrance, passing SW of the breakwater head and NE of two special lighted buoys.

**1.11 Khoms (Al Khums) Power Station** (32°38'N., 14°20'E.) is located 1.5 miles SE of Sidi Barcu and may be easily identified by four chimneys, each 100m high.

A pier projecting 1,500m NNE from the shore fronting the power station has a depth of 16m at its head. The berth at the head of this pier is flanked by dolphins and fronted by mooring buoys. It was reported (1989) that tankers with drafts up to 13m can be handled.

Vessels approaching the pier are required to contact Tarabulus Port Control. A local pilot is provided from Al Khums to assist in the berthing operation which is carried out only in daylight.

Sidi Muftah, a conspicuous white-domed building backed by palms, stands 7 miles SE of Al Khums.



**Sidi Muftah Marabout**

**Al Qalb** (32°30'N., 14°34'E.), a high and conical hill, stands 10.5 miles SE of Sidi Miftah. Marsa Zlitan Light is shown from a tower, 5m high, standing on this hill.

A conspicuous radio mast, 76m high, stands 0.7 mile S of the light. Unsheltered and temporary anchorage can be taken, in a depth of 10m, about 0.5 mile NNE of the light.

**Ras al Barq** (Ras Zorug) (32°22'N., 15°13'E.), a low and rocky point, is located 34 miles ESE of Al Qalb. The coast between is fronted by reefs which extend up to 0.4 mile offshore in places; several stranded and dangerous wrecks lie along it. A light is shown from a structure, 8m high, standing

on the point. The town of Qasr Ahmad (Misurata Marina) is situated close S of the point.

### **Khalij Surt (Gulf of Sidra)**

**1.12 Khalij Surt** (32°00'N., 18°00'E.), an extensive gulf, is entered between Qasr Ahmad (Misurata Marina) and Banghazi, about 250 miles E. Several important oil terminals are situated on the shores of the gulf.

The prevailing winds in the gulf are from the NW and NE, and they often raise heavy swells which pound the shores of the gulf. The ghibli, a hot and dry wind from the desert, blows from the S and SE into the gulf and often carries sand and dust. This wind blows more frequently in spring and autumn, and may last from a few hours to several days.

The prevailing current in the gulf sets SW, at a rate of 0.2 to 0.7 knot, depending on the wind force from the NW or NE. During the winter, the current sets SE during the NW wind; in summer, the current sets NW.

The current appears to form a clockwise gyre in the E part of Khalij Surt, and flows S and W along the E and S shores of the gulf. It turns N when E of Surt, where it again joins the main E flow along the Libyan coast to Egypt.

**1.13 Qasr Ahmad** (Misurata) (32°22'N., 15°13'E.) (World Port Index No. 45320), a small port, lies close S of Ras al Barq and is protected by breakwaters. It has facilities for dry cargo, ro-ro, container, and general cargo vessels.

**Tides—Currents.**—During the winter, the current caused by the prevailing NW winds sets SE, at a rate of 1 to 4 knots. During the remainder of the year, the prevailing SW wind causes a NW current.

**Depths—Limitations.**—The entrance channel is about 150m wide and is dredged to a depth of 13m. A turning basin, 470m wide, lies close inside the entrance and is dredged to a depth of 12m. There is 1,125m of total commercial quayage with berths of 185 to 200m long and depths of 11 to 12m alongside. There are facilities for general cargo, tanker, bulk, and ro-ro vessels. Additional berths are under construction. Vessels up to 30,000 dwt and 11m draft can be handled.

In addition, a quay fronts a steel works which is situated 1 mile SE of the main harbor. It is 350m long and has a depth of 15m alongside.

**Aspect.**—The town was formerly enclosed by a wall, but only parts of it now remain. Several prominent silos stand on the E breakwater and some conspicuous dish aerials of a radio station stand near the roof. A prominent chimney stands at the power station situated 3 miles SSE of the light on Ras al Barq. A prominent radio mast stands 7.6 miles WNW of the light.

The harbor should be approached from a position about 3 miles E of the entrance. The fairway channel is indicated by a lighted range and marked by lighted buoys.

**Pilotage.**—Pilotage is compulsory and is available from 0800 to 2000 (except Fridays). Vessels should send an ETA 12 hours in advance. Pilots can be contacted on VHF channel 12 or 16 and board about 1 mile off harbor entrance.

**Anchorage.**—Vessels can take anchorage, in a depth of 13m, about 1 mile offshore, E of the light.

**1.14 Al Bu'ayrat** (31°24'N., 15°44'E.), a nearly deserted village, is situated 63 miles SE of Qasr Ahmad and can be identified by a white fort and a white domed monument. The coast between is fronted by several dangerous wrecks. Sheltered anchorage may be obtained, in a depth of 6m, about 1.2 miles offshore, NE of the monument.

In the vicinity of Al Bu'ayrat, the current is influenced by the wind. In winter, with strong NW winds, the current sets SE, at a rate of 1 to 2 knots. In summer, the current generally sets NW, at a rate of 0.2 to 0.5 knot.

**Surt** (31°13'N., 16°35'E.), a small and silted harbor, lies 49 miles ESE of Al Bu'ayrat and is infrequently used. The town can be identified by a minaret, a ruined castle, several radio masts, and a fort, all of which are prominent from up to 10 miles seaward. Anchorage can be taken, in a depth of 12m, sand, about 0.7 mile offshore, NNW of the castle.

A light is shown from a water tower standing close NW of the fort.

**Ras as Sultan** (31°04'N., 17°24'E.) is located 42 miles ESE of Surt. A reef extends up to about 1.5 miles E of this point. Small vessels can anchor, in a depth of 9m, in the lee of the point and the reef. A large white house is reported to stand 4.7 miles SSE of the point. A prominent red sand dune stands 17 miles ESE of the point.

**Caution.**—Numerous oil rigs, platforms, and associated service vessels may be encountered within about 23 miles of the coast between Ras es Sultan and As Sidr (Es Sider), 57 miles ESE.

**Jabal al Mudawwar** (30°50'N., 17°43'E.), 121m high, is a flat-topped mountain which is conspicuous from seaward.

**Ras al 'Uwayja** (30°55'N., 17°52'E.) is a high, rocky, and prominent cape. A reef, with a least depth of 2.7m, extends 3.2 miles ESE from this cape. Anchorage can be taken, in depths of 9 to 14m, within the bight entered close SE of the cape. Local knowledge is required.

### As Sidr (30°38'N., 18°22'E.)

World Port Index No. 45297

**1.15** As Sidr is an open roadstead with an offshore marine oil terminal. Several buildings and a pumping station are situated near the shore and are fronted by a boat harbor which is used by terminal officials.

**Tides—Currents.**—Tides are negligible, being only 0.3m at springs.

The currents are wind induced and are predominantly from the SE with occasional maximum rates of up to 2 knots.

**Depths—Limitations.**—There are four offshore loading terminals which are connected to the pumping station by submarine pipelines. No. 1 Berth and No. 3 Berth consist of several mooring buoys. No. 4 Berth and No. 5 Berth consist of an SBM.

No. 1 Berth lies 1.8 miles NE of the pumping station and can handle vessels up to 281m in length and 15.54m draft.

No. 3 Berth lies 1.8 miles NNE of the pumping station and can handle vessels up to 290m in length and 15.54m draft.

No. 4 Berth lies 2.5 miles NNE of the pumping station and can handle vessels up to 351m in length and 19.05m draft.

No. 5 Berth lies 4 miles NE of the pumping station and can handle vessels up to 355m in length and 22.25m draft.

**Aspect.**—A conspicuous water tower, 20m high, and a conspicuous radio tower stand in the vicinity of the pumping station.

An aeronautical radiobeacon is situated 0.4 mile SSE of the water tower; a conspicuous group of oil tanks stands 3.6 miles WSW of the water tank; and a prominent radio mast, 50m high, stands 0.3 mile NW of the oil tanks.

The offshore berths are marked by lighted buoys; the approach is indicated by a lighted range, which may best be seen on the chart.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 8 or 16 and board about 4 miles NNE of the terminal. Vessels should send an ETA 72 hours, 24 hours, 12 hours, and 4 hours in advance.

It is reported that Mooring Masters board vessels in the vicinity of the anchorage area and remain on board until the vessels depart the loading berths. They advise vessels regarding communications, mooring, unmooring, connecting hoses, disconnecting hoses, and all other relevant operations.

**Anchorage.**—The recommended anchorage area, which may best be seen on the chart, lies centered 4.5 miles NNE of the conspicuous water tower and has depths of 27 to 33m, sand. A continuous listening watch is required on VHF channels 8 and 16 while at anchor.

**Caution.**—Vessels approaching the anchorage area from the N or NW should disregard the terminal ranges and mooring buoy marker lights which are shown intermittently and are only for the use of the mooring masters.

VLCCs are not berthed at night.

An prohibited anchorage area lies in the vicinity of the terminals and may best be seen on the chart.

The approaches to the terminal offshore berths are clear of known dangers; however, rigs, platforms, and vessels involved in oil and gas drilling operations may be encountered up to several miles offshore between this terminal and Marsa al Burayqah (Marsa el Brega), 64 miles ESE.

The offshore berths are untenable in high winds. Main engines must remain ready for use at these berths.

### Ras Lanuf (30°31'N., 18°34'E.)

World Port Index No. 45296

**1.16** Ras Lanuf, a low and sandy point, is located 13 miles SE of As Sidr and is fronted by an offshore oil terminal. In addition, a harbor, which is protected by breakwaters, lies within the point and provides alongside gas and oil loading facilities.

**Tides—Currents.**—Tides are negligible, being only 0.3m at springs.

The currents are wind induced and are predominantly from the SE with occasional maximum rates of up to 2 knots.

**Depths—Limitations.**—The harbor approach channel is dredged to a depth of 15.5m. Three finger jetties are situated in the harbor and provide six oil berths with depths of 11.5 to 14m alongside. Vessels up to 50,000 dwt, 250m in length, and 12.5m draft can be accommodated. In addition, there is a cargo quay, 177m long, which has a depth of 11m alongside. Vessels

up 20,000 dwt, 177m in length, and 9.5m draft can be accommodated.

The offshore terminal consists of four berths, each connected to the shore by a submarine pipeline. No. 1 Berth and No. 2 Berth consist of several mooring buoys. No. 3 Berth and No. 4 Berth consist of an SBM.

No. 1 Berth and No. 2 Berth have depths of 21 to 27m and can handle vessels up to 130,000 dwt.

No. 3 Berth lies in a depth of 30m and can handle vessels up to 300,000 dwt.

No. 4 Berth lies in a depth of 30m and can handle vessels up to 255,000 dwt and 29m draft.

**Aspect.**—A conspicuous water tower, from which a light is shown, stands 1.5 miles W of Ras Lanuf. Several oil tanks are situated 4 miles SW of the water tower and are prominent from seaward. Marble Arch, a prominent monument, spans the coastal highway, 3.5 miles S of Ras Lanuf.

An outer lighted buoy, moored about 1.7 miles E of the head of the N breakwater, marks the seaward entrance of the harbor approach channel. A lighted range, which may best be seen on the chart, indicates the fairway leading through the harbor entrance. An outer lighted buoy, moored 3 miles N of Ras Lanuf, marks the approach to the offshore terminal.

**Pilotage.**—Pilotage is compulsory. Vessels should send an ETA 72 hours, 24 hours, and 12 hours in advance with a confirmation message 4 hours before arrival. Vessels should also report any change to their ETA of over 1 hour. Pilots can be contacted on VHF channel 12 and board vessels proceeding to the harbor in the vicinity of the outer lighted buoy or at the anchorage. Mooring Masters, also serving as pilots, will board vessels proceeding to the offshore terminal close NW of the berths or at the anchorage.

After securing the vessel at a berth, the Mooring Master will remain aboard in an advisory capacity until departure from the port.

**Anchorage.**—A designated anchorage area for vessels proceeding to the harbor, which may best be seen on the chart, lies centered 2.5 miles NE of the harbor entrance. A designated anchorage area for vessels proceeding to the offshore terminal, which may best be seen on the chart, lies centered 2.8 miles N of the harbor entrance. The anchorages have depths of 30 to 31m, sand, good holding ground.

**Caution.**—Navigation and anchoring are prohibited, except for vessels using the port facilities or the offshore terminal, within an area which may best be seen on the chart, and extends up to 3.5 miles from the shore.

Rigs, platforms, and vessels involved in oil and gas drilling operations may be encountered in the approaches to Ras Lanuf.

**1.17 Ras al Ali** (30°23'N., 18°48'E.) is a low point which is fronted by shoals. An old jetty, 150m long, projects from the point and has a depth of 3.6m alongside its head (1981). Small craft with local knowledge can find partly sheltered anchorage, in depths of 6 to 9m, SE of the point.

The barren coast from this point to the head of Khalij Surt is backed by occasional ridges.

**Al Uqaylah** (30°16'N., 19°12'E.) can be identified by several reddish buildings which have the appearance of forts and stand 0.5 mile inland. One of these buildings is encircled by a wall on which there is a lookout tower. A house, painted in black

and white checkers, stands near the beach; the ruins of a lighthouse are situated close to it. Anchorage can be taken during daylight N of Al Uqaylah, in depths of 16 to 18m, good holding ground, about 2 miles offshore.

Jazirat Bu Shu'ayfah, an above-water rock, lies about 1.3 miles offshore, 4.2 miles NW of Al Uqaylah. It is dark and can be easily identified against the yellow background of the sand. Anchorage can be taken, in depths of 10 to 13m, about 1 mile SE of this rock.

**Khashm Aritu** (Ras al Magdar) (30°26'N., 19°38'E.), a low point, is fronted by foul ground and depths of less than 10m lie up to 0.5 mile N of it.

**El Magdar Reef** (30°27'N., 19°37'E.) lies centered about 1 mile NW of Khashm Aritu. It is extensive, rocky, and has rocks awash.

### Marsa al Burayqah (30°25'N., 19°36'E.)

World Port Index No. 45295

**1.18** Marsa al Burayqah, a bay, lies 22 miles ENE of Al Uqaylah and is entered between Khashm Aritu (Ras al Magdar) and a point, 3 miles SW. An important oil terminal is situated in the SW part of the bay and consists of a harbor, protected by breakwaters, and several offshore berths.

**Depths—Limitations.**—The offshore terminal formerly consisted of six berths connected to the shore by submarine pipelines.

No. 1 Berth, No. 3 Berth, and No. 4 Berth are now out of service, but some of the ground chains, mooring buoy clumps, and pipelines are still in position.

No. 2 Berth consists of several mooring buoys and lies in a depth of 13.4m. Vessels up to 70,000 dwt, 244m in length, and 12.8m draft can be handled.

No. 5 Berth is situated 2 miles NNW of the radar tower and consists of an SBM. It lies in a depth of 37m and can handle vessels up to 300,000 dwt.

No. 6 Berth is situated 2 miles NW of the radar tower and consists of an SBM. It lies in a depth of 42m and can handle vessels up to 300,000 dwt.

The harbor can handle general cargo, ro-ro, bulk, gas, and tanker vessels. There is a general cargo quay, 390m long, with a depth of 10m alongside; a bulk berth, 200m long, with a depth of 9.2m alongside; two gas berths, 320m and 333m long, with a depth of 11.3m alongside; and two refined product berths, 334m and 341m long, with a depth of 12.2m alongside.

Generally, general cargo vessels up to 15,000 dwt and 9.2m draft can be accommodated and tankers up to 30,000 dwt and 10m draft can be accommodated.

**Aspect.**—Several conspicuous burn-off flares are situated in the vicinity of the oil refinery at the SW side of the harbor and can be seen from 25 miles seaward. A prominent radar tower, marked by a light, stands near the root of the W breakwater. A conspicuous red water tower, with the ruins of a fort close NW of it, stands 0.6 mile SW of the radar tower.

An outer approach lighted buoy, moored about 2.7 miles NNW of the harbor entrance, marks the seaward entrance of the harbor approach channel. The fairway of this channel is marked by lighted buoys and is indicated by a lighted range which may best be seen on the chart.

Other lighted ranges indicate the approaches to the offshore loading berths and also may best be seen on the chart.

**Pilotage.**—Pilotage is compulsory. Vessels should send an ETA 72 hours, 48 hours, and 24 hours in advance. Pilots can be contacted on VHF channel 16 and board in the vicinity of the outer approach lighted buoy.

Mooring Masters, also serving as pilots, will board vessels proceeding to the offshore terminal berths. After securing the vessel at a berth, the Mooring Master will remain aboard in an advisory capacity until departure from the port.

**Anchorage.**—Vessels should anchor, in a depth of 36m, between the NE and E about 0.5 mile from the outer approach lighted buoy, but staying clear of the E lighted range.

**Caution.**—A foul area, in which numerous rocks awash lie, extends up to 0.5 mile N from the vicinity of the root of the W breakwater. The coastal bank, with depths of less than 10m, extends up to 0.5 mile N of the N extremity of this foul area and is marked by a lighted buoy.

Navigation is prohibited, except for vessels using the port facilities or the offshore terminal, within a restricted area which may best be seen on the chart and extends up to 2 miles from the shore.

**1.19 Jabal Lamaresc** (30°35'N., 19°51'E.), 62m high, is prominent and has a truncated summit. This hill stands 1 mile inland, 17 miles NE of Marsa al Burayqah.

**Ez Zueitina** (30°57'N., 20°07'E.), a coastal village, can be identified by several conspicuous buildings and a large white fortification with a tall watch tower. An old and disused barracks stands 4 miles SSW of the village and is prominent. Three flares and three white tanks are reported to stand 0.8 mile NE and 0.2 mile N, respectively, of the barracks.

Anchorage can be taken, in depths of 12 to 14m, sand, good holding ground, about 1.2 miles WNW of the village. A dangerous wreck is reported to lie about 0.7 mile WNW of the village.

**Tre Scogli** (30°54'N., 20°03'E.), a conspicuous group of rocks, with some above-water, lies 1 mile offshore, 5 miles SW of Ez Zueitina. Scoglio Sud, the S rock, is marked by a light. Trinity Shoal, a rock awash, lies about 0.6 mile SW of this light.

A tanker hulk, which is used as a workshop by the nearby oil terminal, fronts the shore, 1 mile SE of Scoglio Sud.

Scoglio Nord, a group of rocks, lies about 1.4 miles offshore, 2.5 miles NNE of Scoglio Sud.

**Caution.**—Between Marsa al Burayqah and Ez Zueitina, several reefs, shoals, and islets lie up to almost 5 miles offshore. The outermost include North Lamarek Reef, with rocks awash, which lies 4.8 miles offshore, 5.8 miles NNW of Jabal Lamaresc; Hericha Rock, above-water, which lies 6.7 miles NE of North Lamarek Reef; and Gharah Islet, surrounded by shoals, which lies 2.5 miles NE of Hericha Rock.

### **Az Zuwaytinah (30°51'N., 20°03'E.)**

World Port Index No. 45290

**1.20 Az Zuwaytinah (Ez Zueitina) Terminal**, which consists of several offshore oil loading berths and facilities for liquefied petroleum gas, lies close S of Tre Scogli.

**Depths—Limitations.**—The offshore terminal consists of five berths which are connected to the shore by submarine pipeline. Alpha Berth, Charlie Berth, and Echo Berth each consist of an SBM. Bravo Berth and Delta Berth each consist of several mooring buoys (CBM).

Alpha Berth is reported (2003) to be temporarily out of service.

Bravo Berth lies in a depth of 21.9m and can handle vessels up to 150,000 dwt.

Charlie Berth lies in a depth of 30.5m and can handle vessels up to 275,000 dwt.

Delta Berth lies in a depth of 20m and can handle vessels up to 110,000 dwt.

Echo Berth lies in a depth of 25.3m and can handle vessels up to 150,000 dwt. This berth was reported (1999) to be out of service.

A pier, which shelters a small boat harbor, extends 0.5 mile from the shore in the vicinity of Tre Scogli and has an LPG berth at its head. This berth consists of mooring dolphins and can accommodate vessels up to 213m in length and 8.7m draft.

**Aspect.**—A prominent radio tower, marked by a light, stands at the terminal, 4.2 miles S of Scoglio Sud. Several conspicuous oil tanks are situated close S of it.

Sidi Alib, a conspicuous tomb, stands 0.7 miles NE of the radio mast.

The approach channel, which leads to the LPG Berth, lies between Tre Scogli and Trinity Shoal, and is marked by a lighted buoy and indicated by a lighted range which may best be seen on the chart. This berth can handle vessels of 213m in length and 8.7m draft.

**Pilotage.**—Pilotage is compulsory. Vessels should send an ETA 72 hours, 48 hours, and 24 hours in advance and contact the pilots on VHF channel 13 or 16 when within range. Mooring Masters, serving as pilots, will board vessels in the vicinity of the outer lighted buoy or at the anchorage. They will remain aboard until the vessel departures from the port and advise in the loading operations.

**Anchorage.**—A designated anchorage area, which may best be seen on the chart, lies centered 2.2 miles WNW of Scoglio Sud.

**Caution.**—During the winter, vessels at the offshore loading berths and the anchorage may be forced to leave by sudden strong winds and heavy swells.

Anchorage is prohibited in the dredged area seaward of the berths as best seen on the chart.

A shoal, with a least depth of 7.3m, lies about 5.5 miles NW of the terminal radio mast and is marked by a lighted buoy.

**1.21 Ras Kurkurah** (31°28'N., 20°00'E.), a low and rocky point, forms the N end of a small bay and is fronted by above-water rocks which extend up to 0.2 mile seaward. It is surmounted by the low ruins of a castle. Sheltered anchorage can be taken, in a depth of 6m, about 0.8 mile SE of the point.

Bu Zaribah, a fort in ruins, is situated 10 miles N of Ras Kurkurah and is conspicuous from seaward.

**Bernice Reef** (32°01'N., 19°56'E.), a rock awash, lies 1.2 miles offshore at the NW extremity of a rocky spit with depths of less than 5m. A rocky patch, with a least depth of 3.7m, lies about 3.2 miles NE of Bernice Reef, and from a point on the



coast 1.2 miles E of this patch a spit with depths of less than 3.7m extends 1 mile N.

**Caution.**—It is reported that winds and currents between Az Zuwaytinah and Banghazi tend to set vessels onshore.

Several wrecks, some dangerous, lie up to 3 miles offshore between Az Zuwaytinah and Banghazi and may best be seen on the chart.

### Banghazi (32°07'N., 20°03'E.)

World Port Index No. 45280

**1.22** Banghazi is a commercial center and summer resort. The town contains many large and modern buildings and is situated on a low point at the E entrance to Khalij Surt (Gulf of Sidra). The port is protected by breakwaters and is divided into outer, middle, and inner harbors.

**Winds—Weather.**—In winter, the prevailing winds are from the NW and SW; they infrequently attain gale force. Considerable variations in the prevailing winds are caused by land breezes and the topography.

**Tides—Currents.**—The tidal range is negligible, being only 0.3m at springs. The wind direction can account for differences in the harbor water level which may be as much as 0.6m.

The currents are strongly influenced by the winds. Off the harbor, the current sets S and SW with a rate of 0.8 knot, increasing in strength with W and NW winds which may also cause a heavy scend to enter the harbor.

**Depths—Limitations.**—A controlling depth of 13.5m (1988) exists in the entrance fairway.

The main facilities are given in the accompanying table.

Banghazi Berthing Facilities		
Berth	Length	Depth alongside
Rasif Libya No. 1	40m	5.5m
Rasif Libya No. 2	130m	5.5m
Rasif Libya No. 3	115m	5.5m
Outer Harbor No. 1	310m	9.0m
Outer Harbor No. 2	280m	9.0m
Outer Harbor No. 3	170m	9.0m
Tanker Berth	107m	8.0m

There are facilities for ro-ro, general cargo, container, and tanker vessels. Vessels up to 168m in length and 8.5m draft can be accommodated.

It is reported (1993) that extensive reclamation and development have been carried out within the port and quays with depths of 10 to 12m alongside have been constructed. The local authorities should be consulted for the latest information concerning depths at these new facilities.

**Aspect.**—A light is shown from a water tower, 22m high, standing in a cemetery, 200m NE of the root of the N breakwater. A directional light, indicating the harbor entrance, is shown from a structure standing on the elbow of the N breakwater.



**Banghazi Light**

Conspicuous landmarks include an old and disused lighthouse, 33m high, standing 0.1 mile NW of the light; the cathedral, surmounted by two domes, situated on the waterfront 0.7 mile SSW of the light; a minaret, 33m high, standing 0.2 mile SW of the light; the Manaar Palace and the Hilton Hotel standing near the waterfront 0.5 mile SSW of the light.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 12 or 16 and generally board about 0.5 mile seaward of the harbor entrance. Vessels should send an ETA 48 hours in advance.

**Signals.**—Visual signals are displayed on a mast at the Post Office. The signals and their meanings are, as follows:

1. Flag Alpha—A vessel is at anchor in the roads.
2. Flag Bravo—A vessel is leaving the harbor.
3. Flags Echo, November, or Whiskey—A vessel has been sighted approaching the port from the E, N, or W.
4. Three black balls, vertically disposed—Port is closed.

**Anchorage.**—Exposed anchorage is available in a designated area, which may best be seen on the chart, lying centered 4 miles NW of the head of the N breakwater. Strong W winds cause a very heavy sea which renders this roadstead dangerous and during the winter it is seldom used.

**Directions.**—Vessels approaching the port from the SW should remain 2 to 3 miles offshore until near the harbor in order to avoid the coastal shoals. Vessels approaching from the N should, in thick weather, make their landfall to the NE of the harbor as the landmarks are more prominent than those to the SW of the port and there are no dangers more than 2.5 miles offshore.

**Caution.**—Several charted dangers lie in the approaches to the harbor and may best be seen on the chart.

Due to the existence of submarine cables, an anchoring and fishing prohibited area, which may best be seen on the chart, lies close S of the harbor entrance and extends up to 6 miles from the shore.

Several disused submarine cables extend seaward from the vicinity of the root of the N breakwater and may best be seen on the chart.

### Banghazi to Marsa Tubruq

**1.23 Banghazi Petroleum Terminal** (32°11'N., 20°05.1'E.) is situated 4.3 miles NE of the port of Banghazi and 0.3 mile SW of Al Minqar al Kabir (Mengar es-Seghir). It consists of a jetty which extends about 1 mile NW from the shore and has two berthing platforms.

The first platform, at the head, has a depth of 15m alongside and can accommodate vessels of 1,000 to 50,000 dwt. The second platform, situated 650m from the shore, can accommodate vessels of 500 to 10,000 dwt.

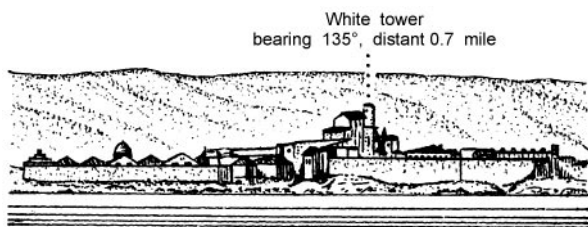
A power station, with three prominent chimneys, stands 2 miles NE of Al Minqar al Kabir. A lighted buoy is moored close offshore in this vicinity and marks the seaward end of a water intake pipe.

**Sidi Suwaykir Marabout** (32°20'N., 20°17'E.), a small white building, is situated 17 miles NE of Banghazi. A light is shown from a tower, 15m high, standing close W of the marabout.

Driana Point, low and inconspicuous, is located 4.5 miles NE of this light. Driana Reef, with depths of 4 to 9m, extends up to 7 miles NE of the point and 2.5 miles offshore. Kawn al Asal, 350m high, stands 9 miles E of Driana Point and is prominent from seaward.

**Tukrah** (32°32'N., 20°34'E.), a walled coastal village, is situated 36 miles NE of Banghazi. It has the appearance of a small fortified town and is conspicuous from seaward.

A conspicuous fort is situated 3.5 miles E of Tukrah and a radio mast, 61m high, stands close SW of it.



**Tukrah from NW**

**Tulmaythah** (32°43'N., 20°57'E.), a coastal village, is backed by hills. A light is shown from a tower, 16m high, standing at the W side of the village. A conspicuous water tower is situated 0.4 mile SSW of the light.

Anchorage can be taken in the small and exposed roadstead off the village. Good holding ground can be found in a depth of 18m, sand, about 0.5 mile NW of the light.

Several reefs and rocks front the coast and extend up to about 2 miles from the shore to the SW of this village.

**1.24 Al Haniyah** (32°51'N., 21°31'E.), a coastal village, is situated amongst several sandhills which are surmounted by prominent forts. Anchorage can be taken, by small craft, in the entrance to a sandy cove which is entered 1 mile SW of the village. Local knowledge is required and shelter from S winds is afforded. Larger vessels can anchor off the entrance over a sandy bottom.

Between Al Haniyah and Ras al Hamamah, 7.5 miles NE, several sandy coves indent the low and rocky coast, but they afford no shelter.

Sidi Abd ad Daien, a white marabout with a prominent dome, stands 5 miles NE of Al Haniyah, but is hidden by a sand dune when on a SE bearing. Ras al Hamamah, a prominent, may be identified by the ruins of a fort which stand on it and by the mouth of a large cave.

Near Ras al Hamamah, the E current divides. One part continues E toward Ras al Hilal at an average rate of 0.5 knot, and then at a greater rate approaching Ras at Tin; the other branch of the current turns SW at Ras al Hamamah toward Banghazi. The initial rate of the current is very slight, but becomes stronger as it travels SW and may reach a rate of 1 to 2 knots, depending on the strength of the winds.

**Ras Amir** (32°56'N., 21°22'E.) is located 4 miles NE of Ras al Hamamah. A light is shown from a structure, 11m high, standing on this point. The wreck of a floating dock lies stranded on the beach 2 miles WSW of the light and is conspicuous.

Between Ras Amir and Marsa Susah, 14 miles E, a narrow and rocky beach lies at the foot of some remarkable hills which rise steeply to heights of over 200m and have a sea face like a wall, broken by deep ravines.

**1.25 Marsa Susah** (32°54'N., 21°58'E.) (World Port Index No. 45260), a small and conspicuous coastal town, is encircled by green vegetation and situated between two hills which are fortified by batteries. A group of columns, the remains of an ancient city, stand close E of the town.

Foul ground, with above-water rocks, extends up to 0.3 mile N and E of the town. A light is shown from a prominent structure, 7m high, standing in the town. A conspicuous minaret and a conspicuous belfry are situated close SSE and close SW, respectively, of the light. A square and reddish stone fort backs the town.

A small wharf fronts the town. Anchorage, exposed to on-shore winds, can be taken, in depths of 10 to 18m, good holding ground, W of the light. Local knowledge is advisable.

An above-water rock, with a shallow rock close E, lies 2 miles ENE of the light. These rocks lie about 0.3 mile offshore and are both usually marked by breakers.

An aeronautical light is reported to be occasionally shown from a structure standing 3.5 miles S of the town.

**1.26 Ras al Hilal** (32°55.5'N., 22°11'E.), a moderately low point, is fronted by foul ground and rocky patches which extend up to 0.3 mile N and 0.2 mile E of it. A light is shown from a structure, 12m high, standing on this point.

Marsa Al Hilal, an open bay, extends S from Ras al Hilal and large caves appear in its shores. A minaret and a tower, both conspicuous, stand 2.5 miles S and 0.8 mile SW, respectively, of the light.

A concrete pier, 91m long, extends from the head of the bay. This pier has depths of 5.2 to 7m alongside its outer part and its inner part shoals rapidly. A dolphin marks the outer end of several sunken blocks which lie off the pier head. Anchorage, sheltered from offshore winds, can be taken in this bay, in depths of 11 to 18m, sand and weed, good holding ground.

**Jazirat Karissah** (Isola Chersa) (32°51'N., 22°30'E.), a group of above and below-water rocks, is the outermost danger lying off the steep and rocky coast between Ras al Hilal and Darnah, 26 miles ESE. This group lies centered 2 miles offshore and a channel leads between it and the coast, but is not recommended.

An off-lying shoal, with a depth of 10.9m, is reported (1964) to lie about 10 miles NE of Jazirat Karissah.

**Darnah Power Station** (32°47'N., 22°35'E.) is situated close to the coast 3 miles WNW of Darnah. The main building, 32m

high, appears as a light-colored rectangular block with dark bands at mid-height and at roof level. Four prominent chimneys, 47m high, stand close SW of the main building. Three large oil storage tanks are situated close W of the main building and a desalination plant is stands to the SE of the power station.

An oil discharging jetty extends 550m NE from the shore in the vicinity of the oil tanks; two mooring buoys are situated close to its head. Vessels secure stern-to the head of this jetty which has a depth of 11m alongside. There are no berths along the sides of the jetty, which is lighted along its whole length at night. Pilotage is compulsory and is available during daylight hours.

Ras Bu Azzah is located 3 miles ESE of the power station. A monument and a prominent disused light structure stand on the point and a conspicuous tower stands 1.5 miles SW of this point.

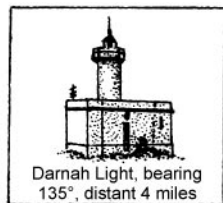
**1.27 Darnah** (Derna) (32°46'N., 22°39'E.) (World Port Index No. 45240), a coastal town, stands near the mouth of Wadi Darnah (Uadi Darnah) which reaches the sea close SE of Ras Bu Azzah.

**Tides—Currents.**—The prevailing current off the port sets SE at a rate of 1 knot; however, both the direction and speed of the current may be changed by the winds.

**Depths—Limitations.**—The harbor is protected by two breakwaters and is subject to constant silting caused by large quantities of weed brought in by the current.

In 1984, the harbor entrance was dredged to a depth of 10m. The Old Quay, 120m long, has a depth of 6m alongside. In addition, new quays provide 950m of total berthing space with depths of 8 to 9m alongside. There are facilities for general cargo, container, and bulk vessels. Vessels up to 10,000 dwt and 8.2m draft can be accommodated.

**Aspect.**—The river flows through a conspicuous ravine which cuts through the hills close NW of the harbor. Forts situated on either side of this ravine and a reservoir, which stands close to the W fort, are also very prominent. A light is shown from a structure, 12m high, standing 1.8 miles SE of the harbor. A prominent radio mast, marked by a light, stands 1.7 miles S of the harbor.



**Darnah Light from NW**

**Pilotage.**—Pilotage is compulsory for all merchant vessels. Pilots can be contacted on VHF channel 16 and board, during daylight hours only, close seaward of the breakwater heads.

**Anchorage.**—Anchorage is available within a designated area, which may best be seen on the chart, lying centered 3 miles NNW of the harbor.

**1.28 Ras at Tin** (32°38'N., 23°07'E.), formed by a low tongue of land, is located 25 miles ESE of Darnah and is fronted by rocks. A light is shown from a structure, 7m high, standing on the point. Vessels should give this point a berth of at least 1.5 miles.

Off Ras at Tin, the current sets SW at a rate of 1 knot. Close offshore, the current follows the trend of the coast from N to S, at a rate of 0.2 to 0.5 knot, except between Jazirat Misratah and Punta Bomba, where it sets NE because of shoals in the vicinity.

**1.29 The Gulf of Bumbah** (32°38'N., 23°07'E.) lies between Ras at Tin and Ras al Mahattah, 40 miles SSE. It contains several bays which are sheltered from the SW and NW winds. The shore of the gulf is low and sandy, and is backed by conspicuous high ground. A prominent tower stands on a plateau, 5.5 miles WNW of Ras at Tin.

Mist occurs in the Gulf of Bumbah during the morning hours. Refraction is also experienced along this coast.

Anchorage, sheltered from W winds, can be taken, in a depth of 14m, within Marsa Umm al Qarami, a bay, which lies 2.5 miles S of Ras at Tin. Currents at the anchorage set SW.

Melelao Bay lies between Punta Bumbah, located 14 miles S of Ras at Tin, and Ras al Milh, 5.3 miles SSE. The latter point can be identified from offshore by a group of ruined houses. Shoals and rocks lie up to 2 miles offshore to the NE of Punta Bumbah. Anchorage, sheltered from N winds, can be taken, in a depth of 11m, about 1.5 miles S of Punta Bumbah. Currents at the anchorage set W.

Jazirat Barda ah, high and rocky, lies 5 miles ESE of Punta Bumbah and is the most prominent island in the gulf.

Jazirat al Ulbah, a low island, lies 1.8 miles offshore, 12 miles SE of Punta Bumbah. A shoal, with a depth of less than 9m, extends up to 1.2 miles NW of the island. Anchorage, sheltered from E winds, can be taken by small vessels with local knowledge in the channel lying to the W of the island.

**1.30 Marsa as Sahl** (32°08'N., 23°50'E.), located 5.3 miles ESE of Ras al Mahattah, is the most conspicuous of the numerous coves in this vicinity and can be identified by three large white patches on the coast. A remarkable cave, with a circular mouth rising to a height of 30m above the water, is located 2.5 miles E of Marsa as Sahl.

A white tomb, with a red dome, and the walls of the abandoned Forte Perrone stand 1.5 miles WSW and 0.5 mile SE, respectively, of Marsa al 'Awdah, which is located 6.5 miles ESE of Marsa as Sahl. Shoals extend up to 1 mile offshore in the vicinity of this latter point.

Minqar al Markab, located 4.5 miles ESE of Marsa al 'Awdah, is the N extremity of a headland. A shoal, with a least depth of 8m, lies about 1 mile ENE of this point.

A conspicuous long and white sand dune extends S from Minqar al Markab.

**Punta Tobruk** (32°04'N., 24°01'E.) is located 0.8 mile S of Minqar al Markab. A light is shown from a structure, 5m high, standing on the point.

### Marsa Tubruq (32°05'N., 23°59'E.)

World Port Index No. 45220 and 45225

**1.31** Marsa Tubruq, a roomy inlet, is entered between Punta Tobruk and a point, 1.1 miles SSE. It extends 2 miles W and is sheltered from all winds except those from the E.

The port of Tubruq lines the N side of this inlet and its main harbor basin is protected by breakwaters.

Marsa Al Hariga Oil Terminal is situated on the S side of the inlet.

**Winds.—Weather.**—The prevailing W winds, which are usually light, may strengthen during the winter, but strong winds are infrequent. During spring and autumn, the ghiblis, which are hot and dry desert winds, may blow from S to E at rates up to 50 knots.

**Depths—Limitations.**—There are general depths of 14 to 18m in the entrance. The main commercial facilities in Tubruq include Quay No. 3, 25m long, with a depth of 3.5m alongside; and Quay No. 4, which has 416m of total berthing space, with depths of 6.5 to 9.2m alongside. Vessels up to 123m in length and 8.9m draft can be accommodated.

Marsa al Hariga Oil Terminal has a T-shaped jetty, 800m long, which is connected to the shore by an approach arm, 200m long. This jetty has two berths which are extended by dolphins and have a depth 18.3m alongside. In addition, an off-shore berth, formed by several mooring buoys, lies close W of the jetty in a depth of 14.9m. Tankers up to 190m in length and 9.1m draft can be accommodated at the terminal.

**Aspect.**—The German War Memorial, a conspicuous yellow building with towers, is situated on the S side of the inlet, 2 miles SW of Punta Tubruq. A prominent group of oil tanks stands 0.5 miles SE of the memorial.

A light is shown from a prominent structure standing 1.3 miles NW of Punta Tubruq.

Lighted buoys are moored about 0.5 mile SSE and 1 mile SE of Punta Tubruq. A lighted range and an unlighted beacon range, which may best be seen on the chart, are situated on the S side of the inlet and aid in the marking of the approach to the harbor and the oil terminal.

**Pilotage.**—Pilotage is compulsory. Pilots and oil terminal mooring masters can be contacted on VHF channel 9, 12, 16, or 19 and board in the vicinity of the outer lighted buoy, about 1 mile SE of Punta Tubruq. Vessels should send an ETA 72 hours in advance.

**Anchorage.**—Anchorage is available within a designated area, which may best be seen on the chart, lying centered 1.5 miles E of Punta Tubruq.

**Caution.**—Several foul areas lie within the inlet and may best be seen on the chart.

Deep-draft vessels should pass to the S of the lighted buoy which is moored 0.5 mile SSE of Punta Tubruq.

A restricted area surrounds the oil terminal and may best be seen on the chart. Vessels are prohibited from entering this area without prior permission from the oil terminal.

### Marsa Tubruq to the Egyptian Border

**1.32 Marsa Umm ash Shawush** (32°03'N., 24°01'E.), a small inlet, is entered close E of the S entrance point of Marsa Tubruq and is used by small craft.

An isolated shoal, with a depth of 9.8m, lies about 4 miles ESE of Punta Tubruq.

Secca Ahal (Ahal Shoal), a shoal with a depth of 5.2m, lies about 2.5 miles offshore, 5.5 miles ESE of Punta Tubruq.

Secca Sceich (Shiek Rocks), with a depth of 0.6m, lies about 1 mile offshore, 9 miles ESE of Tubruq Point. Foul ground lies between these rocks and the coast where there is a prominent cleft.

**Ras Azzaz** (31°58'N., 24°59'E.) is located 50 miles E of Punta Tubruq. A light is shown from a structure, 11m high, standing on this point.

From Sheik Rocks to Ras Azzaz, the rocks and shoals fringing the coast lie within 1.5 miles of the shore.

**Ras al Muraysah** (31°55'N., 25°02'E.), located 4.5 miles SE of Ras Azzaz, is the W entrance point of Khalij as Sallum (Gulf of Sollum). Vessels, with local knowledge, can seek shelter from W winds and anchor in the roadstead of Marsa al Muraysah (Marsa el Mreisa), close S of the point.

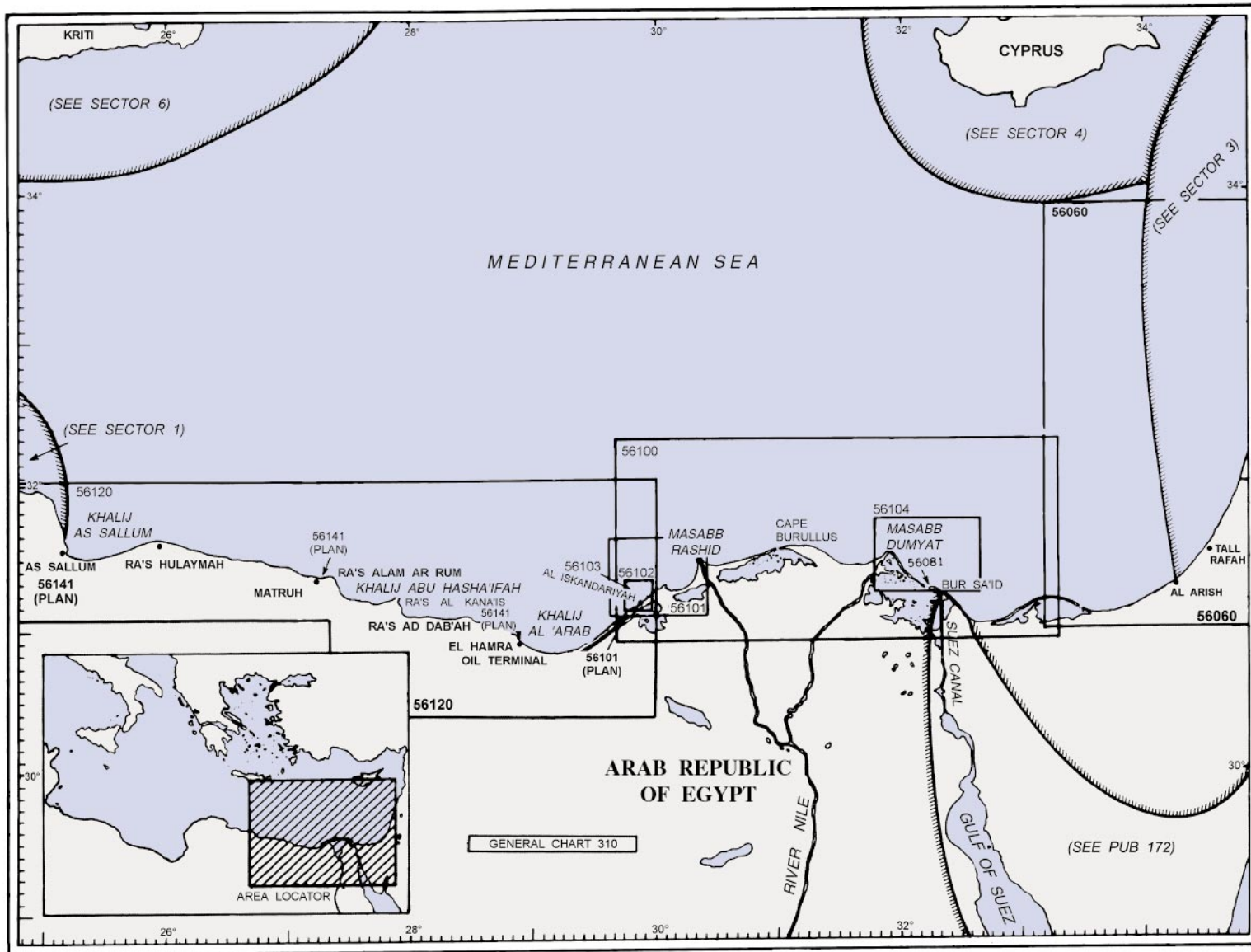
**Caution.**—Vessels are advised to give the coast between Ras Azzaz and Ras al Muraysah a wide berth as depths of less than 9m extend up to 0.8 mile offshore and the current here tends to set towards the shore.

**1.33 Mina Bardiyah** (31°46'N., 25°06'E.) (World Port Index No. 45210), a small and natural harbor, is entered close NW of Minqar Rai Ruhah, a point which rises to a height of 95m and is marked by a light. A prominent tower stands on the cliffs at the N side of the entrance. The village is mostly in ruins. This natural harbor provides sheltered anchorage for small craft. Anchorage outside the harbor entrance is obtainable, in a depth of 42m, sand, about 0.5 mile ENE of the tower.

The coastal boundary between Libya and Egypt lies about 6.5 miles S of Mina Bardiyah.

**Caution.**—Unusual refraction and mirages occur in this vicinity, usually during periods when the ghibli, a hot dry wind, is blowing off the desert.





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 2 — CHART INFORMATION**



## SECTOR 2

### EGYPT

**Plan.**—This sector describes the coast of Egypt from Marsa er Ramla, near its W border, to Tall Rafah, at the Israeli border. The ports of Al Iskandariyah and Bur Sa'id, the N entrance of the Suez Canal, lie on opposite sides of the Nile Delta and are included within this sector. The descriptive sequence is from W to E.

#### General Remarks

**2.1 Regulations.**—All vessels in the Mediterranean Sea navigating to and from Egyptian ports should keep 12 miles clear of the Egyptian coast during daytime and 24 miles clear at night. Vessels permitted by Egyptian authorities to navigate between Egyptian ports should proceed inside the coastal passage routes which are described in effective Notices to Mariners and depicted on the charts.

Requirements for vessels entering Egyptian ports are, as follows:

1. Inform the Egyptian authorities through their agents at least 48 hours before arrival for permission to enter and confirm their ETA, including course and speed, at least 24 hours before arrival.
2. Contact the port authorities by radio when within 24 miles of the coast in order to receive entering instructions.
3. Follow the instructions of the Suez Canal Authority when approaching the Suez Canal.
4. Keep clear of all prohibited and danger areas declared by the Egyptian authorities. These areas may extend up to 25 miles from the coast and vessels bound for Egyptian ports are advised to obtain the latest information from their agents.

A Recommended Track (Route), which can best be seen on the chart, lies between Al Iskandariyah and the approach area off Bur Sa'id; this track lies outside the danger and prohibited areas situated W of Bur Sa'id.

Vessels proceeding to Egyptian ports should do so by way of the Approach Sectors which are situated off the ports and may best be seen on the charts. Designated Anchorage/Waiting Areas lie off the ports and also may best be seen on the charts.

#### Khalij as Sallum (Gulf of Sollum)

**2.2 Khalij as Sallum** (Gulf of Sollum) (31°35'N., 25°20'E.) is entered between Ras al Muraysah (Ras el Mreisa) and Ras Hulaymah, 48 miles ESE. The W shore of the gulf is high, cliffy, and bold. The S shore is low and sandy with occasional rocky points. The NE edge of Hajjaj el Aqaba, the Great Libyan plateau, ends near the Bay of Sallum at the head of this gulf.

The **Bay of Sallum** (31°33'N., 25°10'E.) (World Port Index No. 45190) lies at the head of the gulf. As Sallum, a small village, is situated on the W shore of this bay. Beacon Point, the N entrance point of the bay, is surmounted by a beacon and fronted by a shoal on its S side. A small plateau, 29m high, stands within the NE side of the point. A prominent cone-shaped pagoda, 6m high, stands close W of the beacon on the

high ground of the point. Fort Sallum, a conspicuous white fort with a barracks situated close N, stands 1.2 miles W of Beacon Point. These buildings are especially conspicuous when approaching from the E.

Observatory Point, located 1 mile SW of Beacon Point, is the S end of a plateau, 23m high, on which stands several buildings. A small pier, with depths of 4 to 6m alongside, extends SW from this point but is only suitable for small vessels. A distilling plant is situated near the root of the pier.

A light, with a racon, marks the head of the pier.

Two small houses stand near the coast, 1.7 miles SSW of Beacon Point and are prominent from seaward. Yorke Patches, a group of several rocks, lies about 0.3 mile S of Observatory Point and has a least depth of 5.5m. A mooring buoy lies close ESE of Observatory Point.

Small vessels may obtain good anchorage, in a depth of 8m, sand and weed, about 200m SSE of the pier. Vessels may also anchor as convenient, in depths of 11 to 16m, sand and weed, about 0.5 mile NE of the pier. An outer designated Anchoring/Waiting Area is best seen on the chart.

**Caution.**—The Bay of Sallum (As Sallum) was closed to navigation by the Egyptian authorities in 1974 and will not reopen until further notice.

#### Khalij al Sallum to Al Iskandariyah

**2.3 Ras Hulaymah** (31°38'N., 25°55'E.), the E entrance point of Khalij as Sallum, is located 38 miles E of the Bay of Sallum. A light is shown from this point. A racon is situated at the light.

Between Ras Hulaymah and Ras Alam ar Rum, 76 miles ESE, the coast is low, rocky, and backed by small sandhills. The land in the vicinity of Ras Hulaymah gradually rises from the coast. A conspicuous beacon is situated inland, 0.5 mile E of the light. Sidi Barrani, a village, is situated close SE of the light and a conspicuous coast guard station stands in its vicinity. A cove, which is only 37m wide, fronts this village and affords shelter from N swells to small craft with local knowledge. Anchorage, entirely exposed, can be taken off Sidi Barrani, in a depth of 16m, about 0.2 mile N of the cove.

**2.4 Ras Abu Lahw** (31°27'N., 26°59'E.) is a moderately high and cliffy point from which a range of hills, 183m high, extends 8 miles S. Gezirat Ishaila, an islet, lies about 1.9 miles offshore, 18 miles WNW of this point. It is 18m high, surrounded by rocks, and prominent.

Marsa Umm ar Rakhm, a bay, lies 7 miles SE of Ras Abu Lahw and affords shelter from N and W winds inside a broken line of reefs which extend 4 miles E from its W entrance point. Part of these reefs, lying 1.5 miles E of the point, are above-water. Anchorage, with local knowledge, can be obtained, in depths of 14 to 18m, sand, about 0.4 mile SE of the highest part of the reefs, but it is dangerous to approach without sending a boat to sound ahead.



**Caution.**—Between Ras Hulaymah and Ras Abu Lahw, numerous reefs, shoals, and rocks lie up to 4 miles offshore in places.

**2.5 Mersa Matruh** (31°21'N., 27°14'E.) (World Port Index No. 45180), an inlet, is entered between Point Labeit and Matruh Point, 0.8 mile E. It is almost completely sheltered from seaward by reefs and rocks which extend from the entrance points. The town of Matruh stands along the S shore of the inlet, which consists of a range of sandhills, 6 to 9m high, with scrub and several palm trees. The W shore of the inlet, with the exception of the rocky entrance point, is sandy and subject to flooding.

An outer designated Anchoring/Waiting Area is best seen on the chart.

The harbor, situated at the E end of the inlet, is sheltered from the N by a rocky spit and from the W by a rubble breakwater. The E shore of the harbor is flat, sandy, and also subject to flooding.

Prominent landmarks include the Lido Hotel, a red building, standing 0.6 mile S of Point Labeit; a water tower standing 1.7 miles SW of Point Labeit; the minaret, 35m high, standing close SE of the Lido Hotel; a bank building standing 0.6 mile S of Matruh Point; four radio masts standing 2.5 miles S of the bank building; a television mast standing 1 mile ESE of Matruh Point; and the buildings of the airport situated 2.5 miles SSW of Matruh Point.

The entrance channel is indicated by range beacons.

**Caution.**—It is reported that there is extensive ongoing commercial development and construction in the harbor. The new facilities are to consist of 1,000m of total quayage with a depth of 9m alongside. The entrance channel is to be dredged to a depth of 9m and vessels up to 8,000 dwt and 8m draft are to be accommodated alongside.

**2.6 Ras Alam ar Rum** (31°22'N., 27°14'E.), a promontory, is the termination of a spur, 41m high, which projects from the apex of two ranges of hills. A light with a racon is shown from the point.

**Khalij Abu Hasha' ifah** (31°16'N., 27°35'E.), a large bay, lies between Ras Alam ar Rum and Ras al Hikmah, 27 miles ESE. It is indented by several sandy inlets and backed by hills which stand 5 miles inland. Reefs extend up to 8 miles SSE of Ras Alam ar Rum and lie up to 3 miles offshore.

Marsa Al Fallih, a cove, is entered 1 mile SSE of Ras Alam ar Rum and can be identified by several conspicuous salt stacks close N of it. A pier extends 75m SSW from the N entrance point of this cove. A beacon, from which a light is occasionally shown, marks the N end of a rocky shoal that extends about 100m SE from the head of the pier. Another beacon stands in the cove about 100m W of the extremity of the rocky shoal.

Ras Abu Hasha' ifah, a white bluff headland, is located 17.5 miles SE of Ras Alam ar Rum and is marked by a small cairn. This headland is fronted by shoals and Jazirat Abu Hasha' ifah, an island surrounded by a reef, lies 0.3 mile SE of it. Anchorage, sheltered from NW and W winds, can be obtained, in a depth of 11m, sand and rock, about 0.2 mile S of the E end of this island, but the holding ground is poor. Local knowledge is required.

Marsa Baqqush, located 1.6 miles SE of Ras Abu Hasha' ifah, is a small inlet which forms a natural harbor. It is suitable for small craft with local knowledge. Hashafat el Najithhe, the E entrance point of this shallow harbor, is a large black rock which appears conspicuous against the sandhills behind it. This rock is connected to the mainland by a narrow neck. The harbor, which lies within a line of rocks extending W from Hashafat el Nagith, can be entered by three narrow passages, the E one of which has a depth of 5.5m. There are depths of 1 to 5m in the inlet.

**2.7 Khalij al Hikmah** (31°09'N., 28°00'E.), a gulf, is entered between Ras al Hikmah and Ras ad Dab'ah, 32 miles ESE. A remarkable gap in the land lies close within Ras al Hikmah; from a distance this point appears as an island. A mooring buoy is situated about 3.5 miles SSE of Ras al Hikmah.

**Caution.**—A prohibited area, best seen on the chart, surrounds Ras al Hikmah.

The shores of the gulf are fronted by numerous small islets, rocks, reefs, and shoals which extend up to 1.5 miles offshore in places. Along the middle part of this gulf, a line of conspicuous black cliffs, 4 miles long, is backed by prominent hills.

Ras ad Dab'ah is surmounted by a coast guard watch tower and a reef, which lies up to 0.5 mile offshore, extends 3.5 miles W of it.

**2.8 Khalij al 'Arab** (Arabs Gulf) (31°00'N., 29°00'E.), a large gulf, lies between Ras ad Dab'ah and Al Iskandariyah, 75 miles E.

Unless approaching the oil terminals, vessels should not proceed into depths of less than 50m as many reefs and shoals, which may best be seen on the chart, extend seaward up to 5 miles from the shores of this gulf. In addition, it is also reported that a strong current sets into this gulf.

Ras Jubaysah (Gibisa), located 18 miles ESE of Ras ad Dab'ah, is surmounted by a coast guard station. The small mosque of Sidi 'Abel ar Rahman, situated 1.7 miles SW of Ras Jubaysah, is the only conspicuous landmark situated in this part of the gulf.

The SE shore of the gulf consists of a sandy beach backed by low hills which stand close inland.

### **El Hamra (El Alamein) Oil Terminal (30°59'N., 28°52'E.)**

World Port Index No. 45175

**2.9** El Hamra (El Alamein) Oil Terminal lies in the SW part of Khalij al 'Arab in the vicinity of Ras ash Shaqiq, a point located 4 miles SE of Ras Jubaysah.

**Winds—Weather.**—The prevailing winds are from the W, NW, and N. During the windiest months, February and July, the maximum velocity of the wind is 24 knots, except during local windstorms. In the least windy months, May and October, the winds rarely exceed a velocity of 19 knots. Waves, the direction of which is directly related to the wind, do not usually exceed 2.4m in height at the terminal.

**Depths—Limitations.**—The offshore berth consists of an SBM (Mono-Buoy) moored 2.5 miles NE of Ras ash Shaqiq, in

a depth of 20.1m. Two submarine pipelines extend SW from the berth to the shore. Tankers up to 100,000 dwt and 19.6m draft can be handled.

**Aspect.**—A light is shown from a structure, 15m high, standing on Ras ash Shaqiq. A racon and a radiobeacon are situated at the light.

A radio mast stands 1.2 miles S of the light and several oil tanks and the terminal administrative offices are situated close to it.

War memorials (monuments) stand 3 miles SSE and 4.5 miles SE of Ras ash Shaqiq and are prominent.

**Pilotage.**—Pilotage is compulsory. Pilots, or mooring masters, can be contacted on VHF channel 16 and will board about 2 miles NE of the berth. Vessels should send an ETA 72 hours, 48 hours, 24 hours, and 12 hours prior to arrival via Alexandria Radio.

**Anchorage.**—Vessels can obtain anchorage, in a depth of 22m, good holding ground, about 1 mile E of the offshore berth.

**Caution.**—An anchorage prohibited area lies in the vicinity of the offshore berth and may best be seen on the chart.

Dangerous wrecks are reported to lie about 1.5 miles E and 1.7 miles NW of the offshore berth.

Gibisa Reef, shallow and rocky, lies 1.3 miles NNW of Ras ash Shaqiq.

### Sidi Kerir Oil Terminal (31°06'N., 29°37'E.)

World Port Index No. 45172

**2.10** Sidi Kerir Oil Terminal, with six offshore berths, lies in the NE part of Khalij al 'Arab, 9 miles SW of Al Iskandariyah (Alexandria).

**Tides—Currents.**—The tidal range is small, being only about 0.5m at springs. The tidal currents set W and E, parallel with the coast, at rates up to 0.5 knot.

**Depths—Limitations.**—The terminal consists of six SBM berths which lie up to 4.4 miles from the shore and are connected to the tank farm by submarine pipelines.

Three SBM berths (A4, A5, A6) can accommodate tankers up to 250,000 dwt, with a maximum draft of 16m. Three SBM berths (A1, A2, A3) can accommodate tankers up to 370,000 dwt, with a maximum draft of 22.9m.

**Aspect.**—A large tank farm situated at the terminal is conspicuous and a prominent radio mast stands near it. A water tower stands 3.7 miles SW of the tank farm and a prominent radio mast is reported to stand about 10.3 miles SW of it. A conspicuous pylon stands 4 miles ENE of the tank farm. A former Roman light structure stands on a low hill, 10 miles SW of the tank farm.

**Pilotage.**—Pilotage is compulsory. Pilots, who acts as mooring masters, may be contacted on VHF channels 3, 16, and 78 and embark by launch (24 hours) or helicopter (daylight hours only) about 2 miles N of Offshore Berth No. 1.

Vessels should send an ETA 72 hours, 48 hours, and 24 hours before arrival, reporting any amendments of more than 6 hours, via Alexandria Radio. The initial message should contain the following:

1. Vessel name and call sign.
2. Summer dwt.

3. Summer draft.
4. Cargo requirements.
5. Loading rate.
6. Last port of call

Vessels should contact the terminal 6 hours before arrival on VHF channel 78 or 3, if available, or on VHF channel 16. Vessels should maintain a listening watch on VHF channel 78 during loading operations.

**Anchorage.**—A designated Anchoring/Waiting Area, with depths of 35 to 40m, is situated about 2.5 miles W of the offshore berths.

**Caution.**—A prohibited area extends up to about 1 mile from the shore in the vicinity of the terminal and may best be seen on the chart.

### Al Iskandariyah (Alexandria) (31°10'N., 29°50'E.)

World Port Index No. 45165

**2.11** The port of Al Iskandariyah (Alexandria) is one of the principal ports in the Mediterranean and extends up to 7 miles along the low shore. It comprises of El Dikheila harbor, at the SW side; Al Iskandariyah harbor, in the middle; and Eastern harbor, at the NE side. The inner approaches to the main commercial harbors lie between Tabiyet el Abbasiya and Ras el Tin, and are encumbered by a line of reefs and shallows about 1 mile wide, through which four entrance channels pass. There is a dangerous wreck 5.5 miles WSW of Ras el Tin Light.

**Winds—Weather.**—There are two well-defined seasons with transitional periods in between. Winter months are cloudy with mild temperatures and most of the annual rainfall. It is not unusual for port operations to be halted during the winter because of bad weather. Summer months are clear with little rainfall, high humidity, and temperatures from 20 to 30 C.

**Tides—Currents.**—There is little or no current within the harbor, but it is reported that strong NW winds cause a N set across the entrance to Al Iskandariyah harbor.

During strong W winds, the water level in the harbor may be raised by as much as 0.5m. Fresh N winds sometimes raise a short sea within the outer harbor, which, although not dangerous to vessels at anchor, may halt lighterage operations.

**Depths—Limitations.**—El Dikheila harbor, a large basin, is protected to the N by a breakwater which extends 0.8 mile NE. It is entered through El Dikheila Pass, which is 250m wide and is reported to have a least depth of 20m on the range.

A mineral pier, 750m long, extends from the S shore of this harbor. It has two berths, each 315m long, with depths of 16 to 20m alongside. Vessels up to 160,000 dwt and 19m draft can be handled.

A jetty, with 780m of berthing space and a depth of 14m alongside, is located 0.5 mile W of the mineral pier.

A container jetty is located 0.2 mile further W. The S side of the jetty has 500m of berthing space, with an alongside depth of 14m; the N side of the jetty has 240m of berthing space, with an alongside depth of 12m. Work is in progress to extend the container jetty to the WSW.

A fairway channel, 150 to 210m wide, extends WSW from El Dikheila Pass, the main entrance channel. It leads to an extensive commercial complex and has a dredged depth of 14m.

This complex includes two container berths, each 500m long, with depths of 12 to 14m alongside; two ro-ro berths, each 50m long, with a depth of 12m alongside; and 1,620m of total berthing space for general and bulk cargo, with depths of 12 to 15m alongside. Vessels up to 13m draft can be accommodated at this complex.

Al Iskandariyah harbor is protected from the N by a breakwater which extends 0.7 mile SW and then 1.3 miles SSW from Ras el Tin.

El Bughaz el Kabir (Great Pass), reported (1994) to be 180m wide and dredged to 13.7m, is the principal channel leading into Al Iskandariyah harbor. It is used by all deep-draft vessels and is the only available channel at night.

El Bughaz (Bughaz Pass), which is only used during the day, is 91m wide and has a least depth of 9.1m. This secondary channel is suitable for vessels with drafts up to 7m, but is impracticable when there is a heavy sea or swell. A considerable cross current, apparently caused by the prevailing wind, has frequently been experienced in this channel.

Corvette Pass (Abu Baker Strait), the NE entrance channel, is only used by small vessels with local knowledge and has a least depth of 5.8m.

Within Al Iskandariyah harbor, a dredged channel leads from the outer basin to the inner basin and has a least depth of 13.5m. A naval base is situated along the N side of the harbor.

The harbor has 10,500m of total commercial quayage with depths of 5 to 14m alongside. This includes 65 operational berths with facilities for general cargo, bulk, passenger, ro-ro, and timber vessels. Vessels up to 9.8m draft can be handled.

A petroleum and natural gas basin lies on the SE side of the entrance to the outer basin of Al Iskandariyah harbor and has five berths, with depths up to 11.6m alongside. Tankers up to 213m in length and 10.7m draft, and gas vessels up to 122m in length and 8.5m draft can be handled.

A butane terminal, accessible to butane tankers up to 3,000 dwt and 7.3m draft, is situated 1.2 miles WSW of El Mex High Light.

An offshore oil berth is situated to the W of the main harbors and can handle tankers up to 50,000 dwt and 13.7m draft. It consists of an SBM which is moored 2.4 miles WSW of Tabiyet el Abbasiya and is connected to the shore by a submarine pipeline.

Eastern Harbor, at the NE end of the port, is protected by breakwaters and fronted by shoals. A fort stands at the root of the N breakwater. It is only used by small craft and fishing boats with local knowledge.

**Aspect.**—Tabiyet el Abbasiya, at the SW end of the port, is surmounted by a tower. A light is shown from a structure standing 0.5 mile NE of Tabiyet el Abbasiya. A racon is situated at this light.

A light is shown from a prominent tower standing on Ras at Tin (31°12'N., 29°52'E.) at the NE end of the port. A racon is also situated at this light. A conspicuous radio mast, 100m high, stands about 0.3 mile NE of the light.

Prominent landmarks in the W part of the port are a minaret, 0.6 mile SE of Mineral Jetty, and an aeronautical light, about 0.6 mile S of the head of the same jetty.

Great Pass Beacon Light is shown from a structure, 21m high, standing on the SW side of Great Pass, 1.8 miles NE of Tabiyet el Abbasiya.

Great Pass Low Light is shown from a tower, 20m high, standing near the shore, 2 miles SE of Great Pass Beacon Light. A radio beacon is situated at this light. A disused light structure is situated 0.2 mile NE of this light.

El Meks (El-Maks) High Light is shown from a tower standing 0.4 mile SE of Great Pass Low Light.

The entrance channels leading through the line of reefs are marked by lighted buoys and beacons. The center and sides of the channel fairways are indicated by lighted ranges and range beacons and may best be seen on the chart.

An outer approach lighted buoy is moored about 12 miles NW of Great Pass Beacon Light.

**Pilotage.**—Pilotage is compulsory for sailing vessels over 100 tons and motor vessels over 150 tons. It has been reported that pilotage is compulsory for all vessels over 300 gross tons. Pilots can be contacted on VHF channel 11 and sea pilots will board about 1 mile NW of Great Pass Beacon Light. Harbor pilots will generally board at the outer entrances of the harbor entrance channels.

All vessels proceeding to the port must identify themselves and advise the pilot station of their arrival before anchoring.

It has also been reported that the pilot boards 1.7 miles NE of El Agami Islet; in heavy weather the pilot boat remains inside the harbor entrance.

**Regulations.**—All vessels must proceed to the vicinity of the port by the designated approach sector which may best be seen on the chart.

The following are extracts from the port traffic regulations and apply to El Bughaz el Kebir (Great Pass) and El Bughaz (Boghaz Pass):

1. Only one vessel at a time is permitted to enter the same channel.
2. Vessels departing have priority over those entering.
3. Vessels not intending to enter the port should not approach the channels except under unavoidable circumstances.

**Anchorage.**—There is an outer designated Anchoring/Waiting Area which is best be seen on the chart.

The outer part of Al Iskandariyah harbor provides Anchoring/Waiting Areas with several protected free swinging berths, in depths of 6 to 17m. There are also numerous mooring buoys situated in depths of 6 to 12m.

**Caution.**—The depths decrease rapidly towards the coast and vessels should not approach within a depth of less than 35m unless proceeding to one of the entrance channels.

A prohibited area, which may best be seen on the chart, extends up to 5 miles NW of Al Iskandariyah harbor. Vessels bound to and from Port Said may pass through this area, keeping strictly to the recommended track.

Several anchorage prohibited areas, best be seen on the chart, are in the vicinity of the Al Iskandariyah harbor channel.

Buoys marking the entrance channels are liable to be moved without prior warning.

An anchorage prohibited area, which may best be seen on the chart, lies in the vicinity of a wreck 2 miles NNW of Great Pass Beacon Light.

Several spoil ground areas lie in the approaches to the port and may best be seen on the chart.

A prohibited area, which may best be seen on the chart, fronts the naval base on the N side of Al Iskandariyah harbor.

The Port Authority must be consulted for the latest information on depths in the port and channels.

## Al Iskandariyah to the River Nile

**2.12 Burg Fort** (Abu Qir) (31°20'N., 30°04'E.), which is conspicuous, is situated 11 miles NE of the E harbor at Al Iskandariyah. The coast between is fronted by small islets, rocks, and shoals which extend up to 1.3 miles offshore in places.

The extensive suburbs of Al Iskandariyah extend along the coast of the Ras at Tin peninsula for nearly 7 miles. Qasr el Safa (Ramleh Palace), a conspicuous building with a pointed cupola, is situated 4.3 miles NE of the root of the E breakwater of Eastern harbor. A prominent radio mast, 103m high, and a conspicuous minaret, 44m high, stand 0.5 mile SSE and 0.7 mile NE, respectively, of Qasr el Safa.

El Muntaza Palace, a large red building with a tower, is situated 3 miles NE of Qasr el Safa and a prominent water tower stands 0.3 mile S of it.

**Caution.**—Due to the existence of submarine cables, a prohibited anchorage area, which may best be seen on the chart, fronts the coast between Eastern Harbor and Burg Fort and extends up to 10 miles seaward.

A prohibited area, extending up to 3 miles off the coast between Tabiyet el-Burg and a point on the coast 7.5 miles SW, can best be seen on the chart.

Between Al Iskandariyah and Bur Sa'id, numerous unmarked well heads, some projecting up to 6m above the sea floor, exist between the 200m curve and the coast. Considerable oil and gas exploration activity may be encountered in this area.

**2.13 Khalij Abu Qir** (31°20'N., 30°10'E.), a bay, lies between Burg Fort and Masabb Rashid (Rass Umm El Nabayil), 17 miles NE. A number of forts, all disused, are situated along the shores of the bay which are very low and sandy. Abu Qir, a summer resort, is situated on the W shore of the bay close SW of Burg Fort and a conspicuous minaret stands in this village. A small harbor fronts the village and is mainly for military use. A recommended track, which may best be seen on the chart, passes W of Gaziret Dusuqi and leads SSW and SW to the harbor entrance.

A conspicuous water tower stands on columns at Fort Rami, 0.8 mile SSE of Abu Qir. A sea wall extends along the coast from Fort Rami to Fort El Hamra, 5 miles SE. Fort El Hamra, situated at the head of the bay, is conspicuous with two towers and a building, 15m high, standing on it.

**Gaziret Dusuqi** (Nelson Island) (31°21'N., 30°06'E.), 9m high, lies 2.5 miles NE of Burg Fort. This islet is surrounded by foul ground and lies amongst numerous reefs and rocks which break and encumber the SW part of the bay. A light is shown from a structure, 3m high, standing on the islet. A racon is situated at the light.

El Dahl el Akhdar, a shoal patch with a depth of 15.2m, lies about 12.4 miles N of Gaziret Dusuqi.

Dibt Kawaly, a shoal with a least depth of 6.4m, lies in the middle of the bay, 7.1 miles ENE of Gaziret Dusuqi.

Dangerous wrecks lie about 1.6 miles and 4.7 miles NE of Gaziret Dusuqi and 1.8 miles W of Dibt Kawaly.

**Caution.**—Several mooring buoys are situated to the N of the recommended coastal track in the vicinity of Khalij Abu Qir.

**2.14 El Maaddiya** (31°16'N., 30°09'E.), a small port, lies 5.7 miles SE of Burg Fort. The harbor, which is protected by breakwaters, contains two berths, each 250m long, which can accommodate vessels up to 4.5m draft. The port is approached through an access channel, 100m wide, which is marked by buoys and indicated by a lighted range. A flare is situated close E of the harbor. Pilotage is compulsory. Pilots may be contacted by VHF and board in a Anchoring/Waiting Area centered 2 miles ESE of Gaziret Dusuqi. Pilots for the ammonia terminal are also provided here.

An offshore ammonia terminal, consisting of several mooring buoys, lies 3.5 miles N of the harbor. A submarine pipeline extends SW from the berth to the S shore of the bay. Pilotage is compulsory and vessels up to 7.5m draft can be handled. Vessels should send an ETA 7 days prior to arrival. The ETA should be confirmed 72 hours and 24 hours in advance. The pilots are available on VHF channel 6 or 16 and board in the waiting area NW of the berth.

**Caution.**—The Abu Qir Bay Gas Field occupies the central area of Khalij Abu Qir and consists of numerous platforms, wellheads, and submarine pipelines which may best be seen on the chart. The outermost platform is reported to be situated 13.5 miles N of Gaziret Dusuqi.

## The River Nile

**2.15** The River Nile, at a position a few miles N of Cairo, divides into two main streams which enter the Mediterranean Sea via Masabb Rashid (Rass Umm El Nabayil) and Masabb Dumyat. The area enclosed between the two branches is the present delta of the River Nile. Considerable erosion of this delta coast has taken place in recent years.

The construction of the Aswan High Dam resulted in the control of the annual flood of the River Nile. The flow is mostly equal throughout the year with some small releases during the late spring to mid summer. The dam also created Lake Nasser. This large lake provides additional farming land around the lake as increased irrigation of the surrounding area is now possible. A thriving fishing industry is another consequence of the dam construction and resulting lake.

The end of the annual flood has made life for farmers different downstream. More fertilization of crops is now required. The dam is also a source of hydroelectric power

**2.16 Masabb Rashid** (Rass Umm El Nabayil) (31°30'N., 30°20'E.), at the NE side of Khalij Abu, is 0.2 to 0.5 mile wide and nearly barred by extensive sand banks which extend up to about 1.3 miles seaward. These banks vary their formation and position in accordance with the state of the river and the prevailing weather conditions. A very narrow channel, with a depth of 2m, leads between these banks, but its position is subject to constant change. Inside the bar, the depths increase rapidly to between 3m and 6m and these depths are maintained for many miles. Local craft are brought into the river by a local pilot who sounds out the channel shortly before their arrival.

Rosetta Light is shown from a structure standing on the E bank, 4.5 miles SE of the entrance. A racon and a radiobeacon are situated at the light.

Two disused forts, one on each side of the channel, stand 1 mile within the river mouth. A minaret, 19m high, stands on the E bank 2.2 miles W of the light, and a disused fort is situated close S of it, on the opposite bank. Two minarets, 36m and 46m high, stand in the town of Rashid (Rosetta), which is situated 2.5 miles S of the light.

Dangerous wrecks lie about 4.5 miles and 7 miles NW of the river mouth.

Between Masabb Rashid and Masabb Dumyat, the bottom close off the coast is formed of dark and heavy sand. It is quite different from that lying W of Khalij Abu Qir, which is of a light color and formed by coral and shells.

**Caution.**—During the summer, a large sardine fishing fleet may be encountered off Masabb Rahid.

Masabb Rashid is reported to be as much as 2 miles SE of the charted position. Mariners are advised to exercise extreme caution navigating in the vicinity.

**2.17 Cape Burullus** (Brulos) (31°35'N., 30°59'E.), located nearly midway between the entrances of the two branches of the River Nile, is the E entrance point of a small outlet from the extensive Buhayrat al Burullus (Lake Burullus). A conspicuous water tower stands on this cape.

The coast to the W of the cape is low and sandy while that to the E consists of low sandhills. The outlet is navigable by shallow fishing craft with local knowledge.

El Burullus Light is shown from a structure standing 5.5 miles E of the cape. A racon and a radiobeacon are situated at the light.

A large hotel and several buildings are situated in the vicinity of the light.

Several forts, mostly in ruins and having the appearance of sand mounds are situated along the coast to the E of the cape.

### Damietta (31°28'N., 31°45'E.)

World Port Index No. 45151

**2.18 Damietta**, lying 5 miles W of Masabb Dumyat, is a deep-water port which is connected to the River Nile by a barge canal with a dredged depth of 5m.

**Depths—Limitations.**—The entrance channel, which is entered 6 miles NNE of the breakwaters, is 250 to 300m wide and is dredged to a depth of 15m. The harbor has 14 main commercial berths. Four container berths, each 250m long, have a depth of 14.5m alongside; two bulk berths, each 300m long, have a depth of 14.5m alongside; and eight general cargo berths, each 200m long, have a depth of 12m alongside. In addition, there are two ro-ro berths and 700m of quays, with a depth of 4.5m alongside.

Bulk vessels up to 80,000 dwt, 250m in length, and 12.5m draft can be accommodated. General cargo vessels are limited to 11m draft.

**Aspect.**—The harbor is protected by two breakwaters. A prominent silo also stands on the E side of the harbor basin. The entrance channel is marked by lighted buoys and indicated by a lighted range which may best be seen on the chart.

**Pilotage.**—Pilotage is compulsory. Vessels should send an ETA to the port authority 7 days and 24 hours in advance. Vessels should then contact the pilot station on VHF channel 14 or 16 when within 6 or 7 miles of the breakwaters. Pilots will generally board in the vicinity of the waiting area, about 6.5 miles N of the harbor entrance.

**Regulations.**—Mariners are advised that Traffic Separation Schemes and associated Precautionary Areas in the approaches to Mina Dumyat and Bur Sa'id have been established by the government of Egypt.

**Anchorage.**—A designated Anchoring/Waiting Area, which is best seen on the chart, has depths of 15 to 16m and is marked by a lighted buoy.

**Caution.**—Damietta Banks, with depths of 4 to 8m, lie on the W side of the entrance channel and extend up to 8.5 miles offshore.

A fishing prohibited area, which may best be seen on the chart, lies in the vicinity of the port and extends up to 10 miles offshore.

**2.19 Masabb Dumyat** (Damietta Mouth) (31°32'N., 31°51'E.), the entrance of the E branch of the River Nile, lies between Ras al Barr and Kawa (Kara) Burun, 1 mile NE. Ras al Barr is the termination of a low sandspit which forms the W bank of the river. The mouth is nearly filled by a sand bank which is partly awash. A very narrow channel, with a greatest depth of 2.4m over a shifting bar, lies about 0.5 mile NE of Ras al Barr. Another channel, with a greatest depth of 1.2m over a shifting bar, lies close off Kawa Burun. Following heavy gales, these channels are subject to changes in depth and position, so passage should not be attempted, even in boats, without the aid of a local pilot. A heavy surf usually breaks on the sandbank and landing is frequently stopped for up to several days. The river deepens considerably within the bar and has a depth of 6.4m up to 1.5 miles above the mouth.

**2.20 Domiat** (Damietta) (31°25'N., 31°49'E.), a large town, is situated on the E bank of this branch, 7.5 miles above the mouth. The town is fronted by two quays and four wooden piers. Several minarets, chimneys, and water towers stand in the town and may be seen from seaward over the trees.

A light is shown from a prominent structure standing on the E side of the entrance. A radiobeacon and a racon are situated at the light.

This light structure is visible from seaward before the land is sighted. The ruins of a fort, having the appearance of a flat-topped sand mound, stand 0.2 mile SSW of the light; a water tower is situated close S of them. Another fort, with conspicuous yellow walls, stands 0.6 mile S of the water tower. A prominent tower stands on the E bank of the river, 3.5 miles S of Ras al Barr.

The current in this vicinity is uncertain, but generally sets E at 0.5 to 1 knot. It is greatly influenced by strong winds. Within about 100m of the shore, a strong current is reported to set W and make landing hazardous.

Local vessels, which cannot cross the bar, often anchor NW of it, in a depth of 7m. During W winds, small vessels can find shelter under the lee of Kawa Burun.

**Caution.**—Depths of less than 11m extend up to 3.5 miles N and 5.5 miles NE of the mouth of Masabb Dumyat.

A fishing prohibited area, which may best be seen on the chart, lies in the vicinity of Masabb Dumyat and extends up to 10 miles from the coast.

**2.21 Bight of Diba** (31°25'N., 32°05'E.) lies between Masabb Dumyat and Bur Sa'id, 29 miles SE. The shore of this bight is formed by a strip of very low sand which separates Buhayrat al Manzalah (Lake Manzala) from the sea.

The ruins of a fort, which appear as a flat sand mound, stand on the coast, 16 miles SE of Masabb Dumyat. These ruins mark the ancient Mendesian mouth of the River Nile which is now closed. Another fort, which also has the appearance of a sand mound, stands on the NW side of the entrance to Buhayrat al Manzalah, 7.5 miles farther SE. A beacon is situated near this fort; three conspicuous beacons stand between the fort and the entrance of Bur Sa'id, 6.5 miles ESE.

Off this part of the coast, the current generally sets SE at 0.5 to 1 knot, but is greatly influenced by strong winds. The limit of the outflow of the river is clearly marked by the muddy appearance of the water. This limit varies considerably, but in the past, was not observed at more than 12 miles offshore.

**Caution.**—A prohibited area, which may best be seen on the chart, fronts the entrance to Buhayrat al Manzalah and extends up to 1.5 miles from the shore.

An anchoring and fishing prohibited area, which may best be seen on the chart, fronts the Bight of Diba and extends up to 11 miles seaward in places.

A wreck, with a depth of 12m, is reported to lie about 15.7 miles NE of Masabb Dumyat.

## Bur Sa'id (Port Said) (31°16'N., 32°18'E.)

World Port Index No. 45140

**2.22** Bur Sa'id (Port Said), a principal port, lies at the entrance to Qanat el Suweis (Suez Canal). It is protected by breakwaters and consists of several basins which lie along the main waterway. The city of Bur Sa'id is situated on the W side of the harbor and the large suburb of Bur Fu'ad (Port Fouad), which includes a free zone, is situated on the E side.

All vessels entering and leaving the canal pass through Bur Sa'id. Shallow-draft vessels enter through the main harbor and deep-draft vessels enter and all vessels leave through Bur Sa'id By-Pass, which lies 2.5 miles E of the city.

**Tides—Currents.**—In the approaches to Bur Sa'id, the current is variable and affected by the wind. With prolonged NW or N winds, especially in summer, the current is SSE, at rates of 0.5 to 1.5 knots.

A severe and sudden set has been reported in the vicinity of Buoy Hm60 and Buoy Hm80 in Bur Sa'id Bypass Approach Channel.

**Depths—Limitations.**—The W breakwater extends 3.3 miles NE from the W side of the harbor entrance with about 1.2 miles of its seaward end submerged. The E breakwater extends 0.7 mile miles N from the E side of the harbor entrance.

The W approach channel, about 3.7 miles long, leads SW to the harbor entrance and is maintained to a dredged depth of 15.5m. The harbor entrance channel is dredged to a maintained depth of 14.8m.

Numerous mooring buoy berths line the sides of the main waterway within the harbor. There is 1,980m of total commercial quayside in the port with depths of 5 to 14m alongside. There are facilities for general cargo, ro-ro, container, tanker, passenger, and bulk vessels. Vessels up to 292m in length and 11.5m draft have been accommodated.

The E approach channel, which leads SSW to the Bur Sa'id By-Pass entrance, is dredged to a maintained depth of 23.5m.

It is reported that the least depth in the canal passage is 19.5m and vessels up to 17.07m draft and 70.1m beam can be accepted with no restriction upon length. Vessels of 155,000 dwt, fully laden; 250,000 dwt, partially laden; and 555,000 dwt, in ballast, have completed the passage. It has been reported (2003) that there are plans to deepen the Suez Canal to a depth of 20.1m by 2006.

The Suez Canal Container Terminal is located E of the Bur Sa'id By-Pass. The terminal is approached through a buoyed channel dredged to a depth of 18.5m. The terminal consists of four berths, with a total length of 1,200m and an alongside dredged depth of 16.5m.

### Suez Canal Container Terminal Home Page

<http://www.sctportsaid.com>

The maximum dimensions vary from vessel to vessel as the Suez Canal Authority accepts vessels based on a beam and draft ratio table. For more information, see Pub. 172, Sailing Directions (Enroute) Red Sea and the Persian Gulf.

**Aspect.**—The coast in the vicinity of Bur Sa'id is unusually low. El Bahar Light is shown from a tower standing 2.2 miles WSW of the head of the E breakwater. A racon and a radiobeacon are situated at the light.

A pilot tower, marked by a light, stands in the approaches between the two channels, 2.1 miles NE of the head of the E breakwater. A racon is situated at this tower.

The green tiled dome, 37m high, of the Suez Canal Authority's Office is conspicuous and is situated on the W side of the harbor, 1.5 miles SW of the head of the E breakwater. A disused light structure stands 0.5 mile NE of the dome and a prominent church tower is situated 0.6 mile N of the dome.

The approach channel is marked by lighted buoys and is indicated by a lighted range which may best be seen on the chart. An outer approach lighted buoy is moored about 3.3 miles NNW of the pilot tower. A route, marked by lighted buoys, leads SSE from the vicinity of the outer lighted buoy to the entrance of the approach channel.

The approach channel leading to Bur Sa'id By-Pass is marked by lighted buoys and its seaward entrance lies 7.4 miles NNE of the pilot tower.

**Pilotage.**—Pilotage is compulsory for all vessels entering, leaving, or moving within the canal waters or the port. Pilots can be contacted on VHF channels 12 and 13 and board large vessels in the North Anchorage Areas. Other vessels are boarded in the vicinity of Bur Sa'id Channel Outer Lighted Buoy.

The harbor pilots embark close inside the head of the W breakwater.

Vessels intending to transit the canal should contact Ismailia Traffic Control (SUQ) by VHF when 15 miles from Bur Sa'id

By-Pass Outer Approach Lighted Buoy. Within the canal, radio communication is usually carried out on UHF which is provided by the pilot.

Traffic surveillance of the canal and port approaches is maintained by radar from Ismailia.

See General Remarks in paragraph 2.1 for further information.

**Regulations.**—Regulations for navigation in the Suez Canal and the ports within the canal are contained in the Rules of Navigation which are issued by the Suez Canal Authority. Extracts from these regulations are listed in Pub. 172, Sailing Directions (Enroute) Red Sea and the Persian Gulf.

The following documents must be readily available:

1. Suez Canal Special Tonnage Certificate.
2. Certificate of Registry.
3. Statistical Declaration.
4. Extract from any of the vessel's official documents and information concerning its type and cargo.
5. Declaration concerning the use of double bottom tanks and the lower part of high tanks.
6. Declaration concerning vessels in ballast.
7. Declaration of state of navigability.
8. The last classification certificate issued.
9. Capacity plan.
10. General arrangement plan.
11. Piping plan of LPG and LNG vessels.
12. Canal searchlight certificate.
13. Four copies of the crew list.
14. Four copies of the passenger list.
15. Any other information relevant to the vessel's transit.

These documents are required to be handed to the authorities. In the event the above documents are not on board, it is advised that they be forwarded to the agents concerned ahead of time in order to avoid a delay.

Every vessel transiting the canal must carry projectors (searchlights) in accordance with the specifications required by the Suez Canal Authority.

The draft and load line marks are required to be clearly visible on both sides of the vessel, fore, aft, and midships.

**Signals.**—Vessels maneuvering in Bur Sa'id harbor must display the appropriate signals. When entering Bur Sa'id or Bur Sa'id Bypass, vessels carrying dangerous cargo must also display the appropriate signals. Both sets of signals are shown in the accompanying tables.

Bur Sa'id Maneuvering Signals		
Day	Night	Meaning
A vessel showing one of these signals should not be passed or overtaken. When the maneuver has been completed, the signal must be hauled down or extinguished.		

Bur Sa'id/Bur Sa'id Bypass Dangerous Cargo Signals		
Day	Night	Cargo
Black ball over Flag B	White light over two red lights	Explosives, non gas-free tank vessels, LPG, LNG, or chemicals in bulk.
Black ball over Flag B over black ball	Three vertical red lights	Petroleum in bulk (flash point below 23 C).
Flag B over black ball	Two red lights over one white light	Petroleum in bulk (flash point between 23 C and 48 C).
Flag B over black ball	Four vertical red lights	Petroleum in bulk (flash point between 23 C and 48 C).

**Anchorage.**—Off Port Said, three anchorage areas are available; they are all best seen on the chart.

North Anchorage (Zone 1) is for deep-draft vessels with a draft greater than 12.8m waiting to enter the Suez Canal.

North Anchorage (Zone 2) is for deep-draft vessels waiting to enter the Suez Canal. Vessels authorized to use this anchorages are third generation container vessels, VLCCs in ballast or partially loaded, and vessels with drafts between 11.9m and 12.8m. Each anchor of the eight berths has a radius of 750m and are designated V1 through V8.

South Anchorage is for vessels with a draft of up to 11.9m waiting to enter Bur Said Harbor or the Suez Canal through Bur Said Harbor. Each of the 15 anchor berths has a radius of 500m and are designated C1 through C15. The bottom is mud, good holding ground.

Anchorage is prohibited within a charted Prohibited Anchorage Area W of charted anchorages. Anchorage is also prohibited between the E limit of North Anchorages (Zone 2) and South Anchorage and Bur Said East Branch.

A cargo transshipment area, which is best seen on the chart, can be used by vessels with drafts less than 18.3m.

A second cargo transshipment area, which is best seen on the chart, can be used by vessels with drafts of 18.3m or more.

Vessels from sea should, if practicable, avoid entering the Bur Sa'id (Port Said) anchorage areas between 0100 and 0500 when vessels within these areas are leaving to form convoys for entering the canal.

**Caution.**—Several wrecks, some dangerous, lie in the approaches to the port and may best be seen on the chart.

Bur Sa'id Maneuvering Signals		
Day	Night	Meaning
Flag G	White light over red light	I am maneuvering to get underway to proceed to sea.
PT1	White light over red light	I am maneuvering to get underway to proceed to sea.
PT2	Two vertical white lights	I am making fast.

A wreck, with a depth of 10.5m, lies close W of the seaward entrance to Bur Sa'id By-Pass Approach Channel and is marked by a lighted buoy.

Within the harbor and the approach channels, the depths are continually changing; local authorities should be contacted for the latest information.

Extensive dredging and widening are continuously being carried out throughout the port, the canal, and the approaches. Dredges, floating cranes, barges, and other craft engaged in this work may be frequently encountered within the canal and its approaches. Navigational aids, particularly buoys, may be temporarily removed, relocated, or altered in shape or characteristics.

A danger area, within which navigation is prohibited, lies in the vicinity of the entrance to Bur Sa'id By-Pass. It extends up to 2.7 miles from the shore and may best be seen on the chart.

Spoil ground areas lie in the approaches to the port and canal and may best be seen on the chart.

## Bur Sa'id to Tall Rafah

**2.23 Khalij At Tinah** (El Tina Bay) (31°10'N., 32°40'E.) lies between Bur Sa'id and Ras Burun, 40 miles E. The E shore of this bay is low, with a narrow strip of sand which separates an extensive salt lake from the sea. A ruined square fort, 9m high, stands near the coast, 10.5 miles SE of Bur Sa'id. The bay is mostly shallow with depths of less than 10m lying up to

about 14 miles offshore in places. Ras Burun is formed by a small and conspicuous range of sand hills up to 60m high.

A continuation of the low and narrow strip of sand, which separates the salt lake from the sea, extends 38 miles ESE from Ras Burun to Al 'Arish.

**Al 'Arish** (31°08'N., 33°48'E.), a small town, stands on low ground on the banks of the Wadi al 'Arish. It is situated among palm trees and sand dunes 1 mile inland. Numerous buildings are visible from seaward; the minaret of the mosque is conspicuous. The port is approached by a 2 mile long access channel, which is 100m wide with a depth of 7.5m. The town has a quay 200m long, with a depth of 6.5m alongside. Pilotage is compulsory.

A prominent palm grove and a conspicuous sand hill are located 5 miles W and 8 miles SSW, respectively, of Al 'Arish.

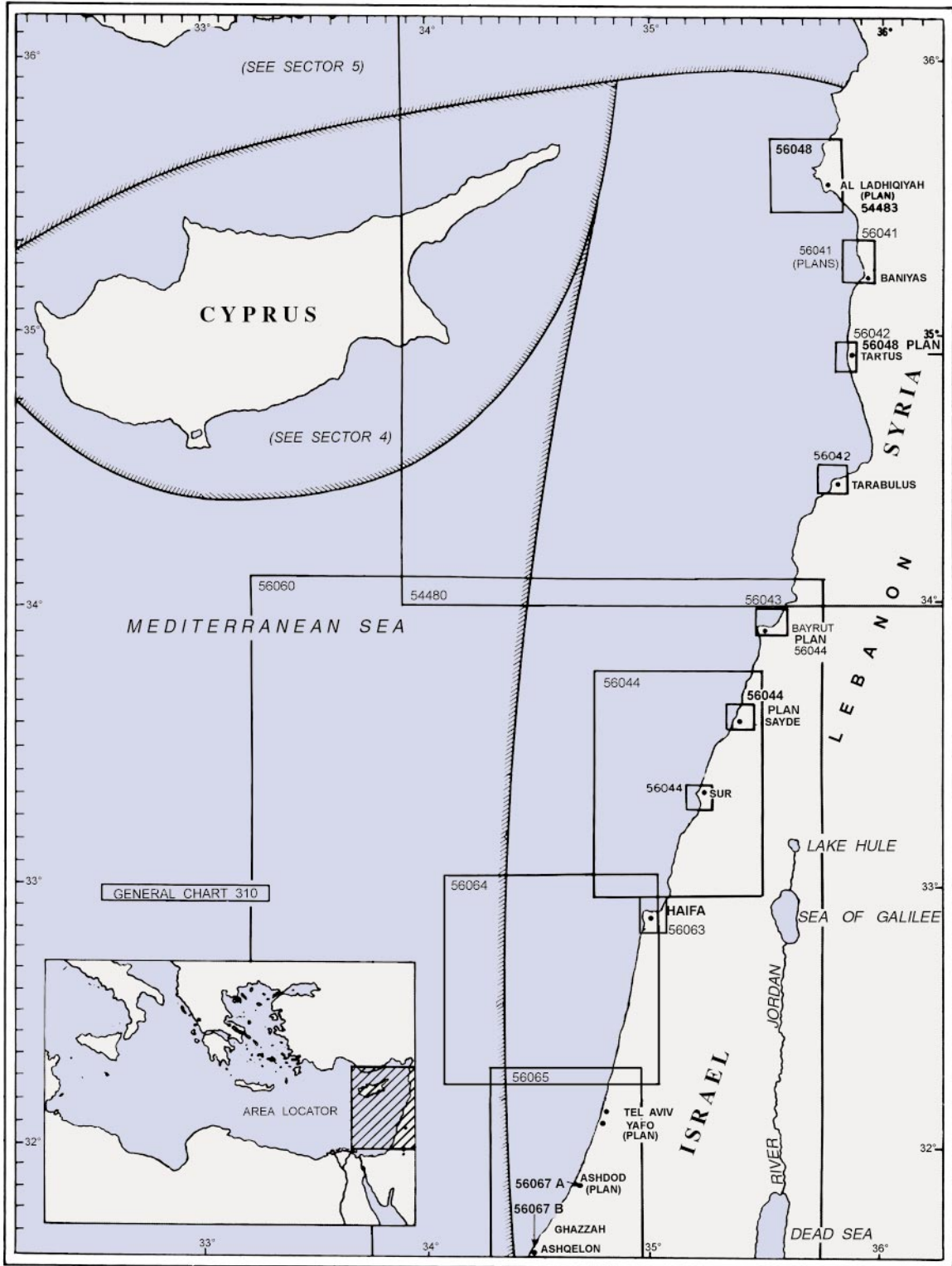
Tall Rafah lies 24 miles ENE of Al 'Arish. The coast between consists of almost bare sand dunes, 46 to 61m high, with numerous scattered palms and bushes close inland. In clear weather, the mountain ranges farther inland are visible from seaward.

The boundary between Egypt and Israel (Gaza Strip) is situated in the vicinity of Tall Rafah.

**Caution.**—The shore between Bur Sa'id and Al 'Arish is, with the exception of Ras Burun, extremely low and is fronted by several shoals. Vessels should give this stretch of coast a wide berth, especially in February and March, when dense fog is not uncommon.







Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).  
**SECTOR 3 — CHART INFORMATION**



## SECTOR 3

### ISRAEL, LEBANON, AND SYRIA

**Plan.**—This sector describes the W coasts of Israel, Lebanon, and Syria. The general descriptive sequence is NNE from Tall Rafah to Ras al Basit.

#### General Remarks

**3.1 Winds—Weather.**—Off the coast of Lebanon, the prevailing winds are S or W in the winter and W or SW in the summer. The sea breeze, which in the summer is extremely effective in lowering the air temperature, usually starts about 1000, but can start as early as 0600. Wind velocities increase until the afternoon, then diminish to near calm after sunset. The land breeze, which usually begins about 2000 and lasts until sunrise, is generally weaker than the sea breeze. Gales occur more frequently in winter along the coast.

Visibility on the Lebanese coast is generally good, although haze is common in summer and early morning fog is sometimes experienced. In winter, the visibility is principally restricted by rainfall.

Off the Syrian coast, prevailing winds are predominantly W to SW, with the direction being more variable in the winter than in summer. Land and sea breezes are prominent, especially in July and August. The sea breeze ordinarily sets in during the forenoon, after a period of morning calm. It increases until about noon, then dissipates and becomes calm around sunset.

In general, visibility along the Syrian coast is good, with some local fog and haze at times.

**Tides—Currents.**—The general E current on the N coast of Africa turns NE and N on the coasts of Israel, Lebanon, and Syria, where it becomes weak and variable and affected by the winds; the velocity of the N current occasionally exceeds 1 knot during strong W winds.

The approach of the tidal progression in the Mediterranean Sea indicates that the flood currents probably set E and the ebb currents probably set W. The small tidal range indicates that these currents are weak and easily influenced by the winds. The flood current is probably accelerated by W winds and retarded by E winds. The reverse is probably true of the ebb current.

**Regulations.**—Special regulations are in effect for vessels bound for ports in Israel, Lebanon, and Syria. See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea for details.

All vessels bound for any Israeli port are advised to approach the Israeli coast only through the charted recommended routes. All coastal traffic transiting along the Israeli coast must transit within the charted coastal route. Vessels navigating within Israeli territorial waters are advised not to exceed a maximum speed of 15 knots.

**Caution.**—Prohibited areas, which are permanently closed to navigation, extend seaward from the W coast of Israel and may best be seen on the chart. For details, see Pub. 140, Sailing

Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea.

#### Tall Rafah to Ashdod

**3.2 Tall Rafah** (31°19'N., 34°13'E.) is situated in the vicinity of the border between Egypt and Israel (Gaza Strip). The coast here has vegetation, in the form of scattered trees and small groves, but for the most part undulating sand hills predominate. In clear weather, the mountain ranges inland are visible for a considerable distance offshore.

A line of cliffs, up to 21m high, is located 7 miles NE of Tall Rafah and extends for about 5 miles along the coast. Khan Yunis, a village, stands 4.5 miles ENE of Tall Rafah. It is visible from seaward, but may be difficult to distinguish because the houses tend to blend into the sandy foreground.

**Ghazzah** (Gaza) (31°30'N., 34°28'E.), a large town, is situated 2 miles inland and separated from the coast by hills of drifting sand, 31 to 46m high. Two minarets stand in the town and are occasionally visible from seaward between the sand hills. A conspicuous tomb is situated on a hill 1 mile SE of the town. This hill, having a flat-topped appearance, rises considerably higher than those surrounding it. The town is reported to be fronted by a pier which is protected by a breakwater.

The current off this part of the coast is normally weak and variable, but during and after W gales in the spring, a N set is experienced of up to 0.5 knot.

**3.3 Ashkelon** (31°40'N., 34°33'E.) (World Port Index No. 45110), an offshore oil terminal, lies 8 miles NE of Ghazzah. It is situated at the outlet of the Elat-Ashkelon overland pipeline.

**Tides—Currents.**—The current off Ashkelon is usually weak, but during and after W gales in the spring, a N set at about 0.5 knot has been observed.

**Depths—Limitations.**—A recommended approach route channel, 4 miles wide, leads to the oil terminal and may best be seen on the chart. The terminal consists of four offshore berths which are connected to the shore by submarine pipelines.

Berth No. 1 and Berth No. 2 consist of multi-buoy berths lying in depths of 25m and 22m, respectively. They can accommodate vessels up to 80,000 dwt.

Berth No. 3 and Berth No. 4 consist of SBM (monobuoy) berths lying in depths of 30m. They can accommodate VLCCs up to 250,000 dwt.

A coal jetty is located in the SW area of the port. The jetty has eight berthing dolphins, nine mooring dolphins, and a depth of 15m alongside.

**Aspect.**—The town is situated 2 miles N of the terminal and can be easily identified from seaward by the numerous groves of fruit trees in its vicinity. These groves contrast with the arid wastes to the N and S of the town. Little remains of the ancient town except the huge ramparts which stand on the S and SE sides and enclose a mass of ruins. El Jura, a small modern village, stands close NE of the old town. En Nabi Hsein, a

conspicuous white tomb, stands amongst trees on the summit of some rising ground, 0.7 mile ESE of the town.

A prominent tank farm is situated at the oil terminal. A light is shown from a structure standing near this tank farm.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 13, call sign “Delek.” They usually board at the anchorages. Vessels should send an ETA 72 hours, 48 hours, 24 hours, and 12 hours in advance via Haifa Radio.

**Anchorage.**—Anchorage may be obtained, in a depth of 18m, about 1 mile offshore anywhere along this coast, but clear of the prohibited areas. The bottom is sand, which changes to mud about 1.5 miles offshore, and the holding is good.

**Caution.**—A prohibited area, which may best be seen on the chart, lies in the vicinity of the offshore berths. Vessels must receive permission before entering this area.

### Ashdod (31°49'N., 34°39'E.)

World Port Index No. 45100

**3.4** The port of Ashdod lies close N of the mouth of the Lakhish River about 24 miles S of Tel Aviv. It consists of an offshore oil terminal and a harbor which is protected by breakwaters.

#### Ashdod Home Page

<http://www.ashdodport.org.il>

**Tides—Currents.**—The tides are almost negligible, but winds from the W and SW may raise the water level by as much as 0.6m. Winds from the E may lower it by the same amount. After strong W winds prevail, a current sets N at 1 to 1.5 knots and may cause anchored vessels to roll heavily.

**Depths—Limitations.**—A recommended approach route channel, 4 miles wide, leads ESE for 45 miles to the port and may best be seen on the chart. The harbor entrance should be approached from the NW, keeping clear of the offshore berths.

The main facilities include a bulk quay, 250m long, with a depth of 12.5m alongside; a container quay, 485m long, with a depth of 12m alongside; and a multi-purpose quay, 380m long, with a depth of 13m alongside. In addition, there is 4,063m of total berthing space, with depths of 6.4 to 10.4m alongside. There are facilities for general cargo, bulk, passenger, container, coal carriers, and ro-ro vessels. Vessels up to 12m draft can be accommodated.

Two offshore tanker berths, consisting of several mooring buoys, lie in depths of 16m, 1.3 miles NE of the harbor entrance. They are marked by lighted buoys and are connected to the shore by submarine pipelines.

**Aspect.**—A light is shown from a prominent structure, 42m high, standing at the S end of the port.

A group of five prominent chimneys and a conspicuous radio mast stand 1.5 miles NE of the light. Two lighted buoys mark the harbor entrance fairway.

A lighted buoy is reported to be moored about 4.5 miles NW of the head of the main breakwater.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 14 or 16 and generally board about 1.5 miles

NW of the main breakwater. Vessels should send an ETA at least 12 hours in advance.

Pilots for Ashkelon Oil Terminal are also provided at this station.

**Anchorage.**—Exposed anchorage can be taken, in depths of 24 to 29m, about 0.8 mile W of the main breakwater and clear of the prohibited area. Limited anchorage can be taken within the breakwaters, in a depth of 11m, sand.

**Caution.**—An anchoring and fishing prohibited area, which may best be seen on the chart, lies in the vicinity of the harbor entrance and the offshore oil berths.

It is reported (2002) that development and construction are being carried out N of the present harbor. The new facilities, named Hayovel (Jubilee) port, will expand current capacity in the area. The first phase of construction is due to be completed in 2004.

### Ashdod to Haifa

**3.5 Nahal Soreq** (31°56'N., 34°42'E.) flows into the sea 7.5 miles NNE of Ashdod. A minaret stands on the S bank of this river 1.5 miles within its mouth. It is prominent from the NW but is mostly obscured by sand hills. The coast in this vicinity is generally low and consists of cultivated fields and pasture land. A mountain range stands 25 miles inland and has numerous villages situated along its slopes.

**Caution.**—Navigation prohibited areas front this stretch of the coast and may best be seen on the chart.

A marine farm, marked by a lighted buoy, is reported (1994) to lie about 7.5 miles NW of the mouth of Nahal Soreq.

**3.6 Tel Aviv Yafo** (32°04'N., 34°46'E.) consists of Tel Aviv and Yafo (Jaffa), which have expanded to form a single town.

Two offshore tanker berths, consisting of several mooring buoys, lie off the N end of the town and are connected to the shore by submarine pipeline. The N end of the town is fronted by a lighter basin and a marina. The S end of the town is fronted by an extensive small craft and yacht harbor.

Roadsteads lying adjacent to both N and S ends of the town provide ample anchorage, in depths of 12 to 18m.

Since the port of Ashdod opened, the port of Tel Aviv Yafo has been closed to commercial shipping.

**Caution.**—An anchoring and fishing prohibited area, which may best be seen on the chart, fronts the central part of the town and extends up to 10 miles seaward.

A navigation prohibited area, which may best be seen on the chart, is situated close N of the N end of the town. It lies adjacent to the airport and extends up to 0.7 mile offshore.

### Hadera (32°28'N., 34°53'E.)

World Port Index No. 45085

**3.7** Hadera, a terminal serving a power station, consists of an offshore oil berth and a coal discharging jetty.

**Depths—Limitations.**—A jetty, 2,000m long, extends from the shore and has a coal discharging berth at its head. The berth, with several mooring dolphins, is 300m long and has a

depth of 20.5m alongside. Vessels up to 200,000 dwt, 310m in length, and 18.5m draft can be handled.

The offshore oil berth consists of several mooring buoys and is connected to the shore by a submarine pipeline. It lies in a depth of 18m and can handle vessels up to 70,000 dwt.

**Aspect.**—Two conspicuous chimneys, 254m high, stand adjacent to the power station. The small town of Hadera is situated 2 miles SE of the terminal.

**Pilotage.**—Pilotage is compulsory. Pilots may be contacted on VHF channel 10 or 16 and board about 1 mile N of the head of the coal jetty. Vessels should establish contact on VHF channel 10 when within range.

**Anchorage.**—Vessels waiting for a berth may anchor, in depths of 25 to 30m, about 1.5 miles NNW of the head of the jetty.

**Caution.**—During the winter, vessels may be unable to berth due to the exposed nature of the jetty.

Several prohibited areas front the shore to the S of the terminal and may best be seen on the chart.

**3.8 Atlit** (32°42'N., 34°56'E.), an ancient port, stands on a rocky promontory with a small bay at its S side. Extensive ruins, dating from the time of the Crusaders, cover this area and include a square tower which is conspicuous from seaward. Atlit village is situated 1 mile S of this tower.

**Cape Carmel** (Har Karmel) (32°50'N., 34°58'E.) is the NW extremity of the headland which forms the W side of the approach to Hefa (Haifa). A light is shown from a conspicuous structure, 20m high, standing on the cape. A radiobeacon is situated at the light.

A monastery, with a conspicuous red dome and a belfry, stands close SE of the light.

Reefs, with depths of less than 5m, extend up to 1.3 miles NW and N of the cape and are marked by a lighted buoy. In moderate weather, the sea breaks heavily on these reefs.

Tell es Semak, a remarkable hill standing 0.5 mile SW of the cape, and Har Karmel (Mount Carmel), standing 6 miles SE of the cape, are both excellent marks from seaward. The coast in this vicinity is usually visible from a great distance, but at times it may be obscured by early morning haze.

Other conspicuous objects in the vicinity of the cape include a hospital situated 0.9 mile ENE of the light; a grain silo situated 1.4 miles ESE of the light; Bahai Tomb, with a golden cupola, situated 1.2 miles SE of the light; a hotel standing on Har Karmel ridge 0.3 mile SSW of the tomb; a tower, 90m high, standing 0.7 mile S of the hotel; and a water tower standing in the settlement of Qiryat Hayyim, 5.5 miles E of the light.

Several prominent chimneys stand at a power station 3 miles ESE of the light.

**Caution.**—An anchoring and fishing prohibited area, which may best be seen on the chart, lies 5.5 miles SW of Cape Carmel.

Several prohibited areas lie in the vicinity of the cape and may best be seen on the chart.

### Mifraz Haifa (Bay of Acre)

**3.9 Mifraz Haifa** (32°50'N., 35°01'E.) is entered between Cape Carmel and the town of Akko, situated 6.5 miles NE. The E side of this bay is backed by low sand hills, 5 to 12m high.

Tel Afeq, a hill, stands 5 miles SSE of Akko. It is 38m high and prominent from seaward.

**Akko** (Acre) (32°55'N., 35°04'E.), an ancient town, stands on a small peninsula and is surrounded by old fortifications. A light is shown from a structure, 10m high, standing at the SW side of these fortifications. A prominent minaret, 49m high with a green top, stands 0.3 mile NNE of the light and a prominent clock tower is situated in the SW part of the town. A small craft harbor lies close E of the town and is protected by a breakwater. Manara Rock, 7m high, lies 0.3 mile E of the light.

Vernon Reefs, with a least depth of 6m, and Talbot Reefs, with a least depth of 8m, lie centered 1.1 miles WNW and 1.6 miles SW, respectively of Akko. Akko Ledge, with depths of 4.9 to 8.8m, extends up to 1.2 miles SSW of Akko. Foxhound Reefs, with a least depth of 8.2m, lies centered 1.4 miles SSW of the S end of Akko Ledge.

An offshore chemical berth lies 1.1 miles S of Akko and is connected to the shore by a pipeline.

Pilotage is compulsory and is provided from Haifa. Pilots may be contacted on VHF channel 14 or 16. Vessels should send an ETA at least 12 hours prior to arrival. Contact with the pilots should be established at least 2 hours prior to arrival at the pilot pick up point.

Anchoring and fishing are prohibited in the vicinity of this terminal.

**Caution.**—A prohibited area, which may best be seen on the chart, fronts the E side of the bay and extends up to 0.5 mile offshore.

### Haifa (Hefa) (32°49'N., 35°00'E.)

World Port Index No. 45080

**3.10 Haifa (Hefa)**, the principal port of Israel, lies along SW side of Mifraz Haifa. It consists of an offshore oil terminal, Qishon Harbor, and Main Harbor which is protected from the N by an extensive breakwater.

#### Haifa Home Page

<http://www.haifaport.org.il>

**Winds—Weather.**—Calm weather prevails for the greater part of the year, but during the winter, occasional SW gales make entry dangerous for vessels in ballast. Visibility may be affected in spring and autumn by low stratus clouds and fog which occur intermittently during early morning, but disperse rapidly after sunrise.

Throughout the year, the sea breeze begins at about 1000, attains considerable force between 1300 and 1400, and disperses rapidly after 1600. During the strength of the breeze, sea conditions make lightering difficult.

**Tides—Currents.**—The tidal rises are almost negligible, being only 0.6m at springs.

**Depths—Limitations.**—A recommended route channel, 4 miles wide, leads 50 miles ESE to the port. The entrance channel is 183m wide between the breakwaters and has a depth of 13.8m.

The main port has a total of 12 quays and a number of auxiliary piers. Quay 2 through Quay 4, with a total length of 375m and alongside depths of 8 to 10m, handle general cargo.

Quay 5 and Quay 6, with a combined length of 259m and alongside depths of 10 to 11.5m, handle passenger vessels and general cargo.

Quay 7, with a length of 158m and an alongside depth of 11.5m, handles general and bulk cargo vessels.

Quay 8 and Quay 9 have a total length of 232m and an alongside depth of 13.8m for grain cargo.

Quay 10 and Quay 11 are located at the W container terminal (West Quay) and have a length of 396m and depths of 8.5 to 10.5m. There is a ro-ro berth at West Quay.

Quay 12, with a length of 224m and an alongside depth of 8m, accommodates ro-ro vessels and ferry traffic.

The East Quay is 650m long and has alongside depths of 12 to 13.5m for container and bulk vessels.

The Kishon Zone extends E of the main port and is enclosed by breakwaters. The approach channel to the zone is 0.5 mile in length, with a width of 80m and a depth of 12m.

The Kishon Zone contains docks and facilities for chemical and general cargo, a fishery dock, and a marina. Quay 1 through Quay 4 have a total length of 625m, with an alongside depth of 10m, for the handling of general cargo. The North Chemical Terminal and the South Chemical Terminal have a combined docking length of 410m, with alongside depths of up to 9m.

Shipbuilding and ship repair facilities are available at two floating dockyard quays, with depths of up to 11.5m

An offshore tanker berth, consisting of several mooring buoys, lies in depths of 14 to 15.5m about 1.5 miles NNE of the head of the main breakwater. Tankers with a maximum draft of 12m can be accommodated.

**Aspect.**—Prominent landmarks in the approaches are described with Cape Carmel in paragraph 3.8. A new and very conspicuous high building is reported to stand in the vicinity of the hospital, 0.9 mile ENE of the light.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 14 and board between 0.5 and 1.5 miles N of the head of the main breakwater. Pilots are also provided for the offshore chemical berth in the NE part of the bay. Vessels should also check in with the Israeli Navy on VHF channel 16 prior to entering Israeli territorial waters.

**Anchorage.**—A designated tanker anchorage area, which may best be seen on the chart, lies centered 2 miles NW of the head of the main breakwater.

During summer, vessels can anchor off the port in any convenient depth and clear of the prohibited areas. The depths are regular, the bottom is sand, and the holding ground is good. In bad weather, the sea breaks in exposed places where the depths are less than 5m.

**Caution.**—An anchoring and fishing prohibited area, which may best be seen on the chart, lies in the inner approaches to the port.

Several prohibited areas, which may best be seen on the chart, lie in the outer approaches to the port.

A wreck, with a depth of 29m, lies about 4.8 miles N of Cape Carmel and is marked by a lighted buoy. The wreck is identified as R. SMG. SCIRE, an Italian submarine sunk during World War I, and is designated a war memorial containing the

interred remains of Italian sailors. Underwater activity should be avoided in the vicinity of this wreck.

## Haifa to Sidon

**3.11 Ras en Naqurah** (Rosh HaNiqra) (33°06'N., 35°06'E.), located 10.5 miles N of Akko, is a prominent white headland, 79m high, which is surmounted by a tower. A conspicuous round-topped peak stands 1.7 miles E of the headland and the land rises gradually towards it.

Between Akko and Ras en Naqurah, several settlements stand near the coast. Nahariyya, a large settlement, is situated 4.5 miles S of Ras en Naqurah and contains a prominent water tower, 45m high. A conspicuous arched aqueduct stands 2.7 miles S of this settlement. Reefs, with a least depth of 4.5m, front the S part of Nahariyya and extend up to 1.2 miles offshore.

The coastal boundary between Israel and Lebanon lies in the vicinity of Ras en Naqurah.

**Caution.**—Prohibited areas, which may best be seen on the chart, front the coast between Akko and Ras en Naqurah.

**Ar Ras al Abyad** (Ras el Baiyada) (33°09'N., 35°10'E.), a cape, is formed by a bold white cliff which is surmounted by the ruins of an ancient temple. It is W termination of the Jebel Belat, a range of hills, which rises to a height of 778m about 6.5 miles ESE. A prominent table-topped hill, 371m high, stands 1.8 miles SE of the cape.

**3.12 Sur** (Sour) (33°16'N., 35°11'E.), formerly known as Tyr, is a small town situated on a low and flat peninsula. A light is shown from a structure standing on the N end of this peninsula and a prominent tower is situated 0.4 mile SSE of it. A conspicuous white building stands on a rocky mound, 40m high, 1.6 miles ESE of the light.

A chain of low islets, rocks, and shoals extends up to about 0.7 mile N of the light

A small harbor, protected by breakwaters, lies on the N side of the peninsula. It is mostly silted up and is only used by small craft. It was reported (1990) that a pier, with a depth of 5.3m alongside its head, was used by ro-ro vessels.

Large vessels may anchor, in depths of 15 to 17m, sand and weed, about 1.8 miles NNE of the light and NW of the white building. Small vessels may anchor E of the chain of islets and shoals. A good berth, in depths of 7 to 11m, sand, lies about 0.6 mile NE of the light.

Nahr al Litani, a large river, flows into the sea 4.5 miles NNE of Sur. Two prominent bridges span this river within 0.5 mile of its entrance.

Jabal Ash Shaykh (Mount Hermon) rises 30 miles inland of the mouth of the river. Its isolated and snow-capped peak, 2,814m high, is prominent from seaward.

Ras Sarafand, a double headed bluff cliff, is located 6 miles NNE of Nahr al Litani and is skirted by low plains on both sides. Several villages stand on the rising hills close inland of this cliff. A light is shown from a structure standing on an islet lying 0.8 mile W of the cliff. This islet is the outermost of several dangers in this vicinity.

Between Sur (Sour) and Sayde (Sidon), the coast is fronted by several islets, reefs, and rocks which extend up to 1.5 miles seaward in places.

**Sidon (Sayde) (Saide) (33°30'N., 35°21'E.)**

World Port Index No. 45040

**3.13** Sidon, a petroleum port, consists of four berths, which are connected to the Zahrani oil terminal by submarine pipelines, and fronts 5 miles of coastline.

**Tides—Currents.**—The tidal rise is negligible, being only 0.4m at springs.

Normally, no current is experienced off Sidon. However, occasional strong S sets are experienced.

**Depths—Limitations.**—Berth No. 1, Berth No. 3, and Berth No. 4 have been taken out of service; the mooring buoys have been removed, but the submarine pipelines remain on the bottom.

Berth No. 2 lies in a depth of 20.4m and consists of seven mooring buoys. Tankers up to 80,000 dwt and 16.8m draft can be handled during the winter. In summer (April through October), tankers up to 100,000 dwt can be handled.

It is reported (1994) that cargo vessels up to 10,000 dwt, 130m in length, and 8m draft can anchor E of Az Zirah; cargo is discharged into lighters.

**Aspect.**—Several radio towers and a tall black chimney stand near the shore in the S part of the port. The town stands on the NW slope of a rocky promontory at the N end of the port. Az Zirah, an islet, lies 0.4 mile NNW of the town. It is 6m high and is marked by a light at the S end. A small and shallow harbor fronts the N side of the town.

**Pilotage.**—Pilotage is compulsory. Pilots and oil company mooring masters can be contacted on VHF channel 14 or 16 and generally board about 2 miles W of the berths. Vessels should send an ETA 72 hours, 24 hours, and 12 hours in advance. Vessels should then contact the port on VHF 4 hours before arrival.

**Anchorage.**—Vessels awaiting a berth may anchor, in depths of 29 to 36m, sandy bottom, about 3.2 miles SW of the town. Due to excessive depths for safe anchoring, vessels should under no circumstances anchor to the N of the above position.

**Caution.**—A dangerous wreck is reported to lie about 1.3 miles SW of Az Zirah.

An anchorage prohibited area, which may best be seen on the chart, lies in the vicinity of the offshore berths.

**Sidon to Bayrut**

**3.14 Nahr al Awwali** (33°35'N., 35°23'E.) flows into the sea 3 miles NNE of Sidon. A conspicuous hotel stands on the S side of the entrance to this river. Vessels may find anchorage, in a depth of 16m, about 0.5 mile WNW of the river mouth.

Between the river and Ras as Sa'diyat, 6.2 miles NNE, the coast retains its rocky, steep, and barren characteristics. Part of Jabal Lubnan (Jebel Libnan), a Lebanese mountain range, stands inland and runs parallel to the coast. Jabal Tawmat Niha, a rounded double peak, rises 13 miles ESE of the entrance to the river and is prominent.

**Ras Bayrut** (33°54'N., 35°28'E.), located 13 miles NNE of Ras as Sa'diyat, is the W extremity of the promontory which forms the S side of the port of Bayrut. It is fronted by rocks and

shoals. A light is shown from a prominent structure, 27m high, standing on the point.

The red sand hills standing SE of the point are conspicuous from seaward. The coast between Ras as Sa'diyat and the point contains numerous villages and monasteries. A prominent radio mast and two aeronautical lights are situated in the vicinity of the airport, 4 miles S of Ras Bayrut.

**Caution.**—A submarine pipeline extends 3.5 miles WSW from a point along the shore in the vicinity of the airport.

**Bayrut (Beirut) (33°54'N., 35°31'E.)**

World Port Index No. 45030

**3.15** Bayrut (Beirut), a large port, lies between Ras Bayrut and Quarantine Point, 3 miles E. The main harbor is protected from the N by an extensive breakwater. An offshore petroleum berth, which is connected to the shore by submarine pipeline, lies at the E end of the port.

**Bayrut (Beirut) Home Page**<http://www.portdebeyrouth.com>

**Winds—Weather.**—During the winter, strong onshore winds, sometimes accompanied by rain, set up very heavy swells in the outer part of the harbor and often generate heavy surges in the inner part of the harbor. At such times, port operations may be frequently interrupted for two or three days.

**Tides—Currents.**—The tidal rise is very small, being only 0.4m at springs.

A strong current usually sets to the N in the vicinity of Ras Bayrut.

**Depths—Limitations.**—The entrance fairway has a depth of 15.2m over a width of 320m. The harbor has four basins which provide 3,400m of main commercial berthing space. There are 14 quays, 180 to 450m long, with depths of 8 to 14m alongside. In addition, there are three mooring buoy berths within the harbor. There are facilities for bulk, passenger, general cargo, and ro-ro vessels. Vessels up to 96,800 dwt, 265m in length, and 12.9m draft have been accommodated.

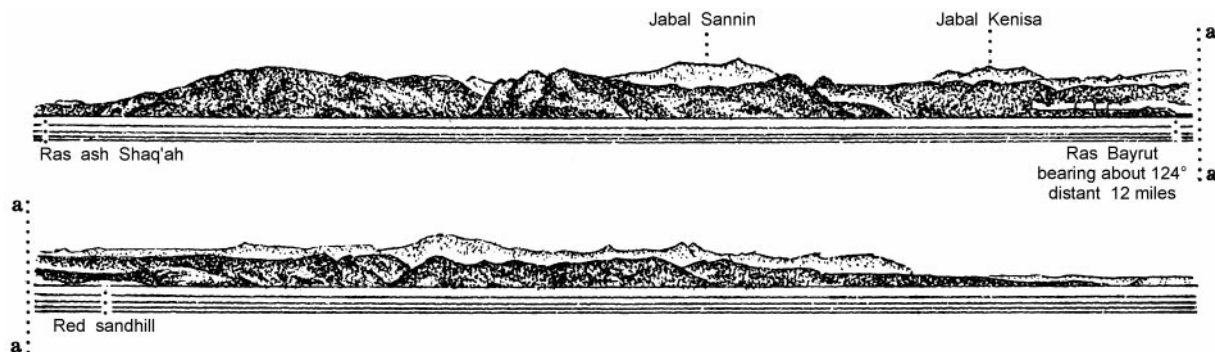
The offshore oil berth, consisting of several mooring buoys, lies 0.7 mile SE of the head of the main breakwater. It is reported that tankers using this terminal are limited to a maximum draft of 10.7m.

**Aspect.**—Numerous minarets and prominent buildings stand in the town. A conspicuous white silo, 160m high, stands in the center of Mole 2. A lighted buoy is moored close off the head of the main breakwater.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 11, 13, or 16 and board close NE of the head of the breakwater. Vessels should send an ETA 48 hours and 24 hours in advance.

**Anchorage.**—Vessels may find temporary anchorage as convenient to the N of the main breakwater, but clear of the harbor entrance and the prohibited anchorage area. Vessels should not attempt to anchor to the W of the prohibited anchorage area, as the depths are excessive. The greater part of the roadstead is rocky and is covered by sand or mud.





View, in two parts, of the coast in the vicinity of Bayrut

**Caution.**—Due to the existence of submarine cables, a prohibited anchoring area, which may best be seen on the chart, extends up to 1.5 miles N from a point on the shore close W of the root of the main breakwater.

The city and port are still in the process of restoration and rebuilding following the damages incurred during the civil war. Local authorities must be contacted for current information prior to entering port.

Vessels approaching the port from the S should give Ras Bayrut a very wide berth in order to avoid the rocky coastal ledge.

Several wrecks, some dangerous, lie in the approaches to the port and may best be seen on the chart.

Navigational aids in the vicinity of the port may be missing or extinguished.

## Bayrut to Tarabulus

**3.16 Jun Mar Jurjus** (Baie Saint Georges) (33°55'N., 35°34'E.), fronted by a sandy shore, lies between the E end of the port of Bayrut and Ras el Kelb, 3.7 miles NNE. Numerous prominent buildings stand inland along the shore of this bay.

Nahr El Kelb, a large river, enters the sea close N of Ras el Kelb. Several conspicuous monasteries stand 1 mile inland to the N of the river mouth. During the summer, anchorage can be taken, in depths of 12 to 16m, mud and sand, NW of the river entrance.

**3.17 Jounieh** (33°59'N., 35°37'E.), a small port, lies on the S side of Baie de Jounieh (Baie de Djourie) and is protected by breakwaters. The bay has considerable depths in its N and central parts. A conspicuous statue of Notre Dame de Liban stands at the base of a hill on the S shore of the bay. Two prominent monasteries are situated on a precipitous spur of a mountain at the NE side of the bay.

The harbor has 640m of total berthing space, with depths up to 4m alongside, and is used by small craft, yachts, and coasters. Vessels up to 60m in length and 3.7m draft can be accommodated. Anchorage can be taken by larger vessels, in a depth of 14m, sand, about 0.5 mile NNE of the harbor entrance. The port can be contacted by VHF and local pilots are available.

Zouk, a small harbor, fronts the coast 1 mile S of Jounieh. It is used by small tankers and LNG carriers which serve a local power station.

Nahr Ibrahim flows into the sea 4.8 miles N of Jounieh. This river is spanned by a prominent bridge 2.5 miles inland. A light (Tabarja) is shown from a framework tower standing 1.8 miles SSW of the river mouth. A conspicuous tower stands in the village of Jubayl (Jebail), 3.5 miles N of the river mouth. A light is shown from Ras Aamchite (Ras Amshit), 2 miles NNE of Jubayl.

Ras Selata, a steep-to point, is located 9.5 miles N of Jubayl and is surmounted by a prominent tower.

**Selaata** (34°16'N., 35°39'E.), a small port, lies in the vicinity of the point and is protected by a breakwater. The harbor can be contacted on VHF channel 16 and a local pilot is available and will board about 0.5 mile N of the entrance. The harbor has one main commercial quay, with a depth of 14m alongside, which can accommodate vessels up to 70,000 dwt, 230m in length, and 13m draft.

**3.18 Ras Shikka** (Cape Madonna) (34°19'N., 35°41'E.), located 2.3 miles NE of Ras Selata, is the W termination of a tableland, 233m high. The cape is surmounted by a chapel on its NW edge and the sides are precipitous and wooded.

Al Huri, a small and open bay, is entered between Ras Shikka and Ras an Natur, 4.5 miles NE. A conspicuous large square building stands on the latter point and is a good landmark from seaward.

A conspicuous chimney, illuminated at night, stands in the village of Shikka Atiqah which is situated about midway between the entrance points. By day, a dense cloud of white smoke rises from this chimney and is visible for a considerable distance offshore. A light is shown from a structure standing on the coast in the SW part of the village. A jetty, 40m long, fronts the shore close N of the light. Vessels with drafts up to 8.1m can berth at the head of this jetty with the use of mooring buoys. Anchorage can be taken, in a depth of 16m, sand, in the S part of the bay.

The village of Anfah (Enfe) is situated in the N part of the bay and is marked by a light. A ridge of rocks fronts the village and extends up to 1 mile seaward.

**Al Mina** (34°27'N., 35°48'E.), formed by a low promontory, is located 6 miles NE of Ras an Natur at the W side of Tarabulus. The coast between is fronted by rocks and shoals which extend up to about 1 mile, in places, from the shore. A conspicuous convent stands on a hill, 4.2 miles SSW of Al Mina.



*Courtesy of Holiday Suites Hotel and Resort*

### Jounieh

**Jazirat Ramkin** (34°30'N., 35°45'E.) is the outermost of a chain of islets, rocks, and shoals which extends up to 3.8 miles NW of Al Mina. A light is shown from a structure, 5m high, standing at the W side of this islet.

Sanani Channel, with a depth of 11m, leads through this chain of dangers 2 miles NW of Al Mina. This passage has a fairway 0.3 mile wide, is unmarked, and is only used by small vessels with local knowledge.

### Tarabulus (Tripoli) (34°27'N., 35°50'E.)

World Port Index No. 45025

**3.19** Tarabulus (Tripoli), a large city, extends E of Al Mina and contains numerous high-rise buildings. The port complex fronts the N shore of the city and consists of a harbor basin, protected by a breakwaters at the W end, and an offshore tanker terminal at the E end. Deep-draft vessels frequently transfer cargo to lighters in the roadstead close N of the harbor basin.

**Winds—Weather.**—Port operations in the roadstead are usually suspended for up to 20 days from December through March as a result of N gales. During the rainy season (January and February), periods of intermittent rain may last up to 11 days.

**Tides—Currents.**—The tidal rise is very small, being only 0.6m at springs.

Tidal currents are weak and variable and are often hidden by surface currents generated by the wind.

**Depths—Limitations.**—The entrance fairway is about 150m wide and has a dredged depth of 9m. A pier, 600m long,

has two berths on its W side with depths of 8 to 10m alongside. Vessels up to 150m in length and 6.8m draft can be accommodated alongside.

The oil terminal has five offshore loading berths which lie in depths of 11.6 to 20.1m. The berths consist of several mooring buoys and are connected to the shore by submarine pipelines. Berth No. 5 can handle tankers up to 35,000 dwt with a maximum draft of 7.5m draft; Berth No. 4 can handle tankers up to 25,000 dwt and 9.7m draft; Berth No. 3 can handle tankers up to 87,000 dwt and 14.3m draft; Berth No. 2 can handle tankers up to 250,000 dwt and 18.3m draft; and Berth No. 1 can handle tankers up to 140,000 dwt and 17m draft.

**Aspect.**—Jabal Turbul, a round-topped peak, stands 6 miles E of Al Mina. It is 681m high and is an excellent landmark in clear weather.

The Tower of Lions, 21m high, stands near the root of the E breakwater. This tower is conspicuous and it is marked by a light. A prominent silo stands on the E breakwater. A radio tower, 74m high, stands 0.3 mile WSW of The Tower of Lions. The ruins of Chateau de Ramond, a large castle, are situated on a hill, 60m high, in the S part of the city. Several flares, two radio towers, a signal station, and a large group of oil storage tanks are situated along the coast in the vicinity of the oil terminal.

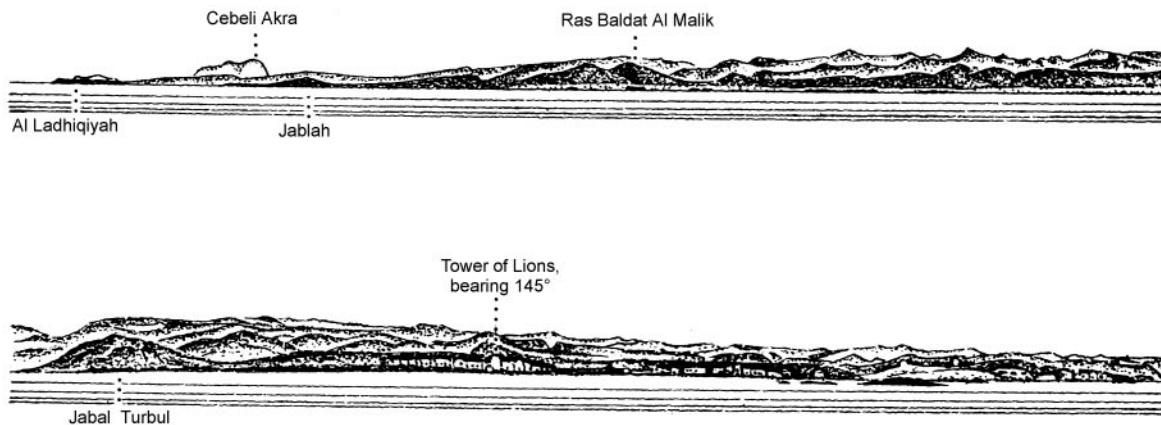
A lighted buoy is moored about 3.2 miles NE of the head of the W breakwater and marks the approach to the offshore berths.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 16 and board about 2 miles NE of the head of the W breakwater. Vessels should send an ETA at 72 hours, 48



*Courtesy of Tripoli-city.org*

### Ports of Tarabulus (Tripoli) and Al Mina



### Tarabulus (Tripoli) from NW

hours, and 24 hours in advance through Tarabulus (Tripoli) (ODC8), and a confirmation 1 hour before arrival.

**Anchorage.**—Anchorage is provided N of the harbor area. The S part of the roadstead, with depths of 11 to 14m, lies about 0.9 mile NNW of the outer head of the W breakwater. The N part of the roadstead, with depths of 14 to 35m, is used by tankers. In NE gales, anchorage can be taken, in depths of 14 to 20m, sand, SW of Al Mina.

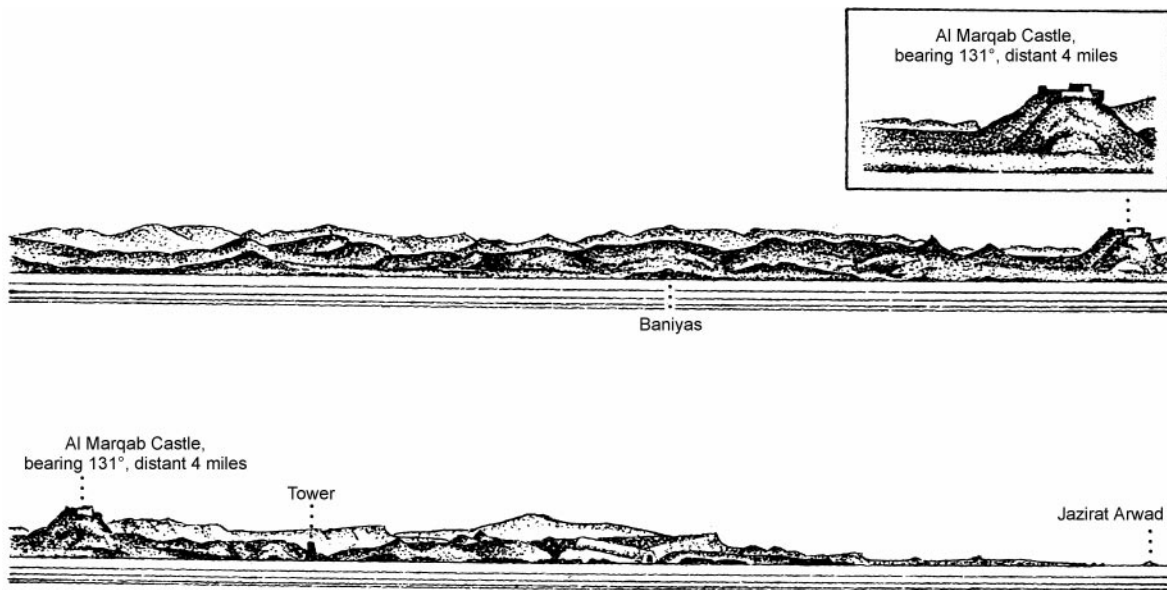
**Caution.**—When approaching the roadstead from the S, vessels should give the W side of Jazirat Ramkin a wide berth when rounding the islet.

A restricted area, which may best be seen on the chart, lies the vicinity of the offshore oil berths.

Several wrecks, some dangerous, lie in the approaches to the port complex and may best be seen on the chart.

### Tarabulus to Tartus

**3.20 Qal' at Hakmun** (34°30'N., 35°56'E.), consisting of two mounds covered with ruins, is located close N of the mouth of An Nahr al Barid, 7 miles NE of the harbor basin at Tarabulus. El Kulat (Al Qulayat), a large and conspicuous ruined fort, stands on the summit of a mound 5.5 miles NE of Qal' at Hakmun. An airport is situated close NW of this ruined fort. A conspicuous factory stands on the coast 3.5 miles SSW of this ruined fort.



### Coast of Syria between Al Marqab Castle and Jazirat Arwad

Nahr al Kebir flows into the sea 4 miles NNW of El Kulat. Ash Shaykh Jabir, a prominent tomb, is situated on the N side of the river entrance.

The coastal boundary between Lebanon and Syria lies in the vicinity of this river mouth.

**Jazirat Arwad** (Ruad Island) (34°51'N., 35°51'E.), reddish in color, lies 1.5 miles offshore, 14.6 miles NNW of Nahr al Kebir. The coast between is fronted by rocks and shoals, which lie up to 2 miles offshore, and should be given a wide berth.

The island is 24m high and fine quality sponges are found in its vicinity. A large ruined fort, with a minaret on its NE corner, is situated near the middle of the island. A light is shown from a structure, 4m high, standing on this fort.

Anchorage can be taken, in depths of 9 to 11m, sand and mud, good holding ground, off the NE side of the island.

A conspicuous pillar stands on the coast at Amrit, 2.9 miles ESE of the island. A beacon stands near the shore close W of this pillar. The pillar and beacon form a range which indicates a passage through the coastal reefs.

### Tartus (34°54'N., 35°52'E.)

World Port Index No. 45003

**3.21** Tartus, a small town, stands on the coast 2.5 miles NE of Jazirat Arwad. The town is built on gentle terrain but is dominated by hills in the background within 4 miles. The port is primarily used for the trans-shipment of cargo and was designed to relieve the congestion at Al Ladhīqiyah. It is also a naval base and a tourist center. The harbor fronts the N part of the town and is protected by extensive breakwaters. The old town is situated near the S part of the port and can be identified by an old fortified wall.

**Depths—Limitations.**—The main harbor consists of four basins which provide 22 commercial berths. There is 6,000m

of total quayage, with depths of 4 to 14m alongside. There are facilities for ro-ro, container, and bulk vessels. Vessels up to 65,000 dwt and 13m draft can be accommodated.

The oil terminal has two offshore berths which consist of several mooring buoys and are connected to the shore by submarine pipelines. Berth No. 1 lies in a depth of 23.2m; Berth No. 2 lies in a depth of 21.9m. Tankers up to 100,000 dwt, 280m in length, and 20.5m draft can be handled.

**Aspect.**—Two prominent minarets and the ruins of a cathedral stand in the town 0.3 mile S of the root of the S breakwater. The observatory building stands 0.3 mile NNE of the root of the S breakwater and is prominent from seaward. A conspicuous silo stands in the S part of the harbor. An outer approach lighted buoy is moored about 0.5 mile NW of the head of the S breakwater and the entrance fairway is marked by buoys.

Several prominent chimneys stand at the oil refinery 3.7 miles NNE of the main harbor.

Jazirat an Maml (Ipsiri Islet) lies about 0.5 mile offshore, 4 miles N of the main harbor.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 12, 13, 14 or 16 and board about 1.5 miles W of the SW breakwater, or 2 miles W of the offshore berths. Vessels should send an ETA 72 hours and 24 hours in advance and then contact the pilot station 2 hours before arrival. An approach channel, 2 miles wide, leads E to the port and may best be seen on the chart.

**Anchorage.**—Vessels can anchor, in depths of 14 to 20m, rocky bottom, good holding ground, between 0.3 and 0.7 mile W of the head of the S breakwater.

**Caution.**—Several wrecks, some dangerous, lie the approaches to the port and may best be seen on the chart.

An anchoring prohibited area lies in the vicinity of the offshore berths and may best be seen on the chart.

**Baniyas (35°11'N., 35°57'E.)**

World Port Index No. 45005

**3.22** Baniyas, an oil terminal port, fronts the coast 17 miles N of Tartus. It consists of six offshore berths which are connected to the shore by submarine pipelines.

**Depths—Limitations.**—The terminal berths consist of several mooring buoys and can accommodate tankers up to 120,000 dwt. Berth No. 2 can handle tankers up to 275m in length and 15.5m draft; Berth No. 3 can handle tankers up to 290m in length and 15.8m draft; Berth No. 4 can handle tankers up to 229m in length and 12.8m draft; Berth No. 5 can handle tankers up to 213m in length and 10.4m draft; and Berth No. 6 can handle tankers up to 213m in length and 9.8m draft.

Berth No. 7 is used by LPG and jet fuel carriers and can handle vessels up to 213m in length and 8m draft.

**Aspect.**—Ras al Burj is located 2 miles S of Baniyas. A light is shown from a structure, 11m high, standing near this point. Al Marqab Castle, a conspicuous fortress, surmounts a hill 1.5 miles ENE of the light.

A prominent power station with two tall chimneys is situated on Ras al Marj, 1.5 miles N of Ras al Burj.

A prominent minaret stands on the NW side of the town, and a conspicuous military camp is situated on the N side of the town.

A prominent tank farm backs the oil terminal; a radiobeacon is situated in its vicinity. A conspicuous signal station stands on the shore in the N part of the terminal.

An outer lighted buoy is moored about 2 miles NW of the town and SSW of the offshore berths.

**Pilotage.**—Pilotage is compulsory. Pilots and mooring masters can be contacted on VHF channel 16 and board about 1.3 miles NW of Markab Lighted Buoy. Vessels must send an ETA to Baniyas (YKM5) 72 hours, 48 hours, 24 hours, 12 hours, and 4 hours in advance. An approach channel, 3 miles wide, leads E to the port and may best be seen on the chart.

**Anchorage.**—Vessels awaiting a berth are advised to anchor, in depths of 14 to 18m, about 1.7 miles NW of the town and S of the offshore berths. The bottom is rock, coral, and sand.

**Caution.**—Due to excessive depths, vessels are not advised to anchor seaward of the offshore berths.

**Baniyas to Al Ladhiqiyah**

**3.23 Ras Baldat al Malik (35°16'N., 35°55'E.)** is located at the S side of the entrance to Nahr Sinn, close N of the oil terminal at Baniyas. Rocks and shoals extending up to 0.8 mile seaward in this vicinity are marked by a lighted buoy.

**Jablah (35°22'N., 35°55'E.)**, a town surrounded by gardens, is situated 6 miles N of Ras Baldat al Malik and is fronted by a small craft harbor. A prominent mosque, with three domes and a minaret, stands on the N side of this town.

Tall Sukas, a hill, stands on the coast 3.2 miles S of the town. It is 40m high and conspicuous from seaward.

**Ras Ziyarah (35°31'N., 35°46'E.)**, a rocky promontory, forms the S side of the approach to Al Ladhiqiyah. A light is shown from a structure standing on the S extremity of this promontory. A prominent stranded wreck is reported (1983) to lie about 0.2 mile SW of the light.

**Al Ladhiqiyah (Latakia) (35°32'N., 35°47'E.)**

World Port Index No. 45010

**3.24** Al Ladhiqiyah is situated on the Ras Ziyarah promontory. The harbor fronts the N side of the town and is protected from the W by a breakwater.

**Winds—Weather.**—The prevailing winds are from the SW, but gales from the NE have been experienced with winds attaining speeds of 55 knots at times. During winter storms (November through March), heavy seas and rain are frequent and may last for 2 or 3 days. At such times, the port may become inaccessible and cargo operations at the roadstead are halted.

**Tides—Currents.**—The tidal rise is small, being only 0.6m at springs.

Currents at the harbor entrance are reported to be weak.

**Depths—Limitations.**—The main commercial facilities in the inner part of the harbor include Khahaleh Quay, 600m long, with a depth of 9.5m alongside; Silo Quay, 185m long, with a depth of 8.5m alongside; and Passenger Quay, 260m long, with depths of 7 to 9.5m alongside. In addition, there is also 700m of berthing space with depths of 2.5 to 7m alongside.

The new facilities at the outer part of the harbor include 2,150m of total quayage, with depth of 7 to 13.3m alongside. Vessels up to 123,400 dwt, 260m in length, and 13m draft can be accommodated.

An offshore oil berth, consisting of several mooring buoys, is situated in the outer part of the harbor. It lies in a depth of 12.2m and is connected to the shore by a submarine pipeline.

**Aspect.**—A large and prominent tank farm is situated at the N end of the town. A prominent cathedral, with two belfries, stands 0.8 miles NE of the root of the breakwater. A conspicuous silo, 65m high, stands in the vicinity of the root of the breakwater.

A light is reported (1994) to be shown from a structure standing in the SE part of the harbor, 0.5 mile NNE of the root of the breakwater.

**Pilotage.**—Pilotage is compulsory for vessels over 1,000 tons and for all vessels during inclement weather. Pilots and mooring masters can be contacted on VHF channels 12, 14, and 16 and board about 1.5 miles WSW of the head of the breakwater.

An approach route channel, 2 miles wide, leads E to the port and may best be seen on the chart.

**Anchorage.**—A designated Anchoring/Waiting Area, with depths of 18 to 22m, is best seen on the chart.

**Caution.**—Dangerous wrecks lie about 1.4 miles W and 1.6 miles WSW of the head of the breakwater.

**Al Ladhiqiyah to Ras Al Basit**

**3.25 Ras Ibn Hani (35°35'N., 35°43'E.)**, the NW extremity of a low peninsula, is surmounted by the remains of a temple. When viewed from a distance to the S, this peninsula appears as a chain of rocky islets. A light is shown from a prominent structure standing on the point.

Several small and shallow bays lie in the vicinity of the peninsula and are obstructed by reefs.

**Minet El Beida (35°37'N., 35°46'E.)**, a small harbor, lies on the SW side of a bay and is protected by a breakwater. It pro-

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vides 475m of berthing space with depths of less than 5.5m alongside.

**Ras al Fasuri** (35°40'N., 35°46'E.), a conspicuous promontory, consists of steep-to bold cliffs. A light is shown from a structure standing on the point. Considerable deep depths lie close off this point.

**Borj Islam Terminal** (35°41'N., 35°47'E.), an LPG loading berth, lies close NE of Ras al Fasuri. A conspicuous cement factory, with a prominent chimney, stands near the terminal. LPG carriers and tankers, up to 5,000 tons, berth close inshore

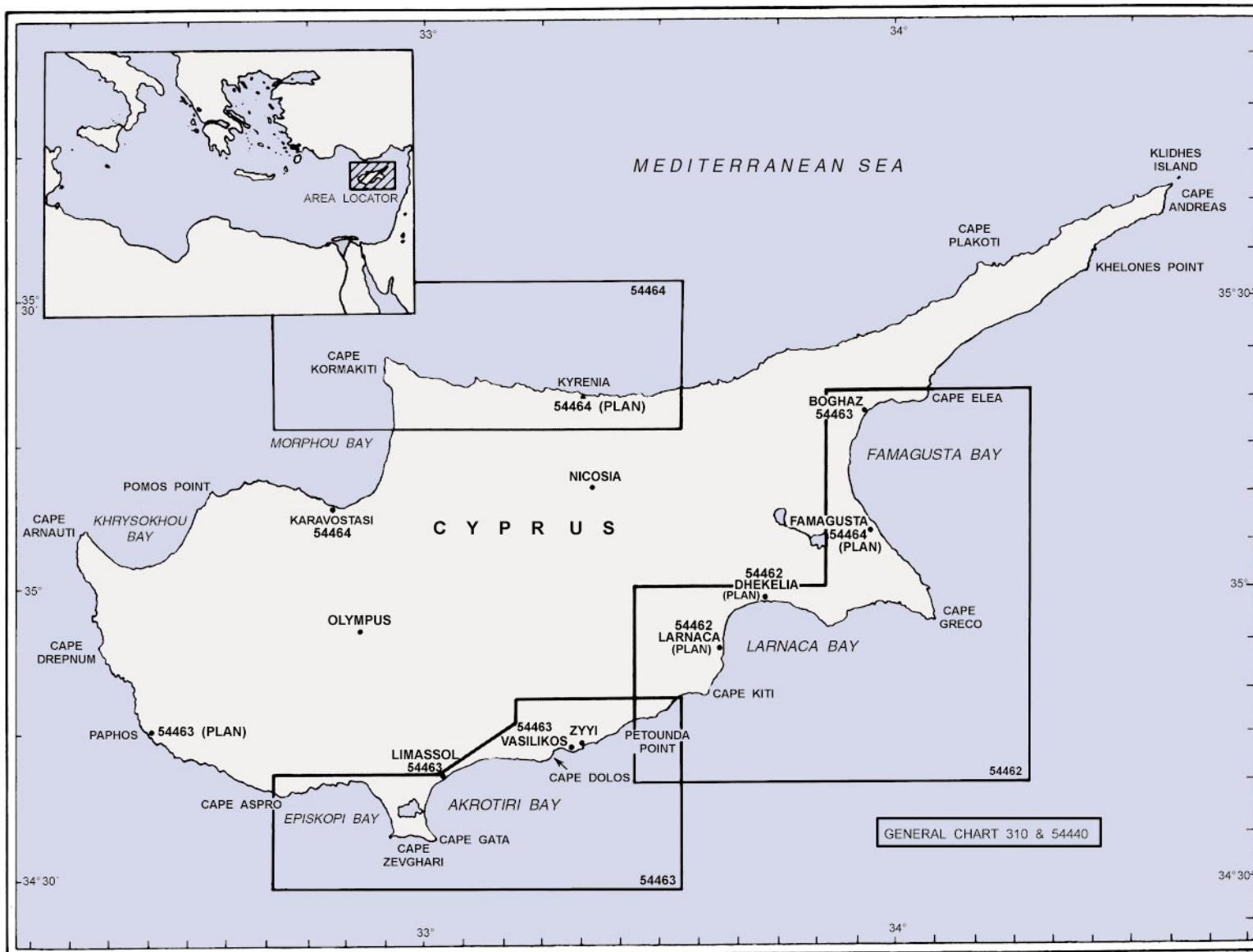
with anchors down ahead and their sterns secured by lines to the shore. Local pilots are provided from Al Ladhqiyyah.

**Ras al Basit** (35°52'N., 35°48'E.), a projecting low headland, is surmounted by a flat-topped limestone hill, 50m high. A light is shown from a tower, 12m high, standing on the point.

A prominent point, surmounted by the ruins of a tower, is located 1 mile S of the light.

The coastal boundary between Syria and Turkey lies in the vicinity of Kassab Bay, about 7 miles NE of Ras al Basit.





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 4 — CHART INFORMATION**





# SECTOR 4

## CYPRUS

**Plan.**—This sector describes Cyprus, the third largest island in the Mediterranean. The general descriptive sequence is S from Cape Arnauti, then E to Cape Greco, then NE to Cape Andreas, and finally W along the N coast.

### General Remarks

**4.1 Cyprus** (35°00'N., 33°00'E.), one of the largest islands in the Mediterranean, has about 400 miles of coastline. The terrain consists of two mountainous areas which are divided by a plain. This plain trends in a general E to W direction across the N part of the island between Famagusta Bay and Morphou Bay. The greater part of the coast is backed by mountains. Olympus, the summit of the island, rises in the W half of the island.

The principal ports include Famagusta, Limassol, Larnaca, and Kyrenia.

**Winds—Weather.**—The Mediterranean climate of Cyprus is characterized by cool, rainy winters (November through February) and hot, dry summers (June through August). The two transitional seasons, spring (March through May) and autumn (September through October), have few distinctive weather characteristics of their own.

On all coasts of Cyprus, a W wind is prevalent in summer and frequent in winter. On the S coast, E winds are as equally frequent as W winds in December and January, and S winds total 30 per cent annually. On the N coast, E winds and W winds comprise over 50 per cent of the annual observations. On the E coast in summer, 25 per cent of the winds are from the E and 17 per cent are from the SW. Calms are infrequent but are relatively more frequent on the E coast, December through March. Most gales occur in winter. Gales are most frequent on the E coast. About 80 per cent of all wind speeds are 10 knots or less.

There is very little fog; in late spring and summer it sometimes occurs over the land in the first hour or two after sunrise. Sea fog begins to appear in April and attains a maximum in June. Dense coastal fog lasting for about 2 hours near dawn occurs at Larnarca 2 or 3 days a month in June and July. Farther W along the coast, reduced visibility occurs more frequently but is less intense. The N coast appears to be free from serious restricted visibility.

**Tides—Currents.**—The general current circulation around Cyprus is part of the counterclockwise circulation of the E basin of the Mediterranean. The speed seldom exceeds 1 knot, and then only during strong W winds. During summer, the current off the N coast of Cyprus sometimes sets E with a velocity of 0.5 to 1 knot, increasing to 2 knots with strong W winds. During the same season, the currents off the W and S coasts of Cyprus may set E at 0.5 to 0.8 knot.

Haze appears over the sea in summer. It is typically an early morning occurrence, but in some cases it lasts all day. Summer nights are clear with good visibility.

**Caution.**—Submarines frequently exercise in the waters around Cyprus.

Marine farms may lie close off the shores of the island in places and are generally marked by lighted buoys.

### West Coast—Cape Arnauti to Cape Zhevghari

**4.2 Cape Arnauti** (35°06'N., 32°17'E.), the NW extremity of Cyprus, is a low headland. It rises inland to a moderately high mountain range which extends SSE for 16 miles. A prominent building, in ruins, stands on a hill with a double peak 1 mile S of the cape. Mazaki Islet lies 0.4 mile N of the cape at the extremity of a rocky ledge. A stranded wreck was reported to lie close NE of the cape.

**Paphos Point** (34°45'N., 32°24'E.), the extremity of a low peninsula, is fronted by a stranded wreck. A light is shown from a prominent structure, 20m high, standing 0.5 mile NE of its seaward extremity.

Except in very calm weather, the sea breaks constantly on the reefs and rocky ledges which front the coast between Cape Arnauti and this point.

**Paphos** (34°45'N., 32°24'E.) (World Port Index No. 44940), a small harbor, lies on the S side of Paphos Point and is formed by two moles. It is used by small craft up to 18m in length and 2m draft, and is no longer used for commercial purposes.

From seaward, several tall chimneys; a water tower; and a church, with a prominent dome, stand in the town and are all conspicuous. The entrance channel is indicated by a lighted range which may best be seen on the chart. Anchorage can be taken, in a depth 26m, sand and shell, about 0.6 mile SSW of the harbor, but this berth is exposed to W and S winds and has poor holding ground.

Moulia Rocks, consisting of two rocky shoals, have depths of less than 5m. They lie 2 miles SE of Paphos and extend up to 1.2 miles offshore. Several above-water rocks lie on the E shoal. During summer, anchorage can be taken, in a depth of 12m, sand and mud, good holding ground, about 0.3 mile E of these rocks. This roadstead is reported to be the best anchorage along this section of the coast. The rocks are marked by a light.

**4.3 Cape Aspro** (34°38'N., 32°42'E.), a bold and light-colored headland, is formed by a line of cliffs which are divided into three parts by two ravines. The land rises steeply inland of the cape and attains a height of 276m at about 1 mile.

**Episkopi Bay** (34°37'N., 32°50'E.) is entered between Cape Aspro and Cape Zevghari, 12 miles SE. Several small sandy bays lie along its N shore. The E part of this bay is backed by high white cliffs. Jubilee Shoal, with a least depth of 14.6m, lies 3.5 miles ESE of Cape Aspro. Cape Zevghari is fronted by rocks and two prominent stranded wrecks lie N of it. A conspicuous hospital building is situated on this cape.

The village of Episkopi is situated in the NE part of the bay and can be identified by a conspicuous white church with a red roof. A prominent dome stands near the shore 2.5 miles W of

the village. Anchorage can be taken within the bay, but it is exposed to S and SW winds.

**Caution.**—Episkopi Bay is frequently used as a firing area and several targets may be moored within it.

A United Kingdom sovereign base area, which may best be seen on the chart, is situated in the vicinity of Episkopi Bay and the Akrotiri Peninsula.

### South Coast—Cape Zhevargi to Limassol

**4.4** The **Akrotiri Peninsula** (34°34'N., 32°59'E.) separates Episkopi Bay from Akrotiri Bay and is the S extremity of Cyprus. A large salt lake lies in the center of this peninsula and the village of Akrotiri is situated at its SW corner. A prominent church stands in the village and can be seen from off both sides of the peninsula.

**Cape Gata** (34°34'N., 32°02'E.), the SE extremity of the peninsula, is formed by a sheer cliff, 52m high. A prominent cove is located 1 mile W of this cape. Between Cape Gata and Cape Zevghhari, 5 miles W, the coast is mainly cliffy and steep-to. A light is shown from a structure standing 0.6 mile WSW of the cape.

A conspicuous radar antenna is situated 1 mile WNW of the light and a prominent pylon stands on a hill 1 mile NNW of it. An aeronautical light is shown from the vicinity of an airport situated 2.3 miles NW of the light.

At a position about 1.2 miles SSW of Cape Gata, a current has been observed to set ENE at a rate of 0.8 knot.

Akrotiri Bay is entered between Cape Gata and Cape Dolos, 14.5 miles NE. It is deep and mostly free of dangers. The port of Limassol lies in the NW part of the bay.

**Akrotiri Harbor** (34°34'N., 33°02'E.), enclosed by a mole, lies 0.3 mile NW of Cape Gata and is used by small craft. A ro-ro terminal, consisting of a platform and several dolphins, is situated outside the small harbor and has a depth of 5.5m alongside the berth. Anchorage may be found, in depths of 20 to 25m, within 0.4 mile of this berth.

An offshore tanker terminal lies 1.2 miles NNW of Cape Gata. The berth consists of several mooring buoys and is connected to the shore by a submarine pipeline which extends SSW from it. Pilotage is compulsory and pilots are provided from Limassol with at least 24 hours notice. Pilots monitor VHF channel 16. Tankers up to 183m in length and 9.7m draft can be handled.

It is reported that a second offshore terminal is being developed about 0.8 mile NNW of Cape Gata.

**Caution.**—A controlled area, which is marked by lighted buoys, fronts the coast between Cape Gata and a position 2.3 miles NNW. Fishing is prohibited in the area.

### Limassol (34°40'N., 33°03'E.)

World Port Index No. 44950

**4.5** Limassol, one of the principal ports of Cyprus, lies at the head of Akrotiri Bay. It consists of an open roadstead with a lighter basin fronting the N end of the town and a new harbor, protected by breakwaters fronting the SW end of the town. In addition, two offshore tanker berths lie to the E of the port at Moni.

**Depths—Limitations.**—The fairway channel of the harbor and the turning basin inside the harbor have been dredged to a depth of 15m. East Quay and North Quay have dredged depths of 11m alongside. West Quay has dredged depths of 11 to 13m alongside. The West Basin, along with the two container wharves, have dredged depths of 14m alongside. There are facilities for ro-ro, container, general cargo, and bulk vessels. Vessels up to 13.5m draft can be accommodated alongside with no limitation of length. Vessels with greater drafts are worked by lighters in the roadstead.

An extensive marina, protected by breakwaters, fronts the coast 6 miles ENE of Limassol.

The two offshore tanker berths front the coast at Moni 7.5 miles E of Limassol. The W berth, which serves a power station, lies in a depth of 18m about 0.5 mile offshore. It consists of several mooring buoys and is connected to the shore by a submarine pipeline. This berth can handle vessels up to 225m in length and 12.2m draft.

The E berth, which serves a cement factory, lies in a depth of 13.7m about 0.3 mile offshore. It consists of several mooring buoys and is connected to the shore by a submarine pipeline. This berth can handle vessels up to 198m in length and 10.7m draft.

**Aspect.**—Behind the town the land rises gradually in tree-covered hills. Troodos, a summer resort, is situated in the hills 17 miles NNW of the town and is visible in the background from seaward.

Landmarks in the vicinity of the town include the blue dome of the cathedral, a high water tower, the twin towers of the church, and the white roof of an asbestos works.

Two prominent loading gantries and several conspicuous silos are situated in the vicinity of the new harbor.

An illuminated factory chimney standing 4 miles W of Cape Dolos is also a useful mark.

The entrance channel leading into the new harbor is indicated by a lighted range which may best be seen on the chart.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 10 or 16 and board about 1 mile E of the new outer breakwater. Vessels should send an ETA at least 24 hours in advance.

**Anchorage.**—Anchorage can be taken off the port, in depths of 12 to 27m, good holding ground, between 0.4 and 0.8 mile offshore. A lighter anchorage area lies about 0.4 mile ENE of the lighter basin.

**Caution.**—During the summer, the prevailing winds sometime reach gale force in the afternoon.

A dangerous wreck lies about 0.8 mile ENE of the entrance to the new harbor.

### South Coast—Limassol to Larnaca

**4.6** **Vasilikos** (34°43'N., 33°19'E.), a small port, lies near the E entrance point of a bay which is entered close E of Cape Dolos. It consists of a small harbor, protected by breakwaters, an offshore ore loading berth, and an offshore tanker berth.

**Depths—Limitations.**—The harbor fronts a section of reclaimed land located close W of the mouth of the Vasilo River. There are 540m of total quayage with a depth of 9m alongside. Vessels up to 150m in length and 8.4m draft can be accommodated.

The offshore ore loading berth is situated close W of the harbor and consists of a conspicuous loading pylon, 26m high, and several mooring buoys. This pylon is connected to installations on the shore by an overhead ropeway carried on three intermediate trestles. The berth lies in a depth of 10m and can accommodate vessels up to 10,000 dwt and 9.1m draft.

The offshore tanker berth lies in a depth of 12.2m about 0.3 mile W of the ore loading pylon. It consists of several mooring buoys and is connected to the shore by a submarine pipeline. This berth can accommodate vessels up to 170m in length and 10m draft.

**Pilotage.**—Pilotage is compulsory. Pilots may be contacted on VHF channel 8 or 16. Vessels should send an ETA 24 hours in advance. Tugs are available from Larnaca with 12 hours advance notice.

**Caution.**—A submarine cable extends SSE from a point on the shore 4.5 miles ENE of Vasilikos.

**4.7 Cape Kiti** (34°49'N., 33°36'E.), the SW entrance point of Larnaca Bay, is formed of cliffs, 12m high. The white cliffs on the E side of the cape, although low, are conspicuous from seaward. A light is shown from a prominent structure standing on the cape. An aeronautical radiobeacon is situated 2.5 miles WNW of the light.

A prominent tower, 8m high, stands on high ground 1 mile N of the cape. Two belfries are situated close together, 1.5 miles WNW of the cape, and are also prominent.

Shoals lie up to 1 mile off Cape Kiti and it should be given a wide berth.

## Larnaca (34°55'N., 33°39'E.)

World Port Index No. 44960

**4.8** Larnaca, a large town, is situated on the W side of Larnaca Bay, 6.5 miles N of Cape Kiti. The port fronts the town and consists of a main harbor, a yacht harbor, and an offshore oil and gas terminal.

**Depths—Limitations.**—An extensive yacht harbor, with depths of 1.8 to 4.9m, fronts the town and is protected by breakwaters.

The main harbor fronts the N part of the town and is protected by breakwaters. The entrance fairway has a dredged depth of 13m over a width of 107m. The main commercial quays include North Quay, 326m long, and South Quay, 340m long, which have a depth of 12m alongside. In addition, a pontoon quay provides 200m of berthing space, with an alongside depth of 6.5m.

There are facilities for general cargo, passenger, ro-ro, container, and bulk vessels. Vessels up to 200m in length and 11.4m draft can be accommodated alongside.

The oil and gas terminal consists of five offshore berths which front the coast to the NE of the main harbor and lie in depths up to 13.7m. Gas carriers up to 110m in length and 11m draft can be handled. Tankers up to 220m in length and 11.6m draft can be handled.

**Aspect.**—Mount Stavrovouni, surmounted by a monastery, stands 10 miles W of Larnaca. This isolated peak is very conspicuous from any part of the bay.

A conspicuous minaret, 30m high, stands 1.1 miles SSW of the head of the S breakwater at the main harbor; a fort building is situated close E of it. A prominent radio mast stands 0.5 mile N of the minaret. A conspicuous flare, occasionally burning, and several storage tanks are situated at an oil refinery 1 mile N of the main harbor.

An outer lighted buoy is moored about 0.3 mile NE of the head of the S breakwater and marks the main entrance channel.

**Pilotage.**—Vessels are not allowed to enter the main harbor or berth at the offshore terminal without a pilot unless permission has been granted by the port authorities. Pilots can be contacted on VHF channel 14 or 16, are available, and generally board in the roadstead. Vessels should send an ETA 24 hours in advance.

**Anchorage.**—A designated tanker anchorage area, as well as a designated passenger and cargo vessel anchorage area, are best seen on the chart.

**Caution.**—An anchorage prohibited area, which may best be seen on the chart, lies in the vicinity of the main harbor entrance and extends up to 1.6 miles offshore.

Numerous small craft, which are reported to frequently show no lights, may be encountered along the shore to the S of the port and vessels are advised to keep at least 1.5 miles from the coast.

Due to outfall pipelines and submarine cables, anchoring and fishing prohibited areas, which may best be seen on the chart, lie S of the port and extend up to 2.3 miles offshore.

## South Coast—Larnaca to Cape Greco

**4.9 Dhekelia** (34°58'N., 33°43'E.) (World Port Index No. 44965), a small port, lies in the NE part of Larnaca Bay, 6 miles NE of Larnaca. There are four small coves all open to the S. Quarantine Point separates the two E coves.

**Depths—Limitations.**—An offshore berth for tankers supplying the power station lies about 0.3 mile SE of Quarantine Point. Vessels up to 224m long, with a maximum draft of 12.5m, can be accommodated.

**Aspect.**—A prominent stone beacon and a prominent church stand 1.2 miles W and 0.4 mile NNW, respectively, of Quarantine Point. A conspicuous hospital building is situated 1.5 miles NNW of Quarantine Point. A group of oil tanks and the four chimneys of the power station stand prominently close E of the town.

**Pilotage.**—Pilotage is compulsory at the offshore berths. Pilots can be contacted on VHF channel 14 or 16 and are provided from Larnaca.

**Anchorage.**—Anchorage, sheltered from NE winds, can be taken, in a depth of 27m, mud and weeds, good holding ground, SE of the beacon and S of the church.

**Caution.**—A United Kingdom sovereign base area, which may best be seen on the chart, is situated in the vicinity of Dhekelia.

**4.10 Cape Pyla** (34°56'N., 33°51'E.), the NE entrance point of Larnaca Bay, is located 6 miles ESE of Dhekelia. It is 95m high and is surmounted by a conspicuous ruined tower.

**Cape Greco** (34°57'N., 34°05'E.), the SE extremity of Cyprus, is the termination of a small peninsula which is connected to the mainland by a narrow isthmus. A small bay, with

rocky shores and a bottom of sand with patches of weed, lies on the S side of this isthmus.

A light is shown from a prominent structure, 15m high, standing on the cape. Three conspicuous radio masts are situated close NW of the light.

A conspicuous cliff, which has the appearance of an old fortress, stands 1 mile W of the cape. It is reported that several wind pumps are situated N of the cape and have the appearance of palms from a distance.

A current, with a velocity of 0.5 to 0.7 knot, is reported to set to the W off the cape.

### East Coast—Cape Greco to Cape Andreas

**4.11 Cape Greco** (34°57'N., 34°05'E.), the SE extremity of Cyprus, was previously described in paragraph 4.10.

### Famagusta (35°07'N., 33°56'E.)

World Port Index No. 44970

**4.12 Famagusta**, the largest port in Cyprus, lies within Famagusta Bay 12.5 miles NW of Cape Greco.

**Winds—Weather.**—Strong NE winds frequently cause vessels in the roadstead to lie broadside-to and roll considerably. In winter, strong N winds often raise a short choppy sea off the port. Strong ENE gales sometimes occur in October, December, January, and March.

**Tides—Currents.**—The tidal rise is very small, being only 0.4m at springs

**Depths—Limitations.**—The approach channel is dredged to a depth of 10.2m over a width of 183m.

The inner harbor has a commercial quay, 540m long, with a depth of 7.3m alongside. It can accommodate vessels up to 131m in length and 6.7m draft.

The outer harbor has a commercial quay, 655m long, with a depth of 9.7m alongside. It can accommodate vessels up to 220m in length and 9.1m draft.

There are facilities for tanker, passenger, ro-ro, container, and bulk vessels.

**Aspect.**—The harbor is protected from the E by a curved breakwater, 0.5 mile long, which extends NNW and then W. A chain of shoals, with depths of 4 to 9m, extends up to 1.1 miles NNW of this breakwater. The area lying close W of this chain is sheltered and forms the approach channel to the harbor. An outer approach lighted buoy is moored about 1.1 miles NNW of the head of the breakwater.

Famagusta Light is shown from a prominent structure, 11m high, standing 0.9 mile WNW of the head of the breakwater. A conspicuous beacon, which forms an approach range, is situated 0.2 mile NE of this light.

South Bastion Light is shown from a tower, 11m high, standing in the SW part of the harbor.

The town is prominent and is enclosed by massive fortress walls. Saint Nicholas Mosque, with a conspicuous minaret, stands in the center of the town. A conspicuous radio mast, 51m high, and a prominent hotel stand 0.3 mile WSW and 0.8 mile ESE, respectively, of the mosque. The white customhouse and several warehouses with red roofs are situated close SE of the harbor area and are all conspicuous from seaward.

**Pilotage.**—Pilotage is compulsory for all vessels over 300 grt. Pilots can be contacted on VHF channel 6 or 16 and board in the anchorage or in the vicinity of the outer approach lighted buoy.

Vessels should send an ETA 24 hours in advance to their agent in order to arrange a pilot and berthing facilities.

**Anchorage.**—Large vessels may obtain anchorage, in a depth of 18m, about 1.1 miles NE of the light. A recommended berth for naval vessels, in depths of 24 to 29m, lies about 1.4 miles ESE of the light.

**Caution.**—Shoals and rocks extend up to 0.4 mile offshore in places between Cape Greco and Famagusta, and this section of coast should be given a wide berth.

**4.13 Salamis** (35°09'N., 33°55'E.), a small inlet, lies 3 miles NNW of Famagusta and is the site of an ancient port. A large and conspicuous white church, with two domes, stands on high ground 1 mile W of the inlet.

The coast extending for 4 miles to the N of Salamis is low, densely wooded, and consists of numerous modern buildings. A conspicuous hotel, marked by a light, stands near the coast 2.5 miles N of Salamis and is reported to be a useful mark.

**Boghaz** (35°18'N., 33°58'E.), a small trading station, lies in the NW part of Famagusta Bay and is fronted by a shallow pier which is used by lighters. A large grain storehouse, a customs station, and a hotel stand near the pier. A prominent chimney stands at a factory, 0.5 mile NE of the customs station. Anchorage can be taken off the station, in a depth of 16m, ESE of the storehouse.

**Gastria Bay Oil Terminal** (35°19'N., 33°59'E.), an offshore berth, lies in a small bay 2 miles E of Boghaz and is marked by a lighted buoy. The berth consists of three mooring buoys lying at the seaward end of a submarine oil pipeline extending 400m SSE from the shore. Several conspicuous tanks stand in the vicinity of this terminal.

A cement loading jetty, 42m long, projects SW from the shore 0.7 mile E of the oil terminal. It has a depth 6m alongside and is used by vessels up to 100m in length. Two mooring buoys are moored 275m WSW of the jetty. Two concrete silos, 35m high, stand near this jetty.

**4.14 Cape Elea** (35°20'N., 34°05'E.) is the NE entrance point of Famagusta Bay. A light is shown from a prominent tower, 11m high, standing 0.7 mile W of the cape.

A stranded wreck lies 2.5 miles NNE of the cape.

Koma Tou Yialou, a village, is situated 6 miles NE of Cape Elea. Two churches, with prominent belfries, and a prominent building, with a red roof, stand in it. A disused small trading station, fronted by a jetty, is situated 1 mile S of this village. Anchorage can be taken, in a depth 18m, sand and weed, about 0.6 mile SE of the jetty.

Mount Pamboulos, 356m high, stands inland 8 miles NE of Koma Tou Yialou. Another mountain, 378m high, rises 1 mile E of Mount Pamboulos and is the most prominent in this vicinity.

Khelones, a small promontory, is located 7.5 mile WSW of Galounopetra Point and a storehouse, with a red roof, stands on its S side. A small pier fronts the shore close SE of the storehouse. Anchorage can be taken, in a depth 37m, SE of the storehouse.

**4.15 Galounopetra Point** (35°41'N., 34°35'E.), fronted by rocks, is located 31 miles NE of Cape Elea. A conspicuous monastery, with a white belfry, stands 1.2 miles N of the point.

Anchorage can be taken, in depths of 35 to 37m, about 0.5 mile offshore along this section of coast between Khelones and Cape Andreas, except off Galounopetra Point. Anchorage is recommended only during offshore winds or in good weather.

**Cape Andreas** (35°41'N., 34°35'E.), the NE extremity of Cyprus, is marked by several ruins and tombs. Klidhes Islet, 29m high, lies 1 mile NE of the cape and is surrounded by rocks and shoals. A light with racon is shown from a structure, 8m high, standing on the NE end of this islet.

The current off Klidhes Islet may attain a rate of 1.5 knots at times and confused seas build up in this vicinity after strong winds. The strength and direction of the current may vary from one side of the islet to the other. Vessels rounding this islet are advised to give it a berth of at least 1 mile.

### North Coast—Cape Andreas to Cape Arnauti

**4.16 Cape Plakoti** (35°34'N., 34°10'E.), a broad promontory, projects from the coast 22 miles SW of Cape Andreas. The intervening coast is of little significance to shipping. A light is shown from a small fishing boat harbor situated 1.3 miles E of Cape Plakoti.

Two churches with prominent belfries are situated in the village of Yialoussa, 1.5 miles S of Cape Plakoti.

Dhavlos, a village, stands 15.5 miles SW of Cape Plakoti and contains a conspicuous hotel and church. Ayios Photios, 502m high, and Kantara Castle, 630m high, are two conspicuous peaks which stand 2.5 miles E and 1.2 miles SSE, respectively, of Dhavlos.

A prominent church, with one large and three small domes, stands at Akanthou, 8 miles WSW of Dhavlos. A large concrete warehouse is situated on the coast 9 miles WSW of Akanthou. Khoti Islet, 3m high, lies 0.3 mile offshore 10.8 miles E of Kyrenia.

**4.17 Kyrenia** (35°20'N., 33°19'E.) (World Port Index No. 44900), a large town, is fronted by an old harbor which is used by small craft and yachts. A new harbor, which is used by ferries and cruise vessels, lies close E of the old harbor and is protected by breakwaters.

**Depths—Limitations.**—The old harbor has depths of 2 to 3.2m and can handle small craft and yachts up to 35m in length and 2.6m draft.

The new harbor has an entrance that is 180m wide. It has six quays which provide 707m of berthing space, with depths of 4 to 8m alongside. There are facilities for vehicle ro-ro, passenger, ferry, cruise, and hydrofoil vessels. Vessels up to 150m in length and 7m draft can be accommodated.

**Aspect.**—The town contains numerous white buildings and is easily identified from seaward.

Prominent landmarks include the thin spire of the church standing on the W side of the old harbor, the massive fort standing on the E side of the old harbor, and the white minaret standing on the S side of the old harbor.

A light is shown from a prominent structure standing close S of the root of the main breakwater at the new harbor.

Buffavento Castle surmounts a mountain, 955m high, lying 5.5 miles SE of the town.

**Pilotage.**—Pilotage is compulsory for all vessels over 300 grt. Pilots can be contacted on VHF channel 16 and board close off the harbor entrance.

**Anchorage.**—Good anchorage can be taken, in a depth of 24m, about 0.3 mile N of the old harbor. The holding ground is good and the bottom is formed of mud, sand, weed, and small boulders.

**Caution.**—Two mooring buoys are situated about 0.2 mile N of the breakwater of the old harbor.

**4.18 Cape Kormakiti** (35°24'N., 32°55'E.), located 21 miles W of Kyrenia, is the extremity of a low point which rises to a small flat-topped hill 3 miles inland. A light is shown from a prominent tower, 22m high, standing on the cape.

The cape is fronted by foul ground which extends up to 0.5 mile seaward, and a small islet, 6m high, lies close N of it. Ormonde Bank, with a least depth of 19.8m, lies 1.2 miles NW of the cape.

Liveras, Kormakiti, and Orga are prominent villages, which can be identified from seaward, standing 2 miles SE, 5.7 miles SE, and 6 miles ESE, respectively, of the cape. Mount Kornos, 945m high, stands 6.5 miles SW of Kyrenia and is conspicuous. A large and conspicuous sand scar is situated on the coast 4 miles S of Cape Kormakiti.

Morphou Bay is entered between Cape Kormakiti and Kokkina Point, 17.5 miles SW. It is deep and free of dangers; Xeros and Karavostasi, two small ports, lie in its S part.

Morphou, a large town, is situated 3.7 miles inland 13 miles SSE of Cape Kormakiti. The bay is surrounded by hills and offers shelter from all winds except those from the NW.

**4.19 Xeros** (New Soli) (35°08'N., 32°50'E.) (World Port Index No. 44910), a village, stands at the head of Morphou bay and serves as an ore exporting facility for a mining company. The village is fronted by a lighter pier and vessels work cargo in the roadstead. Pilotage is not compulsory, but a mining company pilot is available and will assist with berthing. Local knowledge is advised.

A prominent hospital building with a red roof stands near the coast 2 miles ENE of the village, but when viewed from the roadstead, it is obscured by trees. A prominent chimney stands close S of the pier. Vessels anchor, in a depth of 22m, about 0.7 mile NW of the pier.

Tankers discharge at an offshore berth lying 0.2 mile NNE of the pier. The berth consists of several mooring buoys and is connected to the shore by a submarine pipeline. Three white prominent tanks stand near the inshore end of the pipeline.

**4.20 Karavostasi** (35°08'N., 32°49'E.) lies 0.7 mile W of Xeros and consists of a customhouse, with a flagstaff, and a group of houses.

A pier, 427m long, extends NNE from a point on the shore, 0.4 miles WNW of the customhouse and is used for loading ore. It has a depth of 14.9m off the outer end and can handle vessels up to 15,000 dwt.

Vouni Palace Hill, 254m high and surmounted by the ruins of a palace, stands 2.6 miles WNW of Karavostasi and is conspicuous.

**4.21 Pomos Point** (35°10'N., 32°33'E.), a low and sandy projection, is located 13 miles W of Karavostasi and is fronted by rocks. The land behind this point rises abruptly to high and towering peaks. Mount Olympus (Troodos), the highest mountain on Cyprus, rises to a height of 1,952m 20.5 miles SW of the point. Its slopes are thickly covered with pine trees and a military camp and a hotel are situated near the summit.

Kakoskaliou Islet lies about 0.4 mile offshore, 12 miles SW of Pomos Point.

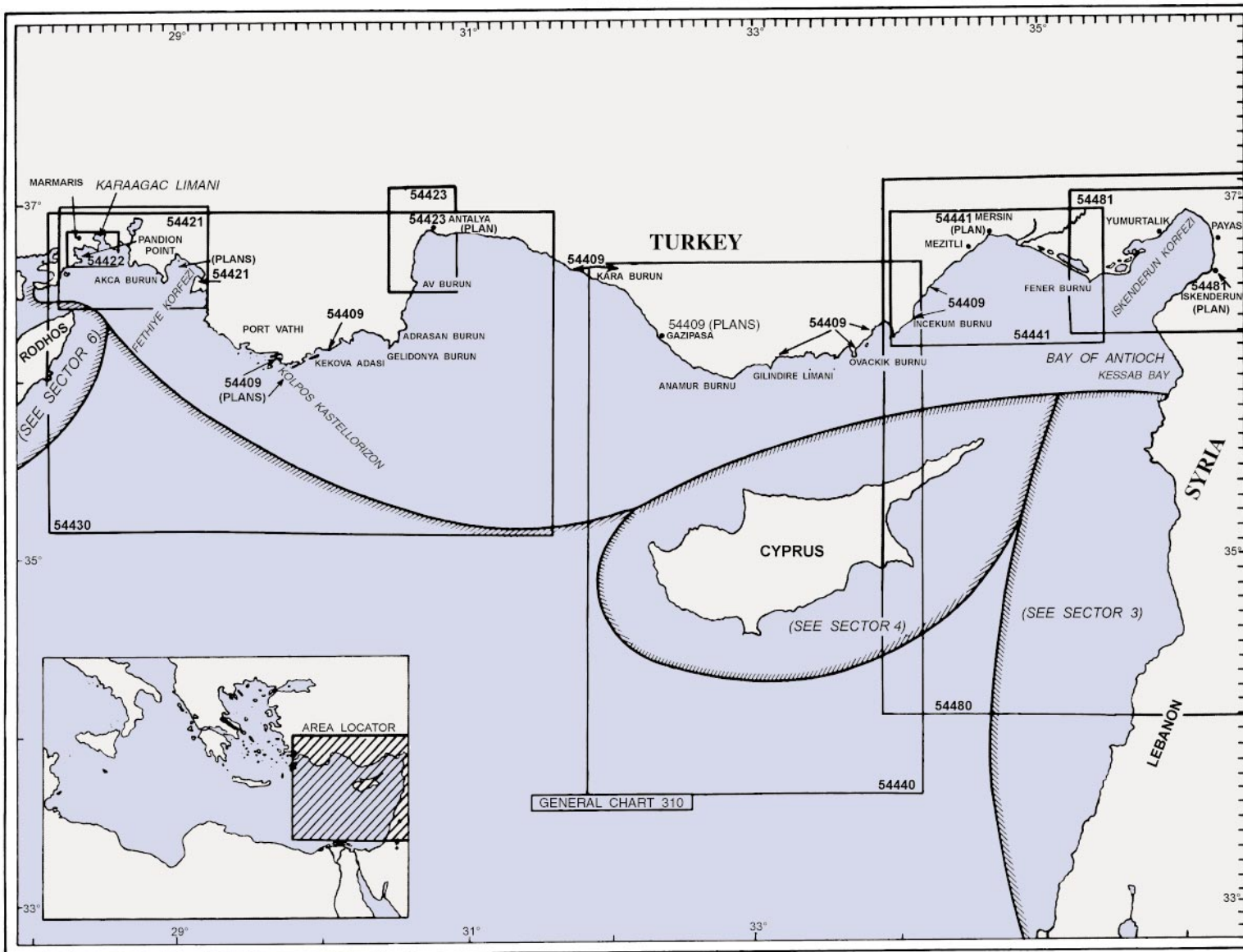
Mavroli, a small village, stands 8.5 miles SW of Pomos Point and is fronted by two small piers which are connected to

the mines by a ropeway. A prominent water tank, 33m high, stands 0.3 mile inland of the piers and serves as a useful landmark. A lighter anchorage lies centered 1.5 miles WNW of the piers.

Latzi, situated 3 miles W of Mavroli, has a customhouse and several storehouses. It is fronted by a jetty, 42m long, with a depth of 1.5m at the head which is used by lighters.

In summer, vessels can obtain anchorage in moderate depths with good holding between Pomos Point and Kakoskaliou Islet.

Cape Arnauti, located 3 miles NW of Kakoskaliou, has previously been described in paragraph 4.2.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 5 — CHART INFORMATION**





## SECTOR 5

### TURKEY—SOUTH COAST—KASSAB BAY TO ALOBI BURNU

**Plan.**—This sector describes the Mediterranean coast of Turkey from Kassab Bay (Syrian border) to Alobi Burnu. It also describes the Dhodhekanisos Islands (Dodecanese Islands), which lie in the vicinity of Nisos Meyisti (36°09'N., 29°35'E.) and are Greek. The general descriptive sequence is N and then W.

#### General Remarks

**5.1 Winds—Weather.**—Weather observations in the extreme NE Mediterranean show widely varying wind directions with N winds predominating from November through February and S winds from March through September. Winds appear to be light to moderate with numerous calms and occasional winter gales from the NE. The direction of the winds is considerably influenced by the local topography and varies sharply from place to place.

**Tides—Currents.**—The current on the S coast of Turkey, unless affected by gales, generally sets W, with its rate increasing as the distance W from the coasts of Syria and Lebanon becomes greater. Some distance from the land the current is weak, but close in to the coast its rate is occasionally considerable.

#### Kassab Bay to Iskenderun Korfezi

**5.2 Antakya Korfezi** (Bay of Antioch) (36°00'N., 35°51'E.) lies between Akinci Burnu and Ras al Basit, 28 miles S. Its shores are fringed with rocks and shoals which extend up to 0.3 mile seaward in places.

**Kassab Bay** (35°56'N., 35°55'E.), a small coastal indentation, lies in the SE part of Antakya Korfezi. The coastal border between Turkey and Syria lies in the vicinity of this indentation 24 miles SSE of Akinci Burnu.

Anchorage can be taken in Kassab Bay, in a depth of 35m, sand, about 0.4 mile offshore.

Cebeli Akra, a conspicuous peak, rises abruptly to the E of Kassab Bay. Its upper part is entirely bare while its base and ridges are thickly wooded.

Asi Nehri flows into the sea 5.2 miles NE of Kassab Bay. This shallow river leads to the town of Antakya. Anchorage can be taken, in a depth of 16m, about 0.5 mile off the bar at the river mouth. This anchorage is exposed to W winds; a heavy swell is reported to set in.

**5.3 Ras al Mina**, a conspicuous cape, is located 6 miles NW of the mouth of Asi Nehri and can be identified by extensive ruins on its SE side. These ruins are white and are visible for some distance seaward. The cape is fronted by a small islet and several rocks.

Musa Dagi (Kocagiz Tepe), 1,281m high, stands 2.5 miles inland, 11 miles SE of Akinci Burnu. This mountain is the highest peak of a heavily-wooded range, with numerous deep ravines on its W side, down which streams usually run.

**Akinci Burnu** (36°19'N., 35°47'E.), the SE entrance point of Iskenderun Korfezi, is high and steep. It is the W termination of Kizil Daglar and rises to a height of 1,698m about 4 miles ESE. A light is shown from a structure, 5m high, standing on the N part of this cape.

#### Iskenderun Korfezi

**5.4 Iskenderun Korfezi** (36°19'N., 35°47'E.), a wide and deep gulf, recedes to the NE and is entered between Akinci Burnu and Kararas Burnu (Fener Burnu), 25 miles NW. This gulf has an average width of 18 miles, with depths in excess of 50m in its central part. The large port of Iskenderun lies in its SE part.

The tides in the gulf are negligible, but S and W winds may sometimes raise the water level by as much as 0.6m. Winds from the N and E may lower it by a similar amount. During fresh winds, a strong N current has been observed in the entrance to the gulf.

Ulucinar (Arsuz), a small village situated 7.5 miles NE of Akinci Burnu, can be identified by a prominent white mosque and the ruins of its ancient walls. Anchorage can be taken by small vessels with local knowledge, in a depth of 8m, sand, off the village.

**Caution.**—Iskenderun Korfezi is subject to severe and unpredictable storms.

#### Iskenderun (36°36'N., 36°10'E.)

World Port Index No. 44880

**5.5** The port of Iskenderun, consisting of an outer and an inner harbor, is protected on its E side by a range of mountains and on its W side by an extensive breakwater. In addition, three offshore berths lie close NE of the outer harbor.

**Winds—Weather.**—Winds are usually light during early winter, but may be interspersed with squalls and N gales. In March, S and SE winds increase, with some periods of strong SW winds. In April, generally variable conditions prevail, with light winds and calm periods. The wind speed depends greatly on the local topography and varies from place to place. Light SW winds and land and sea breezes prevail from May through September. During the autumn, light and variable conditions are most common.

**Depths—Limitations.**—Depths in the approaches are in excess of 35m. A boat harbor, protected by breakwaters, lies close W of the root of the main breakwater.

The harbors provide 1,812m of total quayage, with berths 166 to 200m long having depths of 10 to 12m alongside. There are facilities for general cargo, container, bulk, and ro-ro vessels. Vessels up to 185m in length and 11.5m draft can be accommodated.

Three offshore tanker berths, consisting of several mooring buoys, are situated NNE of the harbor. They lie in depths of

12.2m and are connected to the shore by submarine pipelines. Tankers up to 195m in length and 10.9m draft can be handled.

**Aspect.**—A light is shown from a structure standing near the shore 7 miles SW of the root of the breakwater.

A conspicuous silo, marked by a light, is situated 0.5 mile ESE of the head of the breakwater. Numerous oil tanks stand to the E and N of the harbor area and are prominent from seaward. The town, with numerous buildings, is situated WSW of the harbor area and can be easily identified.

**Pilotage.**—Pilotage is compulsory for Turkish vessels over 300 grt and all foreign vessels. Pilots can be contacted on VHF channel 13 or 16 and board within 2 miles of the harbor entrance. Vessels should send an ETA, with a request for a pilot, 24 hours in advance and 48 hours in advance if carrying dangerous cargo.

**Anchorage.**—The general anchorage lies, in depths of 13 to 24m, mud, about 0.7 mile W of the breakwater. A designated explosives anchorage area which is best seen on the chart, lies centered 1 mile NW of the head of the breakwater.

**Caution.**—When approaching the port from the W, vessels should use caution, especially at night, as the water shoals abruptly towards the coastal points and the distance from the shore is difficult to estimate because of the high land behind it.

Sudden winds, up to 100 knots, occasionally blow off the mountains towards the harbor. These winds, though very infrequent, can occur at any time of the year.

**5.6 Sariseki** (36°40'N., 36°13'E.), a small town, stands at the foot of a deep and prominent chasm through which a river flows. A conspicuous railroad station, with a red roof, is situated on the N side of the river mouth and a medieval fortress, in ruins, is situated 0.4 mile SE of it.

A phosphate factory is situated close N of the river mouth and is fronted by a jetty. This jetty is 860m long and has a depth of 9m at its head.

A fueling jetty is situated 0.3 mile S of the river mouth. It is reported to have depths of 9.7m alongside and 15.9m at the head.

It is reported that a jetty, 0.4 mile long, extends WSW from a point on the shore, 1.4 miles NNW of Sariseki.

**Yakacik** (36°46'N., 36°11'E.) stands amidst groves of trees at the foot of a steep and craggy mountain. Prominent landmarks in the vicinity of the town include the ruins of a castle, a domed mosque, a walled village, a minaret, and a square tower. The old harbor, which fronted the town, is silted up and only the remains of a pier can still be seen. An outfall pipeline extends 0.4 mile SW from the shore fronting the town and is marked by a buoy.

**5.7 Isdemir** (36°44'N., 36°11'E.), a small port, lies 2 miles S of Yakacik. It serves the local iron and steel works and is protected by breakwaters.

**Depths—Limitations.**—There is 620m of berthing space at the inner side of the N breakwater, with depths of 12 to 18.5m alongside. A broad mole, which projects from the head of the harbor, provides 550m of berthing space with depths of 8 to 10m alongside. Bulk vessels up to 150,000 dwt and 16m draft can be accommodated alongside.

A platform for iron ore imports stands 2 miles S of the S breakwater. The platform is 230m long. Vessels with a maximum draft of 10m can berth on either side of the platform.

A fuel pier is situated outside the main harbor on the N side of the N breakwater. It has a depth of 14m alongside; vessels berth stern-to.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 12 or 16 and board between 0.5 and 2 miles from the entrance. Vessels should send an ETA 24 hours in advance and 72 hours in advance if carrying dangerous cargo.

**Anchorage.**—A designated anchorage area, which may best be seen on the chart, lies centered 1.5 miles W of the harbor entrance and has depths of 24 to 37m.

**5.8 Dortyol Oil Terminal** (36°50'N., 36°14'E.) lies 8 miles N of Isdemir and consists of two offshore berths and a T-headed pier. A prominent tower and several tanks stand near the root of the pier. The town is situated 4 miles ESE of the terminal and contains a large school building, with a red roof, and a prominent minaret. A prominent water tower stands at the railroad station 2 miles W of the town.

Pilotage is compulsory. Pilots can be contacted on VHF channel 16 or 70 and are provided at Botas Oil Terminal. Pilots will board vessels in position 36°48.2'N, 36°06.0'E.

The pier is 50m long and has a depth of 14m at its head; vessels berth stern-to. The offshore berths each consist of three mooring buoys and are connected to the shore by submarine pipelines. The outer berth lies in a depth of 12.6m and can handle tankers up to 40,000 dwt and 220m in length. The inner berth can handle LPG tankers up to 5000 dwt.

An offshore LPG berth can accommodate vessels up to 80,000 dwt.

A designated anchorage area, which may best be seen on the chart, lies centered 1.5 miles W of the pier head.

**5.9 Ceyhan Limani** (36°53'N., 36°56'E.), a port lying at the N end of Iskenderun Korfezi, is comprised of Botas Oil Terminal (Golovasi Oil Terminal) and Toros Fertilizer Terminal.

**Depths—Limitations.**—Botas Oil Terminal is situated at the SW end of the port at the termination of the Iraq crude oil pipeline. Numerous storage tanks stand in this vicinity.

A jetty, 1,950m long, extends SE and SSE from the shore and provides two loading platforms with mooring dolphins. These platforms each consist of two berths.

Berth No. 3 and Berth No. 4 have a depth of 18m alongside and can accommodate tankers up to 150,000 dwt, 300m in length, and 16.7m draft.

Berth No. 1 and Berth No. 2 have a depth of 23m alongside and can accommodate tankers up to 300,000 dwt, 355m in length, and 21.6m draft.

Toros Fertilizer Terminal is situated at the NE end of the port and consists of two jetties.

Jetty No. 1 is 1,200m long and has a loading platform at its head, with a depth of 11m alongside. It provides three berths and can handle two vessels up to 40,000 dwt and one vessel up to 1,000 dwt simultaneously.

Jetty No. 2 is 1,600m long and has facilities for bulk, general cargo, container, and ro-ro vessels. Its main platform is 187m long, with a depth of 16m alongside, and can handle two vessels up to 100,000 dwt simultaneously. The central platform is 155m long, with a depth of 12m alongside, and can handle two vessels up to 35,000 dwt simultaneously. The inner plat-

form is 101m long, with a depth of 4.8m alongside, and can handle coasters up to 2,500 dwt.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 16 or 22 and are located at Botas Oil Terminal. Vessels should send their ETA 72 hours, 48 hours, 24 hours, and 4 hours in advance. Pilots will board vessels in position 36°49.5'N., 36°02.0'E.

**Anchorage.**—A designated anchorage area, which may best be seen on the chart, lies centered 2.5 miles ESE of the head of the oil terminal jetty. An additional anchorage area is available 4 miles SSW of the jetty head.

**Caution.**—It is reported that anchoring outside the designated areas is prohibited.

An additional wharf is reported (2003) under construction.

A discharge pipeline, best seen on the chart, is located SW of Botas.

**5.10 Yumurtalik Limani** (36°45'N., 35°43'E.) is entered between Yumurtalik, a small town, and Devegecegi, a point 4.5 miles SW. This inlet recedes to the W and is sheltered from all but E and SE winds. It is very shallow in the inner reaches and has numerous lagoons lying on the W and S shores. A light is shown from Devegecegi; a beacon stands 0.3 mile ENE of the light.

Yumurtalik is of little commercial importance. It is fronted by a boat harbor which is reported to have silted up. A light is shown from a structure, 10m high, standing close NE of the town. An islet, 8m high, lies close E of the town and is surmounted by a massive building.

**Dede Dag** (36°50'N., 35°34'E.), 436m high, is a prominent peak which can easily be identified from seaward. Nur Dagi, 789m high, stands 7.5 miles NE of Dede Dag; its peak appears wedge shaped when viewed from the S.

The ruins of a tower stand on the shore 0.5 mile W of Yumurtalik. A beacon stands on Liman Burnu (Bittern Point), which is located 3.2 miles W of the tower.

Large vessels anchor, in a depth of 11m, soft mud, about 0.7 mile S of Liman Burnu. Small vessels anchor, in depths of 4 to 6m, soft mud, about 1 mile WSW of Liman Burnu. The holding ground is generally good, but vessels sometimes are reported to drag their anchors.

Winds from the N occasionally cause a decrease of the water level up to 0.7m within this inlet. During the winter, it is reported that NE gales sometimes commence with little warning.

**Yumurtalik Oil Terminal** (36°45'N., 35°44'E.), an offshore berth, lies 1.5 miles SE of Liman Burnu. It is connected to the shore by a submarine pipeline and consists of several mooring buoys. Tankers up to 20,000 dwt and 10.3m draft can be handled. There are no pilots, but local representatives of the oil company will board at Iskenderun and assist with berthing. Vessels are prohibited from anchoring or fishing in the vicinity of the pipeline.

**5.11 Ceyhan Nehri** (36°35'N., 35°34'E.) discharges into Iskenderun Korfezi, 12 miles SW of the SW entrance point of Yumurtalik Limani. This river is marked by high reeds along its banks and surf on the entrance bar. Depths on the bar vary, being 3 to 4.9m. The river is about 70m wide and is navigable by boats for 24 miles, but it cannot be entered during SE winds. Considerably lesser depths than charted may exist in the

vicinity of the river mouth and vessels should give it a wide berth.

**Karatas Burnu** (Fener Burnu) (36°32'N., 35°20'E.), the NW entrance point of Iskenderun Korfezi, has low white cliffs and is easily identified from seaward. The prominent ancient ruins of the town of Megarsus are situated 0.5 mile NNE of the cape. A light is shown from a prominent structure, 12m high, standing on the cape.

A coast guard station, with a mast, is situated close to the light.

Karatas, a small town, stands 2.5 miles NE of the cape and contains a prominent customhouse. A minaret, with a white dome, is situated 0.5 mile SW of the town. A small craft harbor, protected by breakwaters, fronts the town and two islets lie about 0.5 mile offshore close ESE of it. Good anchorage, sheltered from strong N winds, can be taken, in depths of 9 to 13m, sand, about 1 mile offshore between Ceyhan Nehri and Karatas Burnu. During the summer, anchorage can be taken, in depths of 7 to 11m, white sand, about 1.4 miles E of the small harbor. Anchorage, sheltered from NE winds, can also be taken, in a depth of 8m, sand and rock, about 1 mile ESE of Karatas Burnu.

## Iskenderun Korfezi to Incekum Burnu

**5.12** Between Karatas Burnu (Fener Burnu) and Deli Burnu, 24 miles NW, the intervening coast consists of a beach which rises to high sandhill. A shallow salt lake, 10 miles long, lies NNW of Karatas Burnu and is surrounded by a sandy plain.

A light is shown from a pylon, 8m high, standing on Deli Burnu. A spit extends up to 1 mile seaward of the light and should be given a wide berth.

Karadivar, a prominent village, is situated 11 miles NW of Deli Burnu and is fronted by two small harbors which are protected by breakwaters and used by fishing boats. Kazanlı, another prominent village, is situated 3 miles E of Karadivar.

A conspicuous white monument, with a silvery dome, stands 2.5 miles NE of Karadivar. Several tanks, a flare, and a radio mast are situated at a refinery 0.8 mile NE of Karadivar and are all prominent from seaward.

## Mersin (36°48'N., 34°38'E.)

World Port Index No. 44860

**5.13** Mersin, a large port, lies at the head of Mersin Korfezi, 2 miles W of Karadivar. The harbor is protected by extensive breakwaters.

**Winds—Weather.**—High winds, occasionally reaching gale force, are frequent during the winter. Morning fogs occur often during the summer, but rarely affect vessel traffic.

**Tides—Currents.**—The tidal rise is negligible, being only 0.3m at springs. Winds from the S and W may raise the water level by as much as 0.6m, while winds from the N and E may lower it by a similar amount.

Winds from the SW and E often produce strong currents within the port.

**Depths—Limitations.**—The harbor fairway has a dredged depth of 12.2m. There is 3,140m of total quayage, with berths

175 to 502m long having depths of 6 to 12m alongside. In addition, an oil pier is situated in the E part of the harbor and has two berths, 350m long, with depths of 12 to 13m alongside. Generally, vessels of any length can be accommodated provided that they do not exceed the drafts specified in the port regulations. Tankers up to 280m in length can be handled.

**Aspect.**—The town is prominent and contains several high-rise buildings. Conspicuous landmarks include a minaret standing 1 mile NW of the head of the SW breakwater, a factory with two chimneys situated 1.1 miles NE of the minaret, and several silos standing 1 mile N of the head of the NE breakwater.

A light is shown from a prominent structure, 15m high, standing 0.3 mile SW of the root of the SW breakwater. Two lighted buoys are moored about 0.7 mile SE of the harbor entrance and mark the approach channel. A lighted range, which may best be seen on the chart, indicates the fairway leading to the inner part of the harbor.

**Pilotage.**—Pilotage is compulsory for Turkish vessels of 1,000 grt or more and for foreign vessels over 150 grt. Pilots can be contacted on VHF channel 12 or 16 and generally board near the harbor entrance. Tankers are boarded to seaward of the fairway lighted buoys. Vessels should send an ETA with a request for the pilot 24 hours in advance and 48 hours in advance if carrying dangerous cargo.

**Regulations.**—The following are extracts from the port regulations:

1. Between 16 December and 15 March, cargo vessels with drafts of more than 9m, or tankers with drafts of more than 12.2m, are not allowed to enter or leave the harbor. Between 16 March and 15 December, the restrictions are 9.5m for cargo vessels and 12.5m for tankers

2. Vessels exceeding 500 tons, having entered the harbor and awaiting a berth, may anchor close to the SW breakwater. Vessels of less than 500 tons may anchor off the berths in the SW part of the harbor

3. Vessels with drafts of more than 7m within the harbor, or 9m within the entrance channel, are forbidden to use their engines. Vessels with less draft may do so, but only for very slow speeds. Vessels exceeding 1,000 tons must not use their engines within 50m of any wharf or quay. Vessels of more than 1,000 grt must employ one tug; vessels of more than 4,000 grt must employ two tugs; and vessels of more than 15,000 grt must employ three tugs.

**Anchorage.**—Three anchorage areas, including an explosives anchorage and the quarantine anchorage, are located in Mersin Korfezi, and are best seen on the chart.

**Caution.**—Anchoring prohibited areas, which may best be seen on the chart, lie in the vicinity of the harbor entrance near the seaward side of the NE breakwater, and extend up to 4 miles SSW from the vicinity of the light.

A military base lies in the NE part of the inner harbor within a prohibited area.

An outfall pipeline extends 0.5 mile SSE from the elbow of the SW breakwater and is marked by a lighted buoy.

A submerged breakwater extends W from the elbow of the SW harbor breakwater to the shore.

A dumping ground area, which may best be seen on the chart, lies at the outer side of the NE breakwater.

It is reported that an SPM, with a dangerous wreck close N of it, is moored about 2.3 miles SE of the harbor entrance.

**5.14 Ayaskahvesi** (36°30'N., 34°10'E.), the site of an ancient city, is now a mere collection of huts. Several ruins are situated along the coast in this vicinity, including a conspicuous 6-mile long aqueduct.

Two conspicuous ruined castles stand near the coast at Korghos, 3.8 miles SW of Ayaskahvesi. The N castle is the larger and is situated on a point on the mainland which is fronted by a small pier. The other castle, with two towers, surmounts an islet which lies close offshore, 0.5 mile SSW of the point.

Persenti (Susanoglu), an ancient town, stands at the head of a bay, 4 miles SW of Korghos. The town is surrounded by extensive ruins and is fronted by a pier.

Goksu Nehri (Goksu Irmagi) flows out with a strong current 7 miles SSW of Persenti, and its muddy course is usually sharply defined.

**Caution.**—An area, within which measuring instruments are moored, lies off the coast 8 miles NE of Ayaskahvesi and may best be seen on the chart.

Submarines frequently exercise in the waters off the coast between Iskenderun Korfezi and Incekum Burnu.

### Incekum Burnu to Antalya Korfezi

**5.15 Incekum Burnu** (36°14'N., 33°57'E.) is the extremity of a long projecting low point of sand which is fronted by foul ground. Shoal patches, with a least depth of 7m, lie up to 2.3 miles SSW of the point and it should be given a wide berth. A light is shown from a structure standing on the E side of the point, 2 miles NNE of its S extremity.

The coast for 5 miles NNW of Incekum Burnu is fringed by numerous overfalls and shifting shoals and should be given a wide berth.

Tasucu Korfezi, a fairly large bay, is entered between Incekum Burnu and Ovacik Burnu, 14 miles SW. The E shore of the bay is mostly low and is bordered by sand dunes, whereas the W shore is high and steep.

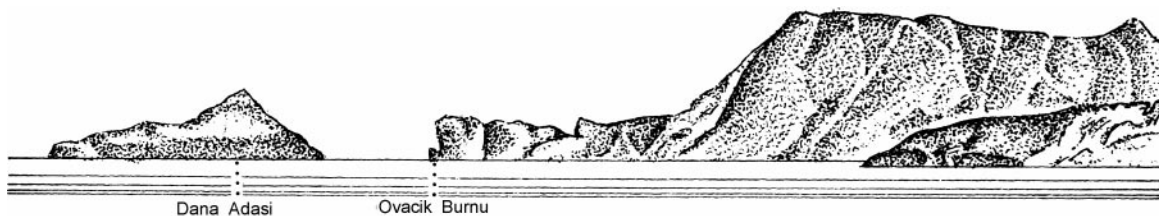
**5.16 Tasucu** (36°19'N., 33°53'E.) (World Port Index No. 44850) lies at the head of the bay and serves as the port for Silifke, a town situated 4 miles N. A prominent mosque and a chimney stand in Tasucu, which is fronted by two small harbors, protected by breakwaters.

The W harbor has depths of 1 to 6m and is used by small ferries. A jetty extends SSW from the outer W end of the S breakwater. It is 140m long and has a depth of 8m at the head.

The E harbor has a quay, 163m long, with depths of 5 to 7m alongside. It can accommodate vessels up to 8,000 dwt.

Anchorage is obtainable in the N part of Tasucu Korfezi, on either side of the fairway. Two anchorages are located S of the harbor; the E one is an explosives anchorage.

**5.17 Dana Adasi** (36°11'N., 33°47'E.), an island, lies in the SW part of Tasucu Korfezi, 5 miles NE of Ovacik Burnu. This island has numerous ruins on its NW side and rises to a height of 274m near its SW end. A light is shown from a structure, 4m high, standing on the NE extremity of the island. A steep-to



Ovacik Burnu, bearing 225°, distant 14.3 miles



Kizil Burnu, bearing 078°, distant 12 miles

rock, awash, lies 0.5 mile WSW of the SW extremity of the island.

**Ovacik Burnu** (36°08'N., 33°41'E.) is the S extremity of a promontory, 151m high, which is connected to the mainland by a low and narrow isthmus. Small bays are formed on either side of this isthmus. A light is shown from a structure 43m high, standing on this point.

**5.18 Soguksu Limani** (36°08'N., 33°19'E.) lies 19 miles W of Ovacik Burnu. The coast between is indented by three small bays which are separated by two promontories, Ada Burnu and Sancak Burnu. The village of Ovacik stands at the head of the E bay.

Anchorage can be taken, in a depth of 20m, about 0.7 mile off Ovacik, but this roadstead is exposed to winds from between the SSE and WSW.

Soguksu Limani is a small and secure inlet with depths of 2 to 7m. A village stands on its NW side and is fronted by a small jetty. Small vessels with local knowledge can obtain shelter within this inlet.

**Kizil Burnu** (36°04'N., 33°05'E.), the S extremity of a small peninsula, is bold and 193m high. A high hill, surmounted by a castle, stands 5 miles WNW of this point and dominates a pier and village, both in ruins.

**Anamur Burnu** (36°01'N., 32°48'E.), the E entrance point of Antalya Korfezi, is bold and steep. A light is shown from a prominent structure, 10m high, standing on the cape.

A village and the ruins of an ancient city are situated in the vicinity of the cape. A hill, 318m high, stands 1 mile NNW of the cape and its summit is surmounted by two conspicuous domes.

Anchorage can be taken, in a depth of 18m, about 0.7 mile ESE of the light. The bottom is formed of fine sand with good holding ground. During E and N winds, the sea breaks heavily in this anchorage. During W winds, small vessels can anchor off the E side of the cape, in a depth of 14m.

## Antalya Korfezi

**5.19 Antalya Korfezi** (36°30'N., 31°00'E.), a wide and deep gulf, lies between Anamur Burnu and Yardimci Burnu (Taslik Burnu) (36°13'N., 30°24'E.), 116 miles W. Its E and W sides are bounded by parallel ranges of the high Taurus Mountains.

The seaward approaches to the gulf are mainly clear, the only dangers being several inshore islets lying close off the W side. A dangerous wreck was reported to lie about 1.5 miles offshore, 9.5 mile of W of Anamur Burnu.

Antiochia, the site of extensive ruins, is located 19 miles WNW of Anamur Burnu. Bright lights are sometimes visible from the mines situated along this section of the coast.

**Selinti Burnu** (36°14'N., 32°19'E.) is located 28 miles WNW of Anamur Burnu. A light is shown from a pylon, 8m high, standing on the point.

Gazipasaan, an ancient city in ruins, stands 2 miles N of the light near a point formed by cliffs, 175m high. It can be identified by a large mausoleum, surrounded by 110 columns, which is situated near the mouth of a small stream.

**5.20 Alanya** (36°32'N., 32°00'E.) (World Port Index No. 44825), a small town, stands on the E side of a promontory, 230m high, and is fronted by a harbor.

### Alanya Home Page

<http://www.alanyaseaport.com>

Dildarde Burnu, the SW extremity of the promontory, is bordered by dark red cliffs. A light is shown from a structure, 6m high, standing on this cape and a prominent tower stands 0.5 mile NNE of it.

A castle surmounts a high ridge which extends SW from the cape.

A pier in the harbor provides four berths with depths of 8 to 12m alongside. Lighters are available to handle larger vessels at the anchorage.

Pilotage is compulsory for all vessels of 150 gross tons and more. The pilot boards 1 mile S of the jetty. Pilots can be contacted on VHF channels 12 and 16.

Vessels should provide ETA 24 hours prior to arrival. The ETA should be confirmed or amended 4 hours prior to arrival.

Anchorage can be taken E of Dildarde Burnu. A good berth, in a depth of 11m, lies about 0.6 mile E of the prominent tower. Shelter is provided from N and W winds. During the winter, strong S winds, heavy surf, and poor holding ground are reported to render this roadstead untenable and caution is advised.

**5.21 Kara Burnu** (36°39'N., 31°40'E.), a cliffy point, is covered with dark trees and can easily be identified. Figla Burnu is located 5 miles SE of Kara Burnu and is fronted by a small islet and several rocks. The ruins of an ancient city stand on this point.

**Selimiye** (36°46'N., 31°23'E.), an ancient town, stands on a promontory which extends 0.5 mile WSW from the coast and is marked by a light.

The muddy discharge from a river, which flows into the sea 5.5 miles SE of Selimiye, is usually visible for several miles offshore. The mouth of this river is not visible, but a large gap in the mountains through which the river passes can be identified from seaward.

**Baba Burnu** (36°51'N., 30°45'E.), located 4 miles SE of Antalya, can be identified by its conspicuous overhanging cliffs. A light is shown from a structure, 6m high, standing on this point. The ruins of an ancient town and harbor are situated 2 miles E of the light.

## Antalya (36°53'N., 30°42'E.)

World Port Index No. 44820

**5.22 Antalya**, a large town, is situated at the head of Antalya Korfezi and is fronted by an old harbor. It is built on cliffs, 30m high, and is surrounded by an ancient ditch and a rampart with numerous towers. This old harbor is small and is mostly used by yachts and small craft.

A new commercial harbor situated 5 miles SW of the town is protected by two curved breakwaters.

The port of Antalya includes all the waters N of a line drawn from Taslik Burnu (36°13'N, 30°25'E.) to a position on the shore 5.2 miles ESE of Selimiye Light (36°46'N, 31°23'E.), 62 miles NE.

### Antalya Home Page

<http://www.antalyaport.com>

**Winds—Weather.**—In summer, moderate winds blow from the N and W. In autumn and winter, winds up to force 6 blow at reasonably frequent intervals from between the S and ESE. Winds from the S can make the anchorage uncomfortable and strong S and ESE winds are reported to bring swells into the harbor.

**Tides—Currents.**—The tidal rise is negligible, but S and SW winds may raise the water level by as much as 0.6m. Winds from the N and NE lower it by a similar amount.

**Depths—Limitations.**—The main commercial quays have dimensions, as given in the accompanying table.

Antalya Berth Information			
Berth	Length	Depth	Cargo
1	150m	8.6-9.0m	Minerals
2/3	162m	11.0m	Fish
4	35m	8.4m	Ro-ro vessels
5/6	290m	7.1-9.8m	General cargo
7	170m	9.5m	Aluminum
8	170m	9.8m	Passengers
9/10	340m	8.9-10.2m	Passengers/general cargo
11/12	210m	8.1-8.9m	Bulk cargo

Vessels up to 9.5m draft can be accommodated.

Two offshore tanker berths are situated 0.4 mile offshore, 2 miles NE of the entrance to the new harbor. These berths consist of several mooring buoys and are connected to the shore by submarine pipelines.

**Aspect.**—A conspicuous minaret stands in the center of the town. Several prominent storage tanks stand near the coast, 3 miles NE of the new harbor; a prominent tower is situated 5.2 miles N of them.

**Pilotage.**—Pilotage is compulsory for all foreign vessels and Turkish vessels over 300 grt. Pilots can be contacted on VHF channel 12 or 16 and board about 0.3 mile NE of the breakwaters. Vessels should send an ETA 24 hours in advance.

**Anchorage.**—Off the commercial harbor, an anchorage designated for merchant vessels and foreign warships is centered about 0.6 mile SE of the S breakwater.

A designated explosives anchorage is located about 1 mile SSE of Sican Adasi. The limits are defined by a line drawn between the following positions:

- 36°47.0'N, 30°35.0'E.
- 36°47.6'N, 30°35.3'E.
- 36°47.6'N, 30°36.0'E.
- 36°47.0'N, 30°36.7'E.

A designated long term anchorage is centered about 1 mile SSW of Antalya.

**Caution.**—A restricted area, which may best be seen on the chart, lies in the vicinity of a quay which is used by the military. Entry into this area is prohibited without prior permission. Submarines frequently exercise within Antalya Korfezi.

**5.23 Sican Adasi** (36°48'N., 30°36'E.) lies about 0.4 mile offshore, 1.8 miles SSW of the new harbor at Antalya. This island is 74m high and prominent.

**Av Burnu** (Koca Burnu) (36°36'N., 30°35'E.), a high and bold cliff, rises to a hill, 302m high, and is fronted by foul ground. A light is shown from a structure standing near the N extremity of this cape. A shallow rock, fringed by shoals, lies

about 0.7 mile offshore, 1.2 mile NW of the cape and is marked by a light. A marina, protected by breakwaters, lies 0.8 mile W of the cape.

Two remarkable brown rocks, 100m high, are located 2 miles SSE of Av Burnu.

Ucadalar lies about 2 miles offshore, 8 miles SSW of Av Burnu. It consists of a group of several islets up to 23m high, which are surrounded by reefs.

Cavus Burnu, located 7.2 miles SSW of Ucadalar, is fronted by a small and barren islet. Cineviz Adasi (Karaca Yarimadasi), located 2 miles NW of Cavus Burnu, is a small peninsula, formed by white cliffs, which has a cove on each side of the isthmus connecting it to the mainland.

Kucukcavus Burnu, the S entrance point of a small bay, is located 3 miles SW of Cavus Burnu. A light is shown from a structure, 10m high, standing on this point. Small vessels with local knowledge can find shelter within the bay.

**Sulu Ada** (36°14'N., 30°29'E.), a rugged and bare island, lies 1.2 miles offshore, 3.6 miles S of Kucukcavus Burnu. It is 165m high and is surrounded by reefs. A natural archway through the island can be used by boats.

**Yardimci Burnu** (Taslik Burnu) (36°13'N., 30°25'E.), the W entrance point of Antalya Korfezi, is the S end of a steep-to promontory. A light is shown from a structure, 9m high, standing on this point. Besadalar, a group of four islets, lies between 0.5 and 2.5 miles S of the point.

The current off the point generally sets to the W at a rate of 1 knot, but large variations in rate and direction have been observed.

## Antalya Korfezi to Fethiye Korfezi

**5.24 Finike Korfezi** (36°16'N., 30°16'E.), an open bay, is entered between Yardimci Burnu (Taslik Burnu) and Bunda Burnu, 14 miles WNW. A small inlet lies on its E side and the town of Finike stands on its W side.

**Finike** (36°18'N., 30°09'E.), a small harbor, fronts the town and is protected by two moles. A jetty, 80m long, has depths of 3 to 5m alongside and is used by coasters, ferries, small craft, and yachts with local knowledge. The port monitors VHF channel 16. Anchorage can be taken, in depths of 37 to 53m, about 0.2 mile off the town. A light is shown from a prominent structure, 30m high, standing 1 mile S of the town. A radio-beacon is situated at the light.

Bunda Burnu, the W entrance point of the bay, rises inland to high, towering, and snow covered peaks. A castle, in ruins, stands on Kum Burnu, a point located 6 miles WSW of Bunda Burnu.

**5.25 Gokkaya Limani** (36°12'N., 29°55'E.), a small open bay, is surrounded by high and rugged mountains. It is entered between Kum Burnu and Kekova Adasi, an island to the WSW. Light draft vessels, with local knowledge, can shelter in this bay, but the holding ground is poor.

**Kekova Adasi** (36°11'N., 29°53'E.), a long island, is separated from the mainland to the N by a narrow passage. This island is 183m high and lights are shown from its E and W extremities. Anchorage can be taken in the narrow passage, in depths of 7 to 42m, good holding ground. The most convenient

berth for large vessels is about 0.3 mile from the mainland and about 1.7 miles NE of the SW extremity of the island. Anchorage can be taken within the inlets lying to the W of Kekova Adasi by small vessels with local knowledge.

The coast between Kekova Adasi and Ulu Burnu, 8 miles WSW, is fronted by a long and narrow peninsula. Ic Ada, a small islet, lies off the SW extremity of this peninsula, 3 miles E of Ulu Burnu. The bay lying N of Ic Ada appears to be deep, but has only been partially examined.

**5.26 Kolpos Kastellorizon** (36°07'N., 29°37'E.), a small gulf, is bordered by Ulu Burnu and several islets lying to the SW, by the Vathi Peninsula to the N, and by Nisos Meyisti to the W. Several channels lead into the gulf, the best being Vathi Channel, which passes between the Vathi Peninsula and Nisos Meyisti.

Two bays lying at the head of the gulf and E of the Vathi Peninsula provide anchorage. The N bay is frequented by small coasters with local knowledge. The S bay is more sheltered, but has very deep depths.

**Vrakhonisis Strongili** (Nisis Strongili) (36°07'N., 29°38'E.) is the outermost of the chain of small islands, islets, and rocks which extends SW from Ulu Burnu. This island is 197m high and steep-to. A light is shown from a prominent structure, 10m high, standing near its SW end.

**Nisos Meyisti** (36°09'N., 29°35'E.), the largest island in the gulf, lies 4 miles W of Ulu Burnu. This island rises to a height of 273m and is marked by a light on its N extremity. Anchorage is provided to vessels with local knowledge, in depths of 6 to 13m, within Limin Kastellorizon, a roadstead, on the NE side of the island.

Two groups of islands and rocks, with a least depth of 10.1m between them, lie midway between the NE side of Nisos Meyisti and the mainland. Besmi Adasi, an above-water rock, lies in the middle of the passage which leads between the above group of islands and rocks and the dangers extending E from Nisos Meyisti.

**Meyisti** (Kastellorizon) (36°09'N., 29°37'E.) (World Port Index No. 43225), a small inlet, lies in Limin Kastellorizon on the NE side of Nisos Meyisti and forms a sheltered harbor. This harbor is entered through a narrow channel which has depths of 6 to 12m in its central part. Cargo may be worked by lighters at the confined anchorage within the harbor. Local knowledge is advisable.

**Port Vathi** (36°12'N., 29°40'E.), an inlet, lies between the mainland and Cukurbag Yakimadasi, which extends 2.7 miles WSW and terminates in Ada Burnu. This inlet, which forms a sheltered harbor, is 0.2 mile wide and has a least depth of 9m in its outer part and a least depth of 12m in its inner part. Anchorage can be taken by vessels with local knowledge, in a depth of 12m, at the head of the harbor. Shelter is provided, but at times NE winds of great force blow down from the mountains.

**5.27 Nisis Ro** (36°09'N., 29°30'E.), located 3.5 miles W of Nisos Meyisti, is steep-to on all except its E side, which is fronted by two small islets. An inlet, lying on the S side of this islet, has depths of 10 to 15m and provides suitable shelter for small vessels up to 300 tons with local knowledge.



Kormenli Adasi, an islet, lies 2.4 miles NE of Nisis Ro and is 30m high. Several low and steep-to rocks lie 1 mile SSE of this islet.

**Yali Burnu** (36°14'N., 29°21'E.) is the W entrance point of Yali Limani. Catal Adalar, marked by a light, lies 1 mile S of the point and is the outermost of the islets in this vicinity. A prominent television mast is reported to stand 2.5 miles N of the light. Yali Limani is open to the S and has considerable depths in its inner reaches. This bay provides anchorage with poor holding ground. The town of Kalkan stands on its NE shore and is fronted by a small craft harbor.

Ince Burnu, the E entrance point of Yali Limani, is located 3 miles E of Yali Burnu. Heybeli Ada, an islet, lies 2 miles SE of the point and is the outermost danger.

**Yedi Burnu Basi** (36°24'N., 29°07'E.), high and bold, is the N cape of Yedi Burnunlar. Kotu Burnu, located 1 mile S of this cape, is marked by a light. Yedi Burnunlar consists of seven capes. These capes are the outer extremities of the spurs projecting from Sandak Dagi, a range of high and rugged mountains, which stand parallel to the coast 7 miles inland. Zeytin Burnu, the S cape, is located 7 miles SE of Yali Burnu Basi.

**Ilbiz Burnu** (36°33'N., 29°01'E.), the high W extremity of an irregular shaped peninsula, is the E entrance point of Fethiye Korfezi. A light is shown from a structure standing on the point. The intervening coast between Yedi Burnu Basi and Ilbiz Burnu is indented by several small inlets and coves which are of little commercial significance.

## Fethiye Korfezi

**5.28 Fethiye Korfezi** (36°40'N., 29°00'E.), a large gulf, is entered between Ilbiz Burnu and Kurdoglu Burnu, 8.5 miles WNW. The depths in the entrance to the gulf are deep and clear, but the inner reaches are encumbered by numerous islands and sunken dangers lie on the N and W sides.

The E coast of the gulf between Ilbiz Burnu and Sahin Burnu, 5 miles NNE, is indented by two small open bays which are backed by high and bold cliffs. The projection which separates these two bays rises inland to a prominent peak, 529m high.

Kurdoglu Burnu, the W entrance point of the gulf, is fronted by rocks. It is the S extremity of a rugged peninsula which rises close N to Kapu Dag, a peak, 472m high. Between this peninsula and a point, 5.2 miles NE, the W coast of the gulf is fronted by numerous islands and shoals which are intersected by deep passages. There are no harbors of any commercial importance in this vicinity.

**Peksimet Adasi** (36°34'N., 28°50'E.) lies 1.7 miles SW of Kurdoglu Burnu. This small islet is 26m high and steep-to, but irregular depths lie between it and the mainland. A light is shown from a structure, 8m high, standing on this islet.

Skopea Limani, a small bay, lies along the W side of the gulf, 5.3 miles NNE of Kurdoglu Burnu. The depths in this bay are too deep to provide anchorage.

An ore-loading facility is situated within Kocek Limani, a small and sheltered inlet lying in the NW inner corner of the gulf. Vessels loading ore moor with their sterns secured to a wharf. The wharf is reported to be 125m long, with depths of 9 to 11m alongside.

**5.29 Fethiye** (36°38'N., 29°06'E.) (World Port Index No. 44810), an ore port, lies in a small bay on the SE side of the gulf. This bay, although low and marshy on its E side, provides complete shelter. Several islands lie in the approach to the bay, which is deep, and protect it from the W.

There is a pier, 193m long, which has depths of 10 to 11m alongside and can handle vessels up to 15,000 dwt. Another pier, 127m long, has depths of 1 to 4m alongside and is used by small craft and yachts. Anchorage is provided, in depths of 12 to 18m, mud and sand, within the bay. A shallow bank fronts the E shore of the bay and is marked by lighted buoys. Pilotage is not compulsory, but can be arranged from Izmir (38°26'N., 27°08'E.) if required.

## Fethiye Korfezi to Alobi Burnu

**5.30 Disbilmez Burnu** (36°42'N., 28°38'E.), a bold cape, rises steeply to a summit, 337m high. The intervening coast between Kurdoglu Burnu and this cape is indented by three deep and exposed bays.

Akca Burun, a prominent point, is located 4.7 miles NW of Kurdoglu Burnu. Eren Tepe, 556m high, stands 2.5 miles E of this point. This conspicuous peak is the S summit of a mountain range which extends to the N.

Nar Adasi, an islet, lies 2.1 miles SW of Akca Burun. It is 32m high and steep-to.

A prominent brick pyramid surmounts the summit of Baba Adasi, an islet, which lies about 0.5 mile offshore, 3.2 miles E of Disbilmez Burnu. A light is shown from a pylon, 8m high, standing near the pyramid.

**Koycegiz Limani** (36°48'N., 28°35'E.), an open bay with considerable depths, provides safe anchorage for small vessels in its upper reaches. It is entered between Delikada, an island lying close S of a point, and Kizil Burun, 2.7 miles WSW. A light is shown from a tower, 6m high, standing on the island. The conspicuous walls and tombs of an ancient ruined city stand 2 miles inland and on the W bank of a river which discharges into the bay close NE of Delikada.

Good anchorage can be taken during the summer, in depths of 5 to 16m, sand and mud, off Delikada.

**5.31 Karaagac Limani** (Karaagac Korfezi) (36°50'N., 28°27'E.), an extensive inlet, is entered between Kukuc Burnu, located 1.9 miles W of Kizil Burun, and Turnali Burun, 4.6 miles W. Secure anchorage is obtainable, in depths of 18 to 46m, good holding ground, within this inlet.

Yilancik Adasi lies in the approaches to the inlet, 1.8 miles SE of Turnali Burun. This island is 100m high and steep-to. A light is shown from a structure, 7m high, standing on the summit of the island. Yilancik Bank, with a least depth of 29m, lies about 1.5 miles SSE of the island.

It is reported a pier is under construction and extends from the main wharf in a N direction with depths between 10.9 to 13.7m.

The pilot is reported to board inside Karaagac Korfezi inlet.

**Caution.**—A restricted area, which may best be seen on the chart, lies in the approaches to Karaagac Limani and extends up to 2.5 miles S of Kukuc Burun. Anchoring, trawling, diving, and landing are prohibited within this area.

Karaagac Limani lies within a prohibited area which may best be seen on the chart. Entry is limited to special traffic only and prior permission must be obtained.

Turnali Kayasi (Edmonds Rocks), with a least depth of 1.8m, lies about 1 mile SW of Turnali Burnu. The sea usually breaks over this shoal patch.

**5.32 Aksaz** (Aksaz Limani) (36°51'N., 28°24'E.) (World Port Index No. 44805), a naval base, lies in Aksaz Limani about 9 miles E of Marmaris.

**Aksaz Home Page**

<http://www.aksaz.com>

**Winds—Weather.**—Weather is reported to be excellent all year, with some strong winds in the winter months.

**Tides—Currents.**—Tides are negligible. Currents average about 0.5 knot and are SW during the winter.

**Depths—Limitations.**—The approach to the base is both wide and deep. There are four finger piers, two quays, and a drydock. Vessels should be prepared to med-moor to the piers.

**Aspect.**—The entrance is well defined between two shoulders of land. Visual aids are reported difficult to identify.

**Pilotage.**—Pilotage is compulsory. The pilots monitor VHF channels 6, 14, 16, and 67. High mountains in the area interfere with VHF communications. Pilots should be called on VHF channel 6 using call sign “Aksaz Control.” The pilot boards in the vicinity of Yilancik Island. It is reported that the pilots prefer to use visual cues instead of courses to steer and that they have difficulty controlling tugs.

**Anchorage.**—Anchorage is available inside the bay. There are several mooring buoys available in the bay.

**Caution.**—An isolated patch of shoal water, Kurucayol Sigligi, is located NE of the drydock and is best seen on the chart.

Speed restrictions are in effect within the port approaches. A 10-knot limit exists between Turnah Burnu and Gokyar Burnu. The limit is reduced to 6 knots W of Akburnu Point to the piers.

**5.33 Marmaris Limani** (36°50'N., 28°17'E.), an extensive inlet, is entered between Turnali Burnu and Kadirga Burnu, 6 miles SW. It recedes NW for 6.8 miles and the small town of Marmaris stands at the head. A light is shown from a structure, 12m high, standing on Kadirga Burnu.

Yildiz Adasi, a large peninsula, lies across the entrance and is connected to the E shore by an isthmus of shingle, about 75m wide. This peninsula is covered with pine trees and the ruins of a fortress stand on its summit which is 360m high. A light is shown from the NW extremity of this peninsula.

The channel leading to the W of Yildiz Adasi is divided into East Pass and West Pass by Keci Adasi, an irregular shaped small island. This island is 184m high and the ruins of a fort-

ress stand on its W side. A light is shown from a structure, 12m high, standing on an islet which lies close S of the S extremity of Keci Adasi.

East Pass, the preferable channel, has a least width of 0.4 mile between the fringing shoals. The fairway is deep and clear.

West Pass is tortuous and is encumbered by Karga Adasi, an above-water danger, which lies in the middle of the S part of the channel. The fairways leading to the E and N of Karga Adasi are deep and clear.

**Marmaris** (36°51'N., 28°16'E.), a small town, stands on a rocky eminence at the head of the inlet and is fronted by a small harbor. A conspicuous minaret stands in the N part of the town and a prominent red mound, 66m high, is located close N of it. A conspicuous hotel stands 1.7 miles SW of the town.

There is a pier, 462m long, with a depth of 12m alongside which is used by large passenger vessels. In addition, there is an extensive marina. The harbor can be contacted on VHF channel 16; local pilots are available. Pilotage is compulsory for all foreign vessels of more than 150 grt and all Turkish vessels over 1,000 grt. Vessels should send an ETA 24 hours in advance.

**Caution.**—An anchoring and fishing prohibited area, which may best be seen on the chart, lies in the vicinity of East and West Pass.

**5.34 Alobi Burnu** (Alaburun) (36°33'N., 28°01'E.), bold and steep-to, is the outer extremity of the peninsula which extends SW from Kadirga Burnu. This point is fronted by sunken rocks and should be given a wide berth. A light is shown from a framework tower, 10m high, standing on the point.

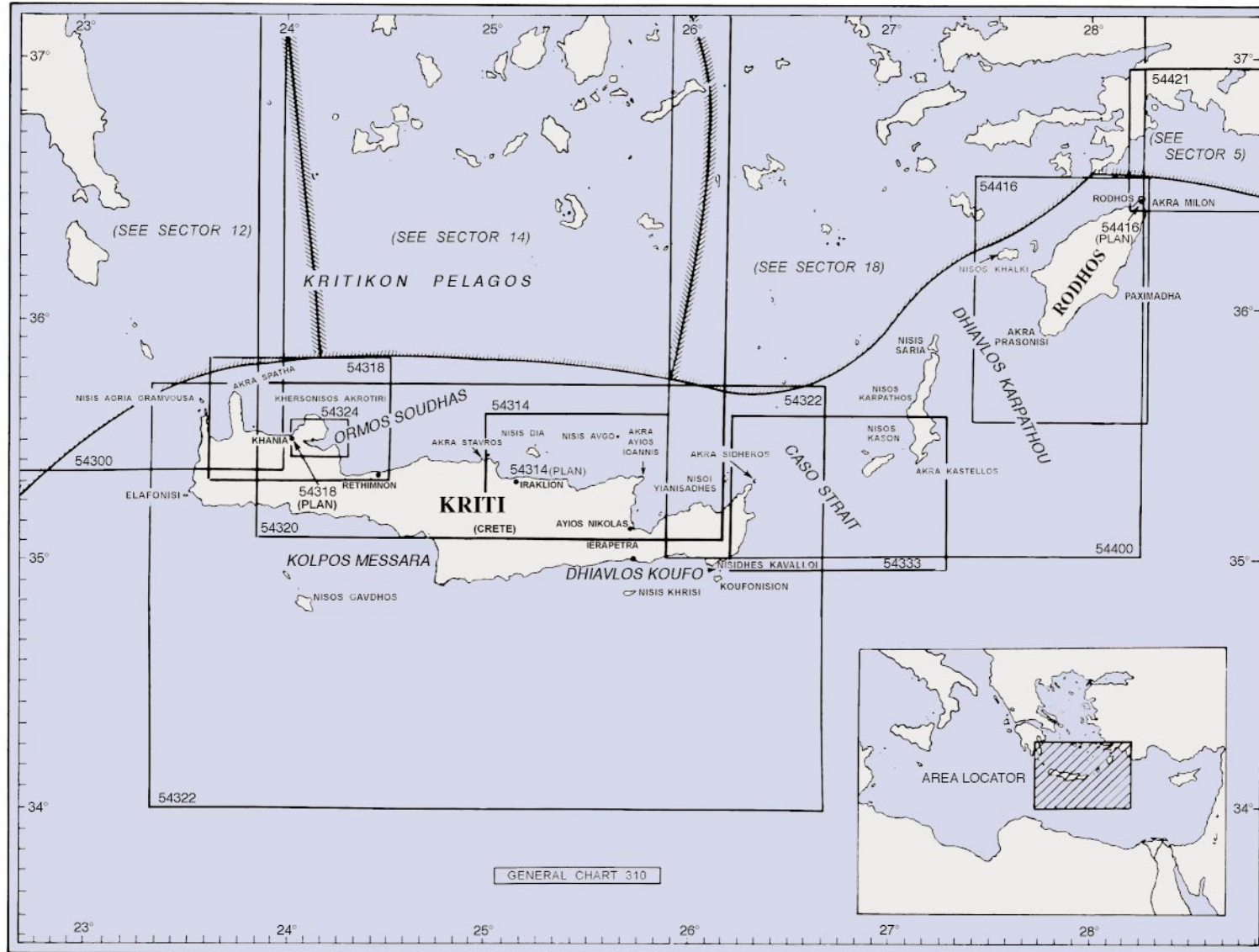
The above section of coast forms the SE side of a long and narrow peninsula which projects SW from the mainland of Asia Minor and separates Sombeki Korfezi, to the N, from the passage leading N of Rodhos. The coast is steep, rugged, and is fronted by several islets. It rises inland to a high range of mountains. Numerous ancient and medieval ruins are found on this peninsula.

Pirnarbuku and Serce Limani are two bays lying 4.5 miles NE of Alobi Burnu. Pirnarbuku, which does not afford anchorage, has steep and rocky shores. A peak, 542m high, rises close N of the head of this bay and is conspicuous. Serce Limani, a landlocked bay, is available only to small vessels with local knowledge.

Bozuk Buku, an inlet, is entered 2.2 miles NE of Alobi Burnu. It is narrow and has depths of 60m in the entrance, decreasing to 20m near the head. Small vessels can anchor, in a depth of 7m, sand, close to the beach at the head of the bay. Large vessels can anchor, in a depth of 18m, about 300m from the beach. The entrance points are fringed by rocks and should be given a wide berth. A fort stands on the W entrance point.

**Note.**—See paragraph 18.1 for the continuation of the coast and islands to the N and NW of Alobi Burnu.





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).  
**SECTOR 6 — CHART INFORMATION**



## SECTOR 6

### RODHOS (RHODES), NISOS KARPATOS, AND KRITI (CRETE)

**Plan.**—This sector describes the main islands of Nisos Rodhos (Rhodes), Nisos Karpathos, and Kriti (Crete) together with the adjacent smaller islands and passages.

#### Nisos Rodhos

**6.1 Nisos Rodhos** (Rhodes) ( $36^{\circ}10'N.$ ,  $27^{\circ}55'E.$ ) is the main island of the Dhdhekanisos (Dodecanese). Oros Ataviros, the summit of the island, stands on the W side and rises to a height of 1,219m. The center of the island is mountainous and there are areas of cultivation in the valleys and along the coasts.

**Winds—Weather.**—Rodhos has an agreeable and healthful climate. It is never very hot during the summer, as a steady NW wind prevails. During this season, vessels may anchor with safety off the E shore of the island.

During winter S winds blow, bringing cloudy and foggy weather; in this season vessels must navigate with caution in the channel separating the island from the mainland. Southeast winds attain considerable violence and raise heavy seas.

During winter months, the E coast of Rodhos is beset by SE winds, which render it inaccessible. During summer, when winds from the W are almost continuous, the E coast affords shelter for vessels; however, this wind is sometimes so violent that communication with the shore is impossible.

The W side of Rodhos is inaccessible during W winds in the summer and also with winds between NW and SE in winter.

**Tides—Currents.**—The current generally sets W in the channel between Akra Milon and the Turkish mainland. Near Akra Milon, a strong current, which, with winds between N and NW, tends to set onto the cape. Vessels approaching the cape must exercise caution during winds from either the NW or NE quadrant.

A current, with a velocity of 0.7 to 1.5 knots, sets NW over a bank extending SSW from Rodhos; during NW winds there is a cross sea, which is dangerous to deeply-laden small vessels.

The SE coast of the island provides safe anchorage during the summer. However, in winter, S winds frequently bring cloudy and foggy weather.

#### Nisos Rodhos—Southeast Coast

**6.2 Akra Prasonisi** ( $35^{\circ}52'N.$ ,  $27^{\circ}45'E.$ ), the SW extremity of Rodhos, is the seaward end of a rocky peninsula which is connected to the island by a low and sandy isthmus. It is often mistaken for an island. Akra Prasonisi Light is shown from a prominent structure, 14m high, standing on this point.

A bank, with a depth of less than 200m, extends up to 8 miles SSW of Akra Prasonisi. A current is reported to set NW over this bank at rates up to 1.5 knots, causing a cross sea during NW winds.

Nisos Khina lies 7.5 miles E of Akra Prasonisi and consists of two small and steep-to islets, 2 to 4m high. They are re-



**Akra Prasonisi Light**

ported to be difficult to see by day in low visibility and are dangerous at night.

Akra Katabia (Akra Katavia) is located 2.3 miles ENE of Akra Prasonisi. A shoal, with a least depth of 4.6m, lies about 0.6 mile E of this cape.

Akra Vigli, located 2.8 miles ENE of Akra Katabia, is a low point which is fronted by foul ground and surmounted by a prominent black tower.

Akra Istros, located 1 mile NE of Akra Vigli, is whitish in color; a hill, 50m high, stands near it. A dangerous wreck lies about 0.2 mile SW of this cape.

Plimiri, a village, stands close W of Akra Istros and can be identified by several small buildings surrounded by a white wall. The village is fronted by a small pier which is used by small craft. Vessels can anchor, in a depth of 10m, sand, about 400m SSW of the pier. Vessels can also anchor, in depths of 10 to 12m, off the bight lying between Akra Istros and Akra Lakhania.

Akra Lakhania is located 2.5 miles NE of Akra Istros. The village of Lakhania is situated 1.5 miles W of the point and can be identified by several windmills.

Ormos Yemadhi, a straight stretch of coast, extends between Akra Lakhania and Akra Merminga, 6.5 miles NNE. Akra Merminga is the N of two small projections which extend SE from the coast.

Ormos Lardhos, open to the S, is entered between Akra Merminga and Akra Lindhos, 6 miles E. Akra Lindhos is the SE extremity of a high and flat promontory and is surmounted by a ruined tower. Cape Yenuri (Cape Ianuri), a prominent point, lies 1.7 miles WNW of Akra Lindhos; several houses stand on it.

**6.3 Vrakhos Paximadha** ( $36^{\circ}01'N.$ ,  $28^{\circ}05'E.$ ), high and steep-to, lies 2 miles S of Akra Lindhos. A light is shown from a structure standing on this rock.

Ormos Ayiou Nikolou lies between Akra Lindhos and Akra Soumani, 1.5 miles N. Pandanisos, which is comprised of two groups of above-water rocks, lies in the approaches to this bay. The N group consists of one large and one small rock, and lies on a shoal 0.5 mile SSE of Akra Soumani. The S group consists of two large rocks and one small rock, and lies 0.3 mile N of Akra Lindhos.

A detached shoal, with a least depth of 6.1m, lies about 1.5 miles SE of Akra Soumani. Two shoal patches with depths of 11.6m and 14.3m, lie about 0.3 mile NNW and 0.4 mile SSE, respectively, of this detached shoal.

**Limin Lindhos** (36°06'N., 28°05'E.), an inlet, forms a natural harbor and is entered 0.9 mile N of Akra Soumani. Two islets lie close offshore on the N side of the approach to this harbor. Two small bays, which extend NW and SW, lie at the head of the harbor. There are depths of 5 to 7.3m within the harbor, but it is only accessible to small vessels with local knowledge. The village of Lindhos is situated on the N and W sides of a rocky hill which rises on the S side of the harbor. A conspicuous castle is situated on the summit of this hill.

A coast between Akra Ayios Aimilianos, located 3 miles N of Akra Lindhos, and Akra Arkhangelos, 5.2 miles NNE, is indented by a bight formed by two bays.

Ormos Viglika lies in the S part of the bight, and although open to the NE and E, is considered safe for anchoring during the winter. The SW part of the bay affords the best anchorage, in depths of 12m to 35m, mud.

Ormos Malonas lies in the N part of the bight, but does not provide good anchorage. A conspicuous ruined castle is situated on its SW side.

**6.4 Akra Vayia** (36°15'N., 28°10'E.) lies 4.5 miles NNE of Akra Arkhangelos. Oros Tsambikas, 305m high, stands 1.5 miles SW of this cape and is prominent. It is reported (1990) that several radio masts stand 1 mile NW of this cape.

Ormos Afandou is entered between Akra Vayia and Akra Ladhiko, 4.5 miles NNE. The shores of this bay are sandy. A shoal patch, with a depth of 6.7m, lies about 0.6 mile offshore, 1.2 miles NNE of Akra Vayia. Akra Ladhiko, 164m high, is surmounted by a white house which is reported to be not visible from the N.

Kolpos Kalithion is entered N of Akra Ladhiko. The S part of this bay is encumbered with shallow rocky patches and a detached shoal, with a depth of 12m, lies about 2 miles NNE of Akra Ladhiko.

**Akra Voudhi** (36°23'N., 28°15'E.), located 3.8 miles NNE of Akra Ladhiko, is a low and rocky point. The village of Koskhinou, situated 1.5 miles W of the cape, can be identified by a conspicuous church belfry and several windmills. A radio mast stands on high ground, 0.5 miles W of the village.

A conspicuous power station is situated on the coast 2.5 miles N of Akra Voudhi. It is fronted by two outfall pipelines and several mooring buoys.

## Nisos Rodhos—Southwest Coast

**6.5 Akra Karavolas** (35°56'N., 27°43'E.), a prominent headland, is located 4 miles NNW of Akra Prasonisi. The coast

between is formed by a sheer promontory and is generally cliffy.

Nisos Karavolas, a rocky islet, lies 0.8 mile WSW of Akra Karavolas. Nisos Khtenies, a low and rocky islet, lies about 1.8 miles offshore, 3 miles N of Akra Karavolas. This islet has a sharply-serrated outline and is surrounded by foul ground.

Ormos Apollakia lies between Akra Karavolas and Akra Monolithos, 10.5 miles N. Akra Phurni, a high and precipitous headland, extends from the N side of this bay 2 miles ESE of Akra Monolithos. Nisos Strongili, a rocky islet, lies close W of Akra Monolithos and is 75m high.

**Akra Armenistis** (36°09'N., 27°41'E.) is located 2.4 miles NNW of Akra Monolithos and is fronted by an above-water rock. The coast between is high, rocky, and indented by small bays which are fringed with rocks. A prominent brown tower stands 2.7 miles NE of this cape.

## Nisos Rodhos—Southwest Coast—Off-lying Islands

**6.6 Nisos Khalki** (36°13'N., 27°34'E.), the W island of a group, lies with Akra Mirtos, its SW extremity, located 8.5 miles NW of Akra Armenistis. The summit of this mountainous island stands in its E part and is 600m high.

Akra Kefalos is the NW extremity of the island and a tower is situated 0.5 mile SE of it. Akra Trakhra is the S extremity of a small peninsula which is connected to the S coast of the island by a narrow isthmus. A castle stands on a hill, 305m high, close N of the isthmus.

Ormos Emborio lies at the SE end of Nisos Khalki. This small bay is sheltered from the E by an islet, 78m high, which lies close off the entrance and is marked by a light. Small vessels, with local knowledge, can find shelter at the head of the bay in summer, but the holding ground is not good. The village of Khalki is situated on the slopes surrounding the bay and is fronted by a small breakwater. A light is shown from the promontory on the N side of the bay.

**Nisis Alimnia** (36°16'N., 27°42'E.), 268m high, lies with its S extremity 4 miles ENE of the E extremity of Nisos Khalki. A small bay on the SW side of the island forms a natural harbor and provides shelter in all winds. A deserted village is situated at the head. Vessels with local knowledge can anchor, in depths of 14 to 18m, off the village. A prominent ruined castle stands close E of the summit of the island.

**Nisos Tragousa** (36°13'N., 27°42'E.), a rocky islet, lies 1.3 miles S of the S extremity of Nisis Alimnia. This islet is 59m high and foul ground fronts its S side. A light is shown from a structure standing on the NE side of this islet.

Nisis Strongili, a rocky islet, lies 3 miles NE of Nisos Tragousa and is 75m high. Nisis Makri, another rocky islet, lies 0.8 mile N of Nisis Strongili and an above-water rock lies 0.4 miles SW of its S end.

Several small islets, rocks, and dangers, which may best be seen on the chart, lie in the area between Nisos Khalki, Nisis Alimnia, and Nisis Tragousa. Passage among these islets and rocks should be undertaken with extreme caution because of the possibility of uncharted dangers. The passage leading to the E of Nisis Alimnia and Nisis Tragousa is deep and clear.

**Nisos Rodhos—Northwest Coast**

**6.7 Akra Kopria** (36°16'N., 27°48'E.) is located 9 miles NE of Akra Armenistisis. The coast between is mostly high and rocky. From Akra Kopria to Akra Milon (Akra Zonari), 23 miles ENE, the coast consists of a sandy beach.

A prominent ruined castle stands close E of Akra Kopria. The village of Kastello, situated 1.3 miles SE of the castle, is hardly visible from seaward, but several conspicuous windmills stand in its vicinity.

Langonia, a small bay, lies 1 mile NE of Akra Kopria and is sheltered from the W. A light is shown from the W entrance point and a mole projects from the W side of the bay. This mole is used by small craft and ferries. Small vessels with local knowledge can anchor in this bay.

Oros Profitis Ilias, 799m high and wooded, stands 6 miles E of Akra Kopria. A conspicuous radio mast surmounts this peak.

Akra Ayios Minas, located 7 miles NE of Akra Kopria, is surmounted by a ruined tower. A dangerous wreck lies about 0.2 mile offshore, 0.5 mile W of this cape.

The village of Kalavardha is situated 1.5 miles E of Akra Ayios Minas, and a white prominent church stands at its E end. The village of Fanes is situated 3 miles ENE of Akra Ayios Minas, and an isolated windmill stands near it.

A prominent power station is situated near the village of Tholos, 5.5 miles NE of Akra Ayios Minas. An L-shaped breakwater, marked by a light, fronts the shore and projects 80m NNE. Two submarine pipelines and several mooring buoys are situated in the vicinity of this breakwater.

The villages of Damatria and Villanova are situated 3 miles E and 3.8 miles ENE, respectively, of the breakwater, and aeronautical lights are shown from structures standing in their vicinity. An aeronautical radiobeacon is situated in the vicinity of the village of Kremasti, 1.4 miles ENE of Villanova.

Ormos Trianda, a bay, lies 3.2 mile ENE of the village of Kremasti, and the village of Trianda stands 0.5 mile S of its W entrance point. Oros Filermo, a prominent hill, stands 1 mile S of Trianda. It is wooded and is surmounted by a ruined fort with towers. This bay provides anchorage during the winter to vessels with local knowledge. However, winds from the NW are reported to raise a heavy surf within this bay.

**Akra Milon** (Akra Zonari) (36°27'N., 28°13'E.), the NE extremity of Rodhos, is a low and sandy cape. A light is shown from a prominent structure standing on the cape.

A conspicuous aquarium is situated close S of the light. A signal station stands 1 mile SSW of the light. Brousalı Pier, with a depth of 4m at its outer end, fronts the shore at Neokhori, 0.5 mile SSW of Akra Milon.

The current setting between Nisos Rodhos and the coast of Asia Minor primarily sets W. However, close off Akra Milon, with winds between N and NW, this current tends to set towards the cape and vessels should use caution.

**Caution.**—Anchorage is prohibited to the N of a line which runs E and W through a point located about 0.2 mile S of Akra Milon.

**Rodhos (Rhodes) (36°27'N., 28°14'E.)**

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**6.8** Rodhos, the port of Nisos Rodhos, consists of three harbors which are protected by breakwaters and known collectively as Limin Rodhou.

**Tides—Currents.**—The tidal rise is negligible, being only 0.3m at springs. However, winds from the S may raise the water level slightly and winds from the N may lower it.

**Depths—Limitations.**—Limin Mandhraki is the W and inner harbor basin. It has 720m of total quayage, with depths of 4 to 6m alongside, and is used mostly by small craft and yachts.

Limin Akandia is the E and outer harbor basin. It has two main piers which are used by cruise and passenger vessels. One pier is 60m long, with a depth of 6m alongside, and the other is 285m long with a depth 6.6m alongside.

Commercial Harbor (Limin Emborikos) is the central harbor basin and is used by commercial vessels. Vessels with a draft of up to 9.7m can be accommodated. Kolona Quay, on the W side of Commercial Harbor, is 190m long with depths of 5.2 to 6.6m alongside.

The central wharf has the following dimensions:

Location	Length	Depth
West side	360m	5.8-8.0m
North side	140m	8.5-9.1m
East side	480m	6.9-9.2m

**Aspect.**—The ancient city of Rodhos is enclosed by walls and is built in the form of an amphitheater on ground rising gently from the coast. A modern town, in which stands the cathedral and the Palace of the Governor, has been built around the ancient city.

Conspicuous landmarks include the market, a building with a green roof and central dome, situated on the SW side of Limin Mandhraki; a belfry standing 250m N of the market; Ayios Nikolaos Fort, standing on the SE breakwater of Limin Mandhraki, 250m E of the belfry; Ayios Angelos Tower, 27m high, standing on the pier 0.4 mile SE of the fort; and three windmills situated on the breakwater 200m S of the fort.

A light is shown from a tower standing on Ayios Nikolaos Fort.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 12 and generally board about 1 mile from the harbor entrance. Vessels should send an ETA and a request for a pilot 24 hours prior to arrival.

**Anchorage.**—Vessels can anchor in the roadstead off the port and S of the prohibited anchorage area. The bottom is comprised primarily of sand, but this anchorage is reported to be untenable in SE or NE winds.

**Caution.**—Strong winds from the S may create dangerous conditions in the port entrance.



### Dhiavlos Karpathou—Dhiavlos Kasou

**6.9** Vessels approaching the Aegean Sea from the SE use either Dhiavlos Karpathou (Scarpanto Strait) or Dhiavlos Kasou (Kaso Strait), depending on their destination. Dhiavlos Karpathou leads N between Rodhos, on the E side, and Nisos Karpathos and Nisis Saria, on the W side. Dhiavlos Kasou leads N between Nisos Kasos, on the E side, and Kriti, on the W side. Both of these straits are deep and clear of dangers in their central parts.

A bank, with a depth of 67m, lies in the center of Dhiavlos Kasou, about 18 miles SE of Akra Sidheros (35°19'N., 26°19'E.). In addition, a bank, with a depth of 25 to 33m, lies about 8 miles E of the E coast of Kriti (Crete).

**Tides—Currents.**—The currents within both of these straits generally set to the S. However, occasionally, winds from the S or SW will generate a current that sets E in the S part of the Aegean and increases the rate of the current through these straits.

### Nisis Karpathos

**6.10 Nisis Karpathos** (35°37'N., 27°08'E.), one of the largest islands of the Dhodhekanisos (Dodecanese), has a ridge of high mountains which extends its whole length. The coasts of the island are steep with many indentations; Korifi Kalolimni (Lastra), the summit, stands 12 miles N of the S extremity and is 1,215m high.

### Nisis Karpathos—South and West Coasts

**6.11 Akra Kastellos** (35°24'N., 27°08'E.), marked by a light, is the S extremity of Nisos Karpathos. Ormos Elaaris (Kastellos), lying close NW of this cape, affords shelter from N or NE winds in depths of 18 to 36m, but it is open to the SW.

Akra Ayioi Theodoroi is located 4 miles NW of Akra Kastellos and is fronted by foul ground. The coast between is rocky and indented. Ifalos Karpathos, a shallow and rocky shoal, lies about 1.5 miles W of Akra Ayioi Theodoroi. This shoal lies upon a bank which is steep-to and has general depths of less than 18m. A detached shoal, with a least depth of 3.7m, lies about 0.4 mile NNW of Akra Ayioi Theodoroi.

Akra Palaioastron, located 2 miles NE of Akra Ayioi Theodoroi, is the W extremity of a peninsula which extends 0.5 mile from the coast. Vrachonisis Khalkias, an above-water rock, lies 0.4 mile SW of seaward end of this peninsula.

Small vessels with local knowledge can anchor, with offshore winds, in depths of 11 to 18m, close S of Akra Palaioastron.

Ormiskos Arkasa, a small cove, lies on the N side of the peninsula and is used by small craft with local knowledge. Ormiskos Foiniki, another small cove, lies close N of Ormiskos Arkasa and is protected by a breakwater extending from its W entrance point. A quay fronting the W side of the cove is used by small craft with local knowledge.

Akra Sokastro, the W extremity of Nisos Karpathos, is located 7.6 miles NNW of Akra Palaioastron. Vrachonisis Sokastro, a small islet, lies close off this point and is connected to it by a ridge of rocks.

Angali Ayia Irini lies 5 miles NE of Akra Sokastro and is open to the W and SW. This small bay is used as a haven of refuge by small vessels with local knowledge.

Akra Vourgounda, the NW extremity of the island, is located 8.2 miles NNE of Akra Sokastro.

Ormos Tristoma, an inlet, lies 2.5 miles NE of Akra Vourgounda and forms a natural harbor which affords excellent shelter. A light is shown from the S side of the entrance. A least depth of 4.9m lies on the bar and small vessels up to 64m in length can enter. This inlet is generally closed from June to the middle of September, when NW winds raise a continuous heavy sea and strong current.

### Nisis Karpathos—East Coast

**6.12 Akra Liki** (Lingi) (35°26'N., 27°10'E.) is located 2.5 miles NE of Akra Kastellos. The coast between is fronted by shoals, with depths of 3 to 5m, which extend up to about 0.4 mile offshore.

Ormos Makris Yialos, entered close N of Akra Liki, affords anchorage, sheltered from N and W winds, in moderate depths about 0.3 mile offshore. Vrachonisis Moira, an islet fringed by rocks, lies about 0.4 mile offshore, 1.7 miles N of Akra Liki.

Akra Volakas, fronted by rocks, is located 4 miles NE of Akra Liki. Ormos Amorfos, entered close SW of this cape, also affords anchorage, sheltered from N and W winds, in moderate depths about 0.3 mile offshore.

**Ormos Pigadhia** (35°31'N., 27°14'E.) is entered 3 miles N of Akra Volakas. This bay affords anchorage and the village of Pigadhia is situated on its S shore. A light is shown from the largest and outermost of several rocky islets which lie in the SW corner of the bay. Vessels usually anchor, in depths of 20 to 28m, about 200m E of this islet. However, with NW winds it is advisable to anchor, in depths of 9 to 18m, in the NW part of the bay. A harbor, used by small craft, fronts the village and is protected by a breakwater.

Dhiafana, a village, is situated on the SW shore of a small bay, 14.7 miles N of Ormos Pigadhia. The coast between is mostly formed of high cliffs with numerous indentations and is fronted by rocks and foul ground. A pier, used by small craft, fronts the village and is marked by a light close SE.

**Caution.**—Two submarine pipelines, marked by buoys, extend up to 300m offshore from the vicinity of a power station situated in the NW part of Ormos Pigadhia.

Due to the existence of submarine cables, a prohibited anchorage area, which may best be seen on the chart, lies in the NW part of Ormos Pigadhia and extends up to 1.5 miles NE from the shore.

A dangerous wreck lies about 1 mile NNE of Dhiafana.

**6.13 Nisis Saria** (35°52'N., 27°13'E.) lies close N of Nisos Karpathos and rises to a height of 629m near its S end. The E coast of this island, which forms the W side of Dhiavlos Karpathou, is mostly comprised of rocky cliffs. It is steep-to except at Ormiskos Palatia, a small and sandy bay, which lies 1.2 miles S of Akra Alimounda, the NE extremity of the island.

Akra Paraspori, the N extremity of the island, is located 1 mile WNW of Akra Alimounda. A light is shown from a prominent structure standing on this cape.

A bank, with a least depth of 29m, lies centered 10.5 miles ENE of Akra Paraspori.

**Nisos Kasos** (35°24'N., 26°58'E.), the S island of the Dhodhekanisos (Dodecanese), is formed of limestone and is very mountainous. Korifi Priona, the summit of this island, stands on the SE side and rises to a height of 590m.

Akra Avlaki, the SW extremity of the island, is marked by a light. Nisis Plati, a small islet, lies 1.5 miles NW of Akra Avlaki and is the outermost of several islets and rocks which front the SW end of the island. A light is shown from a structure standing at the W end of this islet.

Kavo Aktis is the NE extremity of Nisos Kasos. Vrakhonisis Strongili, a small islet, lies 0.3 mile NNE of this point and is marked by a light.

Vrakhonisis Kolofonos, an above-water rock fringed with sunken rocks, lies about 0.6 mile offshore, 2.2 miles W of Vrakhonisis Strongili.

Khorion Ophris (Fri) stands at the head of a small bay on the N side of the island, 4.5 miles WSW of Vrakhonisis Strongili. A small and shallow harbor fronts this village and is protected by a breakwater which extends from the W side of the bay. During good weather, vessels can anchor, in a depth of 6m, about 0.5 mile N of a small islet which lies 0.7 mile offshore in the S part of the bay.

**6.14 Kasonisia** (35°27'N., 26°53'E.), an extensive group of islets, lies within 2.2 miles of and almost parallel to the NW coast of Nisos Kasos. Nisis Armathia, 106m high, is the largest islet of the group and lies 3.2 miles NW of Khorion Ophris (Fri). Makronisi, 81m high, lies 1 mile ENE of Nisis Armathia and is prominent. Ifalos Kasou (Kaso Rock), with a least depth of 4.6m, lies in the W part of the passage between Nisos Kasos and Kasonisia, 1 mile S of Nisis Armathia.

Anchorage may be taken in the lee of these islets, sheltered from NW winds. The best berth lies off the middle of Makronisi, in depths of 18 to 22m.

## Kriti

**6.15 Kriti** (Crete) (35°05'N., 26°00'E.) is traversed throughout its length by a mountain range with serrated peaks which attain heights up to 2,457m. For the most part, this large island is barren with numerous rivers which drain off stony waste, in torrents, to the sea.

While there are no secure harbors on the S coast of the island, anchorages may be found off several of the bays. These roadsteads provide shelter during the summer and during N winds. However, due to the depths increasing rapidly offshore, the available anchorages are usually limited. During N winds, strong squalls, which come up suddenly and which may be violent close offshore, blow down along the S coast of the island from the mountains.

The W coast of the island is exposed to bad weather from the Ionian Basin and during the winter, vessels should avoid approaching the shore too closely due to the large swell.

The E coast of the island is mostly precipitous. The SE section of the coast is subject to squalls of exceptional violence which descend from the mountains during N winds. These squalls make passage within 4 or 5 miles of this coast hazardous.

All the principal harbors are found along the N coast of the island which is indented by large bays, especially at the W and E ends.

**Winds—Weather.**—Along the N coast of Kriti, the same weather conditions prevail as those in the S Aegean. During the summer the trade winds are the only winds which create unfavorable conditions for navigation, and they blow almost always from NW. Their force is not as strong as that of the corresponding winds in the central part of the Aegean and, while it lessens as a vessel approaches the W part of Kriti, it never becomes negligible.

During the summer S winds are rare along this coast and are always of small intensity. During the winter their intensity is exceptionally strong and, already having a slight deviation to the SE or SW, may suddenly shift to the N.

There are a number of anchorages along the N coast where shelter is available from all winds, although at some of them a troublesome sea prevails. Landing is difficult or impossible, but the safety of the vessel is practically always assured.

The S coast of Kriti during the winter is subject to bad weather from the S, and in summer violent N winds descend from the high mountains. As a result of these weather conditions, the S coast lacks good anchorages. With bad weather from the SW, some of the highest waves in the Mediterranean are encountered in the vicinity of Elafonisi, the island at the SW extremity of Kriti. During the winter, storms cause a heavy sea along the W coast of Kriti.

## Kriti—South Coast

**6.16 Nisis Elafonisi** (Elaphonisos) (35°16'N., 23°32'E.), a narrow and low islet, forms the SW extremity of Kriti. A light is shown from its W part, which rises to a height of 30m. Numerous rocky patches surround the islet and a narrow boat channel, mostly obstructed by rocks, separates its NE side from the coast.

**Caution.**—Two dangerous wrecks, with a minimum depth of 10.5m, lie within 1.2 miles SE of the light.

Two conspicuous white radar domes stand 5 miles ENE of this islet.

During bad weather, a large swell, which comes in from the SW, may be experienced in this vicinity. Temporary anchorage during N gales may be taken in Ormos Vroulias, which is entered 1.5 miles SE of Nisis Elafonisi. Vessels may anchor, in depths of 14 to 22m, sand, about 0.2 mile from the head of this cove.

**6.17 Akra Krios**, which is formed by the bold termination of the W mountains of Kriti, is located 4 miles SE of Nisis Elafonisi. Akra Trakhalo is located 2.5 miles E of Akra Krios and the coast between is fronted by rocks. Akra Trakhalo, the extremity of a small promontory, is fronted by a reef and has a small cove on its W side.

**Kheronisos Palaiohora** (35°14'N., 23°41'E.), located 2 miles E of Akra Trakhalo, is a low and flat peninsula surmounted by the walls of a ruined fort. A village is situated on the E side of the low isthmus which connects the peninsula to the mainland. A conspicuous white church, with a red dome, and a prominent spire stand close N of the village. A shallow boat harbor fronts the E side of the peninsula and is protected

by a mole. It is used by small craft and fishing boats. A cove on the W side of the peninsula affords anchorage to small vessels with local knowledge.

Vrakhonisis Skhistro, 12m high, lies close off the SW end of Khersonisos Palaiokhora. A light is shown from the N side of this small islet.

Akra Mavro Mouria, a precipitous headland, is located 5.5 miles E of Vrakhonisis Skhistro and a prominent cave lies at its base. A conspicuous ruined tower stands close W of the mouth of a prominent gorge, 8.7 miles E of Akra Mavro Mouria.

**Akra Mouros** (35°11'N., 24°04'E.) is the S extremity of a small peninsula which is fringed by reefs on its SW side.

Ormos Foinikias, a small bay, lies on the W side of this peninsula, but is reported to be seldom used.

**Ormos Loutro** (35°12'N., 24°05'E.), a small bay, lies close E of Akra Mouros and affords the only good shelter along the S coast of Kriti during winter. Anchorage can be taken off the entrance, in depths of 28 to 37m, sand. The village of Loutro is situated behind a narrow shingle beach at the NW corner of the bay. A light is shown from a small islet, 11m high, which lies close off the W entrance point of the bay. Small vessels with local knowledge can anchor N of this islet, in depths of 27 to 36m.

The town of Khora Sfakion, situated 2.6 miles E of Loutro, is a summer resort. It stands at the head of a small bay and is visible from seaward. Vessels can anchor, in summer only, off the town, in a depth of 28m, sand, good holding ground.

### Kriti—South Coast—Off-lying Islands

**6.18 Nisis Gavdhos** (34°50'N., 24°05'E.), 368m high, lies 20 miles S of Ormos Loutro. Akra Triptiti, the S extremity of this island, is marked by a light and is prominent because of three natural arches. The SW side of the island is formed by high cliffs and the N side is low and shelving. A sunken reef, on which two rocky islets lie, extends up to 1.6 miles N of the N side of the island.

Anchorage can be taken by vessels, with local knowledge, in depths of 20 to 40m, mud and sand, off the E coast of the island. During N winds, vessels can also anchor, in a depth of 25m, about 0.2 mile E of the S extremity of the island.

**Nisis Gavdhopoula** (34°56'N., 24°00'E.) lies 4 miles NW of Nisos Gavdhos and is 113m high. A light is shown from the NW extremity of this island. Vessels using the channel leading between Nisos Gavdhos and Nisis Gavdhopoula are advised to favor the side closer to the latter island.

**Caution.**—Currents, with rates up to 3.5 knots and of variable directions, have been experienced between Nisos Gavdhos and the coast of Kriti.

### Kriti—South Coast (continued)

**6.19 Akra Melissa** (35°06'N., 24°34'E.) is located 25 miles ESE of Akra Mouros and the coast between is indented by numerous bays. Several steep-sided valleys extend inland from the heads of these bays and are conspicuous from seaward.

Akra Frangokastello, located 7.6 miles E of Akra Mouros, is fronted by a reef and several above-water rocks. This point is surmounted by a prominent ruined fort.

Akra Stavros, 402m high, and Akra Kakomouri, 207m high, are two prominent rocky headlands located 6 miles E and 7.8

miles ESE, respectively, of Akra Frangokastello. Several prominent churches stand near the shore along this stretch of the coast.

**Nisidhes Paximadhia** (Litoai) (35°00'N., 24°35'E.), consisting of two rocky islets, lies 5.5 miles S of Akra Melissa. The W islet is 252m high and the E islet is 166m high. They are surrounded by deep water, but the narrow channel between them is encumbered by rocks.

**6.20 Ormos Messara** (35°00'N., 24°42'E.), a gulf, is entered between Akra Melissa and Akra Lithinon, 14 miles SE. The shore in the SE part of this gulf consists of low, white cliffs. Akra Lithinon, marked by a light, is the S end of a bold and salient cliffy headland. For the most part, anchorage may be obtained in any part of Ormos Messara.

**Ayias Galinis** (35°06'N., 24°41'E.), a village and resort, is situated on the N side of the gulf. It is fronted by a small harbor which is protected by a breakwater. This harbor has depths of 1 to 6m and provides shelter to small craft and yachts from SW, W, and N winds. Anchorage may be taken by vessels, with local knowledge, in depths of 7 to 10m, about 200m SE of the breakwater head.

**Megalonisi** (34°56'N., 24°48'E.), 59m high, lies about 0.2 mile offshore, 3.4 miles E of Akra Lithinon and is marked by a light. Nisis Papadhoplaka, a small islet, lies about 0.3 mile offshore, 0.6 mile W of Megalonisi.

Akra Ayios Pavlos is located 3.5 miles E of Akra Lithinon. Nisis Ayios Pavlos, 28m high, lies close E of this point and is separated from it by a deep but narrow passage. Several conspicuous fuel tanks stand on this islet.

**Caution.**—The S coast of Nisis Ayios Pavlos is surrounded by numerous rocks, and an isolated dangerous wreck can be seen to the S of the W protrusion of the island. Extreme caution should be used while navigating in these waters.

**6.21 Ormos Kalon Limenon** (34°56'N., 24°49'E.) is entered between Akra Ayios Pavlos and Akra Trafos, 1.3 miles ENE. The W corner of this bay forms a sheltered natural harbor; a fuel station is situated here.

Three T-headed piers extend 50m from the N side of Nisis Ayios Pavlos and provide berths for vessels up to 338m in length and 13.4m draft. Pilotage is compulsory. Pilots can be contacted on VHF channel 14 or 16 and board 1 mile ESE of Nisis Ayios Pavlos. Vessels should send an ETA 48 hours in advance.

Due to the existence of submarine cables, a prohibited anchorage area, marked by mooring buoys, lies between Nisis Ayios Pavlos and the mainland to the NW.

Nisos Trafos, an islet 22m high, lies at the NE end of the bay. The NW shore of the bay is fronted by rocks. Mavronisi, 11m high, is a steep and black colored rock which lies in the center of the bay about 0.2 mile NNE of Nisis Ayios Pavlos. During N or W winds, vessels with local knowledge can anchor between Nisis Ayios Pavlos and Mavronisi, in depths of 10 to 37m.

Anchorage in Ormos Kalon Limenon is preferred to that in Kolpos Messara, as there is better protection during N winds. Because of the configuration of the land, there is often a moderate and steady breeze blowing within Ormos Kalon Limenon at a time when a strong gale is raging in Kolpos Messara, especially in the mornings.

**6.22 Akra Kefalas** (Kephala) (34°56'N., 24°55'E.), located 9.5 miles E of Akra Lithinon, is a conspicuous promontory which, from certain directions, looks like a crouching lion. A prominent church stands close NE of this point.

Akra Martelos is located 9 miles E of Akra Kefalas and a conspicuous church stands 0.5 mile NNW of it. Oros Kofinas is the conspicuous summit of a range of mountains which rises close N of this point to a height of 1,230m. This peak terminates in a remarkable swan neck shape or pointed crag which forms a good landmark.

Between Akra Martelos and Akra Alikapounda, 4.5 miles E, the coast recedes to form a bight.

Ormos Tsoutsouros, a bay, is entered between Akra Kerkellos, located 4 miles ENE of Akra Alikapounda, and Akra Karasah, 1.8 miles ENE. A bank, with depths of less than 10m, extends up to 0.3 mile seaward in places from the N shore of this bay. Small vessels can anchor in the bay, in depths of 12 to 18m, about 0.3 mile off the mouth of the stream at the head.

Ormos Keratokampos lies between the mouth of Potamos Anapodharis, located 3.2 miles ENE of Akra Kerkellos, and Akra Peristerionas, 4 miles E. A coastal bank, with depths of less than 9m, extends up to about 0.4 mile seaward in places from the shore of this bay. An above-water rock, surrounded by sunken rocks, lies on this bank 1.5 miles E of the W entrance point. This bay provides a more spacious anchorage than Ormos Tsoutsouros, but it is not as sheltered from the W winds and swell. The best berth lies about 0.5 mile offshore near the head of the bay and S of the village of Kastri.

**Akra Theofilos** (35°53'N., 25°16'E.), a salient point, is located 4.5 miles E of Akra Peristerionas and is marked by a light. A conspicuous school building stands 3.8 miles ENE of this point.

Ifalos Kaloyeroi, a reef which dries in places, extends up to about 1 mile from the shore, 7 miles E of Akra Peristerionas. This reef, whose position is not easily ascertained, should be given a wide berth.

**6.23 Ierapetra** (35°00'N., 25°44'E.), an ancient walled town, is situated close N of Akra Ierapetra. This low point is surmounted by a conspicuous fort and fronted by a boat harbor. A prominent chimney and a minaret are situated in town. Small vessels, with local knowledge, can anchor, in depths of 7 to 9m, sand, about 0.5 mile E of the fort.

A small white church stands on the coast, 4.7 miles E of the town.

Nisis Fotia, 9m high, lies 0.3 mile offshore 6.7 miles E of Akra Ierapetra. This small islet is surrounded by rocks.

**Nisis Khrisi** (Gaidhourinisi) (34°52'N., 25°42'E.), a small island, lies 8 miles S of Ierapetra and rises to a height of 27m at its NE end. A light is shown from a structure standing on the N side of its W part. Mikronisi, an islet, lies 0.4 mile E of the E extremity of this island. This islet is cone-shaped and 16m high. A depth of 16m was reported (1955) to lie about 2.5 miles SSE of the islet.

The island provides shelter from both N and S winds. Depending on the wind, temporary anchorage can be obtained on the coastal bank either S or N of the island. During S winds, anchorage can be taken, in a depth of 15m, fine sand, about 0.6 mile N of Mikronisi and NE of the NE end of Nisis Khrisi. During SE or S gales, vessels can anchor, in depths of 18 to

37m, white sand, not less than about 0.5 mile off the N side of the island.

**6.24 Ormos Makris Yialos** (35°02'N., 25°59'E.) is entered 12 miles E of Akra Ierapetra and offers temporary anchorage over a bottom of sand. Akra Kalo Nero, the E entrance point of this bay, is fronted by shallow detached rocks.

Ormos Goudhouras is entered between Akra Plaka, located 1.2 miles ESE of Akra Kalo Nero, and Akra Goudhoura, 3.5 miles ESE. A large and conspicuous monastery, surrounded by a high white wall, stands on the E side of a river which flows into this bay, 2.7 miles NW of Akra Goudhoura. A detached patch, with a depth of 12.8m, lies in the approach to the bay, about 0.5 mile E of Akra Plaka.

Prasonisi, an islet 4m high, lies close inshore, 0.8 mile E of Akra Goudhoura. A prominent hill, 283m high, stands close N of this small islet.

**Akra Trakhilas** (35°02'N., 26°14'E.), the SE extremity of Kriti, is located 7 miles ENE of Akra Goudhoura. Nisis Koumeli, a small islet, lies about 0.3 mile ESE of a point located 2.2 miles SW of Akra Trakhilas.

Nisidhes Kavalloi, consisting of three steep-to islets, lies about 0.5 mile off Akra Trakhilas. A light is shown from the S islet, which is 59m high.

**Stenon Koufonisou** (34°59'N., 26°08'E.), a strait, separates Nisis Koufonisou from the S coast of Kriti. It has a navigable width of 1.5 miles and depths greater than 200m along the middle part of the fairway. With N winds, squalls from the mountains can be very violent within this strait.

**Nisis Koufonisou** (34°56'N., 26°09'E.), 64m high, lies 3.5 miles SSE of Akra Goudhoura and a light is shown from its summit. This island stands out because of its high white cliffs, which are unlike any others in this locality. It is surrounded by several islets, rocks, and shoals and should not be closely approached.

Nisis Lafonisi and Vrakhonisi Strongilo, 12m and 18m high, respectively, lie on a reef close off the N extremity of Koufonisou, and Nisis Trakhilos lies close off the S extremity.

Stranded wrecks are reported to lie about 0.4 mile SSE of the E extremity of Koufonisou and about 0.6 mile N of Vrakhonisi Strongilo.

## Kriti—West Coast

**6.25 Akra Lendos** (35°18'N., 23°31'E.), 43m high, is located 1.7 miles N of Nisis Elafonisi. This salient point is surrounded by rocks and a conspicuous monastery, comprised of a church with a belfry and a chapel, is situated 0.8 mile N of it. The monastery stands on a low rocky mound near the middle of the head of a small bay.

The W coast of Kriti, extending N of Akra Lendos, is indented by several small bays and is mostly fringed by rocks which lie close inshore.

**Akra Touzoula** (35°28'N., 23°33'E.) is located 11 miles NNE of Akra Lendos. Prasonisou and two other prominent islets, all of which are surrounded by sunken rocks, lie close N of this point. A light is shown from a point 0.8 mile NE of Akra Touzoula.

Akra Koutri, a cliffy and conspicuous headland, is located 2.5 miles N of Akra Touzoula and several islets and rocks lies

close SW of it. The conspicuous church of Ayia Paraskevi is situated 0.8 mile SE of this headland.

Anchorage may be taken by vessels with local knowledge, in depths of 20 to 29m within Ormos Koutris, which is entered S of Akra Koutri. The bottom of this bay is mostly rock interspersed with patches of sand.

Akra Vouxa is located 7 miles N of Akra Koutri and is fronted by a reef. The coast between forms the W side of Khersonisos Gramvousa, a peninsula, which rises to a height of 762m.

Akra Tigani, a small promontory, projects NW from the coast 2.5 miles SSW of Akra Vouxa. It is 122m high and is fronted by several prominent above-water rocks and reefs. Yellow cliffs are located at the head of the bay on the S side of this promontory and are conspicuous from seaward.

**Caution.**—A dangerous wreck lies S of the point of land on the S coast of Nisis Gramvousa.

**6.26 Nisis Gramvousa** (35°37'N., 23°35'E.), 124m high, lies 1 mile N of Akra Tigani. It is precipitous and is fringed with rocks and reefs. This islet may be identified from the W by a conspicuous ruined fort which is situated on the W side of its S end.

Ormos Gramvousa, a small bay which lies between the S extremity of Nisis Gramvousa and Akra Tigani, has depths of 6 to 15m. Small vessels, with local knowledge, can anchor within this bay.

**Nisis Agria Gramvousa** (35°39'N., 23°35'E.), bold and barren, lies with its SE extremity 0.4 mile NW of Akra Vouxa. This islet is 103m high and forms the NW extremity of Kriti.

A light is shown from a prominent structure standing at Akra Kakkala, the NW extremity of the islet.

**Pondikonision** (35°35'N., 23°28'E.), 164m high, lies 4.7 miles W of Akra Tigani and is the only off-lying islet along the W coast of Kriti. This island is mostly steep-to; an above-water rock lies close off its SW end.

## Kriti—North Coast

**6.27 Kolpos Kissamou** (35°36'N., 23°39'E.), a gulf, is entered between the NW end of Nisis Agria Gramvousa and Akra Spatha, 8 miles ENE. Akra Spatha (Akra Spathi) is the N extremity of Khersonisos Rodhopou, a high peninsula. This point can easily be identified by a cone-shaped peak, 369m high, which surmounts its bluff extremity. Onikhas, the summit of the peninsula, is 748m high and stands 5.7 miles S of Akra Spatha.

Akra Nisi, surmounted by a prominent church, lies on the E side of the gulf 6 miles S of Akra Spatha. A notable crescent-shaped cave, which is conspicuous from the E, is located on the W side of the gulf, 3.5 miles S of Akra Vouxa.

**Kastellion** (35°30'N., 23°40'E.), a small town, stands at the head of the gulf. The ruins of an old fortress are situated near the town and a factory, with a conspicuous chimney, stands 1.5 miles E of it.

A small harbor fronts the shore 1 mile NW of the town and is protected by a breakwater and a mole. There is 415m of berthing space, with a depth of 6.5m alongside. Small vessels with local knowledge can anchor about 0.4 mile offshore NNE of the town.

Generally, anchorage within Kolpos Kissamou is not recommended as it is open to the N and the holding ground is poor.

**Kolpos Khanion** (35°35'N., 24°00'E.), an extensive bay, is entered between Akra Spatha and Akra Tripiti, 20 miles ESE.

Ormiskos Menies lies on the W side of this bay, 2.5 miles SE of Akra Spatha. This small bay has depths of 7 to 9m and provides shelter to small vessels, with local knowledge, from winds from between the W and NW.

The conspicuous monastery of Gonias stands 7 miles S of Ormiskos Menies and consists of a white building with a dome and a tower. A school building is situated 0.5 mile S of the monastery and is also conspicuous.

Nisis Ayios Theodoros, 156m high and barren, lies 0.7 mile offshore, 7.5 miles E of the monastery. This island, with a small islet lying off its N side, is separated from the coast by Stenon Ayios Theodoron, a narrow passage, which is obstructed by rocky patches.

**6.28 Akra Tripiti** (35°36'N., 24°07'E.), a bluff headland, is the E entrance point of the bay and the N extremity of Khersonisos Akrotiri.

Akra Mavromouri, a low cape, is located 2.3 miles WSW of Akra Tripiti. This part of the coast should be given a wide berth as it is fringed with dangers and with strong N winds, a heavy swell is encountered here.

**Limon Khania** (35°31'N., 24°01'E.) (World Port Index No. 43090), a small harbor, fronts the SE shore of Kolpos Khanion and is protected by a breakwater. The main quay has a depth of 3.7m alongside and can accommodate small coasters up to 60m in length and 3m draft. The harbor, which can be contacted on VHF channel 12 or 19, is mostly used by small craft and yachts. Exposed anchorage can be taken, in a depth of 37m, about 0.7 mile N of the breakwater.

**Caution.**—Kolpos Khanion is almost entirely exposed to N winds, which cause heavy seas and difficult conditions at its head. Vessels at anchor within the bay should put to sea without delay on warning of a N gale, or when a rapid veer to the N is indicated by a sudden rise in the barometric pressure during or immediately after bad weather from the SW.

**6.29 Khersonisos Akrotiri** (35°33'N., 24°08'E.), a large peninsula, is joined to the mainland by an isthmus which separates Kolpos Khanion from Ormos Soudhas. The summit of this peninsula, Oros Sklopa, is cone-shaped and 532m high. It stands 4 miles SSE of Akra Tripiti and is surmounted by a radio mast.

Akra Maleka, a bluff headland, forms the NE extremity of Khersonisos Akrotiri. It is located 2.3 miles ESE of Akra Tripiti and is marked by a light.

**Caution.**—Submarines frequently exercise in areas, which may best be seen on the chart, lying N, NE, and E of Akra Maleka.

A magnetic anomaly has been reported to exist off Khersonisos Akrotiri.

**6.30 Ormos Soudhas** (35°29'N., 24°11'E.) (World Port Index No. 43100), a large bay, lies on the S side of Khersonisos Akrotiri and forms one of the safest and largest harbors in the E Mediterranean. Although primarily a naval base, there are commercial facilities.

**Winds—Weather.**—Winds from the N are not dangerous in the bay, but S winds are very gusty. Along the N shore, the wind is often very different from the wind outside the bay or in the center. This is mainly because of the high land. When the wind outside is from the NW or N, it often blows from the W or WNW over most of the bay and is weaker near the entrance.

**Depths—Limitations.**—A designated navigation fairway, which may best be seen on the chart, passes S of Nisis Soudha and leads to the head of the bay.

A pier projects about 0.2 mile NNE from the central part of Soudha, and has depths of more than 5.5m alongside the outer half of its length.

There is a naval fuel depot situated N of Nisis Soudha. Two wharves have depths of 13 to 15m alongside and can accommodate vessels up to 34,000 dwt. The refuelling wharf and jetty are protected by floating booms which are opened and closed as required to allow vessels to berth and get underway.

Three piers front the town and have depth of 7.9 to 9.8m alongside. Vessels up to 200m in length and 9.7m draft can be accommodated. In addition, several mooring buoys are situated in the vicinity of the head of Ormos Soudhas.

**Aspect.**—Ormos Soudhas is entered between Akra Pelegri, located 5 miles S of Akra Maleka, and Akra Dhrapanon, 3.5 miles SE. Steep and barren hills stand on both sides of the bay and a plain, with olive groves, extends W from its head.

Nisis Palaiosoudha lies on the N side of the entrance, close S of Akra Pelegri. This islet is 23m high and is marked by a beacon. A lighted float is moored about 0.2 mile S of the islet (May to October).

Nisis Soudha lies 1.5 miles WSW of Nisis Palaiosoudha and is surmounted by a ruined fort. It is 31m high and has prominent white cliffs. A light is shown from the S extremity of this islet. Nisis Leon, a small islet, lies close NW of Nisis Soudha.

Lintaviana, a conspicuous mound, stands at the head of the bay and is 43m high.

Akra Dhrapanon, on the S side of the entrance, is a bold headland which rises to a prominent tableland. Dhrapanokefala, the culmination of this tableland, is 527m high and stands 2 miles S. A rocky spit and several shoals front this headland. A light is shown from a prominent structure, 7m high, standing on this headland.

Akra Soudha is located 4.5 miles W of Akra Dhrapanon and a prominent fort and a factory are situated S of it. The S shore is steep between Akra Soudha and the E end of the naval base at Soudha, 3.5 miles WNW. The town of Soudha lies along the S side of the head of the bay. A prominent mill, 35m high, stands in the W part of town.

**Pilotage.**—Pilotage is not compulsory for vessels entering Ormos Soudhas. Naval pilots are available by advance arrangement. The port can be contacted on VHF channel 8, 12, or 16, and responds to the call "Soudha Port Control." Pilots will board off the entrance.

**Anchorage.**—The best anchorage in the bay may be found, in depths of 23 to 30m, off the naval base and closer to the S shore than the N shore.

**Caution.**—Several prohibited areas, which may best be seen on the chart, lie within Ormos Soudhas and its approaches. Navigation without prior permission from the appropriate naval authorities is prohibited within these areas.

Several anchoring and fishing prohibited areas, which may best be seen on the chart, lie in the vicinity of the bay entrance.

A minesweeping area, which may best be seen on the chart, lies 0.7 mile N of Akra Dhrapanon. A Prohibited Area has been established in the vicinity of Akra Dhrapanon.

A measured distance (1,852m), which may best be seen on the chart, lies in the vicinity of Akra Pelegri and is indicated by beacons.

Several wrecks lie in the approaches and within the designated entrance fairway and may best be seen on the chart.

Warnings of naval exercises in the local area are made on VHF channel 16.

**6.31 Ormos Almirou** (35°23'N., 24°20'E.) lies between Akra Dhrapanon and Akra Mavromouri, 10.7 miles SE.

Yeoryioupoleos is situated on the S side of the Potamos Almiros, which flows into the bay 7 miles S of Akra Dhrapanon. This village is comprised of several conspicuous white houses and a ruined fort. A small islet, 3m high, lies close off the mouth of the river. It is connected by a causeway to the S entrance point of the river and is surmounted by a prominent chapel.

**Caution.**—A prohibited anchoring and fishing area, which may best be seen on the chart, lies close S of Akra Dhrapanon and extends up to 2 miles seaward.

A minesweeping area, which may best be seen on the chart, lies in the SW corner of Ormos Almitou and extends up to 2 miles seaward.

**6.32 Rethimnon** (35°22'N., 24°28'E.), a small town, is situated 3 miles E of Akra Mavromouri. It is fronted by a small harbor which is formed by two moles. There is 820m of berthing space with depths of 5 to 8m alongside. Vessels up to 4,000 grt can be accommodated.

Conspicuous landmarks in the town include two minarets; a clock tower standing near the middle; a citadel, with a prominent dome, standing at the N end; and a church situated near the W end. Pilotage is compulsory and available. The harbor can be contacted by VHF. There are various forms of documentation required to enter the port. The ship's agent should contact the port prior to leaving to obtain the list.

Anchorage may be taken by vessels, with local knowledge, in a depth of 9m, muddy sand, about 0.5 mile NE of the town. However, caution is advised as this roadstead is open to the N and is suitable only during good weather in summer or with settled winds. Large vessels can anchor, in a depth of 18m, sand, about 0.6 mile NW of the town.

**Akra Khondros Kavos** (35°26'N., 24°42'E.), a rocky headland, is located 11.8 miles ENE of Rethimnon and is marked by a light. A conspicuous hotel stands on the W side of a point 2.7 miles W of the light.

Ormiskos Panormou, a small bay, lies close W of the light and the buildings of a village situated at its head are prominent.

Akra Stavros, a low lying and salient point, is located 13 miles E of Akra Khondros Kavos and is marked by a light. The coast between is indented and fronted by several small islets. A conspicuous radar station is reported to be situated 3 miles SSE of the light.

**6.33 Akra Dhia** (35°25'N., 25°02'E.), 62m high, is located 2.5 miles E of Akra Stavros. This rocky headland forms the NE extremity of the high and rugged coast which extends E from close W of Akra Khondros Kavos. A small rock, which looks like a sailing vessel when viewed from the W, fronts this headland.

**Nisis Dia** (35°27'N., 25°13'E.) lies in the NE approach to Kolpos Irakliou, 8 miles ENE of Akra Dhia. This island is a mass of limestone and rises to a height of 267m. It is largely bare and sterile, and is reported to be a sanctuary for wild goats.

Akra Marmara, the N extremity of this island, is marked by a light. Nisis Petalidhi, 19m high, lies 1.2 miles W of this light. The channel lying between this rocky islet and the island is almost closed by reefs.

Akra Apiri, the SE extremity of the island, is marked by a light. Nisis Paksimadi (Paximadhi), a rocky islet, lies 1.7 miles SE of this light and is 44m high.

**6.34 Ormos Mesaiois**, a small bay, lies on the S coast of Nisis Dia, 1.4 miles WNW of Akra Apiri. It provides anchorage to vessels with local knowledge and has depths of 44 to 69m. Ormos Agrilias, another small bay, is entered close W of Akra Apiri. It affords anchorage to vessels with local knowledge and has a depth of 25m near the center.

**Kolpos Irakliou** (35°22'N., 25°05'E.) is entered between Akra Panayia, located 2.1 miles SE of Akra Dhia, and the town of Iraklion, 5 miles SE. The remains of Palaiokastron, a ruined fort, are situated on the W side of this gulf, 1.7 miles SSW of Akra Panayia. Good anchorage, sheltered from most winds, can be found, in depths of 27 to 45m, about 0.2 to 0.3 mile off the coast abreast Palaiokastron.

**Linoperamata Oil Terminal** (35°21'N., 25°03'E.) fronts several fuel installations at the head of the gulf. Two piers project NE from the shore and submarine oil pipelines extend up to 400m offshore near these piers. Vessels secure their sterns to mooring buoys which lie in depths of 7m near the offshore ends of the pipelines.

**6.35 Iraklion** (35°21'N., 25°09'E.) (World Port Index No. 43130), a small port, lies on the S side of Kolpos Irakliou and is protected by an extensive outer breakwater.

**Iraklion Home Page**

<http://www.porthraklion.gr>

**Tides—Currents.**—The tidal rise is very small and seldom exceeds 0.4m. The currents off the harbor entrance are influenced by the wind and usually set NW at rates up to 1.5 knots.

**Depths—Limitations.**—An inner basin has depths of 2 to 3.7m and is used by small craft and yachts.

The N breakwater is 2,000m long and has berths on its S side, with depths of 9 to 11m alongside. The S breakwater has 420m of berthing space on its W side, with depths of 6 to 8m alongside. In addition, there is 850m of total berthing space on the S side of the harbor, with depths of 7 to 9.1m alongside. Vessels up to 16,300 grt, 250m in length, and 9m draft can be accommodated.

**Aspect.**—A conspicuous fort stands near the root of the main breakwater. A prominent cathedral, with a dome and two

towers, stands in the middle of the town 0.5 mile SW of the fort.

A aeronautical light is shown from the control tower of the airport standing 1.4 miles SE of the head of the main breakwater. Oros Yiouktas, 811m high, rises 6 miles S of the town and is prominent. The ruins of the Minoan city of Knossos are situated 3 miles SSE of the town.

**Pilotage.**—Pilotage is compulsory for all foreign vessels. Pilots can be contacted on VHF channel 12 and board about 0.5 mile NE of the harbor entrance.

**Anchorage.**—In summer, vessels can anchor, in a depth of 33m, mud and sand, about 0.7 mile N of the root of the N breakwater. In winter, vessels can find safe anchorage within the bays on the S side of Nisis Dia.

**Caution.**—Due to the existence of submarine cables, a prohibited anchorage area, which may best be seen on the chart, lies centered 3 miles E of the harbor entrance and extends up to 1.3 miles seaward.

**6.36 Akra Khersonisos** (35°20'N., 25°23'E.) is located 11.5 miles E of Iraklion and the coast between is low. This cape is fronted by a small islet and a reef and is surmounted by a prominent church and a mill.

A conspicuous radar station, with two dish-shaped antennae, stands on a hill, 323m high, 3.5 miles WSW of the cape.

Small vessels, with local knowledge, can find shelter in the summer in a small bay which is entered close S of the cape. These vessels can anchor, in depths of 9 to 11m, sand and weed. Large vessels may find good anchorage, in depths of 16 to 18m, in the SE approach to this bay.

Kolpos Malion is entered between Akra Khersonisos and Akra Pounda, 8.4 miles E. A conspicuous mill is situated close SE of Akra Pounda. Anchorage can be taken, in a depth of 29m, about 0.5 mile NNW of a small islet which lies close offshore 4.2 miles SE of Akra Khersonisos.

Akra Kastri, a small promontory, is located 1 mile SSE of Akra Khersonisos and is surmounted by a church and the ruins of a fort. A small craft harbor, protected by a mole, lies on the S side of this promontory.

**Akra Ayios Ioannis** (35°20'N., 25°46'E.), 90m high, is located 10.8 miles E of Akra Pounda. A light is shown from a prominent structure standing on this cape.

**Nisis Avgo** (Nisis Ovo) (35°36'N., 25°35'E.), 52m high, lies 18.5 miles NNW of Akra Ayios Ioannis. This precipitous and steep-to islet is marked by a light.

A bank, with a least depth of 70m, lies 12.5 miles E of Nisis Avgo.

**6.37 Kolpos Merabellou** (35°20'N., 25°46'E.) is entered between Akra Ayios Ioannis and Akra Faneromeni, 16 miles ESE. The land on both sides of this large gulf is mountainous and the head is backed by Ierapetra, a low isthmus.

Khersonisos Spinalongas, a large island, lies off the W side of the gulf and is connected to the mainland by a narrow isthmus which is surmounted by three prominent windmills.

Nisis Spinalonga, located 3 miles SW of Akra Ayios Ioannis, lies on the S side of the entrance to Ormos Spinalongas and close off the N extremity of Khersonisos Spinalongas. This islet is 41m high and is surmounted by a ruined fort. Large vessels can anchor close N of Nisis Spinalonga. However, due

to the limited space and frequent violent squalls, this roadstead should be used with caution. A safe anchorage, for vessels with drafts of less than 5m and with local knowledge, lies W of Nisis Spinalonga. Ormos Spinalongas, which extends between Khersonisos Spinalongas and the mainland, is obstructed by a shallow bar.

Ormos Porou is entered between Akra Vangi, the SE extremity of Khersonisos Spinalongas, and Akra Pleora, 1.5 miles SW. A bank of coral, with a least depth of 31m, lies in the center of this bay, about 1 mile N of Akra Pleora. Anchorage may be taken, sheltered from N and NE gales, by vessels with local knowledge, in depths of 27 to 36m, in the E part of this bay. The bottom is formed of mud, sand, and weed and is a good holding ground.

Several fuel storage tanks stand at the head of a small bay, 1.4 miles SW of Akra Pleora. An offshore berth, consisting of four mooring buoys, is reported to lie in a depth of 23m about 0.5 mile SE of the tanks.

**6.38 Ayios Nikolaos** (35°12'N., 25°43'E.), a town and resort, is situated in a small bay 2.7 miles SSW of Akra Pleora. The town, which has several prominent buildings, is fronted by a small harbor protected by a mole. There is 370m of quayage with depths of 3 to 8.5m alongside. Vessels up to 130m in length and 8m draft can be accommodated. Pilotage is not compulsory, but local pilots are available. The harbor can be contacted on VHF channels 7, 12, and 19.

Nisis Ayios Pantes, 47m high, fronts the harbor and lies 0.5 mile ENE of the entrance. This small island is surmounted by a prominent chapel. Nisis Mikronisos, 27m high, lies close N of the N side of Nisis Ayios Pantes. This small islet is marked by a light. Large vessels can anchor in suitable depths off the S end of Nisis Ayios Pantes. The harbor can be approached by passing SW or NW of Nisis Ayios Pantes.

**Nisis Kounidha** (35°08'N., 25°49'E.), 20m high, lies in the SE corner of the gulf, 6 miles SE of Ayios Nikolaos. A light is shown from this rocky islet.

Nisis Psira, 231m high, lies on the E side of the gulf, 7 miles E of Ayios Nikolaos. This rocky islet is precipitous on its NW and SW sides. Ifalos Merembellou, a bank, lies 3.2 miles W of Nisis Psira and has a least depth of 36m.

Several small boat harbors lie along the S and E shore of the gulf.

**6.39 Ormos Sitias** (35°13'N., 26°08'E.), a small bay, is entered between Akra Vamvakia, located 2.5 miles ESE of Akra Faner-omeni, and Akra Mavromouris, 3 miles E.

Akra Vamvakia, the W entrance point of the bay, is fronted by a rocky spit and is marked by a light. Lofos Modhioros, 541m high, rises 2.5 miles SSE of Akra Mavromouris and is prominent.

**Sitia** (35°13'N., 26°07'E.), a small town with a ruined fort, is situated on the W side of the bay, 1 mile SSW of Akra Vamvakia. This town is fronted by a small harbor, protected by a breakwater, and a marina. A pier, 150m long, has a depth of 10m alongside and is mostly used by ferries. A jetty, 50m long, has depths of 3 to 4m alongside. Vessels up to 150m in length and 9m draft can be accommodated. The harbor is reported to be subject to silting. Vessels can anchor, in a depth of 11m,

mud and sand, about 0.2 mile E of the head of the jetty. Larger vessels can anchor, in a depth of 26m, mud, about 0.5 miles E of the head of the jetty.

**6.40 Nisidhes Yianisadhes** (Dionysiades) (35°20'N., 26°10'E.), a group of four steep-to islets, lies 7 miles N of Akra Mavromouris, the E entrance point of Ormos Sitias.

**Nisis Paximadha** (35°23'N., 26°11'E.), the N islet of the group, is 133m high and its N extremity is marked by a light.

Nisis Dhragonadha, 128m high, is the largest islet and lies 1.8 miles S of Nisis Paximadha. A small islet lies close N of its N side.

Nisis Yianisadha, 147m high, is the S islet of the group and is separated from the S side of Nisis Dhragonadha by a channel, 0.3 mile wide. A light is shown from its SE extremity.

**Ifalos Spitfaiar** (35°19'N., 26°15'E.), a shallow and isolated rock, lies 3.2 miles E of the SE extremity of Nisis Yianisadha.

**Akra Mavros** (35°17'N., 26°14'E.), a prominent headland, is located 4 miles NE of Akra Mavromouris and is 187m high.

Skopelos Gravroutia, a dangerous rock, lies offshore about 0.3 mile, 1 mile NE of Akra Mavros.

**Nisidhes Kiriamadhi** (35°18'N., 26°16'E.), consisting of two islets, lies 0.8 mile offshore, 2.3 miles NE of Akra Mavros. These rocky islets are 10m high and form the outer danger, except for Ifalos Spitfaiar, in this vicinity. The NW islet is marked by a light.

**6.41 Akra Sidheros** (35°19'N., 26°19'E.), the NE extremity of Kriti, is located 4.7 miles NE of Akra Mavros. The coast between is formed by the NW side of a narrow peninsula which is indented by several small bays. Within the point, the land rises to a height of 209m about 0.5 mile SW. A light is shown from a prominent structure, 15m high, standing on the point.

The bays, which indent the NW coast of the peninsula, are separated from those on the SE side by narrow isthmuses. This configuration causes the peninsula, when seen from the E or W, to appear as two islands. Vessels with local knowledge can find shelter from offshore winds within these bays.

Vrakhoi Pinaki, a group of rocks, extend up to about 0.3 mile offshore, 1 mile W of Akra Sidheros. Nisis Sidhero, 5.5m high, lies 0.5 mile WNW of Akra Sidheros and a shallow rock lies close NNE of it.

Skopeloi Sidheros is a group of rocks, awash in places, which lies about 0.3 mile E of Akra Sidheros. Several isolated shoals lie up to 0.9 mile E of the group and Vrakhoi Karavi, a group of rocks, awash, lies 0.7 mile S the group. Vessels are advised to give this area a wide berth.

**Caution.**—A dangerous wreck was reported to be located on the reef between Akra Sidheros and Skopeli Sidheros. Navigation between the reefs and Akra Sidheros should be avoided.

## Kriti—East Coast

**6.42 Nisis Elasa** (35°17'N., 26°20'E.) lies in the NE approaches to Ormos Grandes, 3 miles SSE of Akra Sidheros. This islet is 72m high, barren, rocky, and uninhabited.

The E coast of Kriti is mostly part precipitous and is backed by mountains rising to heights of 800m.

**Ormos Grandes** (35°14'N., 26°17'E.), a large bight, lies between Akra Sidheros and Akra Plaka, 7 miles S.



Ormos Erimoupolis, a small bay, lies at the NW end of Ormos Grandes and is entered 3.7 miles SW of Akra Sidheros. Mavros Vrakhos (Black Rock) and another above-water rock lie on the SE part of a reef, which extends up to 0.3 mile ESE from the S entrance point of the bay. Vessels with local knowledge can anchor in the approaches to this bay. A good berth, in depths of 22 to 31m, mud and sand, lies about 0.5 mile NE of Mavros Vrakhos.

Nisidhes Grandes lies in the approach to the S part of Ormos Grandes, 0.7 mile NW of Akra Plaka. This group consists of an island, 32m high, with an islet lying off each of its ends. Vessels may obtain sheltered anchorage, in depths of 23 to 33m, S of Nisidhes Grandes during N gales.

Ormos Kouremenos, a bay with a sandy beach, lies W of Nisidhes Grandes. It affords shelter during S winds and during

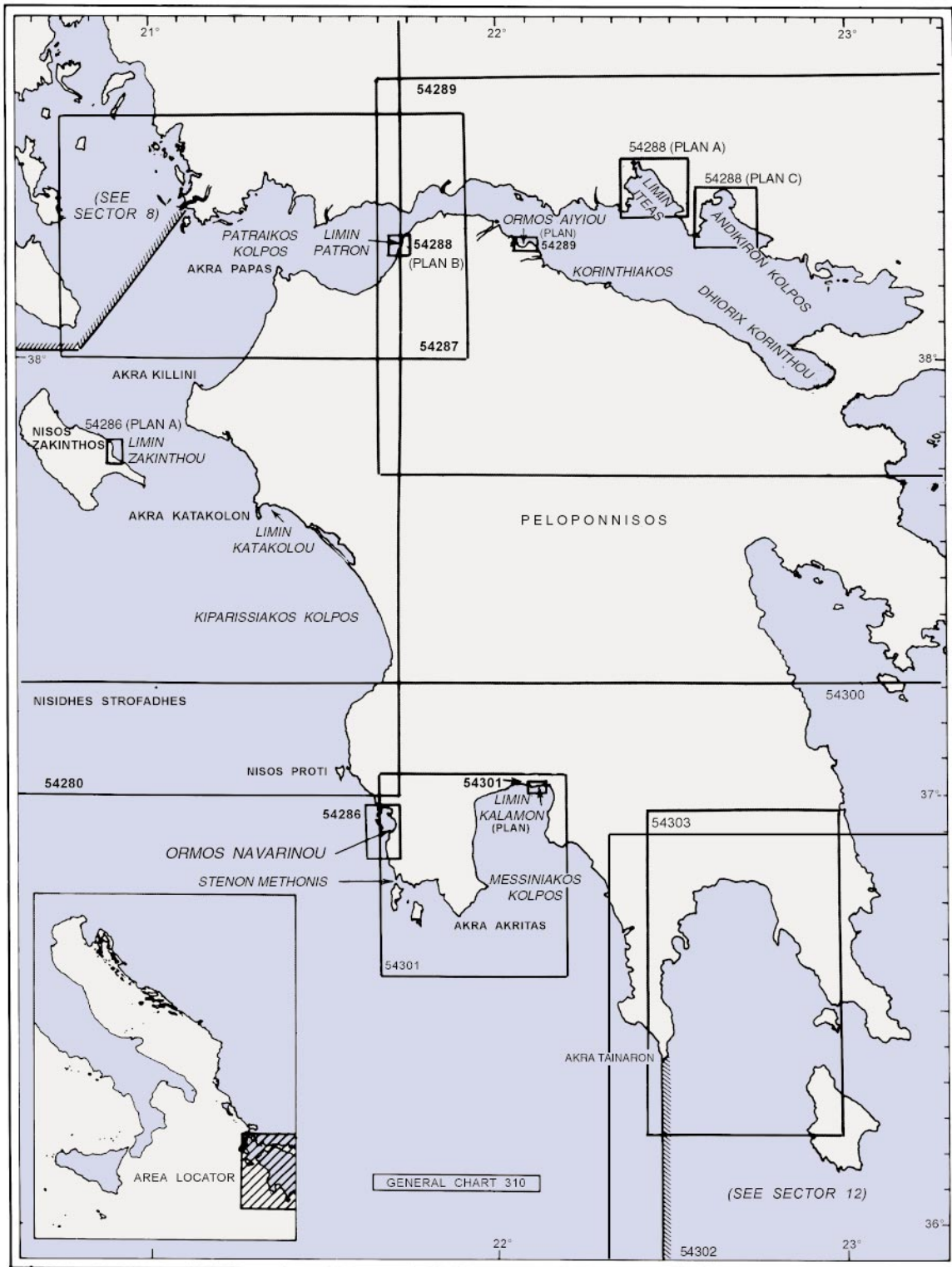
gales from the N and NW. Anchorage may be obtained, in depths of 16 to 22m, sand and mud.

**6.43 Akra Plaka** (35°12'N., 26°19'E.), marked by a light, is a steep-to promontory, 83m high. Akra Zakros is located 7 miles SSW of Akra Plaka. A small bay, entered close N of this point, has a prominent gorge at its head.

Ifalos Zakros, with a least depth of 10m, lies about 1 mile offshore, 2.4 miles NNE of Akra Zakros.

A bank, with depths 25 to 32m, lies between 2.7 miles and 6.7 miles E of Ifalos Zakros. A detached shoal area, with a depth of 67m, lies about 16 miles ENE of Ifalos Zakros and lesser depths were reported to lie in this vicinity.

**Akra Trakhilas** (35°02'N., 26°14'E.), the SE extremity of Kriti, is located 3.8 miles SSW of Akra Zakros and has been previously described in paragraph 6.24.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).  
**SECTOR 7 — CHART INFORMATION**



## SECTOR 7

### GREECE—WEST COAST AND DHIORIX KORINTHOU (CORINTH CANAL)

**Plan.**—This sector describes the SW and W sides of the peninsula of Peloponnisos, from Akra Tainaron to Nisos Oxia, and the shores of the gulfs which separate it from the mainland. Dhiorix Korinthou (Corinth Canal) is also included. The descriptive sequence is W and N to Akra Papas, and then E to the SE entrance of the canal.

#### Messiniakos Kolpos

**7.1 Messiniakos Kolpos** (36°50'N., 22°02'E.) is deep and clear of off-lying dangers. The only port of importance within this gulf is Kalamai, which lies in the NE part. The peninsula forming the E side of the gulf consists of a generally flat-topped mountain range. This range rises steadily to Profitas Ilias (Mount Taygetos), its highest peak, which is snow covered, 2,407m high, and stands 34 miles N of Akra Tainaron.

The N shore is bordered by a low plain and several streams, mostly dry in summer, flow into the head of the gulf. The N part of the W shore is formed by the slopes of Oros Likodhimon, which is 960m high and stands 13.5 miles SW of Kalamai; the S part is formed by hills. The currents formed by the wind off the S end of the W shore sometimes attain rates up to 2 knots.

**7.2 East side.—Akra Tainaron** (36°23'N., 22°29'E.), the S extremity of Peloponnisos, is marked by a light and is fully described in paragraph 12.3.

Vrakhonisis Karavi, a group of rocks, lies 4 miles WNW of Akra Tainaron.

Akra Girosso, 310m high, is located 7.8 miles NW of Akra Tainaron and is the SW extremity of a conspicuous promontory. Reddish cliffs front the shore for 2.7 miles NNW of this point.

Akra Tigani, the N extremity of this promontory, is located 4.2 miles N of Akra Girosso. This point is 65m high, white in color, steep, and is surmounted by the ruins of a tower. Oros Miniatika, a flat-topped peak, stands 3 miles NE of Akra Tigani and is prominent.

Ormos Limeniou, an inlet, is entered 8.5 miles N of Akra Tigani and is the best natural harbor within the gulf. A light is shown near the S entrance point and the village of Limeni is situated on the S shore of the inlet. Small vessels can anchor, in depths of 5 to 18m, off the S shore.

Several small bays along the coast between Akra Tainaron and Ormos Limeniou provide shelter to coasters with local knowledge.

Akra Trakhilas, located 6 miles NNW of Ormos Limeniou, is a narrow and prominent headland.

Akra Selenitas (Akra Tsaknova), located 3.2 miles NNW of Akra Trakhilas, is marked by a light. The village of Kardhamili is situated 4 miles NNW of Akra Selenitas. It is fronted by a small jetty, which is used by coasters, and a breakwater which is marked by a light. Nisos Meropi (Chapel Islet) lies close offshore 0.3 mile S of Kardhamili and is surmounted by a

prominent church. Vessels can anchor, in a depth of 12m, off the village.

**Akra Kitries** (36°55'N., 22°08'E.), a steep-to point, is the W extremity of a conspicuous bold promontory. A light is shown from a prominent structure, 11m high, standing on the point.

Vessels can anchor, in a depth of 12m, in Ormos Almiro, which is entered 5 miles N of Akra Kitries, and about 0.3 mile offshore.

**7.3 West side.—Akra Akritas** (36°43'N., 21°52'E.), the W entrance point of the gulf, is a steep pinnacle which is connected to the mainland by a low isthmus.

Nisis Venetiko, 174m high, lies 1 mile SSE of Akra Akritas and is marked by a light at its N end. Petrokaravo (Nisidhes Avgo), consisting of four above-water rocks, lies 1 mile S of Nisis Venetiko. The S and largest rock of this group is 9m high.

Akra Livadhies, located 6.5 miles NE of Akra Akritas, is marked by a light. This prominent headland has the conspicuous ruins of a castle standing close W of it and the village of Koroni is situated on its N side. This village is fronted by a small craft harbor which is protected by a breakwater with depths of 1.8 to 5.5m alongside. The current is reported to set strongly around this headland. Vessels can anchor, in depths of 14m to 18m, mud, about 0.5 mile NE of the breakwater head. Vessels can also anchor within Ormos Nemi, which is entered 2 miles SW of Akra Livadhies, in depths of 16m to 18m, sand, about 0.5 mile offshore.

Akra Petalidhi, located 10 miles N of Akra Livadhies, is low, marked by a light, and surmounted by a prominent white church. The village of Petalidhion stands close W of this point. Vessels, with local knowledge, can anchor within Ormos Petalidhion, in depths of 10m to 13m, sand and mud, about 0.6 mile NNE of the light. Anchoring is prohibited to the S of this position.

The Potamos Pamissos flows into the head of the gulf, 4.6 miles NE of Akra Petalidhi and is navigable by boats. Vessels can anchor, in a depth of 15m, about 0.8 mile off this river mouth.

**7.4 Kalamai** (Kalamata) (37°01'N., 22°07'E.) (World Port Index No. 41940), a small port, lies 6.5 miles N of Akra Kitries. The harbor is protected by breakwaters and an oil terminal is situated 1.8 miles W of the town.

**Depths—Limitations.**—The harbor has 1,200m of total commercial quayage and provides berths, 160 to 460m long, with depths of 7.1 to 10m alongside. There are facilities for general cargo, bulk, tanker, ro-ro, and container vessels. Vessels up to 20,000 dwt, 200m in length, and 8.5m draft have been accommodated.

An offshore berth lies about 250m S of the oil terminal. It consists of several mooring buoys and is connected to the shore by several submarine pipelines.

**Aspect.**—The town is situated on a plain with hills to the N and NE. A conspicuous citadel stands on a wooded hill close N

of the harbor. A prominent mill stands on the W side of the harbor and a tall chimney is situated 0.2 mile NW of it.

**Pilotage.**—Pilotage is compulsory for all foreign vessels and Greek vessels of more than 500 tons. Pilots can be contacted on VHF channel 12 and board about 0.5 mile SE of the breakwaters. Vessels should send an ETA and draft 48 hours in advance.

**Anchorage.**—Temporary anchorage may be taken, in depths of 22 to 40m, sand and mud, good holding ground, SE and S of the harbor.

**Caution.**—The harbor is subject to silting; the harbormaster should be contacted for the latest information concerning depths.

## Peloponnisos—West Coast

**7.5 Winds—Weather.**—In winter, the winds are rather variable, but generally alternate between mild S winds and cool NE winds. The change to NE winds occurs usually in a squall with heavy rain and thunder. The NE winds blow from high land and consequently are squally and may reach high velocities locally; for example, the wind blowing out of Messiniakos Kolpos is often strong and squally, with sudden changes in direction between NE and SE.

The scirocco is most frequent in autumn and spring. Its onset is marked by a sudden rise in temperature and in relative humidity.

In summer, NW winds prevail.

Land and sea breezes are experienced in settled weather in winter and increase considerably in spring. Near the coast, land and sea breezes are well-developed. The land breeze in many areas is reinforced by winds blowing down from the mountains and may reach force 4. Off the W coast of Peloponnisos, it blows from N or NE, while on the S coast, it blows out of the gulfs.

**Tides—Currents.**—The current parallels the coast in a general NW direction; off Akra Tainaron may reach a velocity of 1 knot. The current is invariably stronger in the channels between the islands.

**7.6 Akra Sakouli** (36°49'N., 21°42'E.), located 10 miles NW of Akra Akritas, is the S extremity of a small islet which is connected to a low promontory on the mainland by a causeway. This islet is surmounted by a conspicuous tower; the promontory to which it is connected is surmounted by a conspicuous fortress.

A small craft harbor, protected by a mole, fronts the E side of the promontory and the town of Methoni is situated 0.7 mile N of it. Small vessels can anchor, in a depth of 9m, about 0.3 mile ESE of Akra Sakouli.

Nisis Sapienza lies with Akra Karsi, its N extremity, located 1 mile S of Akra Sakouli. Akra Karsi is marked by a light. Two unmarked shoals, with depths of 7.2 to 9.2m, lie in the middle of Stenon Methonis, the passage which leads between Akra Sakouli and Nisis Sapienza. This passage should not be used by large vessels.

Nisis Sapienza rises to a height of 219m; a light is shown from a prominent structure, 8m high, standing on a hill 0.5 mile inland at the S end of the island.

Nisis Skhiza, low and barren, lies 3 miles SE of Nisis Sapienza and rises to a height of 202m near its N end. Nisis Ayia Mariani, rocky and barren, lies 0.8 mile W of the N end of Nisis Skhiza and is 30m high.

The coves lying on the S side Nisis Skhiza and the E side of Nisis Sapienza afford shelter to small vessels with local knowledge.

**7.7 Ormos Navarinou** (36°54'N., 21°40'E.) (World Port Index No. 41910), a circular bay, forms the largest harbor in Peloponnisos and provides anchorage to large vessels, including VLCCs. This bay is protected from the W by Nisos Sfaktiria and the town of Pilos stands on its SE shore.

**Depths—Limitations.**—Pilos, an open port, is fronted by a 215m long pier, which has a depth of 9.8m alongside. Vessels up to 110m in length and 8m draft can be accommodated. In addition, there is 600m of berthing space suitable for small craft.

**Aspect.**—Nisis Sfaktiria, rocky and barren, rises to a height of 150m near its N end. Steep and white cliffs stand in the vicinity of the S end of this island and are conspicuous from seaward.

Nisis Pilos, 37m high, lies close S of the S extremity of Nisis Sfaktiria and is marked on its SE side by a light. A conspicuous monument is situated close N of the light. This rocky islet is perforated near its N end and the aperture resembles an arch.

The bay is entered between Nisis Pilos and Akra Varela, 1 mile SSE. Shoals, with a least depth of 11m, lie in the S approaches about 1 mile WSW of Akra Varela.

Oros Likodhimon, 959m high, stands 8 miles E of Pilos and is conspicuous from the offing. Neokastro, a conspicuous ruined castle, stands close W of Pilos and a light is shown from its W side.

Palaiokastron, a prominent ruined fortress, stands 0.5 mile N of the N end of Nisis Sfaktiria and has cliffs on its N and S sides.

Nisis Khelonisi lies in the N part of the bay, 1.6 miles N of Pilos. This small islet is 7m high and is marked by a light. Sfaktirias Xera, a shallow shoal, lies in the NW part of the bay, 0.7 mile WNW of Nisis Khelonisi.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channels 12 and 18 and generally board about 0.5 mile seaward of Nisis Pilos. Vessels should send an ETA and a request for a pilot 24 hours prior to arrival.

**Anchorage.**—Anchorage can be taken within the bay according to draft, except in the N part, which is foul. In summer, large vessels usually anchor, in a depth of 18m, about 0.3 mile N of Pilos. In winter, to avoid much of the heavy swell, vessels usually anchor, in depths of 18 to 24m, E of Nisis Khelonisi.

**7.8 Akra Marathos** (37°03'N., 21°34'E.), a low point, is surmounted by a village and backed by a cultivated plain.

Nisis Proti, a wooded island, lies 0.5 mile W of the point and rises to a height of 184m in its N part. A light is shown from the S extremity of this island. The passage leading between the island and the mainland is shoal and should only be used by small craft.

Vessels can anchor, in a depth of 13m, sand and rock, about 0.4 mile SW of Akra Marathos. It has been reported (1981)

that large vessels can find good anchorage about 0.5 mile W or N of Nisis Proti, according to the weather.

**Nisoi Strofadhēs** (37°15'N., 21°00'E.), consisting of two islets connected by a ridge of sunken rocks, lies 28 miles NW of Nisis Proti. The S and larger islet is rocky with cliffs up to 11m high. A stone monastery, 26m high, stands near its N shore and a light is shown from a structure, 11m high, standing on its NW extremity.

**Akra Katakoulou** (37°38'N., 21°19'E.), a promontory, extends 2 miles S from the coast. A light is shown from a prominent structure, 9m high, standing near the S extremity of the cape. A conspicuous radio mast is situated near the town of Pirgos, which stands on a hill 6 miles ENE of the light.

**7.9 Katakolon** (37°39'N., 21°19'E.) (World Port Index No. 41880), a small town, is situated on the W shore of Ormos Katakoulou, a bight, which is entered close E of Akra Katakoulou. The town is fronted by a small harbor which is protected by breakwaters. There is 600m of total commercial berthing space, with depths of 3 to 8m alongside. Vessels up to 16,000 grt and 7.5m draft can be accommodated.

The harbor can be contacted on VHF channel 12 or 16. Pilotage is not compulsory, but local pilots are available and are recommended for vessels without local knowledge. The pilot boards 0.5 mile ENE of the breakwater light. Vessels can anchor, in a depth of 9m, about 0.2 mile SE of the breakwater heads.



**Katakolon Light**

## Nisos Zakynthos

**7.10 Nisos Zakynthos** (37°46'N., 20°47'E.) lies with Akra Yeraki, its low SE extremity, located 16 miles WNW of Akra Katakoulou. The W part of this island is mountainous and the E part is formed by a wooded and cultivated plain.



**Akra Krioneri Light**

Kolpos Lagana, a bay, indents the SE side of the island. It is seldom used because it is obstructed with rocks and shoals and has a rocky bottom. A light is shown from a prominent structure, 7m high, standing on Akra Keri, the S extremity of the island.

Akra Skinari, the NW extremity of the island, is 61m high and flat-topped. A light is shown from a prominent structure, 9m high, standing on this point. The summit of the island, 676m high, rises 7 miles S of this point.

Akra Krioneri, a low point, is located on the E side of the island, 12 miles SE of Akra Skinari, and is marked by a light. An uncharted patch, with a depth of 4.8m, is reported (1988) to lie about 1 mile N of Akra Krioneri.

**Limin Zakynthou** (Zante) (37°47'N., 20°54'E.) (World Port Index No. 41870), a small bay, is entered close S of Akra Krioneri. The town of Zakynthos is situated on the NW side of this bay and is fronted by a small harbor which is protected by a breakwater. The harbor has general depths of 2 to 4m. The main commercial quay is 500m long and has depths of 5 to 6.7m alongside. Vessels up to 100m in length and 5m draft can be handled. Vessels can also anchor, in depths of 18 to 22m, about 0.5 mile NE of the N breakwater head and work cargo from lighters. Because of submarine cables, vessels should not anchor to the W of the above position.

Conspicuous landmarks include a church situated in the town, a red chimney standing S of the harbor, a belfry standing near the root of the S breakwater, the ruins of a fortress situated close behind the town, and a radio mast standing 2 miles SW of the town. The harbor can be contacted on VHF channel 12 or 18. Pilotage is not compulsory, but local pilots are available.

## Peloponnisos—West Coast (continued)

**7.11 Akra Tripiti** (37°50'N., 21°06'E.), a low cliffy point, is marked by a light. A conspicuous castle stands on the summit of a hill which rises 1.5 miles inland, 3.1 miles NE of this point.

Mesokanali Reef, with a least depth of 5m, lies 7 miles NW of Akra Tripiti.

Akra Killinis, located 6 miles N of Akra Tripiti is low and rocky. Depths of less than 10m extend up to 0.8 mile NW and NE of the point and foul ground extends up to 1.2 miles N of the point. Vessels should give this point a wide berth.

Nisis Kavkalidha, a small and low islet, lies close W of Akra Killinis. A light is shown from a prominent structure, 15m high, standing on this islet.

Limin Killinis, a small craft harbor, lies on the E side of Akra Killinis and is protected by a breakwater. Small vessels can anchor, in depths of 9 to 11m, about 0.8 mile E of the breakwater.

**Akra Pappas** (Akra Araxos) (38°13'N., 21°22'E.) is located 20 miles NE of Akra Killinis. The coast between is low, sandy, and backed by wooded and cultivated land.

This point is marked by a light and shoals, with depths of less than 11m, extend up to 1 mile seaward of it. A dangerous wreck and a wreck, with a depth of 16m, lie about 1.2 miles and 3 miles WSW, respectively, of Akra Pappas.

The prominent ruins of a fortress stand on Akra Kounoupeli, which is located 7 miles S of Akra Pappas; an aeronautical light is occasionally shown from a structure standing 5 miles NE of it.

**Caution.**—A submarine cable, which may best be seen on the chart, extends seaward from a point on the shore 0.5 mile N of Akra Tripiti. Anchorage is prohibited within the vicinity of the cable.

A prohibited area, which may best be seen on the chart, fronts the coast in the vicinity of Akra Pappas and extends up to 1.5 miles from the shore.

### Patraikos Kolpos

**7.12 Patraikos Kolpos** (38°15'N., 21°30'E.), a gulf, separates Peloponnisos from the mainland to the N and is entered between Akra Pappas and Nisos Oxia, 13 miles WNW. There are no detached dangers in the middle of the fairway of this channel. Though the shores bordering this gulf are generally low, they are backed by high land.

**Winds—Weather.**—In the gulf, the prevailing NE wind blows for 9 months of the year, but during the summer, a fresh NW wind or sea breeze blows occasionally.

**Tides—Currents.**—A countercurrent sets in the opposite direction to that of the wind on the S coast of the gulf. This current either sets toward or away from Patrai, depending on the direction of the wind.

Southwest of Akra Pappas, the current parallels the coast in a general NW direction on the order of 0.2 to 0.4 knot, but it is invariably stronger in the passages between the islands. In the vicinity of Akra Pappas, the current is caused almost entirely by the wind. With fresh NE winds the current sets W at a velocity of 1.5 knots or greater, and sets E with NW winds.

**Caution.**—Numerous fishing vessels may be encountered within Patraikos Kolpos. These vessels often work in pairs, about 0.5 mile apart, with a net extended between them.

**7.13 Patraikos Kolpos—South shore.**—**Akra Vardhia** (38°13'N., 21°23'E.), located close E of Akra Pappas, is surmounted by the prominent ruins of a tower. The lagoon entered between these points is the site of Papas, a small craft harbor, which is protected by a breakwater and is used as a military base.

From Akra Vardhia, the S coast of the gulf extends 15 miles E to Patrai and is low and sandy. Several villages stand along the shore.

Akra Ayia, a low point, is located 1.7 miles NNE of Patrai and is marked by a light. A tower stands close N of the light.

**Akra Rion** (38°19'N., 21°47'E.) is located at the SE end of the gulf, 2.4 miles NNE of Akra Ayia. The coast between is low and sandy. A castle is situated on the point and is marked by a light. An oil terminal, with several tanks, is situated close E of the point and is fronted by a short jetty. A berth, consisting of several mooring buoys, lies close off the jetty and is reported (1994) to accommodate tankers up to 160m in length and 9.1m draft.

### Patrai (38°15'N., 21°44'E.)

World Port Index No. 41850

**7.14** The city of Patrai (Patron) is situated along the S shore of the gulf and is fronted by a large harbor which consists of several basins protected by an extensive detached breakwater.

#### Patrai Home Page

<http://www.patrasport.gr>

**Wind—Weather.**—During the winter, winds from between the NE and SE prevail and occasionally attain gale force.

**Tides—Currents.**—The tidal rise is small, being only 0.5m at springs.

During strong NE winds, a current may occasionally set strongly to windward off the port. The tidal current, which does not exceed 0.5 knot, usually sets SW on the ebb and NE on the flood.

**Depths—Limitations.**—Vessels normally enter and leave the port by the N entrance.

The main commercial facilities include Psilis Quay, 180m long, with a depth of 7m alongside; Gounari Jetty, which has 530m of total berthing space, with a depth of 8.5m alongside; Agiou Nikolaou Jetty, which has 824m of total berthing space, with depths of 6.5 to 8.5m alongside; Astinges Jetty, 380m long, with depths of 8.5 to 11.5m alongside; Glyfadas Quay, 244m long, with a depth of 10.5m alongside; and North Jetty, 300m long, with a depth of 12m alongside.

There are facilities for general cargo, ro-ro, passenger, and container vessels. Ro-ro vessels up to 200m in length can be handled. Other vessels up to 11.3m draft, with no length limitations, can be accommodated.

An extensive marina, protected by a breakwater, lies close N of the main harbor.

**Aspect.**—The city is conspicuous from seaward. Oros Panakhaikon, 1,929m high, stands 9 miles ESE of the harbor and is prominent.

Prominent landmarks include Ayios Pandokrator Church, with three domes, standing about 0.8 mile SSE of the elbow of the breakwater; Venetia Castle (Ffourion Patron), situated on a hill 0.4 mile NE of Ayios Pandanassa Church; and a high chimney situated in the N part of the city.

**Pilotage.**—Pilotage is compulsory for all foreign vessels and Greek vessels over 500 tons. Pilots can be contacted on VHF channel 12 and board about 0.5 mile seaward of the breakwater. Advance notice of ETA via the vessel's agents is required.

**Anchorage.**—Large vessels usually anchor to the W of the breakwater, in depths of 22 to 29m, mud and sand.

**7.15 Patraikos Kolpos—North shore.**—**Akra Oxia** (38°17'N., 21°06'E.), the S extremity of Nisos Oxia, is steep-to and forms the NW entrance point of Patraikos Kolpos. A light is shown from a prominent structure, 8m high, standing on this point. Nisos Oxia appears as two islands from the offing because of the low neck lying at its central part.



**Akra Oxia Light**

Akra Evinou, a low and shingle point, is located 18 miles E of Akra Oxia. Shoals, which are subject to continuous silting, extend S of this point and are marked by a lighted buoy.

The N shore of the gulf between Akra Oxia and the vicinity of Akra Evinou is formed by a chain of low and sandy islands which form the seaward side of the extensive Mesolongion Lagoon. This lagoon is accessible only to boats and vessels should not approach the coastal bank in this area.

**7.16 Limin Mesolongion** (38°22'N., 21°25'E.) (World Port Index No. 41800), a small harbor, lies within Mesolongion Lagoon and is accessible via a narrow entrance channel. This channel is marked by lighted beacons and has a dredged depth of 5.5m over a width of 40m (1993). Vessels up to 5.4m draft can be handled. The harbor can be contacted by VHF; vessels are advised to ascertain the latest information concerning depths, as the channel and harbor are subject to frequent silting. Pilotage is not compulsory, but unlicensed pilots are available and are recommended for vessels without local knowledge.

Lighted buoys, which mark the seaward entrance of the channel, are moored about 0.5 mile SW of Nisos Tourlis, a small islet, which is connected to the harbor by a causeway lying close E of the channel. A passenger landing pier is situated at Nisos Tourlis and vessels can anchor, in depths of 10 to 13m, close S of the entrance channel.

**Nisis Ayios Sostis** (38°19'N., 21°22'E.), low and sandy, lies 2 miles W of the entrance to Limin Mesolongion. A light is shown from a prominent structure, 11m high, standing on the E end of this islet.

**Krioneri** (38°21'N., 21°36'E.), a small town, is situated at the head of a bight, 6 miles NE of Akra Evinou. It stands at the foot of Ormos Varasovon, which rises to a height of 914m. A small pier, with a depth of 3.7m alongside, fronts the town and is approached via a buoyed channel with a dredged depth of 4m. Local knowledge is necessary for entry.

**Akra Andirrion** (38°20'N., 21°46'E.) is located at the NE end of the gulf, 8 miles E of Krioneri. A light is shown from a conspicuous old fortress standing on this low point.



**Akra Andirrion Light**

## Korinthiakos Kolpos

**7.17 Korinthiakos Kolpos** is entered from the W through a narrow strait, which is known as The Narrows (Stenon Rion) and is connected to Saronikos Kolpos by Dhiorix Korinthou (Corinth Canal). This canal shortens the route from the E part of Greece to the W part by about 150 miles. The main passage through the center of this gulf is clear of dangers.

**Winds—Weather.**—The NW wind blowing during the summer raise a considerable sea in the E part of the gulf, but at night it is usually calm. In the W part of the gulf a NE wind prevails, which usually increases in force as the entrance to the gulf is approached. In Krissalos Kolpos and Andikiron Kolpos, it is usually calm during the summer, although a fresh breeze may be blowing in the middle of the gulf.

**The Narrows** (38°19'N., 21°46'E.), lying between Akra Rion and Akra Andirrion, has a least depth of 27m in the fairway. At springs, the tidal currents attain a rate of 2 knots in this strait, but they are influenced by the force and direction of the wind. The currents generally set E with the flood and W with the ebb. During strong winds, the ebb current flowing out of the gulf may attain rates of 3.5 knots in the center and 5 knots at the sides of The Narrows. This current diminishes to the E of the strait.

**Regulations.**—A vessel traffic service has been established in the vicinity of the bridge linking the mainland with Peloponnisos.

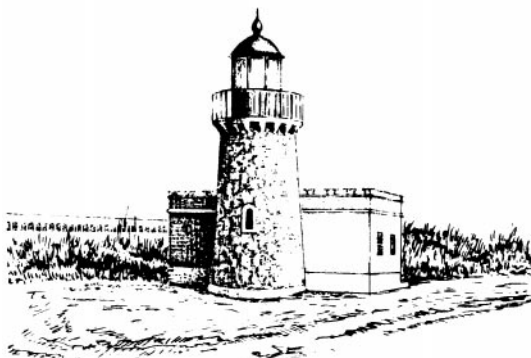
**Caution.**—Ferries frequently cross between the Akra Rion and Akra Andirrion.

A prohibited anchorage area, which may best be seen on the chart, lies in the vicinity of The Narrows.

**7.18 Korinthiakos Kolpos—South side.**—**Akra Dhrepanon** (38°20'N., 21°52'E.), located 3.5 miles NE of Akra Rion, is low and sandy. A light is shown from a prominent structure, 7m high, standing on this point. A shallow spit extends NW from this point; its seaward extremity is marked by a lighted buoy.

A cement factory, fronted by a quay, is situated 0.3 mile SSW of Akra Dhrepanon. This quay is 300m long and has





Akra Dhrepanon Light



Akra Psaromita Light

depths of 9.8 to 11.6m alongside. Vessels of up to 30,000 tons can be accommodated alongside.

**Aiyion** (38°15'N., 22°05'E.) (World Port Index No. 41840), a small town, stands at the head of Ormos Aiyiou, a small bay. A pier and a quay front the town. The pier is 90m long and has a depth of 5m at its head. The quay is 213m long and has depths of 5.2 to 8.5m alongside. Pilotage is compulsory for foreign vessels; pilots are provided from Patrai. The port monitors VHF channels 12 and 21.

Vessels can anchor, in a depth of 27m, mud, good holding ground, about 0.2 mile NW of the head of the pier.

The town is prominent and stands on the seaward side of a flat hill. A conspicuous chimney is situated at a papermill standing on the W side of the bay. Several jetties front the papermill and are used by small coasters.

**Akra Likoporia** (38°08'N., 22°29'E.), a low headland, is overlooked by a prominent hill, 172m high, which stands near the shore. A light is shown from a prominent structure, 15m high, standing on this point.

Between Ormos Aiyiou and the entrance to Dhiorix Korinthou, 45 miles ESE, the S shore of the gulf is quite regular, with no significant indentations.

**Kiaton** (38°01'N., 22°45'E.), a small town, is fronted by a harbor which is formed by two moles. There are depths of 2 to 8m in this harbor which is used by coasters.

**7.19 Korinthiakos Kolpos—North side.—Akra Mornos** (38°22'N., 21°52'E.), located 5.8 miles NE of Akra Andirion, is low and sandy. This point is marked by a light and is the S extremity of a swampy delta. Navpaktos, a small town, stands at the head of a bay 2.5 miles NW of the point. This town is fronted by a small craft harbor; vessels can anchor, in depths of 13 to 24m, about 0.4 mile S of it.

Akra Marathias, located 6 miles ENE of Akra Mornos, is low and wooded. Ifalos Marathias, a reef, has a least depth of 3.8m and lies about 0.7 mile SE of this point.

Nisis Trizonia lies 0.3 mile offshore 3.5 miles SE of Akra Marathias. This island can be easily identified by prominent reddish cliffs on its S and W sides. A light is shown from the NE side of the island and an islet lies 0.5 mile E of the SE extremity of the island.

**Akra Psaromita** (38°19'N., 22°11'E.) is a steep-to point; the land behind it rises in three gradual slopes. A light is shown from a prominent structure, 9m high, standing on this point.

Akra Andromakhi is located 9 miles E of Akra Psaromita and the shore between is indented by several small coves. The prominent village of Eratini is situated at the head of the W cove. This point is bold, 93m high, and is marked by a light.

**7.20 Itea** (38°26'N., 22°25'E.) (World Port Index No. 41820), a small ore port, lies at the head of Kolpos Itea, a gulf, which is entered between Akra Andromakhi and Akra Makri-Nikolas, 8.8 miles ESE.

**Depths—Limitations.**—Numerous islets, rocks, and shoals lie in the W part of the gulf and large or deep-draft vessels should keep clear of them and not attempt to pass through the constricted and unmarked passages which lead between them.

A general cargo pier fronts the town and has two berths with depths of 6.3 to 7.5m alongside. Vessels up to 130m in length and 6m draft can be accommodated.

Two bauxite ore berths, each consisting of short piers, lie within Limin Itea and can accommodate vessels up to 40,000 dwt, with a maximum draft of 10.5m.

**Pilotage.**—Pilotage is compulsory for foreign vessels and Greek vessels of more than 500 tons. Pilots can be contacted on VHF channel 12 and board about 0.6 mile SE of the pier. In bad weather, vessels should enter the bay at the head of the gulf without the pilot and anchor. Vessels should send an ETA 24 hours in advance.

**Anchorage.**—Anchorage can be taken in Limin Iteas, a bay at the head of the gulf. A good berth lies, in a depth of 18m, mud, about 0.3 mile SW of the pier at Itea.

A designated anchorage area for laid up vessels, the limits of which may best be seen on the chart, occupies most of the SW part of Limin Itea.

Vessels may also anchor, in depths of 22 to 26m, within Ormos Galaxidhiou. This bay lies at the W side of the gulf and is sheltered by a chain of islets and reefs which extends NE across its entrance.

**Caution.**—Several outfall pipelines lie in the vicinity of the port and may best be seen on the chart.

**7.21 Andikira** (38°22'N., 22°38'E.), a small town, is situated at the head of Andikiron Kolpos, an irregular bay entered between Akra Pangalos, located 1.5 miles E of Akra Maki-Nikolas, and Akra Velanidhia, 8.7 miles ESE. Several islets and shoals lie along the sides of the gulf, but the central part is deep and clear. Pilotage is compulsory within the gulf. Pilots

can be contacted by VHF and board 1 mile off the coast in day-light hours only.

At the head of the bay is Aspra Spitia Ore Terminal, an aerial loading stage for bauxite ore. It is 70m long, with mooring dolphins on either side and an alongside depth of 8.4m.

Small vessels can anchor, in depths of 18 to 37m, about 0.2 mile off the town. Three offshore berths, connected by a submarine pipeline, lie in the E part of the gulf and can accommodate vessels up to 183m in length and 10.3m draft.

In addition, a quay, 240m long and with an alongside depth of 9.1m, is situated on the NE side of the gulf.

**Caution.**—A prohibited anchorage area, which may best be seen on the chart, lies in the NE part of gulf.

**7.22 Akra Melangavi** (38°02'N., 22°51'E.) is located 13.5 miles SSE of Akra Velanidhia. A light is shown from a prominent structure, 13m high, standing on this point.

Kolpos Alkionidhon, a large gulf, lies at the NE end of Korinthiakos Kolpos and is entered between the above two points. This gulf is surrounded by high ground and mountain ranges; Nisoi Alkionidhes, a group of four islands, lies in its central part. The depths within the bays lying along the shores of this gulf are too great for anchoring and this area is unimportant for shipping.

**Ormos Korinthou** (38°00'N., 22°52'E.), a deep bay lying at the SE end of Korinthiakos Kolpos, is entered between Akra Melangavi and Kiaton, 4.5 miles WSW. The S shore of this bay is low and cultivated, but the land rises to mountains close inland. The N shore is formed of generally high ground.

**7.23 Korinthos** (37°57'N., 22°56'E.) (World Port Index No. 41830), a small town, is situated at the S side of the head of the bay. It is fronted by a small harbor which is formed by an angled mole. This harbor has depths of 2 to 7.9m and is used mostly by small craft and coasters. Vessels can anchor, in a depth of 26m, about 0.3 mile ENE of the mole. Pilotage is not compulsory, but is advised for vessels without local knowledge.

Vessels can also anchor, in depths of 16 to 33m, about 0.3 mile off the village of Loutraki, which is situated at the NE head of the bay 3 miles NNE of Korinthos.

**Caution.**—Due to the existence of submarine cables, a prohibited anchorage area, which may best be seen on the chart, lies 1.5 miles SSW of Loutraki.

## Dhiorix Korinthou (Corinth Canal)

**7.24 Dhiorix Korinthou** (Corinth Canal) (37°56'N., 22°59'E.) is a canal, 3 miles long, which cuts through the narrowest part of the isthmus between Peloponnisos and the mainland. The sides of the canal at either end are formed by the sloping contour of the land, but the central part passes through a deep cutting in the land.

The prevailing wind in the canal is from the NW, but E and N winds are occasionally experienced. The usual current, which changes direction every 6 hours, attains a rate of about 2.5 knots, but is influenced greatly by the wind.

The canal provides direct access between Korinthiakos Kolpos and Saronikos Kolpos, described beginning in paragraph 13.1. Vessels bound from ports in Italy and the Adriatic Sea to ports in the E part of Greece and the Aegean Sea can save considerable distance by the use of the canal. For example, a vessel bound from Brindisi to Piraeus would save 130 miles by using the canal rather than rounding Akra Tainaron, the S extremity of Peloponnisos.

**Depths—Limitations.**—The NW entrance of the canal lies between two curved breakwaters, 1.5 miles NE of Korinthos. The SE entrance lies at the town of Isthmia, between a curved N breakwater and the shore close W.

Transit of the canal is permitted day and night, except on Tuesday from 0600 to 1800, when it is closed for maintenance.

The best time to pass through the canal is when the vessel is stemming the current. With N winds, special care is required when entering the NW end of the canal. Special care is also required to stay in the deepest part of the canal at either end, where the width at the surface is much greater than at the bottom.

The canal is maintained at a depth of 8m over a bottom width of 21m. At sea level, it is 50m wide. Several bridges span the canal and have a minimum vertical clearance of 52m.

There is no limitation concerning the length of vessels. However, passage through the canal is dependent upon vessel beam and draft, as follows:

1. Beam of 15.5 to 16.5m—maximum draft of 6.2m.
2. Beam of 15.0 to 15.5m—maximum draft of 6.6m.
3. Beam of 14.5 to 15.0m—maximum draft of 6.8m.
4. Beam of 14.0 to 14.5m—maximum draft of 7.0m.

In all cases, the maximum beam allowed is 18.3m and the maximum draft is 7.2m.

**Pilotage.**—Pilotage is compulsory for all vessels towing and in the hours of darkness for all vessels over 100 nrt. The pilot stations can be contacted on VHF channel 11. Warships are required to use pilots and tugs. The canal authority monitors VHF channel 16. Pilots are reported to assume no responsibility for handling, but place their experience and knowledge of the canal at the disposal of shipmasters.

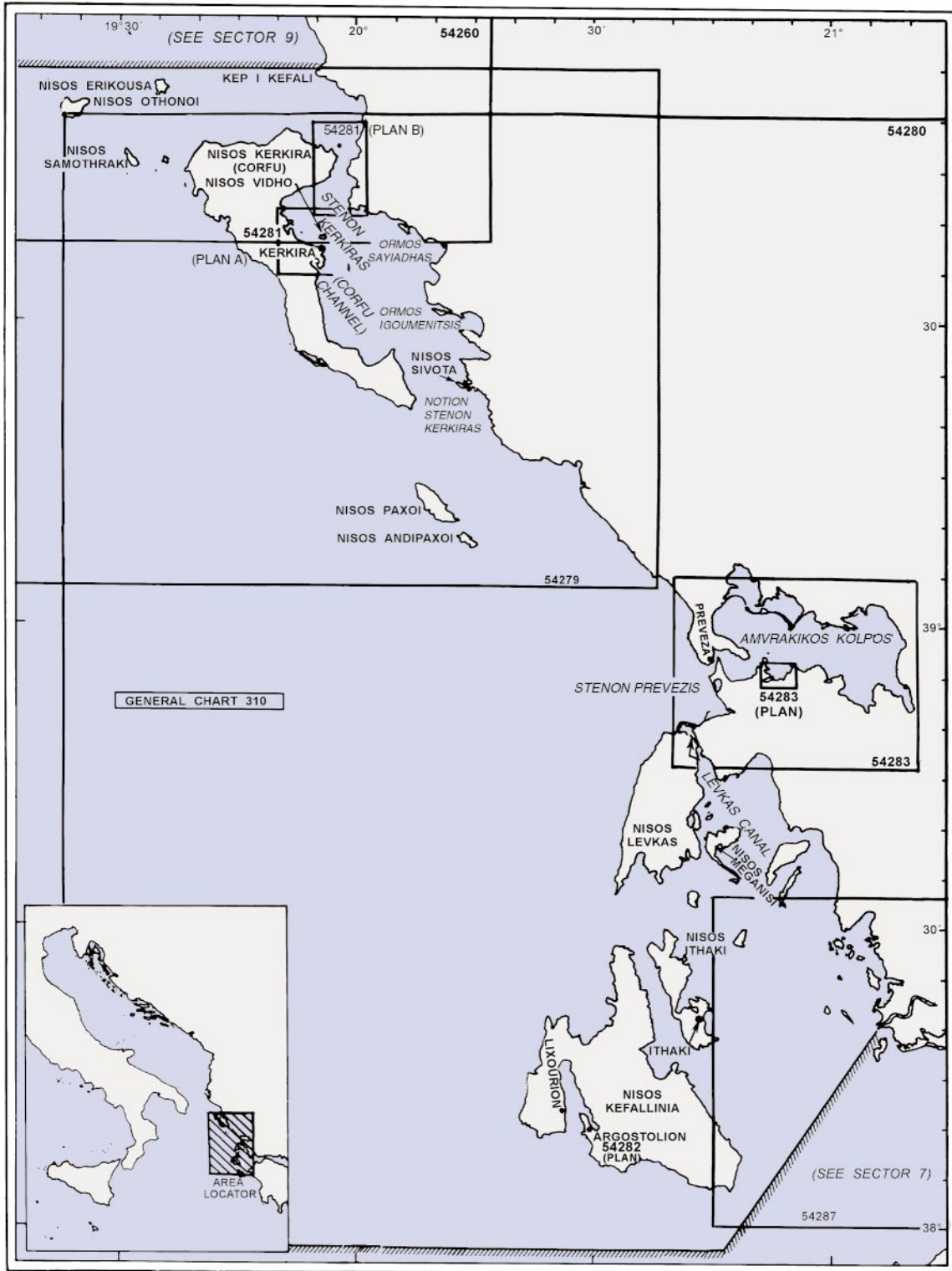
**Regulations.**—Towage is compulsory for vessels over 800 nrt, for vessels carrying dangerous cargo, and whenever it is deemed necessary.

The speed of vessels should not exceed 3 knots when entering the canal nor exceed 6 knots during transit of the canal.

The Canal Authority desires a message of notice of intention to transit the canal. This message should include the name of the vessel, nationality, dimensions, net tonnage, ETA, direction of transit, and whether a pilot or tug is required.

It is reported that naval vessels and vessels carrying mail have priority of towage, provided that the interval between their arrival and that of a cargo vessel does not exceed 1 hour.





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 8 — CHART INFORMATION**



## SECTOR 8

### GREECE—WEST COAST AND ALBANIA—NISOS OXIA TO KEP I KEFALI

**Plan.**—This sector describes the W coasts of Greece and Albania between Nisos Oxia and Kep i Kefali and the off-lying islands. The descriptive sequence is NNW from Nisos Kefallinia to Kerkira (Corfu).

#### General Remarks

**8.1 Winds—Weather.**—Over the open sea W of Greece, winds of gale force have been observed at times from early November until the middle of March. However, they are almost unknown from May to September. Local squalls are quite common along this coast during the summer months, especially during windy weather.

On the coast of Greece fog is uncommon. It usually forms at night and clears soon after sunrise. Calms or light winds from between SE and W and a clear sky are favorable for formation.

Rain usually falls in the winter from September to April but the summer, as a rule, is rainless.

**Tides—Currents.**—Off the W coast of Greece, a general current sets from the Kikladhes (Cycladhes) along the coast and into the Adriatic Sea. Its strength is greatest near the coast and decreases with the distance offshore. Its average velocity off the coast of Greece, with good weather, is from 0.5 to 0.7 knot. With strong W and SE winds, the velocity is increased considerably.

#### Nisos Kefallinia—South Coast

**8.2 Nisos Kefallinia** (38°10'E., 20°35'E.), the largest of the Ionian Islands, lies in the W approach to Patraikos Kolpos. The island is mountainous and irregular in shape. Oros Ainos, its summit, is 1,618m high and stands in the S part of the island. Argostolion, the largest town, is situated in the W part of the island and fronted by a roadstead which can be used by large vessels.

**Akra Mounda** (38°04'N., 20°47'E.), the SE extremity of the island, consists of a steep cliff, 30m high, which descends to a low plain on its N side. A reef, with a least depth of 2.4m, extends up to about 1.7 miles SE from this cape. When rounding this cape, vessels are advised to give it a wide berth.

Akra Katelios, marked by a light, is located 1.9 miles WNW of Akra Mounda. Several prominent white cliffs, 61 to 91m high, extend to the W of this point.

A submarine cable extends SSE from a point on the shore close NE of Akra Katelios and anchoring is prohibited in its vicinity.

Akra Liakas, a low shelving point, is located 10.5 miles WNW of Akra Mounda and rises gradually inland to cultivated land. Several sunken rocks front this point and Danistri Rock, 2.7m high, lies 0.5 mile SSW of it.

Akra Ayios Nikolaos, located 4.2 miles NW of Akra Liakas, is a low shelving point which is fronted by an islet and several rocks. A monastery, with a high tower, stands 0.8 mile ENE of this point and a prominent white house is situated 0.5 mile E of it.

**Nisos Vardhianoï** (38°08'N., 20°26'E.), a low and narrow island, lies about 1.5 miles offshore, 2.8 miles SW of Akra Ayios Nikolaos. This island is surrounded by a reef which has depths of less than 9m and extends up to 0.3 mile S and 0.5 mile W of it. A light is shown from a structure, 8m high, standing on the SE part of the island. The passage lying between this island and mainland to the N is mostly foul and should not be used except by small vessels with local knowledge.

**Kolpos Argostoliou** (38°09'N., 20°28'E.), a long and narrow gulf, indents the W part of the S coast and is entered between Akra Ayios Yeoryios, located 1.5 miles NNE of Nisos Vardhianoï, and Akra Lardhigos, 1.8 miles E. A conspicuous concrete works stands on the S side of the latter point. Depths in the gulf range from 18 to 28m in the fairway and shoal gradually to 11m and less near the head. The land on the E side of the gulf is backed by high, steep mountains, whereas the land on the W side is comparatively low.

Northeast and SE winds prevail in Kolpos Argostoliou during the winter months, while NW winds prevail during the summer months. Heavy squalls occur frequently during the winter months.

**Lixourion** (38°12'N., 20°27'E.), a small harbor, lies on the W side of the gulf and is protected by two breakwaters. The entrance is 370m wide and there are depths of 4 to 5m in the harbor. Anchorage can be taken by large vessels, in depths of 11 to 18m, mud, about 0.3 mile NE of the entrance.

**8.3 Argostolion** (38°11'N., 20°31'E.) (World Port Index No. 41790) is the largest town on Nisos Kefallinia. It is situated on the W side of a sheltered inlet which lies between a peninsula extending N from Akra Lardhigos and the mainland to the E. A main commercial quay, 210m long, fronts the town and has depths of 5.5 to 7m alongside. An approach channel, with depths of 6.1 to 7m, leads to this quay which can accommodate vessels up to 5.5m draft. A prison building stands near the N end of town, a group of windmills and a chapel at a cemetery situated on the SE side of the inlet, and an obelisk standing near the center of a causeway at the S end of the inlet are all conspicuous and easily identified. Vessels can also anchor or secure to mooring buoys to work cargo. Large vessels usually anchor near the middle of the inlet, in a depth of 18m, soft mud. Pilotage is compulsory for all foreign vessels. Pilots can be contacted by VHF and board at the N end of the inlet.

Two submarine pipelines, marked by lighted buoys, extend up to 240m seaward from a power station which stands on the side of the inlet.

**Caution.**—Due to changes in depths and terrain resulting from earthquakes, all vessels entering the gulf should use extreme caution.

#### Nisos Kefallinia—West Coast

**8.4 Akra Yerogombos** (38°11'N., 20°21'E.), a rocky headland, forms the SW extremity of Nisos Kefallinia. A light

is shown from a structure, 13m high, standing on this point. It is reported that this light structure can not be easily identified against the background.

A prominent monastery stands close to the shore 1.2 miles N of the headland.

Between Akra Yerogombos and Akra Atheras, 11.5 miles N, the coast is backed by bold and steep-to cliffs. Akra Atheras is a rugged headland and can easily be identified by several steep white cliffs on its W side.

Kolpos Mirtou, an exposed and deep bay, lies 4 miles E of Akra Atheras and has no commercial significance. The Assos Peninsula, a high and double peaked promontory, is located on the NE side of this bay, 6.5 miles ENE of Akra Atheras. The conspicuous ruins of a fortress are situated on the outer edge of this promontory. Temporary anchorage can be taken, in depths of 24 to 31m, in a bight lying close N of this promontory.

Akra Vlioti, the N extremity of Nisos Kefallinia, is located 6 miles N of Kolpos Mirtou. Several high and reddish-colored cliffs stand along the coast close S of this cape.

### Nisos Kefallinia—East Coast

**8.5 Akra Kapri** (38°07'N., 20°49'E.), the steep-to E extremity of Nisos Kefallinia, is located 3.3 miles NNE of Akra Mounda. It is marked by a light and rises close W to a high and sharp-topped wooded hill.

Akra Pronos, marked by a light, is located 2.4 miles NW of Akra Kapri. This point is surmounted by a conspicuous building.

**Akra Dhikhalia** (38°17'N., 20°41'E.), marked by a light, is located 9.5 miles NW of Akra Pronos. The coast between is steep-to. Akra Sikia, located 3 miles SE of Akra Dhikhalia, is formed by a conspicuous rocky and perpendicular cliff, 30 to 40m high. Akra Dhikhalia is a bold and rocky headland which rises close SW to a high conspicuous peak. During the summer, temporary anchorage can be taken, in depths of 18 to 22m, within a small bay which is entered close S of this headland.

**Ormos Samis** (38°16'N., 20°39'E.), a large bight, indents the coast close W of Akra Dhikhalia and is sheltered from all except N winds. The village of Sami stands along the S shore of Kolpos Samis, a bay lying in the S part of the bight. This village is fronted by a small harbor which is protected by two moles. The harbor has depths 5 to 7m and is used by coasters and ferries. Anchorage may be taken, in a depth of 7m, off the village.

Ormos Evfimia, a small bay, lies in the NW part of the bight. A village, fronted by a pier, stands at its head. Anchorage by small vessels may be taken, in depths of 4 to 14m, off the pier, good holding ground.

**Akra Fiskardho** (38°28'N., 20°35'E.), marked by a light, is located 11.7 miles NNW of Akra Dhikhalia. This point is surmounted by a rounded tower and two ruined square towers. Ormos Fiskardho, a small bay, is entered close S of this point and a resort village is situated along its W shore. The village is fronted by a small craft harbor protected by a breakwater. Coasters with local knowledge can anchor, in a depth of 14m, good holding ground, near the head of the bay.

### Nisos Ithaki

**8.6 Nisos Ithaki** (38°26'N., 20°40'E.) is high, mountainous, and generally steep-to. This island is nearly divided into two parts by Kolpos Molou, which indents its E side. Several indentations lie along its rocky coasts and provide shelter to local craft. Ithaki, the principal town, stands at the head of Ormos Vathi on the E coast. The E coast is considerably more irregular than the W coast, being indented by numerous small bays and coves.

Porthmos Ithakis, a deep strait, separates Nisos Kefallinia from Nisos Ithaki.

**Akra Ayios Ioannis** (38°19'N., 20°47'E.), the SE extremity of Nisos Ithaki, is marked by a light. This point is fringed by foul ground and backed by a high peak close inland.

Kolpos Moulou, a deep and steep-to gulf, is entered between Akra Skhoinos, located 4.8 miles NNW of Akra Ayios Ioannis, and Akra Ayios Ilias, 2.5 miles N. This gulf extends 4.2 miles SSW to its head.

**Ithaki** (38°22'N., 20°43'E.) (World Port Index No. 41770), a small harbor, lies at the head of Limin Vathi, a bay, which is entered on the SE side of the gulf. The town of Vathi stands along the shore of the bay. This harbor provides limited berthing facilities for small vessels and large vessels can work cargo at the anchorage. During the winter, strong W and NW squalls occur quite frequently. There is a main commercial quay, 50m long, which has a depth of 7m alongside and is used by ferries and small passenger vessels.

An islet, marked by a light, lies on the W side of the bay, 0.3 mile from the head. It is conspicuous and is surmounted by a prominent building, a former prison. The most suitable anchorage lies between this islet and the W shore of the bay, in a depth of 14m, mud and sand. Vessels can also anchor E of the islet, in depths of 16 to 18m.

**8.7 Ormos Frikes** (38°28'N., 20°41'E.), a small and open bay, lies 2.2 miles NW of Akra Ayios Ilias. It provides anchorage, in depths of 3 to 6m. A small craft harbor, protected by a breakwater, fronts the village of Frikes at the head of this bay. A detached shoal, with a depth of 9.1m, lies in the SE approach to the bay, about 0.4 mile SE of the S entrance point.

**Akra Melissa** (Ayios Ioannis), the N extremity of Nisos Ithaki, is located 5 miles NW of Akra Ayios Ilias. Kolpos Afalon, an open gulf, is entered between Akra Melissa and Akra Exoyi, 2 miles SW. It is too deep to provide secure anchorage or shelter. Akra Exoyi, formed by the outer end of a high promontory, is the NW extremity of Nisos Ithaki.

A small bay lies 2.6 miles SE of Akra Exoyi, and a conspicuous church is situated on its S entrance point.

**Akra Ayiou Andreou** (38°18'N., 20°43'E.), the S extremity of Nisos Ithaki, is located 11.7 miles SE of Akra Exoyi.

**Nisos Arkoudhiou** (38°33'N., 20°43'E.), a high and rocky island, lies 4 miles NE of the N extremity of Nisos Ithaki.

**Nisis Atokos** (38°29'N., 20°49'E.), a rocky and conspicuous island, lies 7.5 miles E of the N extremity of Nisos Ithaki. The summit of this island, which rises near its S end, consists of three peaks of near similar height, the tallest being 334m high.

## Nisos Levkas

**8.8 Nisos Levkas** (38°42'N., 20°39'E.), the third largest of the Ionian Islands, is mountainous and irregularly shaped. Stavrotos, 1,182m high, is the highest peak and stands in the central part of the island. The NE end of the island is separated from the mainland by a narrow channel through which a canal has been dredged. Nisos Meganisi, a fairly large island, and several small islets lie off the E coast of Nisos Levkas.

**Akra Dhoukaton** (38°34'N., 20°33'E.), the SW extremity of Nisos Levkas, is fronted by a small dark islet. A light is shown from a prominent structure, 15m high, standing 0.2 mile N of the extremity of the cape.

Akra Ayiou Ioannou, the NW extremity of the island, is located 17 miles NNE. The coast between is fairly regular and steep-to within 0.5 mile of the shore.

Akra Pidhimatis Sappous, a white triangular cliff, is located 2 miles N of Akra Dhoukaton. It is 238m high and conspicuous.

Nisos Sesoula, 35m high, lies 1.2 miles offshore, 8 miles N of Akra Dhoukaton. This rock is the outermost danger along this stretch of the coast and is marked by a light.

Ormos Fleva, a small and open bay, lies between Akra Ayiou Ioannou and Akra Yirapetra, 2 miles NE. Several windmills stand near the shore at the head of this bay and are prominent. A narrow peninsula extends E from Akra Yirapetra, the N extremity of the island. The E end of this peninsula forms the W side of the N entrance to the channel which separates Nisos Levkas from the mainland.

**8.9 Ormos Vasilikis** (38°36'N., 20°36'E.), a wide and deep bay, is entered E of Akra Dhoukaton. It provides anchorage, in depths of 22 to 28m, sand, near the head with excellent shelter. Good anchorage can also be taken, in a depth of 18m, about 0.5 mile W of the village of Vasiliki, which stands on the E side of the bay.

**Oros Poros** (38°39'N., 20°43'E.), 545m high, is the summit of a mountainous ridge the termination of which forms the SE extremity of Nisos Levkas.

**Nisos Meganisi** (38°04'N., 20°47'E.), an irregular-shaped island, lies off the S part of the E coast of Nisos Levkas from which it is separated by Stenon Meganisiou, a narrow and deep passage. Akra Kefal is the termination of a long and narrow peninsula which extends SE from the W part of Nisos Meganisi. The bight formed by this peninsula and Akra Langadha, located 4 miles N of Akra Kefali, has considerable depths and is backed by high and prominent cliffs. Nisis Kithros, a small islet, lies close S of Akra Langadha. Between Akra Langadha and Akra Makria Pounda, the N extremity of the island, the coast is indented by several inlets. Small vessels with local knowledge can shelter within these inlets.

**8.10 Stenon Meganisiou** (38°38'N., 20°44'E.), a narrow channel, leads between Nisos Levkas and Nisos Meganisi. This channel has a least depth of 42m and Nisis Thilia, an islet, lies on its E side close W of the NW part of Nisos Meganisi. Anchorage can be taken by small vessels, in depths of 18 to 22m, sand, in the passage lying between Nisis Thilia and Nisos Meganisi. Anchorage can also be taken by small vessels, with local knowledge, in Limin Spilia and Ormos Vathi, two inlets, which indent the N coast of Nisos Meganisi.

**Nisos Skorprios** (38°42'N., 20°44'E.) lies 1.5 miles N of the NW part of Nisos Meganisi and divides the channel into two branches. Nisis Sokava lies about 200m W of Nisos Skorprios. This small islet is 18m high and is fronted by foul ground on its N and S sides. Nisis Madhhouri lies close off the E coast of Nisos Levkas, 1 miles NW of Nisos Skorprios. This islet is 44m high and a shoal lies about 0.3 mile SSW of it. Nisis Skorpidihi is located about 200m N of Nisos Skorprios and a least depth of 18m lies in the narrow passage between them. Nisis Sparti lies 1 mile N of Nisos Skorprios and is steep-to on its E side.

Vessels proceeding through the W branch of Stenon Meganisiou should pass W of Nisis Sokava, SE of Nisis Madhhouri, NW of Nisos Skorpidihi, and SE of Nisos Sparti. These vessels should not closely approach Nisis Sokava, because of the foul ground extending NNW from it.

Vessels proceeding through the E branch of Stenon Meganisiou can pass on either side of the shoal patches which lie in the middle of the passage between Nisos Skorprios and Nisos Meganisi.

**Ormos Vlikho** (38°42'N., 20°43'E.), a small bay, lies on the E side of Nisos Levkas, 1.5 miles W of Nisos Skorprios. It is entered from the N through a narrow channel with a least depth of 7.3m. Nisis Madhhouri and Nisis Sparti lie in the approaches and may be passed on either side. The bay is sheltered, backed by high land on all sides, and the village of Vlikho stands along its W shore. It is mostly used by small craft and yachts. Anchorage can be taken in the middle of the bay, in a depth of 7m, mud.

**Caution.**—Several submarine cables lie within Stenon Meganisiou and may best be seen on the chart. Anchoring is prohibited in their vicinity.

## Nisos Oxia to the Levkas Canal

**8.11 Akra Oxia** (38°17'N., 21°06'E.) forms the NW entrance point of Patraikos Kolpos and is fully described in paragraph 7.15.

Potamos Akheloos, the largest river in Greece, flows into the sea 1.5 miles N of the N end of Nisos Oxia. The bar, which lies across the narrow entrance, has a depth of 0.6m and breaks during SW winds. A low and grassy island lies in the mouth and forms two narrow entrance channels. Sand banks, nearly awash, border these channels on either side. The river has depths of 2.5 to 7m for up to 30 miles above the mouth.

**Nisoi Ekhinadhes** (38°22'N., 21°02'E.), a group of islands, lies in the N approaches to Patraikos Kolpos, 5 miles NW of Nisos Oxia. Nisos Vromonas, high and flat-topped, is the outermost island of the group and lies 5 miles WNW of the mouth of Potamos Akheloos. Nisis Makri lies 1.5 miles ESE of Nisos Vromonas and has a conspicuous conical summit, 124m high. Nisis Kouneli, 25m high, lies close E of Nisis Makri and is marked by a light. The passages between these islands are deep and clear.

**8.12 Voriai Ekhinadhes** (Nisoi Dhragonera) (38°28'N., 21°02'E.), a group consisting of several small islands and several above-water rocks, fronts the coast N of Nisoi Ekhinadhes and lies across the entrance to Ormos Astakou, a large bay. Navigable channels lead between most of the islands. Nisos Dhragonera, the largest island of the group, lies 6.8 miles N of



Nisis Makri. Nisis Kaloyeros lies 0.5 mile NE of Nisis Dhragonera and is marked by a light. Nisis Prasa, 12m high, lies 1.9 miles W of the W side of Nisis Dhragonera and is the outermost danger of the group.

Custance Shoal, with a least depth of 12.8m, lies on Venerable Banks, about 2.3 miles NNW of Nisis Prasa. Deep-draft vessels should avoid this area.

**Ormos Platiyiali** (38°28'N., 21°06'E.), a small and enclosed inlet, is thoroughly sheltered and provides anchorage, in a depth of 24m, mud. In the S part of the bay is an angled quay, 700m in length, extending E for 400m, with depths alongside of 10.9 to 12.8m, then NE for 300m, with depths alongside of 9.5 to 10m. At the head of the bay three jetties extend SE, each 200m in length, with alongside depths of 6.5 to 7m; another quay extends SE for 300m, with depths alongside of 6 to 6.5m.

**Ormos Astakou** (38°31'N., 21°05'E.), an open bay, provides shelter. The NW side of the bay is rugged and rises abruptly to heights of over 600m. The town of Astakos is situated at the NW head of the bay and is fronted by a pier which is used by ferries. The pier is 200m long and has a depth of 3.7m alongside. Anchorage can be taken, in depths of 22 to 24m, mud, about 0.3 miles SE of the pier.

**8.13 Ormos Vourkos** (38°40'N., 20°58'E.), a small bay, lies 10 miles NNW of Ormos Astakou. It is sheltered and provides anchorage, in depths of 22 to 28m, sand, about 0.7 mile E of the W entrance point. Anchorage can also be taken, in depths of 15 to 18m, sand, within Ormos Mitikas, a small bay, which is entered close W of Ormos Vourkos.

**Akra Kamilafka** (38°40'N., 21°55'E.), the W entrance point of Ormos Mitikas, is marked by a light. This cape is fronted by irregular depths and should not be closely approached.

Oros Kandhili, 1,877m high, stands 1.5 miles NNE of this cape and is very conspicuous.

**Nisos Kastos** (38°34'N., 20°54'E.), a narrow and mountainous island, lies with its N end located 4 miles S of Akra Kamilafka. This island is steep-to and its summit, 148m high, stands near the N end. Small craft harbors lie on its E and W sides.

**Nisos Kalamos** (38°38'N., 20°55'E.), a mountainous island, lies close N of Nisos Kastos and is separated from it by a deep channel. A conspicuous flat-topped peak stands in its central part and a light is shown from the E extremity of the island. The town of Kalamos is situated on the SE side of the island and is fronted by a small craft harbor which is protected by an angled breakwater. Anchorage can be taken, in depths of 14 to 16m, about 0.2 mile offshore NE of the breakwater.

**Nisis Formikoula** (38°34'N., 20°52'E.), 14m high, lies 1.2 miles SW of the SW extremity of Nisos Kalamos. This small islet is flat-topped, marked by a light, and fronted by above-water rocks. Ifaloi Formikoula, a group of shallow shoals, extend up to about 0.8 mile NNW and NW of this islet.

The above islet and shoals are the only dangers encountered by vessels which are proceeding directly to the Levkas Canal from Patraikos Kolpos or the S part of Peloponnisos.

**Caution.**—Submarine cables, which may best be seen on the chart, extend between the mainland and the N coast of Nisos Kalamos and between the S coast of Nisos Kalamos and the N end of Nisos Kastos. Anchoring in the vicinity of these cables is prohibited.

**8.14 Ormos Palairou** (38°46'N., 20°51'E.), a small and open bay, lies 7.5 miles NNW of Akra Kamilafka. The village of Palairos is situated on its E side and is fronted by a pier. A conspicuous white house stands on a ridge, 2 miles SE of the village. Anchorage can be taken at the head of this bay, in a depth of 18m, mud.

**Akra Kefali** (38°45'N., 20°45'E.), a bold point, is located 9 miles NW of Akra Kamilafka and is the SE entrance point of Ormos Dhrepanou. It is 11m high, fronted by rocks, and is marked by a light.

Ifalos Miaouli, a reef, lies about 0.5 mile SE of Akra Kefali and has a least depth of 2.7m.

**Ormos Dhrepanou** (38°46'N., 20°44'E.) leads to the S entrance of Levkas Canal and is entered between Akra Kefali and Akra Mayemenos, 1.7 miles WSW. This bay has a depths of over 60m in the entrance, decreasing to 8m at its head.

Nisis Volios, 5m high, lies at the E side of the entrance to the canal and is marked by a light. A conspicuous fortress stands on a hill, 0.3 mile E of this small islet.



Nisis Volios Light

## The Levkas Canal

**8.15 The Levkas Canal** (38°49'N., 20°44'E.), 3.5 miles long and nearly 30m wide, has a least depth of 4.3m. It was reported that the least depth in the channel was 4.9m. Vessels bound for Stenon Prevezis from the W side of Peloponnisos can save 12 miles by using the canal and avoid inclement weather. Vessels up to 4m draft can transit the canal during daylight hours only.

The depths in the canal decrease about 0.3m with N winds and increase a similar amount with S winds. The current in the canal is also influenced by the wind. It sets most frequently from N to S with a velocity of 1 to 2.5 knots.

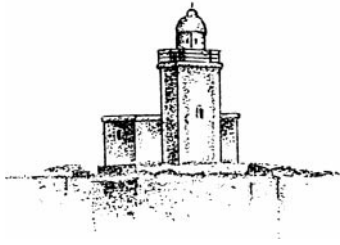
The limits of the fairway are marked by posts with triangular reflectors. In addition, the entrances are marked by lights and lighted buoys.

A conspicuous citadel stands on the E side of the N entrance and is marked by a light. Pilotage is compulsory for merchant vessels. Pilots can be contacted by VHF and board about 0.5 mile off the S entrance and about 2.5 miles off the N entrance.

A floating swing bridge crosses the canal close W of the citadel at the N entrance. It will be opened upon request and has a main channel with a width of 30m. Overhead power cables span the canal and have a vertical clearance of 40m.

**Levkas** (38°49'N., 20°44'E.), a small town, is situated on the W side of the canal close S of the N entrance and is fronted by a small craft harbor. Small vessels can anchor off the town, in a depth of 5m.

In good weather during the summer, vessels can anchor off the N entrance of the canal, in a depth of 10m, about 0.5 mile NE of the citadel. Large vessels can anchor farther out, in



### Light on the citadel at the N end of the Levkas Canal

depths of 16 to 18m. This roadstead is exposed to N and NW winds which usually raise a heavy sea.

Vessels may also anchor on the W side of the S entrance of the canal. This roadstead provides good holding ground, in a depth of 12m, mud and weeds, about 150m offshore.

**Caution.**—Anchoring is prohibited within the fairway of the canal.

The N entrance of the canal is reported to be subject to silting.

### Stenon Prevezis

**8.16 Stenon Prevezis** (38°55'N., 20°44'E.), a narrow and tortuous channel, leads into Amvrakikos Kolpos (Gulf of Amvrakia). It is entered between Akra Skilla (Akra Kokala), a low promontory, and an unnamed point, 1.2 miles NW, which is surmounted by the ruins of Fort Pandokrator.

An extensive bar, consisting of coarse sand and gravel covered with weed, lies across the entrance to this channel.

Ifalavlix Alexandrou Chrisanthi, a dredged fairway, leads ENE across the bar and into depths of more than 11m. This fairway has a width of 60m and is dredged to a depth of 8.8m. It is indicated by a lighted range and marked by lighted buoys which may best be seen on the chart.

**8.17 Preveza** (38°57'N., 20°45'E.) (World Port Index No. 41730), a small town, stands on the W side of Ormos Prevezis, a bay, which lies at the inner end of Stenon Prevezis. This town is fronted by a small harbor which is protected by an angled breakwater. Large vessels may anchor in the harbor to work cargo.

**Tides—Currents.**—The currents in Stenon Prevezis, although mainly tidal, are irregular and strong. The ebb current, when accompanied by a N wind, sometimes attains a rate of 3.5 knots.

The tidal currents usually set along the axis of the channel in the central part. They set E and W at the W end of the channel and NE and SW at the E end. Vessels entering the channel with the current on their port sides will have the current on their starboard sides when leaving it, and vice versa.

**Depths—Limitations.**—Entry is controlled by the dredged channel which leads through Stenon Prevezis. The main commercial facilities include a pier, 250m long, with a depth of 13m alongside; a pier, 100m long, with depths of 11 to 13m alongside; a pier, 110m long, with depths of 6 to 12m alongside; and a pier, 100m long, with depths of 4 to 9m alongside.

Vessels up to 165m in length and 8.5m draft can be accommodated.

**Aspect.**—Fort Aktion, white and conspicuous, stands on the E side of the channel, 1.4 miles NE of Akra Skilla. Fort Ayios Yeoryios, consisting of high buildings, is situated in the N part of Preveza, 1 mile NNW of Fort Aktion.

**Pilotage.**—Pilotage is not compulsory for foreign merchant vessels. The port can be contacted on VHF channel 12 or 18. The pilot boards about 1 mile seaward of the outer lighted channel buoys. Vessels must inform the harbor authority at Preveza before entering or leaving Stenon Prevezis.

**Anchorage.**—Vessels awaiting a pilot may anchor, in depths of 14 to 16m, about 1 mile SW of the ruins of Fort Pandokrator. Larger vessels, or those intending to remain for any length of time, should anchor farther out, in a depth of 20m, mud.

Anchorage can be taken in the harbor, in a depth of 12m, mud, about 0.2 mile off the center of the town.

**Caution.**—Several submarine cables and pipelines, which may best be seen on the chart, lie across Stenon Prevezis. Anchorage is prohibited in their vicinity.

Ferries frequently cross Stenon Prevezis.

### Amvrakikos Kolpos

**8.18 Amvrakikos Kolpos** (38°58'N., 20°58'E.), an extensive landlocked body of water, is entered N of Akra Akra, which is located at the NE end of Stenon Prevezis. A buoy marks the extreme N boundary of shoals NE of Cape Akra Akra. Caution should be exercised while navigating in this area due to numerous shoals and depths less than 5m in the vicinity of the N coast of Cape Akra Akra. The shoreline of this gulf is very irregular, being indented by numerous coves and small bays. The S and E coasts are fairly steep-to, but the N coast of the gulf is formed by an irregular stretch of swampy land and lagoons. Several villages stand along the shores, but are only of local importance.

The W end of the gulf is divided by a large peninsula that extends in a SE direction from the shore to the N of Preveza. The main part of the gulf is entered between this peninsula and Akra Panayia, the outer extremity of a bold and steep tongue of land, which extends N from the S shore.

**8.19 Ormos Salaoras** (39°01'N., 20°48'E.), a large and fairly deep bay, lies in the NW part of the gulf. A coastal bank, with depths of less than 8m, fronts the N shore of this bay and extends up to 2 miles S. Akra Salaora, marked by a light, is the S extremity of an island-like peninsula which extends from the N shore. Anchorage can be taken, in depths of 6 to 7m, about 0.7 mile S of this point.

The N coast of the gulf to the E of Ormos Salaoras is fronted almost extensively by a series of projecting shoals. Inland, the low and swampy shore is intersected by several rivers and canals of no commercial significance.

**Ormos Koprainis** (39°01'N., 21°06'E.), an open bay, lies in the NE corner of the gulf. The small village of Aliki is situated in its NW part and the village of Menidi, a resort, is situated in its NE corner. Anchorage can be obtained, in depths of 12 to 18m, mud, about 0.7 mile NE of the W entrance point of the bay.

**8.20 Ormos Vonitsis** (39°01'N., 20°58'E.) lies in the SW part of the gulf and is deep in its outer part. The town of Vonitsa is situated at the head of this bay and is fronted by a small craft harbor protected by a mole. A prominent fort stands on a hill close W of the town. An extensive valley extends S from the head and is bordered by steep mountains. Anchorage can be taken, in depths of 10 to 14m, about 0.2 mile N of the town.

**Ormos Loutrakiou** (38°54'N., 21°04'E.), the largest bay on the S coast of the gulf, lies 7.5 miles E of Ormos Vonitsis and is deep in its central part. The village of Loutrakion is situated on the W side of a narrow inlet at the head of this bay. Small craft can anchor, in depths of 4 to 6m, off the village.

Ormos Palaioimilou, a cove, lies along the W shore of this bay. Good anchorage may be taken, in depths of 6 to 8m, mud, about 0.3 mile S of its N entrance point.

**Ormos Amfilokhias** (38°54'N., 21°09'E.), a long and narrow bay, indents the SE corner of Amvrakikos Kolpos and is deep in most parts. Anchorage can be taken, in depths of 15 to 20m, at the head of the bay close off the town of Amfilokhia (Karvasaria).

The coast extending N of Ormos Amfilokhias along the E side of the gulf is steep-to. It is mountainous inland and has no towns or bays of any commercial significance.

### Stenon Prevezis to Nisos Kerkira

**8.21 Akra Mitikas** (39°00'N., 20°43'E.), a cliffy point, is located 3.9 miles NNW of the N entrance point of Stenon Prevezis. A shallow bank, with rocks, fronts this point and extends up to about 0.8 mile seaward. A light is shown from a structure standing on a rock 0.2 mile NW of the point.

A dangerous wreck is reported (1993) to lie about 0.8 mile offshore, 3.5 miles NNW of the light.

Ormos Nikopoleos, an open bay, is entered between Akra Mitikas and Akra Kastrosikia, 6.2 miles NNW. The latter point is a low and red bluff. The prominent ruins of a fort stand on a high hill 3 miles NW of this point.

Ormos Fanari, a small bay, lies 11.5 miles NW of Akra Kastrosikia. A conspicuous castle, in ruins, stands 2.5 miles E of the entrance of this bay. During summer, temporary anchorage can be taken, in a depth of 18m, about 0.3 mile SW of the entrance to this bay. A dangerous wreck is reported (2004) to lie 3.2 miles SSE of Ormos Fanari.

Ormos Ayiou Ioannou is entered 2 miles N of Ormos Fanari. This small bay provides sheltered anchorage for small vessels with local knowledge. During N winds, anchorage can be taken, in a depth of 24m, mud, in the middle of this bay.

**Ormos Pargas** (39°17'N., 20°24'E.), lying 3.5 miles W of Ormos Ayiou Ioannou, is divided into two inlets by a high and

conical projection which is surmounted by a ruined fortress. The E inlet is protected on its SE side by a chain of rocks and small islets which extend up to about 0.3 mile SSW from the shore. The town of Parga stands on the shore behind the ruined fortress and extends E along the N shore of the E inlet. A small pier fronts the E end of the town. Coasters with local knowledge can anchor within these inlets. During the summer, temporary anchorage can be taken off the bay, in a depth of 37m, mud.

**Nisos Sivota** (39°24'N., 20°13'E.), high and thickly wooded, is located 11 miles NW of Ormos Pargas. This rocky island lies close W of Akra Megalo Mourtemeno, the seaward extremity of a small peninsula. The intervening coast between Ormos Pargas and Nisos Sivota is indented by a few small bays of no importance. Lofos Giouteki, an isolated hill, stands 4.5 miles SE of Nisos Sivota. It is 345m high and the prominent village of Arilla is situated on its S slope.

Nisos Sivota is conspicuous because of its dark color. A light is shown from a prominent structure standing near the NW extremity of the island.

**8.22 Nisos Paxoi** (39°12'N., 20°11'E.) is the N of two islands which lie 8.5 miles off the mainland coast. It is generally flat, but rises to a summit, 230m high, which stands in the central part and is surmounted by a conspicuous radio mast. The coasts of the island are bold, particularly on the W side which rises in steep white cliffs. Gaios (Paxoi), a prominent town, stands on the E side of the island. A light is shown from a prominent structure, 10m high, standing on Akra Lakka, the N extremity of the island.

Ifalos Panayias (Madonna), an isolated reef fringed by shoals, is the only off-lying danger in this area and lies about 2.5 miles NE of the S extremity of Nisos Paxoi.

This reef has a minimum depth of 1m; caution should be exercised while transiting this area.

Nisos Mongonisi is connected to the SE extremity of the island; the inlet so formed provides anchorage for small craft with local knowledge, in depths of 2 to 4m. Ormiskos Longos, a small cove, lies on the E side of the island. It is protected by a breakwater and provides good shelter for small craft.

**8.23 Nisos Andipaxoi** (39°09'N., 20°14'E.), the S island, is separated from Nisos Paxoi by a channel, 1 mile wide. This island is mostly level, but rises to a height of 118m at its NW end. A light is shown from a prominent structure, 11m high, standing on Akra Ovoros, the SE extremity of the island.

Nisoi Dhaskalia, a small group of islets and rocks, lies about 0.8 mile S of Akra Ovoros.

**Caution.**—Submarine cables extend seaward from the E side of Nisos Paxoi and may best be seen on the chart.



Nisos Paxoi from NNW, distant 5 miles

## Nisos Kerkira (Corfu)

**8.24 Nisos Kerkira** (Corfu) (39°30'N., 19°54'E.), the most important of the Ionian Islands and the second largest, lies a short distance off the mainland near the boundary of Greece and Albania. This island is extremely mountainous throughout most of its area. Oros Pandokrator, 911m high, is the summit of the island and stands in the NE part.

**Akra Asprokavos** (Cape Bianco) (39°22'N., 20°07'E.), the SE extremity of Nisos Kerkira, is composed of high white cliffs. Shoals front this cape and extend up to about 2.3 miles E and SE of it.

The W coast of the island between Akra Asprokavos and Akra Arilla, 31 miles NW, is of little importance to commercial shipping. There are few landmarks and the only anchorages available are for the use of small craft with local knowledge. The numerous rocks, islets, and shoals found along this section of the coast lie within 1.5 miles of the shore.

Vrakhoi Lagoudhia, consisting of two small islets, lies about 1 mile offshore, 10.3 miles NW of Akra Asprokavos. These islets are surrounded by shoals and are marked by a light.

Ormos Liapadhes, a small bay, is entered 4 miles SE of Akra Arilla. During N and E winds, vessels can anchor here, in a depth of 18m, fine sand. Ormos Ayiou Yeoryiou, another small bay, is entered close S of Akra Arilla and provides anchorage, in depths of 10 to 14m, sand, in its N part.

**Akra Arilla** (39°43'N., 19°39'E.), 91m high, is the bold termination of a peninsula and is marked by a light.

Between Akra Arilla and Akra Dhrastis, 5.2 miles NNE, the NW coast of Nisos Kerkira is fronted by numerous small islets, rocks, and shoal patches which extend between it and the island of Nisos Mathraki, 5.5 miles W.

**8.25 Nisos Mathraki** (Nisos Samothraki) (39°46'N., 19°31'E.), 155m high, is a fairly large island. It is fringed by foul ground which extends up to 1.5 miles offshore in places. A detached patch, with a depth of 3.2m, lies about 1.7 miles NW of the N extremity of the island. Vessels, without local knowledge, should not attempt to pass between the island and the NW coast of Nisos Kerkira. Nisis Trakhia, 28m high, lies on a bank 1 mile SW of Akra Sakki, the N extremity of the island.

**Nisos Othonoi** (39°51'N., 19°24'E.), pine covered, lies 7 miles NW of Nisos Mathraki. This island is precipitous on its W side and rises to heights of 315m in its NW part and 393m in its SW part. A light is shown from a prominent structure, 10m high, standing near Akra Kastri, the NE extremity of the island. Another light is shown from the S extremity of the island.

**Nisos Erikousa** (39°53'N., 19°35'E.), 121m high, is N of the Ionian Islands and lies 7.5 miles NNE of Nisos Mathraki. Its N and W sides are formed by high cliffs. A light is shown from a structure standing near its E extremity.

Both Nisos Othonoi and Nisos Erikousa are fringed with dangers which extend up to about 1 mile seaward in places. A shoal, with a depth of 11m, lies about 2.5 miles NNE of Akra Kastri.

**Akra Ayia Aikaterini** (39°49'N., 19°51'E.), 61m high, is located 8 miles ENE of Akra Dhrastis. This point is marked by

a light and is surmounted by a conspicuous church. The coast between is generally low, sandy, and is fronted by foul ground.

**Caution.**—Submarine cables extend between the NW coast of Nisos Kerkira and the off-lying islands and may best be seen on the chart.

**8.26 Akra Levkimmis** (39°28'N., 20°04'E.), marked by a light, is located 6.3 miles NNW of Akra Asprokavos. This point is the N extremity of a low and sandy peninsula which is difficult to distinguish.

Ormos Levkimmis, a small open bay, lies between Akra Levkimmis and Akra Voukari, 3.5 miles W. It provides excellent anchorage, in depths of 28 to 31m.

Between Ormos Levkimmis and Akra Anemomilos, 10 miles NE, the shore recedes to the W and N. Several villages, with anchorages for small craft, are situated along this section of the coast.

Ormos Garitsa, a shallow bay, is entered close N of Akra Anemomilos. It is frequented by fishing craft and Garitsa, a suburb of the town of Kerkira, stands at the head.

**Akra Sidhero** (39°38'N., 19°56'E.), the N entrance point of Ormos Garitsa, is the E extremity of a rocky promontory on which stands the citadel of Kerkira. A light is shown from a tower standing on the citadel. A disused signal station is situated near the light.

Akra Ayios Nikolaos, the E entrance point of Kerkira Harbor, lies 0.4 mile WNW of Akra Sidhero.

**Nisis Vidhon** (39°39'N., 19°55'E.), a wooded island, lies 0.7 mile N of Akra Ayios Nikolaos. This island is 38m high and is fringed by foul ground and several above-water rocks. A light is shown from its S extremity. Nisis Kaloyiros, 2m high, lies on a shoal bank 0.4 mile WNW of the SW extremity of the island.

Nisis Lazaretton (Nisos Gouvinon) lies 2 miles WNW of Nisis Vidhon. This small island is 20m high and fringed by a reef.

**8.27 Kerkira** (Corfu) (39°37'N., 19°56'E.) (World Port Index No. 41720), the largest town on Nisos Kerkira and the capital of the island, extends along the shore to the W of Akra Ayios Nikolaos. A small harbor, with several piers, fronts the town. Large vessels secure to mooring buoys or anchor in the roadstead to work cargo.

**Depths—Limitations.**—Depths in the approach, E and SE of Nisis Vidhon, are in excess of 35m. They decrease gradually to 18 to 30m in the roadstead N of the harbor area. The main commercial facilities include 2,050m of quayage, with depths of 5.8 to 6.5m alongside. There are facilities for general cargo, ro-ro, bulk, and ferry vessels. Vessels up to 7.5m draft can be accommodated alongside.

**Aspect.**—Two prominent radio masts stand close W of an airfield 1.8 miles SW of Akra Sidhero. A conspicuous white tower, with a large red dome, stands 300m W of Akra Ayios Nikolaos. A conspicuous chimney stands 1.2 mile W of Akra Sidhero.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 12 and board in the channel between Kerkira and Nisis Vidhon. Vessels should advise of pilotage requirements 48 hours and 24 hours in advance and confirm their ETA 24 hours prior to arrival.

**Regulations.**—A Vessel Traffic Service, call sign “Kerkira Traffic,” has been established for Kerkira. The Vessel Traffic Service must be contacted 2 hours prior to arrival on VHF channel 13.

**Anchorage.**—Anchorage can be taken, in depths of 18 to 29m, stiff mud and clay, in the roadstead N of the town. During the winter, this anchorage is sheltered from NE winds by Nisis Vidhon. During SE winds, the recommended anchorage lies about 0.4 mile SW of the SE extremity of Nisis Vidhon.

**Caution.**—Foul ground areas (sunken booms), which may best be seen on the chart, lie between the SE extremity of Nisis Vidhon and Akra Ayios Nikolaos and in the vicinity of the SW extremity of Nisis Vidhon.

A submarine cable, which may best be seen on the chart, lies between Nisis Vidhon and Akra Ayios Nikolaos.

Ferry traffic in the harbor is considerable.

**8.28 Ormos Gouvion** (39°39'N., 19°51'E.), a shallow and sheltered bay, is only used by small craft and small coasters. Banks extend from both of the entrance points and form only a narrow entrance channel. A marina is situated within this bay.

**Ormos Ipsou** (39°42'N., 19°51'E.) lies between Akra Kefaloipsos, located 2 miles N of Ormos Gouvion, and a point 1.5 miles NNE. The shores of this bay are fringed by a bank, with depths of less than 9m, which extends up to 0.4 mile seaward in places. A conspicuous red house stands 0.3 mile NW of Akra Kefaloipsos. Vessels occasionally anchor, in depths of 12 to 18m, sand, in the S part of the bay, but the holding ground is poor.

**Akra Ayios Stefanos** (39°46'N., 19°57'E.) is located 6.7 miles NE of Ormos Ipsou. The coast between is bold and steep-to. Several small bays lie along this section of the shore, but are of no commercial importance. A detached patch, with a depth of 16m, lies about 1.2 miles S of Akra Ayios Stefanos. A prominent tower stands 0.4 mile NW of the point.

**Ifalos Serpa** (39°46'N., 19°58'E.), a reef with an above-water rock, lies about 0.3 mile NE of Akra Ayios Stefanos and is marked by a lighted buoy and a beacon. In calm weather, this danger can be distinguished by the reddish colored water in its vicinity. Vessels should pass to the E of the lighted buoy.

**Akra Psaromita** (39°47'N., 19°57'E.), located 1.2 miles NNW of Akra Ayios Stefanos, is marked by a light. Ormos Bolana (Ormos Volanas), a small and open bay, lies 0.6 mile W of this point and provides shelter from S winds. Akra Kassiopis, the W entrance point of the bay, is located 1.4 miles WNW of Akra Psaromita. It is fringed by a reef and surmounted by the ruins of a fort.

Between Akra Kassiope and Akra Ayia Aikaterini, 3.8 miles NW, the coast is fronted by a bank, with depths of less than 9m, which extends up to 0.5 mile seaward.

**Caution.**—A prohibited area, which may best be seen on the chart, extends along the NE coast of Nisos Kerkira, between the NE part of Ormos Ipsou and Akra Ayia Aikaterini, the N extremity of the island. Navigation, without prior permission of the appropriate naval authorities, is prohibited within this area.

## Nisos Sivota to Kep I Kefali

**8.29 Notion Stenon Kerkiras** (39°21'N., 20°12'E.), a strait, leads into Corfu Channel and is entered between Akra

Asprokavos, the SE extremity of Nisos Kerkira and Nisos Sivota. The W side of the approach is obstructed by the foul ground which extends up to 2 miles seaward of Akra Asprokavos. The E side of the approach is clear and deep, having general depths of 55 to 73m.

The E side of Notion Stenon Kerkiras, between Nisos Sivota and Kep i Stilo, 20 miles NNW, is very irregular and is indented by numerous bays and coves. Potamos Thiamis, the largest of many rivers and streams along this part of the coast, discharges through two mouths. Its S mouth lies 8 miles N of Nisos Sivota and its N mouth lies 10 miles SE of Stilo.

**Ormos Igoumenitsis** (39°30'N., 20°14'E.), the most sheltered of the many bays along this part of the coast, lies 6 miles N of Nisos Sivota. The entrance of this bay is obstructed by a bar through which an access channel leads. This channel is marked by buoys and has a least depth of 7.9m (1993). A shoal, with a least depth of 5.5m, lies about 0.3 mile W of the entrance to the channel. Simultaneous passage of vessels in opposite directions is prohibited within the channel. General depths of 16 to 26m exist in the greater part of bay within the bar.

The town of Igoumenitsa, a tourist center, is situated at the E side of the bay and a prominent ruined fort stands at its S end.

A pier, extending SW from the shore, fronts the town and is used by ferries. A berth on its W side is 125m long and has a depth of 7m alongside. A berth on its E side is 100m long and has a depth of 5.8m alongside.

A jetty extends 120m W from the shore close S of the pier and has depths of 8.5 to 10m alongside its N side and head. In addition, there is also 480m of quayage with depths of 3 to 6m alongside.

An oil installation is situated in the SE corner of the bay and is fronted by a small pier. A cement factory is situated close NW of the oil installation and is fronted by a small T-head pier with depths of 8 to 9m alongside.

**Regulations.**—A Vessel Traffic Service, call sign “Igoumenitsa Traffic,” has been established for Igoumenitsa. This is Sector 2 of Kerkira VTS. The Vessel Traffic Service can be contacted on VHF channel 14.

**Caution.**—Due to the existence of submarine cables, anchoring and fishing are prohibited in an area, which may best be seen on the chart, extending between Nisos Kerkira and a point on the shore close NW of the entrance to Ormos Igoumenitsis.

**8.30 Nisos Prasoudhi** (39°30'N., 20°09'E.), a small island, lies about 0.8 mile offshore, 6.7 miles NW of Nisos Sivota. It is 40m high, covered in vegetation, and marked by a light. A detached shallow reef lies about 0.4 mile ENE of this island.

**Ormos Sayiadhas** (39°37'N., 20°10'E.), which indents the coast for 2 miles, lies centered 6.5 miles N of Nisos Prasoudhi. A shallow bank fronts the coast on the SE side of the bay. The small town of Sayiadha is situated at the head of the bay and is fronted by a shallow pier. Vessels can anchor, in depths of 7 to 22m, mud, W of the town.

Akra Strovili, the N entrance point of Ormos Sayiadhas, rises to a conspicuous conical hill, 115m high.

Khersonisos Pagania, an irregular shaped peninsula, is located 1.7 mile WNW of Akra Strovili. This peninsula is 77m high and has coves on its SE and NW sides.

**Kep i Stilo** (Kep i Stilit) (39°41'N., 19°59'E.), a low and salient headland, is located 5.5 miles WNW of Khersonisos Pagania. Stilos, a prominent hill, stands 2 miles NE of the point and is 272m high. Nisis Stilos, 82m high, lies close offshore 0.4 mile SE of the point.

Ormos Ftelias lies 1 mile E of Kep i Stilo and the coastal border between Greece and Albania lies in its vicinity.

**Caution.**—A prohibited area, which may best be seen on the chart, extends along the coast between Nisis Prasoudhi and Ormos Ftelias. Navigation, without prior permission of the appropriate naval authorities, is prohibited within this area.

**8.31 Gji i Butrintit** (39°44'N., 19°59'E.), an open bay, lies close S of the mouth of Lum i Butrintit. It is considered to afford the best anchorage on the E side of Notion Stenon Kerkiras. Anchorage can be taken, in a depth of 31m, mud, about 0.3 mile offshore in the S part of the bay.

Kep i Skales (Kep i Shkalles) is located 4 miles NNW of Kep i Stilo. In the vicinity of this point, the strait leading into Corfu Channel is at its narrowest. A prominent monastery stands on a hill 3.7 miles NNE of Kep i Skales.

The coast between Kep i Skales and a headland, 1.1 miles NNE, is prominent and rises sharply inland to a height of 144m. A bay lies 2 miles NE of Kep i Skales and is obstructed by a small group of islets in its S part. Vessels with local knowledge occasionally anchor off the S side of these islets, in depths of 16 to 18m, sand.

**Nisis Peristerai** (39°48'N., 19°58'E.), a small whitish islet, lies on the W side of the strait, 2.4 miles NNW of Kep i Skales.



**Nisis Peristerai Light**

A light is shown from a prominent structure, 10m high, surmounting the islet.

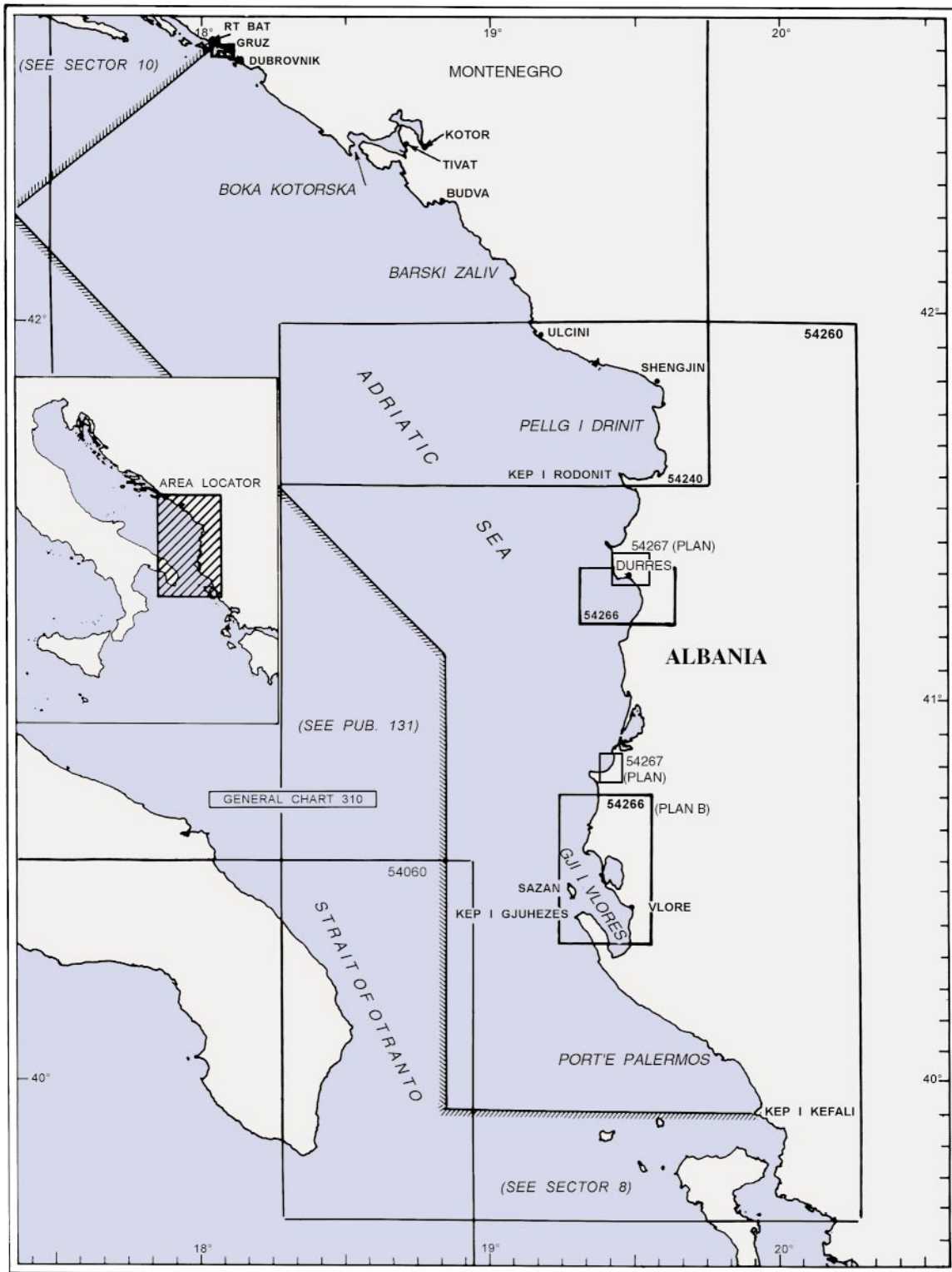
Barketa, a rock nearly awash, lies on a shoal bank about 0.5 mile E of Nisis Peristerai.

**8.32 Gji i Sarandes** (39°51'N., 20°00'E.), a small bay, is entered between Kep i Dente, located 5.2 miles NNE of Kep i Skales, and Kep i Ferruc, 2 miles NNW. This bay provides anchorage in its central part, in depths of 24 to 31m, mud and sand, good holding ground. The small town of Sarande stands at the N end of the bay and is fronted by a pier which is used by small craft. A conspicuous fort stands on a hill at the E side of the bay.

Pilotage for Sarande is compulsory but is only available during daylight hours.

**Kep i Kefali** (Kepi i Qefalit) (39°55'N., 19°55'E.) is located 4.5 miles NW of Kep i Ferruc, the N entrance point of Gji i Sarandes. This point is 149m high and steep-to. It is covered in bushes and is marked by a light.





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 9 — CHART INFORMATION**





## SECTOR 9

### ALBANIA, MONTENEGRO, AND CROATIA—KEP I KEFALI TO RT BAT

**Plan.**—This sector describes the W coasts of Albania, Montenegro, and Croatia (formerly Yugoslavia). The descriptive sequence is generally N from Kep i Kefali to the Albania-Montenegro border and then NW to Rt Bat.

#### General Remarks

**9.1 Winds—Weather.**—Bora is the name of the cold and dry NE or N wind which blows with great strength and affects the Adriatic Sea in the cool season. It is less frequent and generally weaker in summer. This wind is felt strongly along both sides of the Adriatic and is especially violent where mountains fall steeply to the coast. Winds from the SE, S, and SW sometimes blow with great force and cause rough seas along the E side of the Adriatic Sea.

Along this coast the sirocco and the bora, which is forecast by the formation of masses of white clouds above or behind the mountains, are most prevalent during the autumn and winter months. The mistraele is the prevailing wind during the summer months and SW winds frequently attain considerable force and set up high seas. Land and sea breezes, alternating with great regularity, prevail during the summer months and frequently cause a rather heavy sea.

In general, the prevailing wind in the winter is from the NNW through N to NNE although SE and SW winds are frequent. During the summer the prevailing wind is from the WNW through N to NE, and SE and SW winds are rare.

In the winter along the NW coast of Pellg i Drinit the NE bora is severe and most frequent and alternates with the sirocco, a SE wind, which is more frequent in the autumn than in the winter. The sirocco is often accompanied by thick weather, making approach to the ports difficult.

**Caution.**—Vessels are advised that while navigating the waters described within this sector, the chart soundings and the coastline are not dependable. Piers and berthing facilities within some of the harbors may be in disrepair or have collapsed, and consultation with the port authorities before entering is recommended.

It is reported that all foreign vessels must receive prior permission from the proper authorities before entering the territorial waters of Albania.

It is reported (1995) that measures have been taken to clear the coastline of mines. The area is now considered safe for surface navigation, but could still present a hazard for vessels anchoring, fishing, or engaged in any submarine or seabed activity. Vessels are advised to use the recommended approach routes.

All vessels calling at Croatian ports must send an ETA 24 hours in advance through a Croatian radio station.

Pilotage is compulsory for vessels over 500 grt and all vessels carrying dangerous chemical or combustible substances while proceeding between Croatian ports and while in Croatian coastal waters.

Due to conditions of armed conflict, vessels are advised to use extreme caution when in the surrounding territorial waters of the former Yugoslavia. Reports have been received of vessels being fired upon, port blockades, and indiscriminate mine-laying.

#### Kep i Kefali to Gjiri i Vlores

**9.2 Kep i Kefali** (Kepi i Qefalit) (39°55'N., 19°55'E.), marked by a light, is covered with bushes. This point is the NE entrance point of Corfu Channel and is conspicuous from the S.

From this point the coast trends N and NW for 42 miles to Kep i Gjuhezes. It is visible from a considerable distance offshore and presents a long line of sparsely forested gray cliffs which rise directly from the sea with little or no beach.

**Tides—Currents.**—The coastal current that enters the Adriatic Sea through Stenon Kerkiras sets in a NW direction along the coast as far as Kep i Gjuhezes, where it sets in a general N direction. The velocity of this current is irregular and is affected by prevailing winds. The average velocity is about 0.5 knot and increases perceptibly as it reaches Kep i Gjuhezes, especially during SE winds.

The NW coastal current sets NE through the passage between Kep i Gjuhezes and Sazan and then N between Sazan and the mainland, but it is not very strong, except with strong SE winds.

The offshore current sets in a general N and NNW direction at a velocity of 0.5 to 2 knots. This current is affected by the wind in the approximate manner of the coastal current.

**Porte e Palermos** (40°03'N., 19°47'E.), a small bay, is frequented primarily by coasters. It is entered between Kep i Palermos and Kep i Kavadonit, 0.8 mile NW. A small projection, which is surmounted by an old fort with a tower, extends from the NE shore of the bay directly opposite the entrance and divides it into two arms. Porte e Palermos provides good shelter, but the depths increase rapidly from the shore. The best anchorage is in depths of 18 to 55m, mud, about 0.2 mile off the head of Armarida Bay, the N arm.

Kep i Palermos, the S entrance point, is 103m high and is marked by a light.

Gryk'e Spiles, entered 2.5 miles NW of Porte e Palermos, is a small coastal indentation which is open to the SW. This indentation, although steep-to, affords moderate shelter. Small vessels, with local knowledge, can anchor, in depths of 9 to 28m, sand and mud, about 250m off the N shore.

Rrug e Bardhe, located 11.5 miles NW of Porte e Palermos, is a remarkably and conspicuous white watercourse. Great torrents descend steeply down it from Maja e Cikes, 2,045m high, which stands inland 3 miles NE.

**Kep i Gjuhezes** (40°25'N., 19°18'E.), a comparatively small and low point, is located at the NW extremity of a mountainous peninsula which forms the W side of Gjiri i Vlores. The sum-

mit of this peninsula is 831m high and stands 4 miles SE of the point.

**Kep i Karlovecit** (40°26'N., 19°20'E.), the S entrance point of Gjiri i Vlores, is located 1.8 miles NE of Kep i Gjuhezes. This point is the N extremity of the peninsula and is marked by a light.

**9.3 Ishulli i Sazanit** (40°30'N., 19°17'E.), an island, lies 2.5 miles NNW of Kep i Karlovecit and attains a height of 331m. Two almost equally-elevated peaks are separated by a depression and give this island, from a distance, the appearance of being two islands. The W side of the island is formed by vertical cliffs, up to 91m high in places, and is marked by several clefts and caves. The E side is less rugged, but is mostly inaccessible except at Porto San Nicolo in the NE part. A signal station surmounts the summit of the island. A light is shown from a prominent structure, 12m high, standing in the NW part of the island.

**Porto San Nicolo** (40°30'N., 19°17'E.), a small harbor, lies at the head of a bay on the NE side of the island. It is protected by breakwaters and has an entrance, 90m wide, with a depth of 4.5m. There is 209m of quayage, with depths of 1.8 to 5m alongside, which is used by small craft and coasters.

**Caution.**—A prohibited area, which may best be seen on the chart, surrounds Ishulli i Sazanit and extends 1 mile seaward. Vessels should request permission from the local authorities before entering this area and attempting to enter Porto San Nicolo.

## Gjiri Vlores

**9.4 Gjiri i Vlores** (Valona Bay) (40°24'N., 19°26'E.) is entered between Kep i Karlovecit and Kep i Trelimes, 5.2 miles NE. This large bay extends up to 9 miles SE and is about 5 miles wide. The W shore is formed by the high and almost precipitous peninsula which extends SE from Kep i Gjuhezes. The E shore for the most part consists of white sandy beaches backed by sand dunes. The SE part of the bay is backed by hills while the head is low, wooded, and marshy in places.

**9.5 Vlores** (40°28'N., 19°30'E.) (World Port Index No. 41690), a small town, is situated on the NE side of the bay and is fronted by a small harbor protected by two jetties.

**Depths—Limitations.**—The main commercial facilities include East Pier, 100m long, with depths of 6 to 7.5m alongside, which can handle ro-ro vessels; and West Pier, 100m long, with depths of 5 to 8m alongside, which is used for bitumen. Vessels up to 6,000 dwt and 7.4m draft can be accommodated.

An oil terminal (Krionero) is situated close N of Kep i Kalas and is the W terminus of several pipelines extending from the Kucove Oil Fields. A berth lies in a depth of 11m and consists of several mooring buoys and a small pier which front the terminal.

An offshore tanker loading station, consisting of a structure on piles and several mooring buoys, lies 4 miles NW of the harbor in a depth of 12m.

**Aspect.**—The prominent ruins of a castle surmount a peak, 379m high, standing 1.8 miles ESE of the harbor. A conspic-

uous oil refinery is situated close N of Kep i Kalas, a point located 2.2 miles S of the harbor.

**Pilotage.**—Pilotage is compulsory to the tanker loading station. The bay may be entered without a pilot after contacting harbor control. Pilots can be contacted on VHF channel 11, 12, 14, or 16 and board in the vicinity of the anchorage 0.7 mile SW of the harbor. Vessels should send an ETA 48 hours in advance.

**Regulations.**—Vessels must approach and enter Gjiri i Vlores by a recommended route track, which may best be seen on the chart, leading between Ishulli i Sazanit and Kep i Karlovecit.

**Anchorage.**—Vessels may anchor, in depths of 18 to 24m, mud and weed, about 0.7 mile offshore SW of Vlores. This roadstead is exposed to NW winds which may cause a heavy sea and the bora is felt severely here. Patches of rock have been reported to exist in this area and may cause anchors to drag.

**Caution.**—The waters in the approaches to Gjiri i Vlores are reported to be unsafe because of mines. Vessels should enter only during daylight hours and closely follow the recommended track.

A prohibited area, which may best be seen on the chart, extends along the SW coast of the bay and extends up to 1 mile seaward.

Anchoring is prohibited within Gjiri i Dukatit, the S part of Gjiri i Vlores.

## Gjiri i Vlores to Durres

**9.6 Kep i Treporteve** (40°30'N., 19°25'E.), the NE entrance point of Gjiri i Vlores, is the S extremity of a low line of hills which rise to heights of 60m close inland. A light is shown from a structure, 10m high, standing 1 mile NNW of the point.

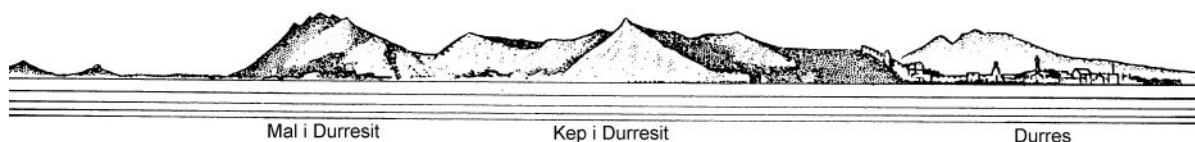
The coast from Kep i Treporteve to Kep i Rodonit, the S entrance point of Pellg i Drint, trends in a general N direction for 66 miles and presents a marked contrast to the rugged and mountainous land in the vicinity of Gjiri i Vlores.

Between Kep i Treporteve and Kep i Lagit, the S point of entrance of Gjiri i Durresit, 39 miles NNE, there are few landmarks of navigational interest. The shore is formed by a continuous sandy beach which is interrupted only by the mouths of the rivers discharging into the sea. Sand dunes lie behind the beach and inland, a deltaic plain, consisting of a wide expanse of lagoons and marshes, extends as far as the hills of the interior.

Between Gjiri i Durresit, the only place of commercial importance along this stretch of coast, and Kep i Rodonit, the coast becomes bold and presents a rugged aspect.

**Caution.**—The coastal hydrography between Gjiri i Vlores and Gjiri i Durresit is taken from old surveys and adjusted to more recent shoreline information. Because of this and the incomplete nature of the surveys, it is recommended that vessels remain well offshore when navigating in this area.

**9.7 Lumi i Vjoses** (40°40'N., 19°19'E.) flows into the sea 10 miles NNW of Kep i Treporteve (Kep i Trelimes). The mouth of this river is subject to great changes and is marked by a light. It is fronted by a shallow bank, formed from alluvial deposits, and should be given a wide berth.



### Durres from SSW

**Kep i Semanit** (40°48'N., 19°22'E.), located 18 miles N of Kep i Treporteve, is a low projection which floods during bad weather. It is surmounted by several buildings, but has been reported to be not easily seen.

A sandspit, about 1 mile long, projects from the N side of the point and Skele e Semanit, a natural basin, is formed between it and the coast. This basin is used as an anchorage by local craft.

Monastir i Ardenices, a conspicuous monastery, stands on a hill 9 miles E of Kep i Semanit. Another monastery is situated near the village of Frakull'e Pashajt, 12 miles SE of the point, and is also a useful landmark.

Gryka e Semanit and Gryka e Shkumbinit, two rivers, flow into the sea 9 miles N and 13.5 miles NNE, respectively, of Kep i Semanit. A wreck, with a depth of 8.5m, is reported to lie about 2 miles W of the mouth of the former river.

**Kep i Lagit** (Kep i Turres) (41°09'N., 19°26'E.), the S entrance point of Gji i Durresit, is the NW extremity of a wooded range of hills that extend 8 miles SE from the cape. A light is shown from a prominent tower, 8m high, standing on this cape.

**9.8 Gji i Durresit** (41°15'N., 19°29'E.) lies between Kep i Lagit and Kep i Durresit, 9.8 miles N. This bay recedes 4 miles E and its shores are low and sandy except at Shkembi i Kavajes and the two entrance points. Shkembi i Kavajes is located at the E side of the bay, 4 miles SE of Kep i Durresit. It is formed by a conspicuous white cliff, 104m high.

Selada Banks, which occupy the S portion of the bay, extend up to 4 miles N of Kep i Lagit and can be dangerous to vessels approaching in thick weather.

Kep i Durresit is surmounted by a round hill, 112m high. It is the S extremity of a high coastal ridge that extends 4 miles N. This ridge, known as Mal i Durresit, rises to a flat summit 1.5 miles N of the cape and is conspicuous from seaward. A light is shown from a prominent structure, 14m high, standing on the cape.

### Durres (41°19'N., 19°27'E.)

World Port Index No. 41670

**9.9** The port of Durres lies close E of Kep i Durresit and consists of a harbor protected by breakwaters. This port is the largest on the Albanian coast and serves as the principal center of commerce for Tirane, the capital of Albania.

**Depths—Limitations.**—Durres Bank and Talbot Shoal, with depths of less than 4m, extend up to about 2 miles S of Kep i Durresit. An approach channel, 2.1 miles long, leads NNE to the harbor entrance and was reported to have a controlling depth of 8.9m. The channel is not dredged regularly and the depths are subject to change. Several wrecks lie about 2

miles SSE of Kep i Durresit. They lie adjacent to the W side of the channel and are marked by a lighted buoy.

There are ten berths in the harbor, with depths of 7 to 8.8m alongside. There are facilities for general cargo, bulk, and ferry vessels. In addition, a dolphin berth for tankers has a depth of 7m alongside. Vessels up to 25,000 dwt and 8.4m draft can be accommodated.

**Aspect.**—The harbor approach channel is marked by buoys. Range lights, aligned 018°, lead through a former mined area to the harbor.

The Royal Villa, a conspicuous white castle, is situated close NE of Kep i Durresit and overlooks the W side of the town. It is easily identified and is visible for a considerable distance in clear weather. Several prominent chimneys stand to the N of the harbor.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 11 and board about 3 miles SSW of the harbor entrance. Inbound vessels are advised to anchor and await a pilot. It has been reported (1997) that pilotage is not always available.

Vessels arriving from ports in Slovenia, Croatia, Montenegro, Italy, and Greece must send an ETA 24 hours in advance. Vessels arriving from ports outside the Adriatic Sea must send an ETA 48 hours in advance.

All vessels must also send a further ETA 24 hours in advance. Messages may be sent through Durres Radio (ZAD) and should include the following information:

1. Vessel name.
2. Flag.
3. Last port of call.
4. Arrival draft.
5. Cargo description.
6. Cargo distribution.
7. State of health.
8. Tonnage.
9. Length.

**Regulations.**—Vessels must approach the bay by a recommended route track, which may best be seen on the chart. This track leads NE towards the S part of the bay and then NNE towards the port.

**Anchorage.**—Anchorage can be taken by large vessels, in a depth of 9m, mud, about 3.7 miles SSE of Kep i Durresit. This roadstead is exposed to the SW and strong winds from that direction, although rare, possibly require the use of both anchors.

**Caution.**—The waters in the approaches to Durres are reported to be unsafe because of mines. Vessels should enter only during daylight hours and closely follow the recommended track. Caution is required as the latter route passes only 1 mile W of Selada Shoals.

Due to the existence of submarine cables, an anchorage prohibited area, which may best be seen on the chart, extends up to 7 miles W and SW of Kep i Durrës.

A spoil ground area, which may best be seen on the chart, lies in the approaches 3.5 miles SSW of Kep i Durrës.

Several wrecks, some dangerous, lie in the approaches and may best be seen on the chart.

The navigational aids in Durrës and its approaches have been reported unreliable; they may be missing, out of position, or not as charted.

Navigation may be dangerous due to ships anchoring in the fairway and fishing nets being laid out between the turning basin and the harbor entrance.

## Durrës to Bar

**9.10 Kep i Palit** (41°25'N., 19°23'E.), 73m high, is the NW extremity of a hilly and wooded projection which extends 2 miles from the coast. This point is marked by a light and is fronted by a rocky spit extending about 0.5 mile NW. Vessels are advised to give this point a berth of at least 1.5 miles.

Small craft, with local knowledge, can anchor, sheltered only from SW winds, in a depth of 7m, mud, about 1 mile ENE of the point.

Gji i Lalzes is the NE part of the bight formed between Kep i Palit and Kep i Rodonit, 11 miles NNE. It affords temporary anchorage, in a depth of 11m, mud, about 1 mile offshore. However, caution is necessary as the depths in the vicinity of the coast and the bay are subject to frequent changes.

**Kep i Rodonit** (41°35'N., 19°27'E.) is a narrow and conspicuous ridge, 30m high, which forms the bold and steep termination of a wooded promontory. This point is marked by a light, fronted by a spit with uneven depths, and should be given a berth of at least 3 miles.

**Pellg i Drinit** (41°43'N., 19°29'E.) is an extensive gulf lying between Kep i Rodonit and Rt Mendre, 25 miles NW. The E and N shores of this gulf are low, being formed by the deltas of several rivers, but the NE shore is backed by mountains which almost parallel the coast. The shore in the vicinity of the river deltas should not be closely approached, as the depths are subject to frequent changes. Anchorage is available, in depths of 11 to 22m, mud, in the SE portion of the gulf, about 1 mile offshore. This anchorage is sheltered from SW winds, but is open to the NW.

The current along this coast sets in a general NW direction at a velocity of from 0.5 to 2 knots. The current frequently sets onshore at a velocity of about 0.7 knot when influenced by SE winds, and sometimes even in a calm. During SE winds eddies are formed off the entrance of Boka Kotorska.

Kep i Shengjin, marked by a light, is located 14.8 miles NNE of Kep i Rodonit. This point is the SE extremity of a mountainous ridge which attains a height of 561m at Maja e Zeze, near its NW end. The point is prominent, being sharply in contrast with the lowlands to the SE, and several buildings are situated on it.

**9.11 Shengjin** (41°49'N., 19°36'E.) (World Port Index No. 41660), a small town, stands on the W side of a small bay lying at the E side of Kep i Shengjin. It is fronted by a small harbor

which has depths up to 6.5m and is used by coasters. A pier, 60m long, has depths of 1.8 to 5.5m alongside. The harbor entrance is obstructed by shallow banks, which extend from both sides of the bay, and is approached through a narrow channel. This channel is marked by buoys and is indicated by lighted range beacons. A conspicuous white cross on a stone pyramid is situated at the head of the harbor, 0.7 mile NE of Kep i Shengjin. Pilotage is compulsory and available during daylight hours only. A local pilot is available and can be contacted on VHF channel 16 or 71. Vessels can anchor, in depths of 20 to 22m, sand and mud, about 1.3 miles SSW of Kep i Shengjin.

**9.12 Rijeka Bojana** (Lumi i Bunes) (41°35'N., 19°27'E.) discharges into Pellg i Drinit 10 miles WNW of Shengjin. The mouth of this river is divided into two branches, the depths of which vary considerably and frequently. Depths of 4m exist in the river for about 15 miles above the mouths, which have depths of 1.5 to 30m, depending upon the season and the winds. The river is used by small craft and barges.

The approximate coastal boundary between Albania and Montenegro lies in the vicinity of the SE mouth of this river.

Hrid Deran, a red rock, 4m high, lies 1 mile offshore, 5 miles WNW of the SE mouth of Rijeka Bojana. Reefs surround this prominent rock and it should not be closely approached.

**Ulcinj** (41°55'N., 19°12'E.), a tourist resort, is situated 4 miles NW of Hrid Deran. This small town is walled and fortified. It stands in the form of an amphitheater and is conspicuous from seaward. The coast in the vicinity of the town is hilly and presents a strong contrast with the lowlands to the E. A small harbor fronts the town and has depths up to 4m. It is used by small craft, ferries, and coasters. Pilotage is compulsory. A local pilot is available and can be contacted by VHF.

Two submerged pipelines originating from Rt Deran and a point close E of Ulcinj, respectively, extend up to 1.3 miles seaward.

The coast to the SE of Ulcinj becomes low and swampy, particularly in the vicinity of Rt Deran and the Bojane River (Bune River) delta.

The international boundary between Montenegro and Albania is defined by the lowest portion of the Bojane River and the E branch of the mouth.

**9.13 Rt Mendre** (41°57'N., 19°09'E.), steep-to and covered with green brush, projects WNW from the coast 3 miles NW of Ulcinj. A light is shown from a prominent structure, 8m high, standing on this cape. Uvala Valdanos, a small cove, lies close N of this cape and is open to the NW. It provides anchorage for small vessels, in depths of 10 to 15m, mud and weed, about 0.3 mile within the entrance.

Otocic Stari Ulcinj, 44m high, lies close off the coast, 2.5 miles N of the cape. This prominent islet is surmounted by a building and is connected to the shore by a rocky ridge.

**Rt Volujica** (42°05'N., 19°04'E.), the S entrance point of Barski Zaliv, is located 9 miles NNW of Rt Mendre and is the NW extremity of a mountainous and barren projection. Several conspicuous storage tanks are situated on this cape. A light is shown from a tower, 6m high, standing on the cape.

Barski Zaliv, a bay, lies between Rt Volujica and Crni Rt, 4 miles NW, and is backed by bold and mountainous land.

**Bar (42°05'N., 19°05'E.)**

World Port Index No. 41640

**9.14** The port of Bar lies close NE of Rt Volujica in the SE corner of Barski Zaliv. It consists of a harbor protected by breakwaters.

**Bar Home Page**

<http://www.lukabar.cg.yu>

**Depths—Limitations.**—The harbor entrance is 200m wide and has a depth of 14m. There is a total of 2,691m of principal commercial quayage, with depths of 10 to 13m alongside, and facilities for bulk, chemical, container, ro-ro, and tanker vessels. Vessels up to 160,500 dwt and 12.5m draft can be accommodated. Tankers up to 80,000 dwt can be handled. In addition, there is 760m of quayage, with a depth of 6m alongside, which is used by small passenger vessels and coasters.

**Aspect.**—Mount Petilje, 715m high, stands 2.3 miles N of the harbor and Fort Susanj is situated on its slope 0.5 mile SW of the summit. The old town of Stari Bar is situated on a hill 2.5 miles E of the harbor.

Mount Rumija, 1,593m high, stands 4 miles E of the harbor. It is prominent and the highest peak of many in this vicinity.

**Pilotage.**—Pilotage is compulsory for vessels over 500 grt and for all vessels carrying chemical or combustible substances. Pilots can be contacted on VHF channel 6 or 16 and board about 1 mile NW of the harbor entrance in the vicinity of Lighted Buoy P. Vessels must send an ETA 24 hours in advance through Montenegro Radio.

**Anchorage.**—Vessels may anchor, in a depth of 30m, mud, about 1.3 miles NW of Rt Volujica.

**Caution.**—Anchorage is prohibited to the E of a line joining Rt Volujica and Rt Rotac, 2 miles NNW.

Strong winds from the W and SW raise a heavy sea in the bay and may make the roadstead untenable.

**Bar to Boka Kotorska**

**9.15 Spicanski Zaliv** (42°08'N., 19°03'E.), a small bay, lies between Rt Rotac, located 2 miles NNW of Rt Volujica, and Crni Rt. Small vessels can anchor, with offshore winds, in a depth of 16m, sand, within this bay. However, with onshore winds it is completely exposed. This bay is a resort area and several hotels stand along the shore.

**Crni Rt** (42°08'N., 19°01'E.), the N entrance point of Barski Zaliv, is a bold and steep-to headland which rises to a height of 496m about 1 mile NNE of its extremity. A small cove lies 1.5 miles N of the headland and affords shelter to small craft from NW winds.

Rt Dubovica, a poorly defined but precipitous point, is located 3 miles NW of Crni Rt. A prominent hill, 314m high, stands 0.6 mile SE of the point. Hrid Mravinjak, an above-water rock, lies on foul ground which extends up to about 250m seaward from the point.

Rt Crvena Stijena, 323m high, is a steep-to and rugged point located 2.5 miles NW of Rt Dubovica. The coast between is indented by Uvala Buljarica, a small bay. Petrovac, a small village,

is situated 0.5 mile E and within Rt Crvena Stijena. It is fronted by a stone quay, 50m long, with a depth of 4m alongside.

Hrid Sveta Nedelja, 33m high, is surmounted by a white chapel. This islet is located 0.7 mile SSE of the W extremity of Rt Crvena Stijena and lies on a shoal bank with depths of less than 9m. A small islet lies close S of Hrid Sveta Nedelja, and Plic Katic, a shallow and steep-to reef, lies on the S end of the above bank about 0.7 mile offshore. A submarine pipeline is reported to extend about 0.7 mile SW from the vicinity of the village of Petrovac.

Sveti Stefan, a small and rocky peninsula, is located 3.2 miles NNW of Rt Crvena Stijena. It is connected to the mainland by a low and narrow neck of land. A village, with a prominent chapel, is situated on this peninsula and a small quay, with a depth of 3m alongside, projects from the N shore. Small vessels with local knowledge can anchor in the small coves formed on either side of the peninsula. A submarine pipeline is reported to extend 0.7 mile SW from a point on the shore close S of Sveti Stefan.

**9.16 Otocic Sveti Nikola** (42°16'N., 18°51'E.), 121m high, lies with its S extremity 1.5 miles W of Sveti Stefan. The W shore of this island is precipitous and is fronted by rocks and foul ground. The E shore is sloped and cultivated. A light is shown from the S end of the island and a chapel stands on the N end.

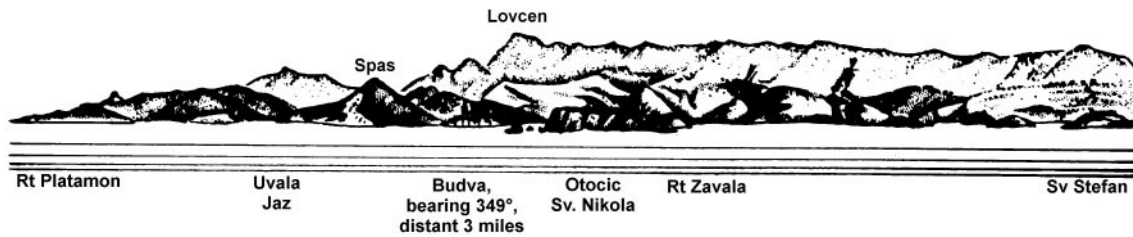
**Uvala Mala Luka** (42°16'N., 18°52'E.) is entered between Sveti Stefan and Otocic Sveti Nikola. This bay is free of dangers and is protected from all winds. Rt Zavala, the S extremity of a small projection, is located at the head of the bay and the ruins of a fort stand above it. The bay provides anchorage, in depths of 16 to 29m, good holding ground. Uvala Zavala, an inlet, lies WNW of Rt Zavala and provides good shelter for small vessels in depths of 12 to 17m. The W side of this inlet is bordered by a rocky spit which extends N from the NW extremity of Otocic Sveti Nikola. A submarine pipeline extends 1.2 miles S from Rt Zavala. A submarine pipeline and a cable extend across the NW side of Uvala Zavala.

**9.17 Luka Budva** (42°17'N., 18°50'E.) (World Port Index No. 41630), a small harbor, lies in a bay formed between the mainland and two rocky spits which extend N and NW from the N extremity of Otocic Sveti Nikola. The town of Budva, a resort, is situated on a small promontory at the SW side of the bay.

Lovcen, 1,749m high, stands 7 miles N of the town. The summit of this mountain has two peaks. One peak is surmounted by a radio tower and the other by a mausoleum. Spas, 389m high, stands close W of the town. This hill is shaped like a pyramid; from a distance it appears as an island. A prominent belfry is situated in the town.

The harbor is enclosed by two moles and has depths of 1 to 5m alongside the quays. It is used by pleasure craft, small craft, and small passenger ferries. Vessels can anchor, in depths of 7 to 8m, mud and weed, to the E of the harbor. Pilotage is compulsory. Pilots must be requested in advance and are provided from Bar.

**Caution.**—A submarine pipeline, which may best be seen on the chart, extends from a point close SW of the harbor at Budva to the NW part of the head of Uvala Jaz.



### Budva and the adjoining coast

**9.18 Uvala Jaz** ( $42^{\circ}17'N.$ ,  $18^{\circ}49'E.$ ), a small inlet, indents the coast 1 mile W of Budva. Uvala Trsteno, another small inlet, indents the coast 1 mile W of Uvala Jaz. Both of these inlets are sheltered, but are open to the S. Anchorage is available, in depths of 7 to 18m, sand, under the E shore of Uvala Jaz.

**Rt Platamon** ( $42^{\circ}16'N.$ ,  $18^{\circ}47'E.$ ), a rounded point, forms the SE end of a large and steep-to hilly projection which extends 5 miles NW to Rt Zukovac. A light is shown from a prominent tower, 10m high, standing on the point.

A conspicuous chapel is situated near the shore, about midway between the point and Rt Zukovac and a prominent conical hill, 364m high, stands 1 mile SE of it. Anchorage can be taken, in a depth of 40m, about 0.2 mile SW of the chapel, but vessels in this vicinity should depart at once on the indication of S winds.

Greben Kamenik, a steep-to rock, lies about 0.4 mile NW of Rt Zukovac. It is nearly awash and is marked by a beacon.

**9.19 Zaliv Traste** ( $42^{\circ}22'N.$ ,  $18^{\circ}41'E.$ ), a fairly large bay, is entered between Rt Traste and Rt Kotciste, 1.5 miles WNW. A low isthmus is located at the head and connects the hilly peninsula that forms the W side of the bay with the high land to the SE of it. Mount Prcja Glava, 409m high, rises 2.3 miles ESE of Rt Traste and forms a conspicuous landmark from the W. Rt Traste is marked by a light and fronted by a spit, with a least depth of 3.3m, which extends up to 0.3 mile N.

Uvala Bigova, a small cove, lies in the SE corner of the bay and the village of Traste, with a conspicuous church, stands at its head. Anchorage, protected from S winds, can be taken, in depths of 12 to 14m, sand, about 0.3 mile NE of Rt Traste.

**Caution.**—A submarine pipeline, which may best be seen on the chart, extends 2 miles SSW from the N shore of Zaliv Traste.

An explosives dumping area, which may best be seen on the chart, lies centered 14 miles SW of Rt Platamon.

It is reported that charted depths along this part of the coast are unreliable and the coastline may differ in places.

### Boka Kotorska

**9.20 Boka Kotorska** ( $42^{\circ}23'N.$ ,  $18^{\circ}32'E.$ ), a large gulf, consists of an entrance channel and three natural and inter-connecting basins which provide excellent shelter for vessels of all sizes. The bottom is mostly mud near the middle of the basins and sand, mud, and shells near the shores.

**Rt Ostra** ( $42^{\circ}24'N.$ ,  $18^{\circ}32'E.$ ), the W entrance point of Boka Kotorska, is 62m high and precipitous. This point is the SE extremity of a narrow and rocky peninsula that extends 1.5 miles SE from the mainland. It is marked by a light and is surmounted by a conspicuous fort and a signal station.

Rt Miriste, the E entrance point, is located 1.5 miles E of Rt Ostra and the tower of an old fort stands on its extremity. Otocic Mamula, a small islet, lies 1 mile NE of Rt Miriste. It is surmounted by a fort and marked by a light.

Generally, the basins are surrounded by high land with a number of peaks which stand out prominently in clear weather. Mount Radostak, 1,446m high, stands 6.3 miles N of Rt Ostra and Mount Dobrostrica, 1,570m high, stands 1 mile WNW of it.

Topaljski Zaliv, the W bay of Boka Kotorska, is 3.5 miles long and is surrounded by high land with numerous settlements along the shores. The harbors of Hercegnovi, Meljine, and Zelenika lie along the N shore of this bay and are of some commercial importance. The small harbor of Kotor lies in the S corner of the Kotorški Zaliv, the E bay.

**Winds—Weather.**—The bora, the dry NE and N wind, and the scirocco, the humid SE and S wind, occur here more frequently in winter. They may be dangerously sudden and blow with great violence down the slopes and through the gorges of the surrounding mountains. The bora may be accompanied by fog, snow, and sudden changes in temperature, but the scirocco, a warm wind, usually brings fog and rain.

**Tides—Currents.**—In the entrance to the gulf the currents set to the NW along the E shore and SE along the W shore, frequently attaining a velocity of 2.5 knots in either direction. In the narrows of Kumbur the current usually sets to the W and is very strong, but in Verige the current is variable in direction and never exceeds a velocity of 0.5 knot under normal conditions.

Off the entrance to Boka Kotorska, the coastal current is deflected by an outflow caused by SE winds, which sets the water towards shore and causes eddies.

**Pilotage.**—Pilotage is compulsory for Boka Kotorska and all the ports within it. Pilots can be contacted on VHF channel 16 and board about 1 mile SE of Rt Ostra. Vessels should send an ETA and a request for pilot 24 hours in advance.

**Caution.**—In the N part of the entrance channel leading into Boka Kotorska, the NW and SE currents meet at the change of the tide and with a S wind can cause a heavy and dangerous sea in this vicinity.

The coastal border between Montenegro and Croatia lies in the vicinity of the mouth of Boka Kotorska.

**9.21 Hercegnovi** (42°27'N., 18°32'E.) (World Port Index No. 41570), a small harbor, is enclosed by a breakwater on the S side, and a small jetty on the W side. The town stands NE of the harbor and is conspicuous against the terraced hill sides of the background. A prominent belfry, with a monastery 0.3 mile ENE of it, is situated in the E part of the town.

There are depths of 6 to 8m in the harbor entrance. The outer 120m of a quay, on the S side of the harbor, is reported to have depths of 4.9 to 8.8m alongside and is used by medium-sized vessels or coasters. The inner part of the harbor is used by lighters and small craft.

Greben Karatoc, a dark and jagged rock, lies close SE of the breakwater and must be avoided.

**Meljine** (42°27'N., 18°34'E.) (World Port Index No. 41580), a small harbor, lies at the head of a bay and is formed by two jetties protected by a short breakwater. The harbor has depths of 1 to 4m and is used by small craft.

A conspicuous naval hospital and a monastery are situated near the W entrance point of the bay and a conspicuous and large hotel stands on the NE shore. Greben Savina, an above-water rock, lies close offshore S of the hospital and a prominent church stands on a hill 0.5 mile ENE of the hotel.

**Zelenika** (42°27'N., 18°35'E.), a small harbor, lies on the E shore of Uvala Meljine and maintains the pilot station for Boka Kotorska. It is reported that the harbor was damaged by an earthquake and is closed to commercial shipping. Reconstruction is in progress.

**9.22 Tivatski Zaliv** (42°26'N., 18°40'E.), the middle bay of Boka Kotorska, is connected to Topaljski Zaliv by Kumborski Strait, a deep passage. This bay is steep and rocky on its S side, but the NE and NW shores, which are backed by mountains, are low and cultivated. Uvala Kukuljina and Uvala Krtole, separated from each other by a group of islands and a reef, lie in the SE part of this bay and are backed by the lowlands of the valley of Zupa. The NW shore of the bay is fairly well populated with several small towns, some of which are fronted by piers suitable for coasters. The Naval Base of Tivat is situated along the E shore of the bay.

Ostrvo Stradioti, the largest of the islands lying in the SE part of the bay, is 37m high and is marked by several beacons at its W extremity. It is easily recognized against the lowlands in the background. Otocic Otok, the W and smallest island in the group, can be identified by a church with a prominent belfry standing on its N shore.

Plicina Jezicac, nearly awash, lies at the outer end of a spit which extends about 0.5 mile WNW from the N extremity of Ostrvo Stradioti. Vessels should not attempt to pass between this reef and the islands to the E.

Vessels may take anchorage, in depths of 13 to 15m, mud, within Uvala Kukuljina about 1 mile E of Plicina Jezicac.

**Caution.**—Anchorage prohibited areas, which may best be seen on the chart, lie in the vicinity of the naval base.

Tivatski Zaliv is the center of much naval activity. A torpedo range, 3.2 miles long, and target buoys are situated in the S part of the bay.

**9.23 Tivat** (42°26'N., 18°42'E.) (World Port Index No. 41620), a naval arsenal and base, lies along the NE shore of Tivatski Zaliv, 9 miles within the entrance to Boka Kotorska. It

can be easily identified by numerous prominent buildings. The harbor lies along the quayed shorefront of the arsenal and consists of a rectangular basin which is entered between its SW corner and a finger pier on the S side. A floating drydock is moored outside and close W of the harbor. The harbor has depths of 3 to 7.9m. Stanisic Quay, situated close SE of the harbor, can be used by commercial coastal vessels with drafts up to 4.5m. Vessels can take anchorage, in depths of 29 to 39m, about 0.5 mile NW of Rt Seljanova, a point, which lies 0.5 mile NW of Tivat and is marked by a light.

A small town, which contains a church with a conspicuous belfry, is situated 1 mile NNW of Tivat. This belfry is visible from all parts of Tivatski Zaliv.

Verige Strait, a narrow and deep passage, is steep-to and leads 1.3 miles NNE. It connects Tivatski Zaliv with a basin to the SE known as Kotorski Zaliv and with a basin to the NW known as Morinjski Zaliv. Caution is necessary when leaving the passage because the convergence of the currents from Kotorski Zaliv and Morinjski Zaliv sometimes causes a race.

Otocic Sveti Dorde and Otocic Gospa od Skrpjela, two small islets, lie close together 0.5 mile N of the N entrance of Verige Strait. Each of these islets is surmounted by a chapel. Vessels may pass on either side of these islets, although the channel to the S is preferred. However, no attempt should be made to pass between them.

Morinjski Zaliv is divided into two small bays. Several small villages are situated on the shores of these bays and most are fronted by quays which are suitable for coasters or small craft.

**9.24 Risan** (42°31'N., 18°42'E.) (World Port Index No. 41590), a small harbor, lies at the NW head of Morinjski Zaliv and is protected by a breakwater. The town is situated close E of the harbor and can be easily recognized by a large hospital standing in its N part and a church, with a prominent belfry, standing near the center. The harbor has depths of 2.7 to 5.2m and is used by small vessels and coasters. Anchorage can be taken, in depths of 13 to 16m, mud, about 0.5 mile SSW of the harbor entrance. Caution is advised as squalls can blow with strength into this bay.

**9.25 Kotor** (42°25'N., 18°46'E.) (World Port Index No. 41610), a small port, lies on the E side of the head of Kotorski Zaliv and 15 miles from the entrance of Boka Kotorska.

**Winds—Weather.**—The bora and the scirocco both blow with considerable force within Kotorski Zaliv, particularly along the N shore. However, the harbor at Kotor is sheltered.

**Depths—Limitations.**—The main quay, about 360m long, fronts the town and has depths of 5.1 to 8m alongside. Vessels up to 144m in length and 7.9m draft can be accommodated.

**Aspect.**—Drazin Rt is located about midway along the N shore of Kotorski Zaliv. Several conspicuous buildings stand in the vicinity of this point. Sveti Stasije is situated on the E shore of the bay, 2.7 miles NNW of Kotor. A light is shown here and a prominent church is situated near it. The E and SW shores of the bay are populated with small and prominent villages, some of which are fronted by piers suitable for small craft or coasters.

The ancient walls surrounding part of the town of Kotor are prominent from seaward. A conspicuous obelisk stands near the shore at the N side of the town.



**Pilotage.**—Pilotage is compulsory for vessels of more than 500 gross tons. Vessels should send an ETA 24 hours in advance. Pilots may be contacted on VHF channel 16 and board 1 mile SE of Rt Ostra.

**Regulations.**—In order to prevent damage to boats or floating objects secured alongside wharves and to small craft underway, all vessels are prohibited from proceeding at a speed of more than 12 knots anywhere within Kotorški Zaliv.

**Anchorage.**—Vessels can take anchorage, in depths of 16 to 18m, mud, about 0.3 mile NW of the head of the quay. Large vessels can take anchorage within Kotorški Zaliv, in a depth of 31m, mud, about 1 mile NW of Sveti Stasije.

**Caution.**—It has been reported that, with the exception of a heavily-guarded section under naval control, the entire Kotorški Zaliv has been mined due to the existing (1999) state of war and that all maritime activity has been declared prohibited.

## Boka Kotorska to Dubrovnik

**9.26 Rt Jubuka** (42°27'N., 18°25'E.), located 7 miles NW of Ostri Rt, is the NW extremity of a hammerhead shaped projection which extends 1 mile offshore and forms two small bights. Ostrvo Molunat is the largest of two small islets which lie close off the SE extremity of this projection. It is 49m high and is marked by a light.

Luka Mali Molunat, the SE bight of the above projection, affords sheltered anchorage to small vessels with local knowledge which can proceed through the narrow opening between Ostrvo Molunat and the mainland to the NE. Luka Veliki Molunat, the NW bight, provides a temporary refuge from SE gales, but is open to the NW and heavy seas frequently set into it.

Snijeznica, 1,234m high, stands 4 miles inland, 6.5 mile NNW of Rt Jubuka. This mountain has a bare and conspicuous summit which can be seen from any position off this section of the coast.

**Rt Sustjepan** (42°35'N., 18°13'E.), 49m high, is the NW extremity of a narrow projection which extends 1 mile NW from the coast. Rt Rat is the NW extremity of a similar projection, 42m high, located 0.3 mile NE. Cavtatska Luka, an inlet, is entered between these points and the town of Cavtat is situated in the vicinity of its head.

**Otocic Cavtatski Grebeni** (42°34'N., 18°12'E.), a group of islets and above-water rocks, lies up to 2 miles W of Rt Sustjepan. Otocic Mrkan, the largest islet, is 65m high and appears dark from seaward.

**9.27 Zupski Zaliv** (42°36'N., 18°12'E.) is entered between Rt Sustjepan and Rt Pelegrin, 2.5 miles NW. The E and SE shores of this bay are backed by mountains, but a valley through which a river flows lies within the N shore. Malastica, 628m high, stands 1 mile N of the bay. This hill has a somewhat sharp peak and is prominent from seaward. A conspicuous church stands on the NW side of the bay. Anchorage can be taken, in depths of 28 to 37m, mud, about 0.5 mile off the E shore of the bay. The anchorage is sheltered from S and SE winds, but NW and SW winds sometimes send in a heavy sea and caution is advised.

Otok Supetar lies 0.7 mile NNW of Rt Sustjepan. This islet is 8m high and a prominent building stands near its summit. Hrid Superka, an above-water rock, lies on a rocky patch about 0.3 mile SE of this islet.

Cavtatska Luka is generally steep-to except at its head. This inlet provides shelter for coasters and a mooring buoy is situated in the center. The town of Cavat is fronted by 270m of quayage which may be used by small craft and small coasters.

**9.28 Otok Lokrum** (42°38'N., 18°07'E.), 89m high, lies in the approaches to Dubrovnik, 3 miles WNW of Rt Pelegrin, the W entrance point of Zupski Zaliv. This rocky and steep-to island has two summits and is covered by evergreen trees and bushes. From the SW, it appears as two islets. The ruins of a fort are situated on the N summit and a monastery stands on the S flat part of the island.

**Rt Petka** (42°39'N., 18°03'E.), the W extremity of the Lapad Peninsula, is bold, steep-to, and covered with brushwood. Mount Petka, 192m high, rises above the point. This hill has two peaks and reddish brown cliffs on its seaward side.

**Hridi Grebeni** (42°35'N., 18°13'E.) consists of a chain of barren, jagged, and reddish above-water rocks that lie on a reef between 0.2 and 0.6 mile W of Rt Petka. A passage leads between these rocks and the point, but it is only used by small vessels with local knowledge. A light is shown from a prominent structure, 13m high, standing on the W rock of this chain.

**9.29 Uvala Sumartin** (42°39'N., 18°03'E.), a small bay, is open to the W. It indents the W end of the Lapad Peninsula and lies between Rt Petka and Rt Gnjljiste, 0.6 mile N. Small vessels can find temporary shelter here, but anchorage is dangerous in winter.

**Otocic Daksa** (42°40'N., 18°04'E.), a densely-wooded island, lies with its S extremity located 0.3 mile N of Rt Gnjljiste. Its summit is surmounted by a ruined fort. A light is shown from a structure, 4m high, standing near the shore on the N extremity of the island. A prominent disused light structure stands above the light.

**Luka Zaton** (42°41'N., 18°03'E.), a small and narrow inlet, is entered 0.9 mile NNW of Otocic Daksa and extends 1 mile NNW. The coast in the approaches is rocky and steep-to, but the shores of this inlet are bordered by ledges and shoals. A narrow channel, with depths of 18 to 23m, leads into the inlet between these shoals. Anchorage can be taken in the middle of the inlet, in depths of 19 to 22m, mud, but caution is recommended as the area is exposed to S winds. The village of Veliki Zaton is situated on the W shore of the inlet and is fronted by a small boat harbor.

**9.30 Rt Bat** (42°41'N., 18°03'E.), the W entrance point of Luka Zaton, is located 1 mile NNW of Otocic Daksa. A light is shown from a tower, 6m high, standing on this point.

**Caution.**—A submarine pipeline extends 0.8 mile S from a point on the coast 0.4 mile E of Rt Petka.

A submarine cable, which may best be seen on the chart, extends inshore along the coast between Ostri Rt and Hridi Grebeni.

Several submarine cables and a pipeline extend between the N side of Otok Lokrum and the mainland.

**Dubrovnik (42°38'N., 18°07'E.)**

World Port Index No. 41550

**9.31** Dubrovnik, a large city, stands on the mainland shore to the N of Otok Lokrum and extends to the N. Stara Luka, the old harbor, lies on the SE side of the walled and prominent part of the city. It is protected by breakwaters and used by small craft. The main commercial port facilities are situated within Luka Gruz and Rijeka Dubrovacka, which front the NW side of the city.

**Iraklion Home Page**

<http://www.portauthority.hr/dubrovn2>

**Winds—Weather.**—Strong NW and S winds send heavy seas into Velika Vrata, but they are usually of short duration. Luka Gruz is sheltered from all winds except the bora which blows with exceptional violence in this vicinity.

**Depths—Limitations.**—**Luka Gruz** (42°40'N., 18°05'E.) (World Port Index No. 41540), the main commercial harbor for Dubrovnik, extends 0.9 mile SE from Rt Kantafig. Gruz, a suburb of Dubrovnik, is situated on the E side of this inlet and has many tall buildings. Lapad is situated on the W side of the harbor and consists mainly of villas and hotels.

There are depths of 35m in the harbor approach. There is 1,934m of quayage within the harbor, which provides nine berths for ocean-going vessels. In addition, there is 534m of quayage which provides five berths for small vessels and coasters. These berths have depths of 6.5 to 13m alongside. There are facilities for general cargo, bulk, ro-ro, and container vessels. Containerized cargo is handled at Pier 16 which is 185m long and has an alongside depth of 10.2m. The ro-ro berth is 100m long and can accommodate vessels of up to 12m draft. Vessels up to 60,000 dwt, 230m in length, and 9.7m draft have been accommodated.

Rijeka Dubrovacka, a narrow inlet, extends 2 miles E from Rt Kantafig and serves as an additional mooring area for Dubrovnik. There is a tanker berth which can handle vessels up to 10,000 dwt, 110m in length, and 7m draft.

Extensive yacht marinas lie near the heads of both Luka Gruz and Rijeka Dubrovacka.

**Aspect.**—Rt Kantafig, located 0.9 mile E of Otocic Daksa, is the SW entrance point of Rijeka Dubrovacka and the NW entrance point of Luka Gruz. A light is shown from a structure, 5m high, standing on this point.

**Pilotage.**—Pilotage is compulsory for vessels over 500 grt and all vessels carrying dangerous chemical or combustible substances. Pilots can be contacted on VHF channel 12 and board about 0.7 mile N of Hridi Grebeni Light. Vessels must send an ETA 24 hours in advance to Rad Dubrovnik (YUX) and confirm the ETA 2 hours in advance of arrival.

Pilots board and disembark in position 42°37.2'N, 18°08.4'E for passenger vessels intending to anchor in Lokrumski.

**Anchorage.**—Anchorage can be taken, in depths of 35 to 42m, mud, about 0.2 mile W of Otocic Daska. The anchorage is not recommended in S winds.

**Directions.**—Vessels entering Luka Gruz or Rijeka Dubrovacka should pass through Velika Vrata, which leads W of Hridi Grebeni. Vessels may then pass on either side of Otocic Daksa. The NW side of Mala Vrata, the S channel, should be favored as a shoal bank borders the mainland shore.

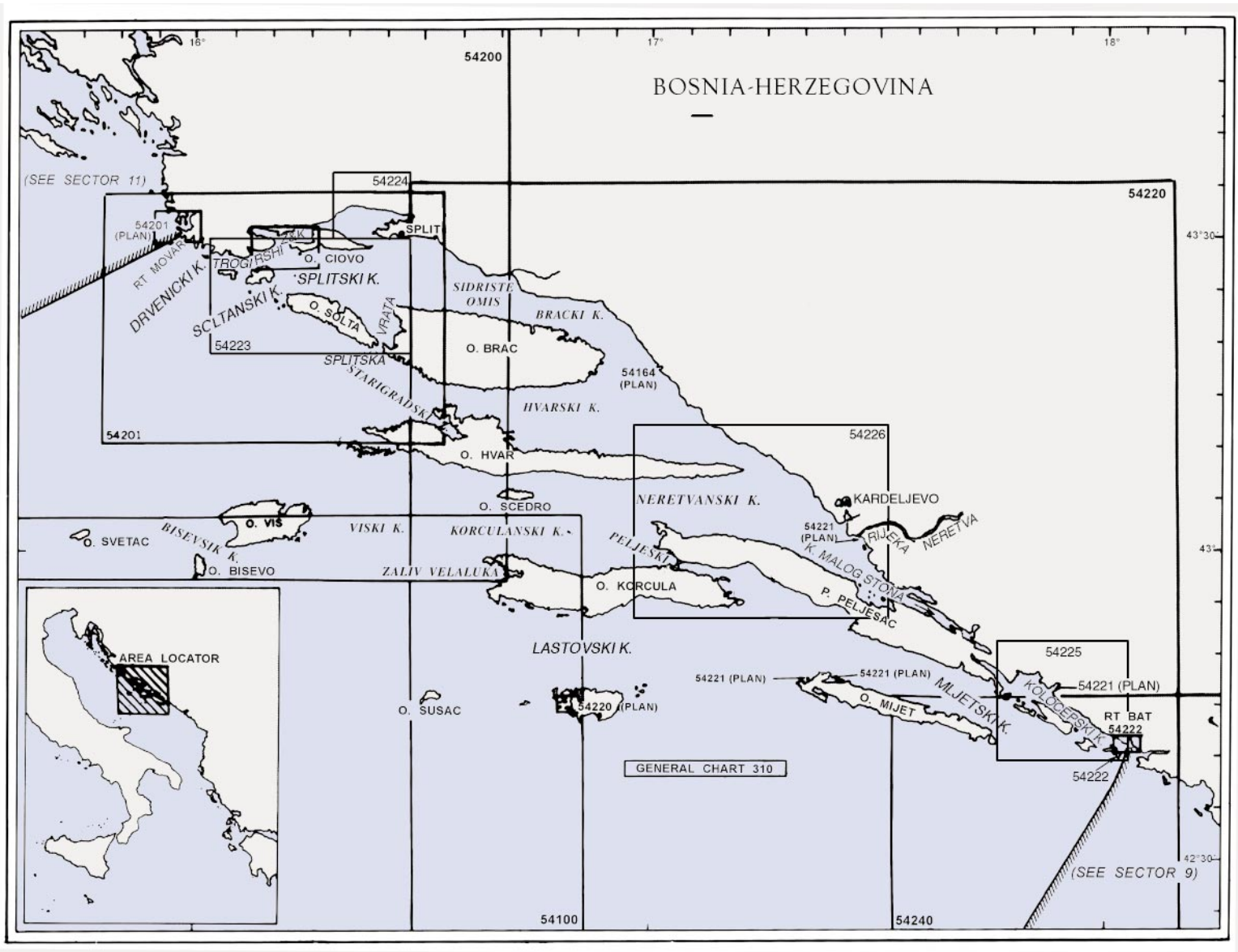
It is reported that all vessels are prohibited from using Mala Vrata between 1 April and 1 October annually.

**Caution.**—Submarine cables, which may best be seen on the chart, lie in the approaches to the port.

Due to the existence of submarine pipelines and cables, anchoring prohibited areas, which may best be seen on the chart, lie in the vicinity of the entrance to and within Rijeka Dubrovacka and Luka Gruz.

Several wrecks, which may best be seen on the chart, lie within Luka Gruz and are marked by buoys.





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 10 — CHART INFORMATION**



## SECTOR 10

### CROATIA AND BOSNIA-HERZEGOVINA—RT BAT TO RT MOVAR AND OFF-LYING ISLANDS

**Plan.**—This sector describes the coasts of Croatia and Bosnia-Herzegovina and the off-lying islands. The descriptive sequence is NW along the coast from Rt Bat, with the exception of that part bordering Neretvanski Kanal which is described towards the S. The off-lying islands are first described in general terms followed by a description of the channels separating them.

#### General Remarks

**10.1 Winds—Weather.**—Bora is the name of the cold and dry NE or N wind which blows with great strength and affects the Adriatic Sea in the cool season. It is much less frequent and generally much weaker in summer. This wind is felt strongly along both sides of the Adriatic and is especially violent where mountains fall steeply to the coast. Winds from the SE, S, and SW sometimes blow with great force and cause rough seas along the E side of the Adriatic Sea.

Along this part of the coast, the bora blows with violence, especially close to the mainland, attaining its greatest force off Uvala Vrulja, at the E end of Bracki Kanal. The whole of Split-ski Kanal and its entrance channels, as well as the S shore of Ostrvo Brac, are swept with strong bora winds. An indication of an arriving bora is the formation over the coastal peaks of white clouds, from which radiate small plumes.

In general, the bora blows more steadily and with less force in the vicinity of Ostrvo Vis than leeward of Ostrvo Hvar and the mainland. It is presaged a few hours by the formation, on the NE horizon, of white cumulus over a bank of dark compact clouds.

When the sky becomes lead-colored, it indicates a violent bora accompanied by gusts of hurricane force, which last briefly. With this indication present, the first violent gusts from the N or NNE are preceded by a brief period of calm.

The sirocco blows fresh through the channels between the islands and brings fog. It is forecast by the formation of clouds on the mountain summits of the mainland and principal islands; frequently the atmosphere becomes so clear that vessels can sight Promontorio del Gargano. The scirocco and the libeccio cause high seas and strong ebb tidal currents near Rt Movar and on the W sides of the islands.

In summer, the night land breeze from the E, and the day breeze from the NW or W, becomes established near the mainland coast.

**Tides—Currents.**—Between Rt Rat and Rt Podkavec, the coastal current flows toward the NW along the open coast and in the channels, with a mean velocity of 0.5 knot. The tidal current affects somewhat the coastal current; the ebb is stronger than the flood. When the ebb flows in the same direction as the coastal current, the resultant velocity may reach 1 knot along the open coast and in the larger channels, and 1.5 knots in the more constricted channels. Persistent winds from the

NW or SE decrease or increase, respectively, the velocity of the current.

Between Rt Podkavec and Rt Movar, the coastal current flows toward the NW along the open coast and in the channels, with a mean velocity of 0.5 knot. The tidal current affects somewhat the coastal current; the ebb is stronger than the flood. When the ebb flows in the same direction as the coastal current, the resultant velocity may reach 1 knot along the open coast and in the larger channels, and 1.5 knots in the more constricted channels. Persistent winds from the NW or SE decrease or increase, respectively, the velocity of the current.

**Caution.**—Due to conditions of armed conflict, vessels are advised to use extreme caution when in the surrounding territorial waters of the former Yugoslavia. Reports have been received of vessels being fired upon, port blockades, and indiscriminate minelaying.

All vessels calling at Croatian ports must send an ETA 24 hours in advance through a Croatian radio station.

Pilotage is compulsory for vessels over 500 grt and all vessels carrying dangerous chemical or combustible substances while proceeding between Croatian ports and while in Croatian coastal waters.

#### Kolocepski Kanal and Off-lying Islands

**10.2 Rt Bat** (42°41'N., 18°03'E.), marked by a light, is the steep-to extremity of a wooded peninsula which borders the W side of Luka Zaton. The coast to the N of this point is rocky, steep-to, and is backed a short distance inland by mountainous country with little intervening space of cultivated ground.

**Otok Kolocep** (42°40'N., 18°01'E.) is the SE island of a chain which lies close off the mainland coast. This island is 125m high near its W end and lies on the NW side of the entrance to Luka Gruz. It is barren and rocky except for a wooded peak rising in the S part. A light is shown from its SE extremity.

**Otok Lopud** (42°41'N., 17°57'E.) lies close NW of Otok Kolocep. This island has two summits and the numerous trees and bushes give it a dark aspect. The walls of a ruined fort are situated on the NW slope of the NE summit. Uvala Lopud, a cove, lies on the NW side of the island and the village of Lopud is situated at its head. The village is fronted by a small harbor which is formed by a mole and used by small vessels. Anchorage can be taken, in depths of 20 to 36m, mud, near the E shore of this bay.

Kolocepski Vrata, a channel, leads between Otok Kolocep and Otok Lopud. Otic Skupio, a small islet with a 5.8m shoal close E of it, lies on the NW side of this channel 0.6 mile SW of the SE extremity of Otok Lopud. A 3.5m shoal lies almost in the middle of the narrowest part of the channel and the preferred fairway passes to the W of it.

**10.3 Otok Sipan** (42°44'N., 17°53'E.), lying close NW of Otoc Lopud, is the largest and most populated island of the chain. It rises to a height of 234m at the N end and a prominent conical hill, 224m high, stands 2 miles NW of the SE extremity. Ruda, a bush-covered islet, lies 0.5 mile SE of the NE extremity of the island and Misnjak, a small islet, 13m high, lies close off the NW extremity. A light is shown from Rt Tiha at the NW side of the island.

Lopudska Vrata, a channel, leads between Otoc Lopud and Otok Sipan. It is deep and sheltered from NW winds.

**Otoc Sveti Andrija** (42°39'N., 17°57'E.), the outer islet of the chain, lies 2.3 miles SW of the NW extremity of Otok Kolocep. This islet is covered with vegetation, is precipitous on its SW side, and is surmounted by a convent. A light is shown from a prominent structure, 17m high, standing at the NW side of the islet.

**Otoc Jakljan** (42°45'N., 17°48'E.), fronted by islets on its N side, lies close NW of the SW extremity of Otok Sipan. A white stony peak, 225m high, stands near the center of this island and is conspicuous from seaward.

**Otoc Olipa** (42°46'N., 17°47'E.), 206m high, lies with its SE side 0.5 mile NW of the NW extremity of Otok Jakljan. This island is rocky and partly wooded. A light is shown from a prominent tower, 11m high, standing on the S extremity.

Veliki Vratnik, a channel, leads between Otok Jakljan and Otok Olipa. A strong current usually sets W through this channel.

**Caution.**—Several submarine cables, which may best be seen on the chart, extend between the islands and islets in the above chain.

A prohibited area, which may best be seen on the chart, extends up to 0.3 mile seaward from the SW side of Otok Sipan.

**10.4 Kolocepski Kanal** (42°42'N., 17°58'E.) extends NW from the vicinity of Rt Bat and leads between the mainland coast and the above-described chain of islands. This channel is easy to enter at all seasons and provides good anchorage almost throughout its entire length because of the protection from the NE and SW. Entrance into the channel can be made at the S end, by Veliki Vrata, in the middle, by Lopudska Vrata, or at the N end by Veliki Vratnik.

**Luka Slano** (42°47'N., 17°53'E.), entered at the NW end of Kolocepski Kanal, is a nearly landlocked inlet which provides protection from S winds. Anchorage can be taken, in a depth of 11m, near the head. The town of Slano is situated at the head of the inlet and is fronted by a quay suitable for small craft. Vessels can also anchor off the entrance, in a depth of 50m, about 0.2 mile SW of the SE entrance point.

**Poluotok Peljesa** (42°53'N., 17°33'E.), an extensive peninsula, projects 38 miles NW from a point on the mainland at the N end of Kolocepski Kanal, 2 miles NE of Otok Olipa. It consists of two parallel mountain ranges, separated by a conspicuous saddle, with the greatest heights being in the NW part. Sveti Ilija, the summit, is 961m high and stands 7 miles W of Rt Osicac, the SW extremity of the peninsula.

**Rt Lovisce** (43°03'N., 17°00'E.), the NW extremity of the peninsula, is covered with shrubs. A light is shown from a prominent tower, 9m high, standing on the point.

**Stonski Kanal** (42°47'N., 17°47'E.), a deep inlet, indents the SE end of Poluotok Peljesac at the NW end of Kolocepski Kanal. Its shore rises rapidly on each side and provides

protection from NE and SW winds. The village of Brocej is situated on the S shore 3.8 miles within the entrance. It is fronted by several small craft piers. A narrow channel leads 1 mile NW to the village of Ston at the head of the inlet. It is marked by lighted beacons and is dredged to a depth of 2.5m. A quay, used by small coasters, is situated at Ston.

Large vessels can anchor within Stonski Kanal, in a depth of 38m, mud, about 2 miles NE of Rt Grbljava, the E entrance point. Smaller vessels can anchor, in a depth of 22m, mud, under the NE shore about 0.6 mile ESE of Brocej.

**Caution.**—Vessels over 500 grt and all vessels carrying dangerous substances or which are not declared gas free are prohibited from navigating through Kolocepski Kanal. In exceptional circumstances and with a pilot, vessels carrying oil may navigate in the channel between 1 October and 31 March with prior permission.

## Off-lying Channels and Islands

**10.5 Otok Mljet** (42°43'N., 17°40'E.) lies with Rt Gruj, its SE extremity, located 3.5 miles S of the E end of Poluotok Peljesac. This island extends 20 miles WNW and consists of a chain of wooded hills with a deep depression lying about 6 miles from its SE end. The N side of this island is generally cultivated but the S shore is rocky and barren. Veliki Grad, 514m high, is the summit of the island and rises near the center. Anchorage can be taken by vessels with local knowledge within several inlets along the coasts which are fronted and sheltered by small islets.

**Caution.**—Navigation is prohibited within 500m of Rt Gruj.

**10.6 Mljetski Kanal** (42°47'N., 17°35'E.) leads between Otok Mljet and Poluotok Peljesac. It is clear, free of dangers, and of easy access. The NE shore of the channel is high and of a whitish aspect with scattered patches of brush. It is backed by mountains which rise directly above it.

**Otocic Lirica** (42°53'N., 17°26'E.) lies close off Rt Prezdra, the NW entrance point of Mljetski Kanal. This small islet is 27m high and a light is shown from a prominent tower, 14m high, standing on its W end.

Zaton Zuljana, a bay, lies N of the islet and within Rt Prezdra. It terminates in two small coves which are used by small craft. Luka Trsenik, a small inlet, lies at the NW side of the head of the bay. A small quay, protected by a short breakwater, is situated in this inlet and is used by small vessels. Anchorage, in good weather only, can be taken by vessels, in a depth of 29m, mud, in the entrance to the inlet SE of the breakwater.

**Caution.**—A submarine pipeline, which may best be seen on the chart, lies across the W end of Mljetski Kanal.

Several submarine cables, which may best be seen on the chart, extend between the above islands and the mainland.

**10.7 Otok Lastovo** (42°45'N., 16°52'E.), fronted by numerous islets and rocky shoals, consists of a mountainous mass. Brdo Hum, the summit of the island, rises near the center. It is 417m high and surmounted by a chapel. The coasts are rocky, steep-to, and cliffy. With the exception of the SE side, the island is indented with numerous bays and coves.

**Rt Struga** (42°43'N., 16°54'E.) is the W extremity of a promontory which lies at the E end of the S side of Otok Lastovo. A light is shown from a prominent structure, 23m high, standing on the S end of the promontory.

Anchorage can be taken, in a depth of 50m, mud, within the E part of Skrivena Luka, a bay, entered close W of Rt Struga. However, this roadstead is not safe with winds from the S. Anchorage can also be taken by medium-sized vessels, in depths of 51 to 55m, sand, within Luka Velji Lago which lies at the N part of the W side of Otok Lastovo.

**10.8 Otocic Glavat** (42°46'N., 17°09'E.), lying 9 miles E of the E end of Otok Lastovo, is the outermost danger at the E side. This small islet is bare and 20m high. A light is shown from a prominent structure, 5m high, standing on the islet.

Navigation within the dangers lying between Otok Lastovo and Otocic Glavat requires great caution and local knowledge because of the numerous submerged rocks and strong currents.

**Otocic Tajan Velji** (42°49'N., 16°59'E.), a small islet, lies 3.4 miles NE of the NE extremity of Otok Lastovo. It is marked by a light and is the outermost danger in this vicinity. Vessels are advised not to pass S of this islet.

**Otocic Bijelac** (42°46'N., 16°45'E.), lying 6 miles W of the W end of Otok Lastovo, is the outermost danger at the W side. This rock is 15m high and has light-colored vertical sides.

**Hrid Pod Mrcaru** (42°47'N., 16°47'E.), an above-water rock, lies 2.3 miles WNW of the NW extremity of Otok Lastovo. It is marked by a light and is the outermost danger in this vicinity.

**Caution.**—Navigation is prohibited within 300m of the SW shore of Otok Lastovo.

**10.9 Otok Susac** (42°46'N., 16°31'E.) rises to heights of 82m in the SW part and 239m in the NE part. From a distance, this island appears as two islets. Its sides are partly wooded, cliffy, and steep-to. A light is shown from a conspicuous structure, 20m high, standing on Rt Triscavac, the SW extremity of the island.

**Otok Palagruza** (42°24'N., 16°16'E.), a Croatian island, lies 24 miles SSW of Otok Susac and is fully described in Pub. 131, Sailing Direction (Enroute) Western Mediterranean.

**Lastovski Kanal** (42°50'N., 16°51'E.) leads between Otok Lastovo and Otok Korcula. This channel is clear, wide, and deep and is a W continuation of Mljetski Kanal. Usually, a normal W current sets through the channel, but when accelerated by E winds, this current forms eddies at the W entrance. In winter, the bora blows heavily within this channel and it is prudent for sailing or low-powered vessels to endeavor to find some shelter at the first indications of its approach.

**10.10 Otok Korcula** (42°57'N., 17°00'E.) lies on the N side of Lastovski Kanal. This island consists of a chain of tree-covered mountains which traverses its entire length.

Rt Raznjic, the SE extremity of the island, is marked by a light. This point is formed by a bare tongue of land and a stone pile, surmounted by a cross, stands on it.

**Caution.**—Navigation is prohibited within 500m of Rt Raznjic.

Brdo Klupa, 568m high, is the summit of the island and rises 9 miles W of Rt Raznjic. Brdo Kom, 510m high, rises 6.5 miles W of Brdo Klupa and has a conspicuous double peak.

Rt Velo Dance, the SW extremity of the island, is marked by a light and fronted by rocks.

**Otocic Proizd** (42°59'N., 16°37'E.), a brushwood-covered islet, lies close offshore 3.5 miles NNW of Rt Velo Dance. It is fringed by shoals and rocks and forms the NW extremity of Otok Korcula. A light is shown from a tower, 8m high, standing on the W extremity of this islet.

Zaliv Vella Luka, a large bay, is entered between Rt Vella Luka and Otocic Proizd and provides good anchorage for large vessels. The shores of this bay are heavily indented and are fronted by numerous islets. Vela Luka, a small town, stands at the head of the bay and is fronted by a small harbor, with depths of 2 to 4.8m, which is used by small craft and ferries. Coasters with local knowledge can anchor, in depths of 11 to 22m, off the town. Ocean-going vessels can anchor, in depths of 38 to 47m, sand, about 0.3 mile ENE of the E extremity of Otocic Osjak which lies on the S side of the bay, 2.7 miles NE of Rt Velo Dance.

**10.11 Peljeski Kanal** (42°58'N., 17°10'E.), leading between Otok Korcula and the W end of Poluotok Peljesac, is just over 0.5 mile wide at its narrowest part and has depths of 18 to 55m over the route taken by ocean-going vessels. The bora winds blow strongly in this channel and cause violent squalls in the E part; the scirocco winds blow fresh and usually produce a heavy and choppy sea. During calms and light breezes, the current in the channel is generally tidal and its rate varies from 0.5 to 1.5 knots. With winds of long duration, this current may attain a rate up to 3 knots.

The E entrance of the channel is obstructed by a group of islets which may best be seen on the chart. Otocici Sestrice, consisting of two small islets, lies 2.7 miles NNE of Rt Raznjic and forms the NE and outer danger. A light is shown from a prominent structure, 12m high, standing on the NW and larger of the two islets.

Large vessels generally use the passage leading E and N of Otocici Sestrice; only small vessels with local knowledge proceed through the group of islets to the S and W. Because of numerous small craft, vessels navigating Peljeski Kanal are restricted in most of it to a maximum speed of 12 knots. Ocean-going vessels can take anchorage under the N shore of the channel, in depths of 18 to 36m, gravel and shells. Small vessels can anchor in any of the coves and inlets along the S shore of the channel.

**Caution.**—Several submarine cables and pipelines lie in the vicinity of the above islands, islets, and channels and may best be seen on the chart.

Vessels over 500 grt and all vessels carrying dangerous substances or which have not been certified gas-free are prohibited from navigating through Peljeski Kanal. In exceptional circumstances and with a pilot, the above-mentioned vessels of less than 5,000 grt may navigate in Peljeski Kanal from 1 October to 31 March. The pilot boards, as follows:

1. About 0.5 mile SW of Rt Sveti Liberan.
2. Close NE of Sestrice.



## Mid-Adriatic Islets and Dangers

**10.12 Otocic Jabuka** (43°06'N., 15°28'E.), 96m high, lies nearly in the middle of the Adriatic about 50 miles WSW of Split. This rock is barren, reddish-colored, and steep-to. When viewed from the SW or NE, it appears as a vessel under sail.

Plicina Jabuka, an isolated rocky patch, lies about 1.2 miles WNW of this rock and has a least depth of 6.5m.

Being nearly in the center of the Adriatic, Otocic Jabuka is an excellent landmark for vessels which are bound from the Italian coast to the channels leading to Split and Zadar. The rock can be seen for a considerable distance and may be approached from any direction in safety.

**Caution.**—Navigation is prohibited within 300m of Otok Svetac and Otocic Jabuka.

A disused explosives dumping ground area, which may best be seen on the chart, lies centered 2.5 miles NW of Otocic Jabuka.

**10.13 Otok Svetac** (Andrija) (43°02'N., 15°45'E.), 305m high, lies 13 miles ESE of Otocic Jabuka and is generally steep-to. The coast of the island is rocky and reddish in color on the NW side. Its SW end is fronted by a few rocks. Hrid Kamik, a dark and jagged above-water rock, lies 0.7 mile W of the SW extremity of the island.

Otocic Brusnik, dark and surrounded by rocks and reefs, lies 1.7 miles SE of Otok Svetac and should not be closely approached. A rocky shoal, with a depth of 7m, lies about 0.2 mile N of this islet.

**10.14 Otok Vis** (43°03'N., 16°10'E.), a large island, appears as a compact mountainous mass from a distance. The coasts of the island are high and steep-to, except along the SE side where numerous small islets and reefs front the shore and extend up to about 1 mile seaward. A light is shown from a conspicuous tower, 28m high, standing on Rt Stoncica, the NE extremity of the island.

An isolated rocky patch, with a depth of 10.5m, lies about 5 miles SE of Rt Stoncica. A bank, with a least depth of 22m, is reported (1983) to lie about 4 miles E of this patch.

Rt Stupisce, marked by a light, is the SW extremity of the island. Brdo Hum, 587m high, stands 2.5 miles NE of this point and is the summit of the island. This conspicuous peak is bare and surmounted by a signal station.

Zaliv Komiza, a large and deep bay, is entered close N of Rt Stupisce. The town of Komiza is situated in the NE part of the bay and is fronted by a small craft harbor which is protected by a mole. Anchorage can be taken by large vessels, in depths of 21 to 40m, mud and sand, about 0.4 mile S or 0.3 mile W of the head of the mole. Caution is recommended because the depths shoal rapidly in the approach to the shore.

Shoals, with depths of less than 12m, extend up to about 2 miles NW of the NW extremity of the island; this area should be given a wide berth.

Anchorage can be taken by small vessels, in depths of 20 to 38m, sand and pebbles, in the middle or the S part of Viska Luka which is entered on the N side of the island, 2 miles W of Rt Stoncica. The entrance to this small bay is obstructed by islets and rocks and the small town of Vis, with a small craft

harbor, stands at the head. This bay is only used by vessels with local knowledge. The port monitors VHF channels 10 and 16.

**Caution.**—Navigation is prohibited within 300m of those open parts of the coast of Otok Vis where there are no islets or facilities.

Several submarine cables extend between Otok Vis and the surrounding islands and may best be seen on the chart.

**10.15 Otok Bisevo** (42°58'N., 16°01'E.) is hilly and wooded. This small island rises steeply to its summit which is 239m high and stands near the SE end. A light is shown from the extremity of a small promontory on the NE side of the island.

**Bisevski Kanal** (42°00'N., 16°02'E.), 2.2 miles wide, leads between Otok Bisevo and Otok Vis. This channel, in good weather, can be used to advantage to shorten the route out of the Adriatic. However, in winter with strong winds and currents it is best avoided.

## Inner Channels and Islands

**10.16 Korculanski Kanal** (43°03'N., 16°35'E.) can be entered from the S, between Otok Vis and Otok Korcula, or from the W via Viski Kanal which leads between Otok Vis and Otok Hvar. This channel connects with Neretvanski Kanal to the E and is part of the main approach to Kardeljevo. It is easily navigated and vessels may pass on either side of Otok Scedro and Otocic Plocica although the central route is safer for larger vessels.

**Caution.**—Several submarine cables extend across Korculanski Kanal and Neretvanski Kanal and may best be seen on the chart.

The bora sometimes blows with great strength within the vicinity of Korculanski and Neretvanski Kanals.

Magnetic anomalies have been experienced within Korculanski Kanal and Neretvanski Kanal.

**10.17 Hridi Lukavci** (43°05'N., 16°35'E.) is formed by two bare light-colored rocks which lie on a reef in the W part of Korculanski Kanal. During E winds, the currents set strongly in this vicinity. A light is shown from a tower, 8m high, standing on the S rock.

**Otocic Plocica** (43°02'N., 16°49'E.) lies 4.7 miles SE of the E extremity of Otok Scedro. This small islet is 12m high and is surrounded by rocks and foul ground. A light is shown from a prominent structure, 25m high, standing on this islet.

**Otok Scedro** (43°05'N., 16°42'E.) lies 3 miles E of Hridi Lukavci. The island is elevated at each end and slopes towards the sea in the middle. Its shores are indented by coves and are generally steep-to. A light is shown from a structure, 8m high, standing 0.3 miles SE of Rt Scedra, the W extremity of the island.

**Neretvanski Kanal** (43°05'N., 17°05'E.), a continuation of Korculanski Kanal, is entered N of Rt Lovisce, the NW extremity of Poluotok Peljesa. It is wide and mostly free of dangers. This channel leads E for 11 miles and then SE for 9 miles where it narrows at the entrance to Malo More.

**Kardeljevo (Ploce) (43°03'N., 17°26'E.)**

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**10.18** Luka Kardeljevo, an inlet, lies in the N part of the delta area of Rijeka Neretva, a large river. The town of Kardeljevo is situated in the E part of the inlet and is connected to the inland regions by barge canal. The commercial port lies on the E side of the inlet.

**Kardeljevo Home Page**<http://www.portauthority.hr/ploce2>

**Winds—Weather.**—The bora sweeps violently through the valley of Rijeka Neretva, but Luka Kardeljevo is somewhat protected by the hills to the NE and the greatest force of the wind is felt to the E of the river mouth.

**Tides—Currents.**—Strong currents have been reported (1998) off the pier.

**Depths—Limitations.**—The entrance channel has been dredged (1994) to a depth of 10.9m over a width of 600m. There is 1,671m of commercial quoyage in the port which provides 11 berths for ocean-going vessels. The main facilities include Bosanska Obala, 227m long, with depths of 6.3 to 9.5m alongside; Biokovska Obala, 368m long, with depths up to 9.8m alongside; Obala No. 3, 410m long, with depths up to 9.8m alongside; and Obala No. 5, 507m long, with a depth of 10.5m alongside. There are facilities for container, general cargo, and bulk vessels. Vessels up to 230m in length and 11.3m draft can be accommodated.

In addition, an oil berth lies at the W side of Kanal Vlaska which is entered close S of Luka Kardeljevo. Tankers up to 27m beam and 9.2m draft can be accommodated with no restriction for length. Navigation within Kanal Vlaska is prohibited when the wind blows over 10 knots in a N/S direction or over 14 knots in an E/W direction. Transit through Kanal Vlaska is restricted to daylight hours and requires the assistance of two tugs.

Rueka Neretva, about 250 miles long, carries extensive barge and local small craft traffic to the towns lining its banks. The entrance channel, which is buoyed, has a depth of about 3m over the bar and requires local knowledge. Metkovic, situated 10 miles above the entrance, is quayed and used by small coasters and small craft.

**Aspect.**—The low marshy delta of Rijeka Neretva is bounded by abruptly higher land on each side which serves to identify the positions of the river mouth and the entrance to the harbor, close N.

Rt Visnjica, the N entrance point of Luka Kardeljevo, is formed by a bluff and is marked by a light. Otocic Osinj lies on the SE side of the river entrance 3 miles SE of Rt Visnjica. This island is covered with brushwood and has two conical peaks. It shows up very well against the land behind it.

Lighted buoys, moored S of Rt Visnjica, mark the entrance channel leading into Luka Kardeljevo.

**Pilotage.**—Pilotage is compulsory for vessels of over 500 gross tons. Pilots can be contacted on VHF channel 12 and usually board within 3 miles of Rt Visnjica. Pilots board ves-

sels carrying dangerous chemical or combustible substances about 2 miles N of Rt Lovisce. All vessels must send an ETA and a request for pilotage 2 hours in advance.

**Regulations.**—Vessels approaching the port from the N or NW are required to keep at least 1 mile off Rt Visnjica until on the line of bearing of the axis of the entrance channel.

Vessels departing the entrance and proceeding to the N or NW are required to round Rt Visnjica at a distance of 0.5 mile to avoid incoming traffic.

Vessels leaving the entrance channel take precedence over vessels entering.

A speed limit of 6 knots exists within the inlet.

**Anchorage.**—Large vessels can anchor, in a depth of 25m, good holding ground within Neretvanski Kanal and W of the prohibited anchorage area in the approaches.

**Caution.**—The lighted buoys, which mark the entrance channel, have been reported to shift in severe weather.

An anchoring prohibited area, which may best be seen on the chart, lies in the approaches to the harbor.

A prohibited area lies in Uvala Bacino at the N end of Luka Kardeljevo and may best be seen on the chart.

The entrance channel is subject to silting.

**Inner Channels and Islands (Continued)**

**10.19 Malo More** (42°58'N., 17°28'E.) is a narrow continuation of Neretvanski Kanak. It is entered 3.5 miles SE of the entrance to Luka Kardeljevo and extends SE for 4 miles.

**Kanal Malog Stona** (42°55'N., 17°35'E.) is a landlocked continuation of Malo More. This channel extends 10.5 miles to the head, narrowing as it progresses. Its SE part is known as Zaliv Malog Stona. The shores of the channel are rocky and steep-to with mountainous terrain closely backing them. Rapid changes in the water level (seiches) of up to 2m occur periodically within Kanal Malog Stona and cause strong currents of variable direction.

**Rt Nedjelja** (42°53'N., 17°39'E.) is the NW extremity of a tongue of land which extends 0.9 mile NW from the N side of Poluotok Peljesac. Kanal Malog Stona becomes constricted and shallow SE of this point and can only be used by small craft with local knowledge. Sheltered anchorage can be taken, in depths of 22 to 25m, mud, anywhere under the N shore of Kanal Malog Stona in its outer part.

**10.20 Zaliv Klek Neum** (42°56'N., 17°35'E.), a narrow bay, lies on the NE side of Kanal Malog Stona and is a resort area. It is entered between Rt Rep Kleka, located 5.3 miles NW of Rt Nedjelja, and Rt Meded, 0.4 mile NW. The shores of this bay, although not particularly steep-to, are closely backed by steep mountainous terrain. Rt Rep Kleka is fringed by a shoal bank and marked by a light. Hrid Lopata, a low above-water rock, lies on a reef 0.6 mile E of Rt Rep Kleka and must be avoided. The village of Polace, fronted by a wharf, is situated on the N side of the E part of the bay and serves the town of Neum which stands 0.5 mile inland. The village of Klek is situated 0.8 mile NNE of Rt Rep Kleka and has two prominent towers and a cross. Pilotage is provided by Ploce. Anchorage can be taken as convenient within the bay. Anchorage is prohibited in the E portion of the bay due to the presence of unexploded ordnance.

**Caution.**—The coastal border between Croatia and Bosnia-Herzegovina extends SW into the NW part of Kanal Malog Stona in the vicinity of Rt Meded, the N entrance point of Zaliv Klek Neum. The border then continues SE along the approximate center of Kanal Malog Stona to the vicinity of Rt Nedjelja where it extends NE towards the mainland coast.

Shellfish farming is reported to be carried out in Kanal Malog Stona and parts of Malo More.

The bora occasionally blows, with violent squalls from the mountains, in the vicinity of Zaliv Klek Neum.

A sunken submarine, with unexploded ordnance aboard, has been reported to lie about 90m S of Uvala Moracna.

**10.21 Otok Hvar** (43°08'N., 17°00'E.) is one of the largest and most populated islands in this vicinity. It is traversed by a range of mountains which descends abruptly on the S side to the sea. Vrh Sveti Nikola, 626m high, is the summit of the island. It stands 10.5 miles ESE of the W extremity of the island and is surmounted by a chapel.

**Rt Sucuraj** (43°08'N., 17°12'E.), the E extremity of Otok Hvar, lies 2.5 miles from the mainland coast. This point is low and a chapel is situated on it. A light is shown from a prominent structure, 14m high, standing on the point.

**Rt Pelegrin** (43°12'N., 16°22'E.), the W extremity of Otok Hvar, is marked by a light and from a distance, resembles a dark hill. A conspicuous radio mast, 120m high, stands 2.5 miles ESE of the point.

**Pakleni Otocic** (43°10'N., 16°20'E.), a group of islands and islets, lies S of Rt Pelegrin and extends 6 miles W from the SW part of Otok Hvar. Otok Vodnjak Veli is the W and outer island of the group. This island has two shrub-covered peaks and a light is shown from its SW extremity. A historic wreck, located E of the island near Oticic Parzanj, is best seen on the chart.

**Pakleni Kanal** (43°11'N., 16°22'E.) lies between Pakleni Otoci and Otok Hvar. It is a deep and wide channel, with access at both ends, which leads to Luka Hvar. This channel is frequented by small vessels with local knowledge and affords good shelter from the bora, although heavy squalls may be encountered. The currents in the channel are strong and irregular. They change with the tide, but are greatly influenced by the prevailing winds.

**Otocic Pokonji Dol** (43°09'N., 16°27'E.), a small islet, lies 0.3 mile offshore at the E end of Pakleni Kanal. A light is shown from a prominent structure, 15m high, standing on this islet. Small vessels enter the channel by passing close N of this islet.

**10.22 Luka Hvar** (43°10'N., 16°27'E.), the only harbor of any consequence on the S shore of Otok Hvar, lies at the NE side of Pakleni Kanal and is protected by several islets. Sveti Marko Church, with a conspicuous tall belfry, is situated at the W side of the town. Svijecnice Church, low and prominent, stands on a hill 1.2 miles N of Sveti Marko Church. Spanjol Fort, massive and in ruins, stands on a slope just N of the town and is visible for a considerable distance to seaward.

The harbor, which fronts the town, is quayed on three sides. The E and main quay is 200m long and has depths up to 6m alongside. It is used by ferries and small vessels with drafts up to 5m. Large vessels can anchor in the outer part of the harbor, in depths of 20 to 35m, mud covered with weed. This roadstead

is open to the S and caution is necessary because of the uneven bottom. Local knowledge is required. The harbor can be contacted on VHF channel 10 or 16 and local pilots are available.

**Starigradski Zaliv** (43°12'N., 16°33'E.), a bay open to the NW, is entered SW of Rt Kabal, the W extremity of a promontory extending from the N coast of Otok Hvar. Rt Kabal is located 7 miles ENE of Rt Pelegrin and is marked by a light. The bay gives excellent protection and the town of Stari Grad is situated at its head. Anchorage can be taken over a bottom of mud and sand anywhere in the bay. The town is fronted by a small harbor, with depths of 2 to 4.5m alongside, which is used by small craft and ferries.

**Hvarski Kanal** (43°15'N., 16°32'E.), which is 1.8 miles wide at its narrowest part, leads between the N side of Otok Hvar and the S side of Otok Brac. Although this channel is deep and clear, it is seldom used except by vessels proceeding to Makarska from the W.

## Coastal Features

**10.23 Gradac** (43°06'N., 17°21'E.), a resort town, stands 5 miles NW of Rt Visnjica, the N entrance point of Luka Kar-deljevo. It is fronted by a small craft harbor which is protected by a breakwater. Vessels can anchor, in depths of 25 to 30m, close S of the town.

From Gradac, the coast extends NW and is backed by mountainous and prominent terrain.

**Rt Podkapec** (43°08'N., 17°17'E.) is located 3 miles NW of Gradac. Brdo Susvid, 1,155m high, stands 1.4 miles inland 5.5 miles NW of this point. It has a conical summit and is the highest and most conspicuous peak along this part of the mainland coast.

**Luka Makarska** (43°18'N., 17°01'E.), a small bay, lies at the NE end of Hvarski Kanal 15.2 miles NW of Rt Podkapec. Rt Sv Peter is the W extremity of the small peninsula which forms the NW side of this bay. A light is shown from a prominent structure, 14m high, standing on this point; a prominent chapel surmounts the summit of the peninsula. The sides of the peninsula are formed by conspicuous steep, red cliffs.

The resort town of Makarska, fronted by a small craft harbor, is situated on the NE side of the bay at the foot of the mountains. Vessels can anchor, in a depth of 40m, sand, as convenient off the harbor entrance.

**Bracki Kanal** (43°22'N., 16°52'E.) leads between the mainland and Otok Brac. It is mostly clear and deep except in its NW part where there are several patches with depths of less than 10m. The N shore of this channel is barren and desolate with mountainous terrain closely backing the coast. Sveti Fure, 1,762m high, stands 3.5 miles NNE of Makarska. This peak is the highest in the vicinity and is conspicuous because of its bare and whitish summit.

At Uvala Vrulja, located 8.5 miles NW of Makarska, a conspicuous gorge lies between the coastal mountain ranges and allows the bora to funnel through with particular violence. This wind often commences suddenly without warning even in the summer, but in the latter case it is of brief duration.

**10.24 Sidriste Omis** (43°27'N., 16°42'E.) (World Port Index No. 41340), a roadstead bay, lies 8.7 miles WNW of Uvala Vrulja. The town of Omis is situated on the E bank of the

mouth of the Rijeka Cetina, a shallow but important river, which flows into the head of the bay.

The deep valley through which the river approaches the sea is conspicuous from seaward. The town stands at the foot of a hill, 311m high, which is surmounted by the prominent ruins of a fort. Ravnice is situated on the E side of the bay 1 mile SE of Omis.

This small town is fronted by a quay, 250m long, with a depth of 5m alongside. It can be identified by several prominent factory buildings and a tall chimney. Omis can easily be identified by a monastery with a conspicuous spire. This town is fronted by a mole with a depth of 3.4m alongside.

A shoal, developed by river sediment, fronts the NW side of the roadstead and extends up to 0.4 mile offshore. Its seaward side is steep-to and is marked by a buoy. A dangerous wreck, marked by two beacons, lies about 0.3 mile SW of the head of the mole at Omis.

Large vessels can anchor in the roadstead, in depths of 30 to 35m, soft mud, S of the monastery spire. Small vessels can anchor, in depths of 15 to 26m, mud and sand, close W of the monastery. Local knowledge is advisable and local pilots are available and are provided from Split.

**Dugi Rat** (43°19'N., 16°24'E.), a small town, is situated at the head of a small inlet 2.3 miles W of Omis. A conspicuous factory building stands close W of the town and is fronted by a quay, 160m long, with a depth of 8.3m alongside. Vessels up to 15,000 dwt can be handled here and local pilots are provided from Split. A shallow bank extends along the W side of the inlet and is marked by a lighted buoy.

The mainland coast extends 10 miles WNW from Dugi Rat to the approaches to Split. Shoals, with depths of 8 to 15m, lie up to about 3 miles seaward of the shore and may best be seen on the chart.

**Caution.**—Several submarine cables and pipelines extend between the mainland coast and the off-lying islands and may best be seen on the chart.

## Islands and Channels in the Approach to Split

**10.25 Otok Brac** (43°20'N., 16°40'E.) is the highest of all the Adriatic islands and the most populated and fertile of the Dalmatian group.

Rt Lascatna (Rascatna), the E extremity of the island, is marked by a light. This point is rugged and lies 5.3 miles WNW of Makarska. Brdo Vidova Gora, 778m high, is the highest and most conspicuous peak on this mountainous island. It stands near the S coast 13 miles W of Rt Lascatna and is surmounted by a television mast.

**Rt Razanj** (43°19'N., 16°24'E.), the SW extremity of the island, falls to the sea at the end of a steep range of mountains which extends along the S coast. A light is shown from a prominent structure, 14m high, standing on this point.

The N shore of the island gradually alters from the barren region in the vicinity of Rt Lascatna to a more cultivated and sloping area on which are situated numerous villages. Generally, these villages are situated within or near the many inlets which indent this coast.

Bol, the main town, stands on the S coast at the SE foot of Brdo Vidova Gora. It is fronted by a small craft harbor which is

protected by breakwaters. Ocean-going vessels can anchor, in depths of 30 to 50m, mud, SW of the town.

The village of Sumartin is situated at the head of Luka Sumartin, a small inlet, which is entered 2.3 miles SW of Rt Lascatna. The E entrance point of the inlet is marked by a light. Anchorage can be taken, in depths of 30 to 60m, mud, off the entrance of the inlet or, in depths of 30 to 38m, in the center of the inlet.

Luka Povja, lying 3.2 miles NW of Rt Lascatna, is the SE cove of several located within a bay which extends in several directions.

Anchorage can be taken, in a depth of 30m, mud, in the outer part of this cove under the NE shore. The small town of Povja stands near the head of this cove and has a prominent belfry. It is fronted by a jetty used by small craft.

Luka Pucisce, a narrow inlet, lies on the N coast 8 miles WNW of Rt Lascatna. The small town of Pucisce is situated around the head of a cove at the SW end of the inlet. Small vessels with local knowledge can anchor, in a depth of 11m, soft mud and sand, at the entrance to this cove.

Luka Supetar, an inlet, is entered on the N coast 7.3 miles NE of Rt Razanj. The E entrance point is marked by a light and the W entrance point is surmounted by a mausoleum. The small town of Supetar stands on a hill near the head of the inlet and is fronted by a harbor which is protected by breakwaters. The harbor is used by small craft and ferries. A conspicuous belfry stands in the town. Ocean-going vessels can anchor, in a depth of 26m, sand, NE of the harbor. Caution is necessary to avoid a shoal, with a least depth of 5.4m, lying about 0.5 mile N of the entrance.

The village of Sutivan, situated 3.5 miles W of Luka Supetar, is fronted by a small craft harbor which is protected from the NE by a breakwater. Ocean-going vessels can anchor, in depths of 20 to 30m, mud, N of this harbor.

The resort town of Milna is situated at the head of Luka Milna, a large inlet, lying 1.4 miles ENE of Rt Razanj. This inlet is protected from all but N and NW winds. The town is fronted by a harbor which has depths of 2 to 5m and is used by small craft and coasters. Ocean-going vessels can anchor, in depths of 26 to 35m, in the middle of the inlet.

Otocic Mrduja, an islet, lies in the S part of the approach to Luka Milna 1.2 miles N of Rt Razanj. It is covered in scrub, surmounted by conspicuous ruins, and is marked by a light.

**10.26 Otok Solta** (43°22'N., 16°20'E.) is located with Rt Livka, its SE extremity, lying 0.8 mile NW of Rt Razanj, the SW extremity of Otok Brac. A light is shown from a prominent structure, 10m high, standing on Rt Livka.

When viewed from the S, this island can easily be recognized by a flat and cultivated plain lying near its center. The S shore of the island is steep-to, but the N shore, which is indented by several bays, is fronted by shoals in several places. Brdo Vela Straza, 235m high, stands 2.3 miles NW of Rt Livka and is the summit of the island. Several small harbors lie within the small bays along the N coast and are used by small craft and local ferries.

**Otocic Stipanska** (43°19'N., 16°24'E.), lying 1.4 miles W of the W end of Otok Solta, is the W and outermost island of a group which fronts the W side of Otok Solta. It is 67m high and brush covered.

**Splitska Vrata** (43°20'N., 16°25'E.), lying between Otok Brac and Otok Solta, is the shortest and most frequented passage leading to Split and into Kastelanski Zaliv. Although this passage has a navigable width of only 0.3 mile, it presents no difficulties and has a depth of 18m in mid-channel. Within the passage, the W side is fringed by a shoal bank and the E shore should be favored. Pilotage for Splitska Vrata is available upon advance request to Split. Pilots will board close SW of Rt Razanj and will take the vessel through the channel and into Kastelanski Zaliv.

**Otok Veli Drvenik** (43°27'N., 16°10'E.) lies in the W approaches to Split 2 miles NW of Otocic Stipanska. Brod Buhaj, the summit of the island, is 181m high and stands in the NE part. The E part of the island is wooded and the S side is cultivated with numerous olive groves. A conspicuous chapel is situated 1 mile W of the summit. Ocean-going vessels may obtain anchorage, in a depth of 46m, sand and gravel, off the entrance to Luka Drvenik, an inlet, on the NW coast of the island. The small town of Drvenik, situated at the head of the inlet, is fronted by a small craft harbor.

Otocic Orud, 29m high, lies, with Otocic Macaknar close E of it, on a shoal bank 1 mile SE of the SW extremity of Otok Veli Drvenik.

**Otok Mali Drvenik** (43°27'N., 16°05'E.), lying 1.5 miles W of Otok Veli Drvenik, can easily be distinguished by its hilly and completely cultivated appearance. This island is very indented; ocean-going vessels can take temporary sheltered anchorage, in depths of 18 to 36m, sand and pebbles, within Uvala Vela Rina, an inlet located on the SW side.

**Otocic Murvica** (43°28'N., 16°04'E.), a bare and light-colored islet, lies 1 mile N of Rt Rat, the W extremity of Otok Mali Drvenik. A light is shown from a prominent structure, 7m high, standing on this islet.

**10.27 Soltanski Kanal** (43°25'N., 16°10'E.), leading between Otok Solta and Otok Veli Drvenik, is entered from the SW by passing close W of Otocic Stipanska. Because of the islets and shoals lying in the W part of the entrance and the lack of navigational aids, this passage is not recommended for use at night. Otocic Stipanska is reported to be conspicuous in daylight because of its dense covering of dark green shrubs which distinguish it from the other islets in this vicinity.

This channel is swept by the full force of the bora winds. The scirocco winds usually blow at right angles across the channel but are sometimes deflected into the entrances. The currents within the channel are mostly tidal but are effected greatly by winds. The scirocco winds may cause the W ebb current to attain a rate of 2 knots and produce eddies in the channel.

**Drvenicka Vrata** (43°26'N., 16°06'E.) leads between Otok Mali Drvenik and Otok Veli Drvenik and has a fairway only 0.8 mile wide. This channel is seldom used as the current causes considerable eddies; the N entrance is partly obstructed by a small islet and several shoals.

**10.28 Drvenicki Kanal** (43°28'N., 16°05'E.), 0.8 mile wide at its narrowest point, lies between the mainland coast and the N shores of Otok Mali Drvenik and Otok Veli Drvenik. This channel is deep and clear with the exception of two shoals, each with a least depth of 18m. One shoal lies in the W entrance about 0.7 miles NW of the W extremity of Otok Mali

Drvenik and the other lies in the E entrance 1.2 miles NE of the NE extremity of Otok Veli Drvenik. The passage is easily navigated and is the main route for vessels proceeding between Split and the North Adriatic Sea. Generally, under ordinary circumstances, a W current sets through the channel at a rate of 0.5 knot, but it may be effected by the winds.

The channel is entered between Otocic Murvica and the N extremity of Otok Mali Drvenik. The steep-to N coast of Otok Veli Drvenik should be favored when in the E part of the channel in order to avoid any dangers.

**Plic Macina** (43°27'N., 16°14'E.), a dangerous steep-to shoal, lies in the W part of Splitski Kanal near the intersection of Soltanski and Drvenicki Kanals. This danger has a least depth of 0.2m and is marked by a lighted beacon. It was reported that this beacon is difficult to distinguish and may be washed away during rough weather. An isolated shoal, with a least depth of 11.5m, lies about 0.4 mile NW of Plic Macina.

**Otok Ciovo** (43°30'N., 16°18'E.), 218m high, forms the SW side of the entrance and inner part of Kastelanski Zaliv. This island appears from a distance as a smoothly rising mound with a low E extremity. The S shore is steep-to with the exception of the W end which is fronted by several islets and reefs. The island is connected at the middle of its N side to the mainland by a swing bridge.

## Split (43°30'N., 16°26'E.)

World Port Index No. 41320

**10.29** The extensive port of Split lies at the W end of Bracki Kanal. It is divided into three main parts. Gradska Luka, the S harbor, lies on the S side of the town and is entered from Bracki Kanal. Luka Lora, the naval harbor, and Sjeverna Luka, the N commercial harbor, lie within the E part of Kastelanski Zaliv on the N side of the town.

### Split Home Page

<http://www.portauthority.hr/split2>

**Depths—Limitations.**—The port provides 15 berths for ocean-going vessels. Gradska Luka, the S harbor, has 1,700m of quayage, with depths of 3 to 9m alongside. This harbor, which is protected by breakwaters, is mostly used by passenger vessels and ro-ro ferries with drafts up to 8.3m.

Splitska Kanal, a deep channel, leads NW from Bracki Kanal into Kastelanski Zaliv. Plicina Supetarski Bad, an isolated bank, lies at the N end of Splitski Kanal and has a least depth of 12.6m.

### Sjeverna Luka (North Harbor)—Main Facilities

Facility	Length	Maximum vessel draft
Bazen Vranjic	870m	10.3m
Partizan Cement Quay	222m	9.7m
Prvoborac Cement Quay	274m	8.2m
Jugovinil LPG Quay	80m	9.7m

Sjeverna Luka (North Harbor)—Main Facilities		
Facility	Length	Maximum vessel draft
Silo Grain Quay	110m	11.3m
Vucicic Asbestos Quay	262m	7.3m
Tanker Quay	150m	11.6m

Generally, general cargo vessels up to 10.7m draft; bulk vessels up to 11.3m draft; and tankers up to 11.6m draft can be accommodated without any restrictions for length.

**Aspect.**—The church spires, belfries, and tall buildings of the city are conspicuous and are easily identified from seaward. A light is shown from a conspicuous obelisk, 38m high, standing at the E side of Gradska Luka, the S harbor. A prominent oceanographic institute is situated on the W extremity of the peninsula on which the city stands. Several rocks and shoals, marked by lights and buoys, lie within Kastelanski Zaliv in the approaches to Sjeverna Luka and may best be seen on the chart.

**Pilotage.**—Pilotage is compulsory for vessels of over 500 gross tons. Pilots can be contacted on VHF channel 12 and board about 0.5 mile S of the entrance to Gradska Luka, the S harbor. Pilots will board vessels carrying dangerous cargoes in the vicinity of the N part of the W entrance to Drvenicki Kanal about 2.3 miles W of Otocic Murvica. Vessels should send an ETA 24 hours in advance.

**Anchorage.**—Small vessels not carrying dangerous cargo can obtain anchorage during good weather, in depths of 40 to 45m, mud, about 0.5 mile SSE of the entrance to the S harbor. This anchorage is undesirable during the bora or strong S winds and vessels should proceed into Kastelanski Zaliv.

Large vessels may anchor, in depths of 12 to 20m, good holding ground, in Kastelanski Zaliv, SE of Kastel Kambelovac.

Vessels carrying dangerous cargo with drafts of less than 7.5m can anchor in a designated area bound by lines joining the following positions:

- 43°29.2'N, 16°29.6'E.
- 43°29.2'N, 16°31.6'E.
- 43°28.4'N, 16°31.6'E.
- 43°28.4'N, 16°29.6'E.

Vessels carrying dangerous cargo with drafts of 7.5m and over can anchor in a designated area bound by lines joining the following positions:

- 43°27.8'N, 16°29.6'E.
- 43°27.8'N, 16°31.6'E.
- 43°26.6'N, 16°31.6'E.
- 43°26.6'N, 16°29.6'E.

**Caution.**—Vessels approaching the port must take care to avoid the shoal patches which extend S from the shore in the E approaches.

A submarine pipeline, which may best be seen on the chart, extends 1 mile SSE from the E of Gradska Luka, the S harbor. Its seaward end is marked by a lighted buoy.

Stopping, anchoring, and fishing are prohibited within an area, which may best be seen on the chart, lying on the S side of the entrance to the N harbor and fronting the naval install-

ations and shipyard. Vessels should also reduce speed when passing the shipyard.

Several submarine cables lie in the vicinity of the harbors and their approaches and may best be seen on the chart.

## Trogirski Kanal

**10.30 Trogirski Kanal** (43°31'N., 16°15'E.), lying at the W end of Kastelanski Zaliv, divides the mainland from Otok Ciovo and leads into Trogirski Zaliv.

The E part of Kastelanski Zaliv is occupied by the N harbor of Split and has previously been described above in paragraph 10.29. The W part of the bay is generally populated along the N shore where there are several resort villages which are fronted by small craft and pleasure boat harbors. Anchorage can generally be taken anywhere under the N coast which is backed by high land. Pilotage is compulsory for all of Kastelanski Zaliv and pilots are available at Split.

Trogirski Kanal, which is marked by buoys, is quite narrow. It leads through mud flats, which occupy most of the area, and has a least depth of 4.1m. A swing bridge with an opening, 25m wide, spans the channel between Trogir and Otok Ciovo. Vessels wishing to pass through this bridge must notify the authorities at Trogir in advance. Generally, the normal current in Trogirski Kanal sets W. Its rate is variable, but a velocity of 3 knots has been reported at times.

Trogir is built on an islet lying in the narrowest part of Trogirski Kanal. This islet is located close off the mainland and is connected to it by a bridge. Trogir is fronted by a small harbor which has 335m of berthing space and is used by small craft and coasters.

Divulje, formerly a seaplane base, is situated on the mainland 2 miles ENE of Trogir at the NE entrance to the channel. Several prominent hanger buildings stand in this vicinity and the base is fronted by a small craft harbor which is protected by a mole.

**Caution.**—Anchoring and stopping are prohibited in Trogirski Kanal when in the vicinity of the swing bridge.

Navigation, stopping, and fishing are prohibited by all vessels, except military craft, in an area which extends 600m E and W and 250m S from the mole at Divulje. This area contains several mooring buoys.

**10.31 Trogirski Zaliv** (43°30'N., 16°12'E.) may be entered from the NE via Trogirski Kanal or from the E end of Drvenicki Kanal. The S and latter entrance lies between the W extremity of Otok Ciovo and the mainland coast, 1.2 miles W. This entrance is obstructed by a chain of islets and rocks through which several narrow and deep channels lead.

Trogirski Zaliv is divided into two branches. Zaliv Marina, the W branch, is surrounded by high land on its S side and backed by mountainous land on its N side. The village of Marina stands at the head of this branch and is fronted by a shallow boat quay. Large vessels can anchor, in depths of 13 to 37m, in the middle of this branch. Zaliv Saldun, the E branch, has mostly low and sandy shores. A shipyard and a floating dock are situated along its N side. Large vessels can anchor, in a depth of 29m, sand and mud, in the middle of this branch.

Pilotage is compulsory for Trogirski Zaliv. Pilots are provided from Split and, with advance notice, will board close S of the chain of islets in the entrance.

### Coastal Features

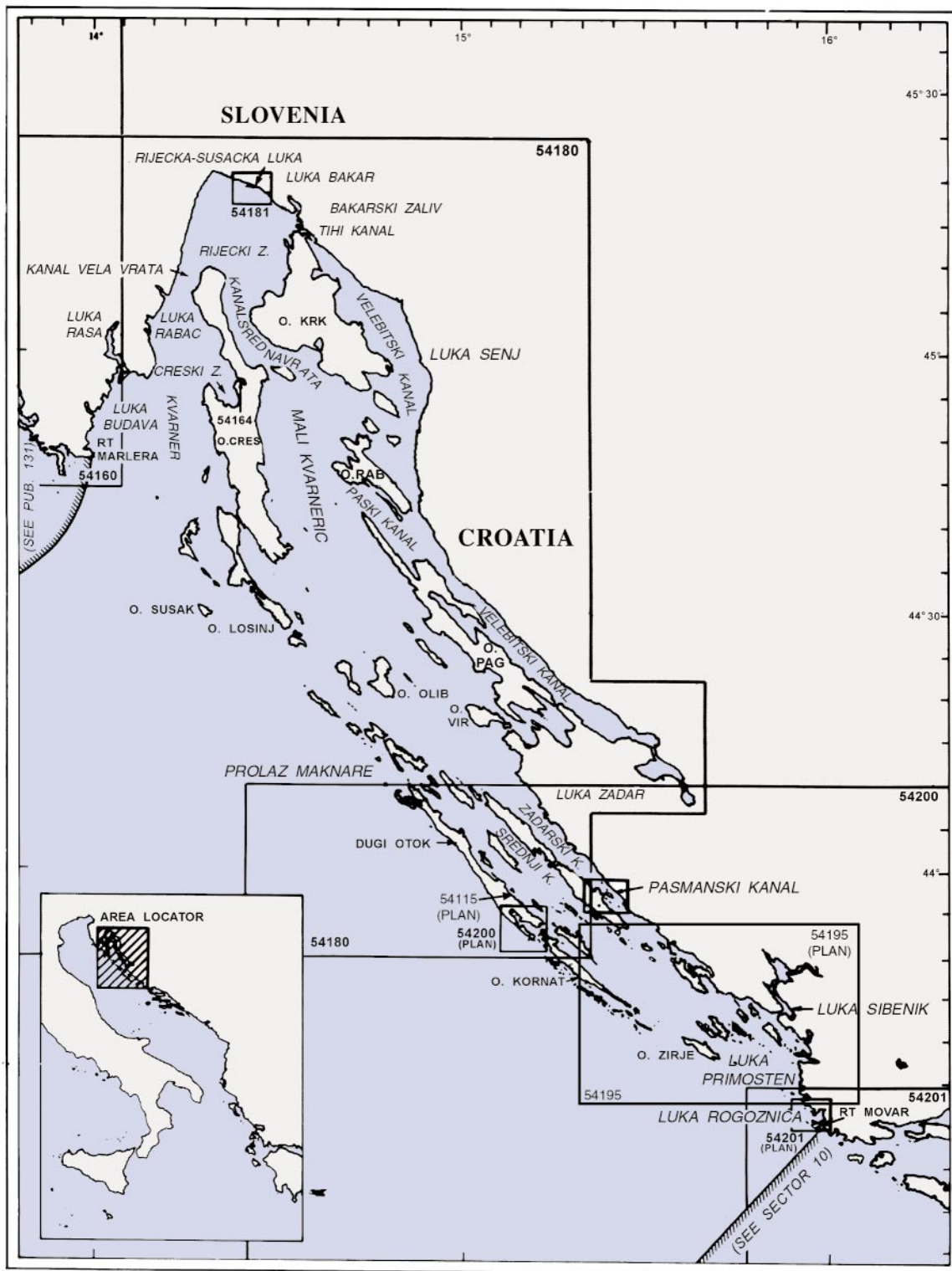
**10.32 Otocic Arkandel** (43°28'N., 16°02'E.), 72m high, lies close offshore on the N side of the W entrance to Drvenicki Kanal. It is steeply sloped and scrub covered. This islet can easily be recognized by the conspicuous ruins standing on its NE side. The mainland coast in this vicinity is steep and rocky with numerous small bights and coves.

Otocic Muljica, partly overgrown with shrubs, lies 0.4 mile W of the W end of Otocic Arkandel. A light is shown from a structure, 5m high, standing on the SE end of this islet. Hridi Muljica, an above-water rock, lies about 0.5 mile NW of Otocic Muljica. This bare rock is yellowish in color; the sea occasionally breaks over it.

Anchorage can be obtained by large vessels, in depths of 20 to 31m, sand, in the NE part of Uvala Stari Trogir, an inlet, which lies 0.8 mile NE of Otocic Muljica. Vessels entering this inlet from the W are advised to pass N of Hridi Muljice.

**Rt Ploca** (43°30'N., 15°58'E.), located 3 miles NW of Otocic Arkandel and marked by a light, is a steep headland which consists of whitish rock. It is surmounted by the conspicuous ruins of a chapel and fringed by rocks. A hill, standing 0.8 mile NNW of the headland, is prominent from seaward because its light color shows up easily against the darker mountains inland. Otocic Melevrin, over which the sea often breaks, lies 0.5 mile ESE of the headland. The currents in the vicinity of Rt Ploca are strong and onshore winds are reported to cause considerable eddies around it.

**Rt Movar** (43°30'N., 15°57'E.), located 1 mile NW of Rt Ploca, is fully described in paragraph 11.2.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 11 — CHART INFORMATION**





# SECTOR 11

## CROATIA—RT MOVAR TO RT MARLERA

**Plan.**—This sector describes the coast, islands, and channels of Croatia from Rt Movar to Rt Marlera. The descriptive sequence is N along the general alignment of the coast and from seaward into the approach channels.

### General Remarks

**11.1 Winds—Weather.**—During spring and summer, moderate SE and N winds prevail. The former is accompanied by rain squalls and lasts generally two or three days. The N wind brings good weather and is encountered at night, sometimes beginning about 2 hours before sunrise, then ceasing at sunrise. During summer, SSW or WNW breezes are usual during daylight.

In autumn and winter, the bora is the most violent wind encountered, enduring often for two or three days. In the S part of the area it is more moderate than in the N part, where, in Tihi Kanal and its vicinity, it can achieve hurricane force. The scirocco in winter is also strong and is accompanied by continuous rain. The libeccio is also encountered in severe force for a few hours, declining in velocity but continuing thereafter with mist and rain for long periods.

The winds and weather in Velebitski Kanal and in Mali Kvarneric are those prevailing generally in the Gulf of Quararo. The high land of the NE shore of Velebitski Kanal produces violent bora squalls rendering navigation dangerous, especially since there are few tolerable anchorages. Small vessels usually hug the NE shore so that refuge can be obtained quickly in its coves and never remain underway at night during winter.

The bora blows violently in Mali Kvarneric but shelter can be found at times to leeward of some of the islands.

The scirocco blows stronger in the N part of Mali Kvarneric than in the S.

The summer land breeze blows from the E and the sea breeze blows from the NW. Often in place of the sea breeze there are variable light airs and calms, most particularly in the S part of Mali Kvarneric. Calms are rare near Ostrvo Rab, where local variable winds are frequent.

**Tides—Currents.**—The waters entering the NE part of the inlet from Rijeka Krka produce a constant current toward Kanal Svete Ante, normally in the order of 0.5 to 1.5 knots. In Kanal Svete Ante, the current always sets outward, being stronger on the N side. In summer, the velocity reaches 0.5 knot while in winter, after heavy rains, it may reach 3 knots.

The axis of the NW coastal current, which has a normal velocity of 0.4 to 0.5 knot, lies approximately 9 miles off Dugi Otok and Ostrvo Kornat. In a position SW of Ostrvo Premuda, the coastal current forks into two branches, one entering Mali Kvarneric between Ostrvo Unjie and Ostrvo Losinj, and the other continuing along the W coast of Istria.

Under normal conditions the coastal current in Paski Kanal is affected by a slight tidal current, the NW being in the order

of 1 knot and the SE being weak. The influence of the wind on the current is dependent on its duration, direction, and strength.

The constant coastal current enters Rijecki Zaliv from Tihi Kanal, proceeds along the N and W shores, where it enters Kanal Vela Vrata. Its average velocity is 0.5 knot. During a strong and prolonged scirocco, the current in and leaving Tihi Kanal can increase to 3 knots. Similarly, during a strong bora, the current in Kanal Vela Vrata can reach 4 knots.

**Regulations.**—Changes to the Traffic Separation Scheme (TSS) in the North Adriatic Sea are set to be implemented in July 2007.

**Caution.**—Due to conditions of armed conflict, vessels are advised to use extreme caution when in the surrounding territorial waters of the former Yugoslavia. Reports have been received of vessels being fired upon, port blockades, and indiscriminate minelaying.

All vessels calling at Croatian ports must send an ETA 24 hours in advance through a Croatian radio station.

Pilotage is compulsory for vessels over 500 grt and all vessels carrying dangerous chemical or combustible substances while proceeding between Croatian ports and while in Croatian coastal waters.

### Coastal Features

**11.2 Rt Movar** (43°30'N., 15°57'E.), a round hilly headland, is located 4.5 miles NW of the W entrance to Drvenicki Kanal which leads E to Split. The coast to the N of this headland is considerably indented, bordered by numerous islets and shoals, and is backed by bare and rugged mountainous terrain.

**Hrid Mulo** (43°31'N., 15°55'E.), a small and rocky islet, lies 1.5 miles WNW of Rt Movar and is conspicuous from the S. A light is shown from a prominent structure, 18m high, standing on this islet.

Plic Veli Brak, an isolated shoal, lies about 1 mile NNW of Hrid Mulo. It has a least depth of 4.5m and is marked by a buoy. It is reported that this buoy is liable to break adrift in rough weather. Otocic Svilan, a small islet, lies 2 miles NW of Hrid Mulo and is 36m high.

Otocic Smokvica Vela lies 0.5 mile NW of Rt Movar. A small islet and several rocks lie on a shoal bank which extends up to about 0.5 mile NNE of the N end of this islet.

Rt Konj, 35m high, is located 0.6 mile N of Rt Movar and is the NW extremity of a small promontory.

**11.3 Luka Rogoznica** (43°31'N., 15°58'E.), a landlocked inlet, is entered between Rt Koni and Rt Gradina, which is marked by a light, 0.5 mile NE. This inlet is divided by Otok Rogoznica, 72m high, which is connected at its N end to the N shore of the inlet by a causeway. The small town of Rogoznica stands on the NW side of this islet and is fronted by a small craft quay with depths of 2 to 3.4m alongside.

Large vessels can take anchorage, in depths of 25 to 30m, mud and weed, in the E part of the inlet about 0.3 mile E of the town.

**Caution.**—A prohibited anchorage area, which may best be seen on the chart, lies in the entrance and W part of Luka Rogoznica.

**11.4 Rt Kremik** (43°35'N., 15°56'E.), located 4.3 miles NNW of Rt Movar, rises steeply from the sea and can be easily recognized. A light is shown from a conspicuous tower, 8m high, standing on this point. Luka Peles, an inlet with two branches, is entered 1 mile S of Rt Kremik. An extensive marina lies in the N branch.

Luka Primosten is entered between Rt Kremik and Rt Sela, 0.5 mile NNE. The resort town of Primosten, dominated by a conspicuous spire, stands on the N side of this inlet and is fronted by a small craft harbor. Numerous prominent hotel buildings are situated along the shores of this inlet. A quay, 73m long, is situated in the NE part of the inlet. It has a depth of 5.5m alongside and is used by automobile ferries from Italy. Vessels can anchor, in a depth of 16m, sand, near the middle of the inlet.

**Otocic Lukomjak** (43°35'N., 15°52'E.), 23m high, lies 2 miles W of Rt Kremik. This islet is the outermost danger of a group of islets, rocks, and shoals which front this point.

An isolated shoal patch, with a depth of 10.1m, lies about 1.8 miles SSW of Otocic Lukomjak. Large vessels should pass at least 2 miles W of the islet in order to avoid this danger.

**Caution.**—A prohibited anchorage area, which may best be seen on the chart, fronts Luka Peles.

## Approaches to Sibenik

**11.5 Sibenski Kanal** (43°40'N., 15°52'E.) leads between Rt Rat, the SE extremity of Otok Zlarin, and the NW extremity of Otocic Dvainka, 0.4 mile SE. Both of these points are marked by lights. Vessels approaching Sibenik from the S are advised to use this channel as it is the most direct route and provides the easiest access to Kanal Sveti Ante. The entrance can readily be identified by the opening seen between the larger Otok Zlarin and the several smaller islets lying to the E.

**Zlarinski Kanal** (43°41'N., 15°49'E.) leads along the SW side of Otok Zlarin and is entered midway between Rt Rat and Otocic Komorica, a small islet marked by a light, 1.5 miles SW. This channel is sometimes used as an alternate route to Sibenik by vessels entering Sibenska Vrata, the middle passage, which leads NE along the N end of Otok Zlarin. Although Zlarinski Kanal is deep and clear, the entrance to the middle passage within Sibenska Vrata is more restricted and the channel generally is used only by vessels proceeding to or from the NW.

Several submarine cables lie in the above channels and may best be seen on the chart.

## Sibenik (43°44'N., 15°53'E.)

World Port Index No. 41290

**11.6** Luka Sibenik consists of a long and narrow basin which is surrounded by high land. The town of Sibenik stands,

in the form of an amphitheater, on the E side of the basin and is fronted by the harbor. Kanal Sveti Ante leads between rocky cliffs into the basin. This passage is tortuous and narrow, but steep-to and deep.

**Tides—Currents.**—A constant current sets outward through Kanal Sveti Ante at rates of 0.5 to 1.5 knots. After heavy rains, the velocity of this current may reach 3 knots and cause some rips.

**Depths—Limitations.**—The basin provides 1,630m of total commercial berthing space and has depths of 17 to 40m within it.

Information on the main facilities is given in the accompanying table.

Sibenik Main Berthing Facilities		
Berth	Length	Depth alongside
Obala Oslobodjenja Quay	293m	3.2m
Gat Krka Quay	128m	3.0 to 5.0m
Obala Jug Mornavice Quay	444m	3.0 to 5.0m
Vrulje Quay	101m	3.0 to 9.8m
Obala Dobrika	144m	10.0m
Obala Rogac	125m	8.9 to 10.0m
Obala Jugodrvvo	293m	5.9 to 7.9m
Obala Elektrozeljezara Quay	110m	7.0 to 7.9m

There are facilities for general cargo, bulk, and timber vessels. Vessels up to 40,000 dwt, 190m in length, and 9.9m draft have been accommodated.

**Aspect.**—The summit of Otok Zlarin, standing at its SW side, is surmounted by a conspicuous iron cross.

Rt Jadrija, the N entrance point of Kanal Sveti Ante, is marked by a light shown from a prominent structure. Fortress Sveti Nikola stands on an islet which lies on the S side of the entrance to Kanal Sveti Ante 0.2 miles E of Rt Jadrija. It is very conspicuous from the approaches. Hrid Rocni, marked by a light, lies 0.2 mile SE of Rt Jadrija. It is the northernmost above-water rock of a group which lies on a bank extending from the mainland. Several rocks and shoals, which may best be seen on the chart, lie in the middle passage within Sibenska Vrata and are marked by lighted beacons or buoys.

**Pilotage.**—Pilotage is compulsory. Pilots may be contacted on VHF channel 12 and board vessels approaching from the W about 3 miles WSW of the entrance to Kanal Sveti Ante. Pilots usually board vessels approaching from the S in Sibenski Kanal about 2 miles SSE of the entrance to Kanal Sveti Ante. Vessels carrying dangerous cargoes are boarded about 1 mile S of the S entrance to Sibenski Kanal. Pilot services should be requested 24 hours in advance.

**Regulations.**—The movement of vessels over 50 grt and all vessels with tows within Kanal Sveti Ante, the entrance channel, is controlled by the local authorities. The order of passage is generally determined by the time of request for transit. However, naval vessels and vessels on regular scheduled services have priority.

Speed through the channel must not exceed 6 knots.

A semaphore station is situated at Rt Burnji Turan.

**Anchorage.**—A designated anchorage area, which may best be seen on the chart, lies in S part of Sibenski Kanal 3 miles SSE of the entrance to Kanal Sveti Ante.

**Caution.**—An anchoring prohibited area, which may best be seen on the chart, lies in the approaches and extends up to 1.5 miles W of the seaward entrance to Kanal Sveti Ante.

Large vessels, which may need the assistance of a tug to enter Kanal Sveti Ante, should make the necessary arrangements well in advance.

A restricted area, which may best be seen on the chart, lies in the S part of the basin and fronts the naval base.

Several submarine cables lie in the approaches and may best be seen on the chart.

## Off-lying Islands and Channels

**11.7 Otopic Blitvenica** (43°37'N., 15°35'E.), a small islet, is the SW and outer feature of the group of islands, islets, rocks, and reefs which front the mainland and lie in the approaches to Sibenik. A light is shown from a prominent structure, 21m high, standing on this islet.

**Zirjanski Kanal** (43°40'N., 15°41'E.) leads NW between Otok Zirje and Otok Kakan. This channel, which is deep and clear, is frequently used by vessels proceeding into Murtersko More and can be easily navigated.

**Otopic Hrbosnjak** (43°39'N., 15°44'E.) lies in the middle of the SE entrance to the channel and may be passed close N or S. A light is shown from a tower, 6m high, standing on this small islet.

**Plicina Cavlin** (43°44'N., 15°33'E.), with a least depth of 1.8m, lies in the NW end of Zirjanski Kanal. This shoal is located 4 miles NW of the NW extremity of Otok Kakan at the NW end of a group of dangers.

**11.8 Vrgadski Kanal** (43°50'N., 15°33'E.), 7 miles long, leads between Otok Murter and Otok Vrgada and is the principal channel used in the S approach to Pasmanski Kanal and Zadar. Vessels with a maximum draft of 6.4m may pass through Pasmanski Kanal. Vessels with drafts over 6.4m must either proceed through Srednji Kanal or seaward of Dugi Otok, entering the inner channels via Prolaz Maknare or Kvarnericka Vrata.

**Otopic Prisnjak** (43°50'N., 15°34'E.) lies at the E side of the S entrance to the channel. A light is shown from a prominent structure, 15m high, standing on the SW side of this small islet.

Vrgadski Kanal narrows to a width of about 1 mile at a position 2 miles NW of Otopic Prisnjak.

Another channel, about 1 mile wide, passes W of Otok Vrgada and E of Otopic Obun, but a shoal patch, with a depth of 9.6m, lies in its center.

**Pirovacki Zaliv** (43°50'N., 15°37'E.), a nearly landlocked bay, lies between Otok Murter and the mainland. It is entered from the NW by an intricate passage which is partially obstructed by several islets and shallow rocky shoals. The entrance fairway has a depth of 6.4m in mid-channel and requires local knowledge. Otopic Artica, marked by a light, lies at the W side of the entrance channel 2.8 miles NW of Otopic Pris-

jak. Anchorage, sheltered from all winds, can be taken almost anywhere within the bay, in depths of 13 to 24m, mud. The village of Pirovac is situated on the NE shore of the bay and is fronted by a small craft harbor.

Large vessels can take anchorage outside of Pirovacki Zaliv, in a depth of 30m, mud, about 0.7 mile N of Otopic Artica.

**Otopic Ostarije** (43°55'N., 15°28'E.) lies close off the mainland shore 3.8 miles NW of Otopic Artica. A lighted beacon, 7m high, stands in the shoal water close SW of this small islet.

**11.9 Pasmanski Kanal** (43°56'N., 15°25'E.) is the normal passage used by medium-sized vessels proceeding to and from Zadar. It is entered from the SE between Otopic Ostarije and the S end of Otok Pasman, 1 mile NE, and is encumbered with numerous islands, islets, and shoals. Otopic Babac, the largest of these obstructions, divides the channel into two passages.

The E channel, with a least depth of 6.5m, is generally used by traffic transiting N as it is well marked and can be navigated with ease. The W channel, with a least depth of 7.8m, is generally used by traffic transiting S. However, because shoals lying in the vicinity of Otopic Babac restrict the navigable width of the channel to about 250m, a maximum draft of 6.4m is recommended. Vessels proceeding N with drafts too great for the E channel may use the W channel, but extreme caution is recommended.

The bottom consists of sand and shells almost everywhere. The water in the channels is generally clear and sometimes gives the appearance of less than actual depths in the shoaler areas.

Several villages situated along the sides of the channel have conspicuous belfries standing in them. Biograd is situated on the NE side of the channel 2 miles NW of Otopic Ostarije. A conspicuous modern hotel stands in this town and is visible from the entire length of the channel. Anchorage can be taken according to draft N or NW of Biograd, in depths of 5 to 11m, mud and sand.

Zadarski Kanal is an extension at the N end of Pasmanski Kanal which forms the approaches to Zadar.

**Caution.**—A maximum speed of 10 knots is allowed between Biograd and Otopic Komornik, 3 miles NW, due to small craft moorings.

The passage of vessels greater than 500 grt, vessels carrying dangerous substances, and vessels not certified gas free is prohibited within the S part of Pasmanski Kanal S of Rt Podvara (44°03'N., 15°18'E.).

## Zadar (44°07'N., 15°13'E.)

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**11.10** The town of Zadar is situated on a close off-lying peninsula. The old harbor lies within an inlet formed between the peninsula and the mainland and is protected by a breakwater. The new deep-water harbor lies at Luka Gazenica, 2.5 miles SE of the town.

**Zadar Home Page**

<http://www.portauthority.hr/zadar2>

**Depths—Limitations.**—The entrance to the old harbor, which is mostly used by passenger vessels and coasters, is 70m wide and has a depth of 7m. There is 900m of total berthing space within the harbor with depths of 5 to 7m alongside. Generally, vessels up to 97m in length and 6.4m draft can be accommodated.

There are depths of 15 to 30m in the approach to the deep-water harbor at Luka Gazenica. The main commercial facilities include the following:

1. Dry Cargo Berth N, 144m long, with a depth of 8.5m alongside.
2. Dry Cargo Berth S, 155m long, with a depth of 7.2m alongside.
3. Bulk Cargo Berth N, 150m long, with a depth of 15m alongside.
4. Tanker Berth, with a 60m long face and depths of 11 to 15m alongside.

Bulk vessels up to 11.6m draft can be accommodated alongside. Tankers up to 80,000 dwt can be handled with forward drafts up to 8.7m and aft drafts up to 10.7m. This harbor is also used as a base by vessels supporting off-shore drilling operations.

**Aspect.**—Otocic Osljak lies in the approaches on the W side of Zadarski Kanal 1.8 miles SW of the town. This islet is conspicuous from a considerable distance because of its conical and wooded appearance and a light is shown from its NE extremity.

Bokanjac, a hill, stands 1.5 miles NE of Zadar. It is covered by vegetation and is conspicuous from nearly all directions.

On closer approach, the belfry of the cathedral, standing near the center of the town, and the chimney of a distillery, standing 0.3 mile N of the belfry, are very conspicuous and identifiable.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 12. Vessels should request a pilot 2 hours in advance on VHF channel 12. Pilots board about 1 mile W or 2 miles SE of the harbor entrance, as shown on the chart. Pilots will board vessels carrying dangerous substances in the entrance to Silbanski Kanal (44°23.3'N., 14°34.6'E.). This station provides pilot services for Gazenica.

**Anchorage.**—Vessels awaiting a pilot or berth can take anchorage, in a depth of 36m, mud, about 0.5 mile W of the entrance to the inlet. Large vessels can also take anchorage, in depths of 15 to 22m, mud, S of the deep-water harbor.

Vessels carrying dangerous cargoes must anchor within a designated area, which may best be seen on the chart.

**Caution.**—Anchorage is prohibited in the entrance to the Luka Zadar and also in the vicinity of several submarine cables and pipelines which lie in the approaches and may best be seen on the chart.

## Outer Islands and Channels

**11.11 Srednji Kanal** (44°00'N., 15°13'E.), also known as Middle Channel, has sufficient depths for large vessels. However, it is little used except by vessels proceeding between Sibenik and Zadar which are unable to navigate Pasmanski Kanal. The channel is entered between Otocic Kosara (43°53'N., 15°24'E.) and Hrid Galijolica, 1.5 miles SW, and is generally clear and deep in the middle. Otocic Kosara, a steep-to and yellowish colored islet, is

marked by a light on its SW side. Hrid Galijolica, a rock, is 1m high and is also marked by a light.

Otok Pasman and Otok Ugljan, two long and narrow islands, border Srednji Kanal on its NE side and form a barrier for its full length with the exception of Prolaz Zdrelac, a narrow passage, which leads between the two islands. This passage has a depth of 4m and is spanned by a bridge with a vertical clearance of 18m. Sveti Mihovil Castle, surmounted by a signal station, is situated on the S slope of Otok Ugljan and is conspicuous from most parts of Srednji Kanal.

The SW side of Srednji Kanal is bordered by numerous islands, the largest of which are Otok Sit and Otok Iz. Several narrow passages, which are occasionally used by coasters, lie between the SW side of the channel and the E coast of Dugi Otok. These passages should not be attempted without local knowledge and in daylight only.

**Rivanjski Kanal** (44°10'N., 15°00'E.) continues NW from the N end of Srednji Kanal and leads between Otok Rivanj and Otok Sestrunj. It is generally used by vessels proceeding between Srednji and Zadarski Kanals. Otocic Tri Sestrice, a group of islets and rocks, extend up to 2 miles NW of Rt Zanavin, the NW extremity of Otok Rivanj. Vessels proceeding to Zadar may use the narrow channel which leads between the S islet of this group and Rt Zanavin but caution is necessary as dangers lie adjacent to the sides of the fairway.

Plicina Sajda, a steep-to rock, lies about 1 mile NNE of the N extremity of Rt Rivanj. It has a least depth of 4.5m and is marked by a lighted beacon.

**Caution.**—The passage of vessels greater than 500 grt, vessels carrying dangerous substances, and vessels not certified gas free is prohibited within an area which has been established in the channels between Otok Kornat (43°50'N., 15°17'E.) and Dugi Otok, on the W side, and Otok Pasman and Otok Ugljan, on the E side. This area, which may best be seen on the chart, extends from Otok Zirje (43°39'N., 15°40'E.), at the S end, to Otok Molat (44°15'N., 14°49'E.), at the N end. In exceptional circumstances and with a pilot embarked, vessels carrying oil may navigate in this area between 1 October and 31 March.

The tidal current in Rivanjski Kanal may, at springs, attain a velocity of 4 knots. At such times, vessels navigating within the narrow channels in this vicinity must exercise great caution.

## Offshore Approaches

**11.12 Dugi Otok** (43°59'N., 15°04'E.) is comprised of a range of ash colored rocky hills. Vessels approaching the seaward coast of this island from the W will most likely first sight Vela Straza, 338m high. This peak is the summit of the island and stands close S of its central part. The NW end of Dugi Otok is low and whitish in color.

**Rt Veli Rat** (44°09'N., 14°49'E.) is the NW extremity of the island. A light is shown from a conspicuous tower, 41m high, standing on this point. Another tower is situated 0.4 mile NNE of the light. Several small islets and rocks lie on a shoal bank which extends up to 1.6 miles NW of the point. A stranded wreck lies about 0.8 mile NNW of the point.

Otok Kornat, with several prominent peaks, lies SE of Dugi Otok and is separated from it by Prolaz Proversa, a narrow

channel, which is obstructed by several islets and shoals and is suitable only for small craft.

Numerous islands and islets extend to the SW of Otok Kornat. These and the passages leading between them are of interest only to small craft and coasters with local knowledge.

**11.13 Luka Telascica** (43°53'N., 15°10'E.), a large inlet, lies at the S end of Dugi Otok and extends 4 miles NW. It consists of several natural basins, is surrounded by barren hills, and provides one of the best anchorage roadsteads in the Adriatic. The inlet is entered between Rt Vidilica, the SE extremity of Dugi Otok, and the W side of Otocic Aba Velka, 0.3 mile ENE. Otocici Sestrice, consisting of two small islets, lies on the SE side of the approach 0.8 mile SE of Rt Vidilica. A light is shown from a prominent tower attached to a dwelling, 26m high, standing on the NW end of the NW islet.

Ocean-going vessels can take anchorage, in depths of 20 to 60m, mud, in the vicinity of Otocic Korotan which lies 1.2 miles within Luka Telascica. Small vessels, with drafts of less than 6m, can enter the NW part of the inlet and take anchorage nearly anywhere.

**Caution.**—Strong winds from the S raise a considerable sea within Luka Telascica.

Luka Telascica is reported to lie within the Kornati National Park.

**11.14 Rt Bonaster** (44°12'N., 14°51'E.), the SW extremity of Otok Molat, is marked by a light and forms the N entrance point of the passage known as Prolaz Maknare. An isolated rocky shoal patch, with a depth of 11m, lies about 0.3 mile SSW of the point. Plic Bonaster, with a least depth of 6.5m, lies about 0.3 mile E of the point.

**Prolaz Maknare** (44°12'N., 14°56'E.) leads E through the islets lying off the N end of Dugi Otok and is generally used by vessels proceeding to Zadar. The channel leads into Visko More, an expanse of water lying at the N end of Zadarski Kanal, and can be navigated by day or at night. The normal controlling depth within the fairway is 10m. However, by avoiding the 11m rocky patch lying SSW of Rt Bonaster, a least depth of 15m is achieved.

Otocic Golac, marked by a light, lies 0.7 mile SSE of Rt Bonaster. This small islet divides the entrance into two channels but the passage to the S of it is obstructed by a shallow shoal and is dangerous.

Velo Zaplo, the narrow part of Prolaz Maknare, lies 2.5 miles E of Otocic Golac. The main channel leads between the NW extremity of Otok Tun Veli, which is marked by a sector light, and Otocic Tun Mali, a small islet, which lies 0.2 mile NW and is also marked by a light.

Otocic Vrtlac, marked by a light, lies 3.8 miles E of Rt Bonaster at the E end of the passage. The main channel passes between the S side of this islet and Rt Kriz, the NW extremity of Otok Sestrunj, 0.6 mile SE.

The flood current flows E through the narrows of Prolaz Maknare at a velocity of 2.5 knots and meets the N flowing current from Srednji Kanal. It sometimes forms eddies in the vicinity of Otocic Vrtlac. The ebb current flows W through the narrows but usually does not exceed a velocity of 1.5 knots.

Brguljski Zaliv, a sheltered inlet, indents the S side of Otok Molat and is entered close E of Rt Bonaster. The village of

Molat stands at the head of a cove, which is entered 1.5 miles ENE of Rt Bonaster, and is fronted by a small craft harbor. Small vessels can anchor, in depths of 35 to 45m, mud and rock, in the center of the inlet.

**Caution.**—Submarine cables lie within Brguljski Zaliv and Prolaz Maknare and may best be seen on the chart.

Deep-draft vessels are advised to transit Prolaz Maknare only in daylight.

**11.15 Rijecki Zaliv** (45°15'N., 14°25'E.) is an extensive basin in which several ports lie. It may be approached through three main channels and entered via three straits.

**Kvarner** (44°50'N., 14°10'E.), the W and widest channel, leads from the open Adriatic Sea end enters the basin via Kanal Vela Vrata, which is described in paragraph 11.38.

**Kvarneric** (44°49'N., 14°33'E.), the middle channel, leads through Srednja Vrata into the basin. This channel is connected at its S end to the N end of Zadarski Kanal and to the open sea by Kvarnericka Vrata.

**Velebitski Kanal** (45°00'N., 14°50'E.), the E channel, is long and narrow and lies close W of the mainland. It is separated from Kvarneric to the W by several large islands. This channel leads through Vinodolski Kanal and Tihi Kanal at its N end and enters the NE head of the basin.

There are numerous anchorages for small craft along both shores of the N part of this channel. However, as there is little shelter for large vessels, this part of the channel is generally avoided during the late autumn and winter. At such times, large vessels proceed to Rijecki Zaliv via Srednja Vrata or Kvarner.

## Mainland Coast—Inner Islands and Channels

**11.16 Rt Skala** (44°12'N., 15°09'E.), the NE entrance point of Zadarski Kanal, is located 6 miles NW of Zadar and is low and rocky. Rt Radman, located 1 mile SE of Rt Skala, is prominent, covered by trees, and is marked by a light.

Sidriste Zaton, a small bay, lies between Rt Skala and Rt Artic, 4.5 miles NNW. It provides good anchorage for ocean-going vessels, in depths of 14 to 20m, mud, about 1 mile offshore. An isolated shoal, with a depth of 8.4m, lies about 2 miles NW of Rt Skala and should be avoided by large vessels using this roadstead. A lighted buoy is moored close W of Rt Artic and marks the shallow coastal bank.

**Otok Vir** (44°18'N., 15°04'E.) rises gently from the sea to a bare and double summit, 112m high. A light is shown from a prominent structure, 21m high, standing on the SW side of the island.

Privlacki Zaton, a bay, lies between Rt Artic and Rt Kozjac, 2 miles NW. Anchorage can be taken within this bay, in depths of 11 to 20m, soft mud, under the S shore of Otok Vir. Privlacki Gaz, a boat channel, lies between the SE end of Otok Vir and the mainland. It is 27m wide and is marked by beacons. A bridge, with a vertical clearance of 9m, spans the channel and connects Otok Vir to the mainland.

**Otok Pag** (44°25'N., 15°04'E.) is a long, narrow, and jagged island which lies NW and W of the mainland coast and forms the SW side of the S part of Velebitski Kanal (Planinski Kanal). It is indented with several inlets, some of which offer good shelter.

Svedi Vid, 349m high, is the summit of the island and is surmounted by a conspicuous chapel. This hill rises abruptly near the center of the island and can easily be identified even with the higher mountains of the mainland in the background.

**11.17 Kanal Nove Poveljane** (44°19'N., 15°05'E.), entered between Otok Vir and the SE end of Otok Pag, leads 5 miles SE into Ninski Zaliv. Shoals at the inner end of this channel restrict the fairway to a width of about 250m, with a controlling depth of 8m. Vessels with a draft of over 6m are advised not to use this channel.

**Ninsko-Ljubacki Kanal** (44°18'N., 15°15'E.), a tortuous channel, connects the SE end of Kanal Nove Poveljane with Ljubacka Vrata. This channel leads through the deep inlets which indent the SE coast of Otok Pag, on the NW side, and the mainland, on the SE side. It is entered between Rt Prutna, which is the S extremity of Otok Page and is marked by a light, and the NW extremity of Poluotok Jesenovo. Anchorage can be taken in any of the deep inlets, according to draft.

**Ljubacka Vrata** (44°19'N., 15°16'E.), a narrow and deep passage, separates the S end of Otok Page from the mainland and connects the E end of Ninsko-Ljubacki Kanal with the S end of Velebitski Kanal. A bridge, with a vertical clearance of 35m, spans this passage.

Before entering this passage in clear weather, vessels over 50 grt and all vessels with a tow must sound one long blast. The vessel which first sounds this signal has the priority to enter and all other vessels must wait outside. Vessels already navigating the passage must answer the single long blast of another vessel by sounding at least four short blasts. Special signals are required for passage in thick weather and the local authorities should be consulted in this case.

Generally, a current with a rate of 1 knot sets S through Ljubacka Vrata but, at times, a rate of 3 knots has been experienced.

Pilotage through Ljubacka Vrata is compulsory for foreign vessels over 500 grt; pilots are available, with advance notice, at Zadar.

### Velebitski Kanal—South Part

**11.18** The S part of Velebitski Kanal trends SE for 12 miles from the E entrance of Ljubacka Vrata to the entrance of Novsko Zdrilo (Maslenicki Kanal). The NE shore of the channel is high and precipitous and contrasts considerably with the SW side which is backed by low and sloping hills.

Otocic Razanci, consisting of three small and low islets, lies on a shoalbank in the middle of the channel 3 miles ESE of the E entrance of Ljubacka Vrata. These islets are not easily seen in periods of reduced visibility. A light is shown from a structure, 6m high, standing on the SE end of Razanac Veli, the SE and largest islet. A conspicuous statue stands on the summit of this islet. The passage lying on the N side of these islets is preferred, but no attempt should be made to pass between them. The channel narrows 5 miles SE of Otocic Razanci and the fairway is bordered by coastal banks and reefs.

**Nosko Zdrilo** (Maslenicki Kanal) (44°15'N., 15°31'E.) is entered at the N end between Rt Baljenica, a conspicuous brown and yellowish point, and Rt Korotanja, 0.2 mile SW. These entrance points are fringed by shoals which are marked

by buoys. The fairway of the entrance has a least depth of 7.9m. The channel is 2 miles long and has a minimum width of 200m with depths of 18 to 33m. Generally, vessels up to 140m in length and 7.9m draft can transit the passage.

Pilotage is compulsory for foreign vessels over 500 grt through Novsko Zdrilo. Pilots are available, with advance notice, from Zadar and will board in daylight only outside the entrance to the channel.

It has been reported (1994) that passage through Novsko Zdrilo is prohibited to all vessels. Vessels should contact the authorities at Zadar for the latest information concerning transit through this channel.

A new bridge, with a vertical clearance of 77m, now spans the S end of the channel.

**11.19 Maslenica** (44°13'N., 15°33'E.), a small harbor, lies on the NE side of the S entrance of Novsko Zdrilo and is used for loading bauxite. A quay, 120m long, has a depth of 10m alongside. However, vessels are limited by the depths within the fairway of Novsko Zdrilo.

It is reported (1995) that this harbor is closed to shipping due to the destruction of the bridge at the S end of Nosko Zdrilo.

**Novigradsko More** (44°12'N., 15°32'E.), a land-locked bay, lies at the S end of Novsko Zdrilo and provides good anchorage. Rijeka Zrmanja flows into the bay at the E side. This river is navigable by small craft as far as the village of Obrovca, 6 miles above the mouth.

Luka Novigrad, a narrow inlet, lies at the S end of Novigradsko More. The small town of Novigrad stands along the shore and on the slopes of the hills at the E side of the head of the inlet and is fronted by a small craft harbor. Karinsko Zdrilo, a narrow and tortuous channel, leads from the SE end of Novigradsko More into Karinsko More, a land-locked basin. This passage has depths of 11 to 20m in the fairway, but a sharp turn in the S part, with a width of only 90m, restricts its use to small craft and local coasters.

**Caution.**—Mussel beds, oyster beds, and tunny fisheries lie along the shores of Novigradsko More and Karinsko More.

### Velebitski Kanal—Central Part

**11.20** The central part of Velebitski Kanal trends NW from the E entrance of Ljubacka Vrata and leads between the mainland and the E side of Otok Pag. The N shore of the channel is high and steep but the S shore is lower and gently sloping. The fairway is deep and clear and easily navigated, but is exposed to the full force of frequent NW winds.

**Paski Zaliv** (44°28'N., 15°01'E.), a large bay, lies on the E side of Otok Pag and offers good shelter. The entrance is located 11.5 miles NW of the E entrance of Ljubacka Vrata and lies close S of Rt Kristofor, a steep point, which is marked by a light and fronted by shallow rocks which extend up to 0.4 mile S of it. The entrance fairway has depths of 20 to 57m, but a shoal, with a depth of 10.4m, lies on its E side W of Rt Kristofor.

The small town of Pag is situated in the S part of the bay, 2.3 miles SSW of Rt Kristofor, and is fronted by a small harbor with a depth of 4m. A salt flat, 3 miles long, occupies the valley to the SE of the town and is crossed by a bridge. The W side of the town is quayed and is approached through a marked

channel, 50m wide, with a depth of 4.3m. Small vessels loading salt and ferries use this harbor. The tidal currents in the channel are appreciable and sometimes attain rates of 4 knots. Anchorage can be taken by large vessels, in depths of 18 to 25m, soft mud, about 0.7 mile NW of the church spire standing in the town. Good anchorage for large vessels can also be found in the NE part of Paski Zaliv, in depths of 25 to 35m, sand and mud. Pilotage is compulsory for foreign vessels over 500 grt. Pilots are available and will board, with advance notice, off Rt Kristofor. The port monitors VHF channels 10 and 16.

**11.21 Rt Deda** (44°37'N., 14°52'E.), marked by a light, is located 11.8 miles NW of Rt Kristofor and is the NE entrance point of Uvala Stara Novalja, a deep bay. This bay has easy access and is free of dangers except near its head which is shallow. The small town of Stara Novalja is situated along the NE side of the bay and is fronted by a small craft harbor which has a depth of 3.5m and is used by ferries. A prominent chapel stands in the town. Large vessels can take anchorage, in depths of 27 to 38m, sand and mud with good holding ground, close W of the harbor.

## Outer Islands and Channels

**11.22 Otok Molat** (44°14'N., 14°51'E.), the S end of which forms the N side of Prolaz Maknare, is bordered on its W side by numerous islets and shoals. Otocic Tramerka, the largest and outer islet, lies 1.5 miles offshore. It is 51m high and can be easily distinguished by a double hump. Greben Bacvica, a shallow rock, lies about 0.5 mile SE of Otocic Tramerka and frequently breaks. The E shore of Otok Molat is generally clear except for a line of islets and shoals which lies parallel to it and about 1 mile offshore.

**Otok Ist** (44°16'N., 14°45'E.), covered with brush and much indented, is separated from Otok Molat by Prolaz Zapuntel, a narrow channel with a least depth of 6m. The island is nearly divided into two parts by bays on its NW and SW sides which are separated by a narrow isthmus of low land. Several small islets lie up to 1 mile off the W side of this island and may best be seen on the chart. A chain of narrow islets and shoals extends up to 4.4 miles NW of the N extremity of the island.

**Otok Skarda** (44°17'N., 14°43'E.), 102m high, is covered with brush and is hilly. Skardska Vrata, a narrow and deep passage, separates this indented island from the NW side of Otok Ist. This channel leads from the open sea into the SE end of Silbanski Kanal, but navigation through it is complicated by several islets and shoals lying in the N and S approaches and by the tidal currents which attain rates of 3 to 4 knots.

**Otok Premuda** (44°17'N., 14°43'E.), 88m high, lies with Rt Lopata, its SE extremity, located 1 mile NW of Otok Skarda. This narrow island is rounded and mostly covered with brush, but it is not easily identified from a distance. A number of islets and rocks lie on a reef which extends up to about 1 mile NW of the NW end of the island.

Premudska Vrata leads between Otok Skarda and Otok Premuda. A ridge, with depths of 10.4 to 14m, extends across the channel between Rt Suha, the NW extremity of Otok Skarda, and Rt Lopata, the SE extremity of Otok Premuda. The tidal currents in this passage attain rates of 2 knots and occa-

sionally cause eddies on the ridge. Transit is recommended only in daylight with local knowledge.

**11.23 Kvarnericka Vrata** (44°26'N., 14°34'E.), 5 miles wide, is the principal channel leading between the open sea and the S part of Mali Kvarneric. It lies between Otok Premuda and Otok Silba, on the S side, and Otok Ilovik, on the N side.

**Hrid Grujica** (44°25'N., 14°34'E.) lies in the center of this channel. A light is shown from a prominent structure, 15m high, standing on this small islet.

The main passage, 2.5 miles wide, leads S of Hrid Grujica and N of the islets lying off the N end of Otok Premuda. The passage lying to the N of Otocic Grujica is not recommended except with local knowledge as an unmarked shoal patch, with a depth of 7m, lies nearly in its center.

A shoal patch, with a depth of 15m, lies about 1.7 miles NW of the N extremity of Otok Premuda and should be avoided by deep-draft vessels. An isolated shoal, with a depth of 9.5m, lies about 1.5 miles SE of Hrid Grujica and can best be avoided by passing about 0.6 mile SE of the islet. Veli Brak, an isolated rocky shoal, lies about 3.2 miles NE of Hrid Grujica. It has a depth of 2m and is marked by a lighted beacon.

**Silbanski Kanal** (44°22'N., 14°38'E.) leads between Otok Premuda, on the SW side, and Otok Silba, on the NE side. It is divided roughly in the center by the chain of narrow islets and rocks which extend NW from the N end of Otok Ist.

**Otok Silba** (44°23'N., 14°42'E.) is low in the middle and has hills at the N and S ends. The summit of the island is 83m high and stands in the N part. The village of Silba occupies the whole width of the low part of the island and is fronted by small craft harbors on both coasts. Two conspicuous church steeples stand in the village.

**Otok Olib** (44°23'N., 14°47'E.) is similar to Otok Silba, being low in the middle and high at both ends. The summit of the island is 74m high and stands in the S part. The slopes of the island are mostly covered by olive trees. The village of Olib is situated on the W side of the island and is fronted by a small craft harbor. A conspicuous chapel belfry stands in this village. Several islets and rocks lie on a shoal bank which extends NW from the N end of the island. Plic Morovnik, a rocky patch, lies about 3 miles NW of the N end of the island. This shoal has a least depth of 4.6m and is the outer danger.

Otok Planik, a small island, lies 2.8 miles NE of the S end of Otok Olib and is mostly covered with bushes. Several rocks lie on a shoal bank which extends up to 1.2 miles SE of the S extremity of this island. An isolated shoal patch, with a depth of 4.6m, lies about 1 mile SSW of the S extremity of the island.

**11.24 Olipski Kanal** (44°22'N., 14°44'E.) leads NNW between the E side of Otok Siba and the W side of Otok Olib and merges into the N end of Pohlipski Kanal. This channel is deep and has a minimum navigable width of 0.7 mile. It is often used by vessels proceeding to and from Zadar. Good anchorage is available, in depths of 13 to 18, mud, at the E side of the channel about 0.6 mile off the harbor at the village of Olib.

**Otok Maun** (44°25'N., 14°56'E.), 65m high, is a narrow island which is partly covered in bushes and grass. A ruined chapel stands on the W side of the N part of the island. Several islets lie on a shoal bank which extends up to 1.8 miles ESE of the S end of the island. Otok Skrda, a rocky and bare island,



lies 1 mile NW of the NW extremity of Otok Maun and is fronted by a reef at its SE end. A light is shown from a structure, 12m high, standing on the NW side of the island.

**Pohlipski Kanal** (44°26'N., 14°50'E.) leads between the E side of Otocic Planik and the W side of Otok Maun. This channel is the main inner route to the S, but small vessels will sometimes find Maunski Kanal, which lies between Otok Maun and the E side of Otok Pag, to be more suitable during daylight and in bad weather.

**Otocic Pohlib** (44°24'N., 14°53'E.), a bare and steep-to islet, lies in the middle of Pohlipski Kanal. A light is shown from a prominent structure, 10m high, standing on the summit of this islet.

## Kvarneric

**11.25 Rt Lun** (44°42'N., 14°44'E.), the NW extremity of Otok Pag, is a slender point bordered on its W side by a reef and several shoals. A ruined chapel stands on the point.

Plic Plitvac, with a depth of 7.1m, lies 0.6 mile W of the point and is the outer danger. A conspicuous church stands in a small town, which is situated 1.2 miles SE of Rt Lun, and is visible from all directions.

**Otocic Dolfin** (44°41'N., 14°41'E.), an islet partly covered with grass, lies 2 miles WSW of Rt Lun and is marked by a light. This islet is the S and largest of a chain of islets and rocks which extend up to about 4 miles NW.

**Paski Kanal** (44°43'N., 14°45'E.) leads between the NW end of Otok Pag and the W side Otok Rab. This channel is deep and connects the central part of Velebitski Kanal with the S part of Kvarneric.

**11.26 Otok Rab** (44°24'N., 14°53'E.), a much-indented island, is traversed by a chain of hills. The summit of this island stands at the center of the NE side. It is 410m high and surmounted by a conspicuous television mast. The NE side of the island is mostly steep and bare. The SW side slopes more gently and is partly covered by trees.

Rt Kalifront, the W extremity of the island, is a broad, low, and wooded point which is marked by a light. A large indentation, which is divided into two inlets, lies between this point and Rt Sorinj, 2.7 miles NNE. Supertarska Draga, the NE inlet, provides good anchorage protected from all but NW winds, in depths of 20 to 30m, soft mud, about 1 mile from its head.

The NE end of Otok Rab consists of a much indented and rocky peninsula which is fringed by reefs. The resort village of Lopar, which is fronted by a small craft harbor, is situated at the head of an inlet which indents the N side of this peninsula.

Rt Glavina, the SE extremity of the island, is located at the W side of Velebitski Kanal 1 mile W of the mainland. A shallow shoal, marked by a lighted beacon, lies close S of this point.

Otok Dolin, a steep-to and narrow island, lies parallel to the SW shore of Otok Rab. Barbatski Kanal, 0.2 mile wide, leads between the SW shore of Otok Rab and the NE side of Otok Dolin and is sometimes used as a place of refuge.

**Rab** (44°45'N., 14°46'E.), a resort town, stands on a small peninsula at the W side of Otok Rab. It is fronted by a small quayed harbor which is protected by breakwaters. The harbor is approached between the NW extremity of Otok Dolin and

the SE extremity of a tongue of land, 0.8 miles NW. The quays have depths of 3 to 5.4m alongside and are mostly used by small craft, coasters, ferries, and pleasure craft. Large vessels may anchor, in depths of 16 to 20m, soft mud, in the sheltered roadstead and work cargo from lighters. Pilotage is compulsory. The port monitors VHF channels 10 and 16. Pilotage is provided by Rijeka.

**11.27 Otocic Oruda** (44°33'N., 14°35'E.), almost flat with a few trees, is the largest of a group of whitish islets and rocks which lie on a bank extending up to about 6 miles SE of the SE end of Otok Cres. Hrid Bik, a rock almost awash, lies 1.5 miles ESE of Otocic Oruda and is the SE and outer danger. A light is shown from a structure, 7m high, standing on this rock. Although it is fairly steep-to, vessels are advised to pass at least 1 mile SE of this rock.

An inner passage, with depths of 15 to 19m, leads NE over the bank about 1.2 miles S of the S end of Otok Cres. However, depths of less than 10m lie close adjacent to the channel and local knowledge is advised.

**Otok Losinj** (44°40'N., 14°22'E.), a narrow and indented island, consists of several mountainous heights connected by low isthmuses and appears from a distance as three separate islands. The summit of the island is 589m high and stands in the N part. A peak, 334m high, stands in the S part of the island and is surmounted by a prominent chapel.

Luka Mali Losinj, a large and natural inlet, lies on the W side of the lower and middle part of the island and is considered one of the best roadstead anchorages in the N Adriatic. The resort town of Mali Losinj stands on a hill at the SE end of the inlet and is fronted by a small harbor used by coasters and small craft. Several islets, which provide good shelter, lie in the approaches to the inlet.

Otocici Orjule, consisting of two light-colored islets, lies on a shoal bank 0.8 mile E of the SE end of Otok Losinj. The N and largest islet is 30m high.

**11.28 Losinjski Kanal** (44°30'N., 14°34'E.) extends 13 miles NW along the E side of Otok Losinj from the vicinity of Otocici Orjule. The N end of this channel is shallow and converges to form Osorski Tjesnac, a narrow passage, which leads between Otok Losinj and the SE side of Otok Cres and connects the head of Losinjski Kanal with the E side of Kvarner. This passage, which is 150m long and only 12m wide, is available to small vessels with drafts of less than 3m and is spanned by a swing bridge. There are strong and irregular currents in the N part of the passage due to the considerable differences of water levels between Losinjski Kanal and Kvarner.

**Otok Cres** (44°52'N., 14°21'E.) is 35 miles long and a chain of mountains extends along its entire length. The E shore of the island, which is indented in the S part, forms the W side of Kvarneric. The W shore of the island forms the E side of Kvarner; several villages are situated along its N part and the land backing the coast is cultivated with olive groves and vines. The highest peaks rise in the N part and the summit, 604m high, stands 6 miles S of Rt Jablanac, the N extremity of the island. The central part of the island is lower and includes an inland lake, but rises to a peak, 482m high, at its W side. The S part of the island has peaks of 60 to 154m high and is wooded.

**11.29 Cres** (44°58'N., 14°24'E.) (World Port Index No. 41050), a resort town and fishing center, is situated at the NE end of Luka Cres, an inlet, which indents the W side of the island. This inlet forms an excellent natural harbor. It is surrounded by hills which are steep on their NE sides and give good protection from the winds. The town is fronted by quays, with depths of 3 to 5.5m alongside, which are used by small craft, fishing vessels, and ferries. Pilotage is compulsory for vessels over 500 gross tons. The port monitors VHF channels 10 and 16.

**Otocic Trstenik** (44°40'N., 14°35'E.), an islet fringed by a shoal bank, lies 2.5 miles NE of the SE end of Otok Cres. A light is shown from a prominent structure, 12m high, standing on the summit of this islet.

**Otok Krk** (45°05'N., 14°35'E.), a large island, lies at the NE end of Kvarneric. The summit, 569m high, stands in the SE part. Several large bays indent the coasts of the island and offer good shelter. The N end of the island is connected to the mainland by a road bridge and an airport is situated on a plateau 1.7 miles SSE of the N extremity of the island.

**Srednja Vrata** (45°00'N., 14°29'E.) leads between the NE part of Otok Cres and the W side of Otok Krk and connects Kvarneric with Rijecki Zaliv.

**Otok Plavnik** (44°58'N., 14°32'E.) lies with Rt Veli Pin, its N extremity, located 0.7 mile E of the E side of Otok Cres and divides Srednja Vrata in its S part into two channels. This cliffy island is 194m high and partly wooded. Several small islets lie on a shoal bank which extends about 1.5 miles SE from its S end.

Three shoals lie in the channel which passes to the E of the island. Sika od Kormata, with a depth of 4.6m, Sika od Negrita, with a depth of 6.7m, and Plicina But, with a depth of 8.8m, lie about 1.2 miles E, 1.7 miles ENE, and 2.2 miles NE, respectively, of the SE extremity of Otok Plavnik.

Kanal Krusija leads to the W of Otok Plavnik. Kanal channel is frequented because of its steep-to shores and deep passage. A strong current may occasionally be experienced in this channel, depending on local weather conditions, but this passage is recommended over the one leading E of Otok Plavnik.

**11.30 Krk** (45°01'N., 14°34'E.), a small town, is situated at the head of Krcki Zaliv, a bay, entered at the SW side of Otok Krk. It is fronted by a small harbor which is protected by a breakwater. There are depths of 2.4 to 4m in the harbor which is used by small craft, coasters, and ferries. Anchorage can be taken by large vessels, in depths of 35 to 40m, sand and mud, in the bay about 0.6 mile SE of the harbor. A prominent cathedral stands in the town.

Puntarska Draga, an almost landlocked sandy basin, lies at the head of Krcki Zaliv. It is entered through a narrow and shallow channel, marked by buoys and lighted beacons, and only used by small craft.

**Bascanska Draga** (44°58'N., 14°45'E.) is entered at the SE end of Otok Krk between Rt Skuljica, marked by a light, and Rt Rebica, 0.3 mile ENE. The small resort town of Baska is situated at the head of this bay and stands at the foot of steep hills. It is fronted by a small craft harbor which is used by local ferries. Large vessels can take anchorage, sheltered except from the SE, in depths of 20 to 30m, soft mud, near the head of the bay and about 0.3 mile SE of the town.

## Velebitski Kanal—North Part

**11.31 Jablanac** (44°42'N., 14°54'E.), a small town, is situated on the mainland at the E side of the entrance to the N part of Velebitski Kanal. It stands at the head of a small bay and is fronted by a small craft harbor which is used by ferries. A light is shown from Rt Stokic close N of the harbor.

The fairway of Velebitski Kanal is only 1 mile wide in this vicinity and may easily be navigated as the mainland coast is barren and precipitous.

**Otok Goli** (44°50'N., 14°49'E.), bare and precipitous in its NE part, lies on the W side of Velebitski Kanal 9 miles NNW of Jablanac. This island is generally steep-to except at its SE extremity where a rocky reef extends up to about 0.5 mile SE. Rt Sajalo, the NW extremity of the island, is marked by a light and fringed by rocks.

**Otok Sveti Grgur** (44°52'N., 14°46'E.), 225m high, lies 1 mile NW of Otok Goli. This island is also mostly steep-to and bare, with some bushes on its S side.

Rapski Kanal is deep and leads between Otok Sveti Grgur and Otok Rab. This channel is seldom used as the fairway is only 0.3 mile wide in places and several rocky patches lie adjacent to its S side.

**Otok Privic** (44°55'N., 14°47'E.), 357m high, is hilly, barren, and steep-to. Rt Strazica, the NW extremity of the island, is marked by a light. It is reported that a prominent tree stands 0.4 mile SSE of this point.

Senjska Vrata, the passage leading between the S end of Otok Krk and Otok Privic, is 0.4 mile wide at its narrowest part and is generally deep. This channel is primarily used by vessels proceeding from the SW part of Kvarneric to the N reaches of Velebitski Kanal.

**11.32 Luka Senj** (44°59'N., 14°54'E.) (World Port Index No. 41090), a small harbor, lies within a bay at the entrance of a deep ravine on the mainland coast. The prominent town of Senj stands around the bay and is overlooked by the conspicuous ruins of a castle situated on a hill. The harbor is protected by two short breakwaters and has depths of 2.5 to 6m alongside the quays. It is used by coasters and small vessels up to 4,000 dwt. Pilotage is compulsory for foreign vessels over 500 grt and pilots are available with advance notice from Rijeka. The pilot boards 0.5 mile WNW of the harbor entrance. The pilots can be contacted on VHF channel 10 or 16. During good weather, large vessels can anchor, in depths of 20 to 30m, mud, to the W of the S breakwater.

**Otocic Zecevo** (45°00'N., 14°50'E.), 12m high, lies in the fairway 2.7 miles W of the entrance to Luka Senj. This small islet is bare and steep-to, except at its W side.

**Novi Vinodolski** (45°08'N., 14°47'E.) (World Port Index No. 41080), a small resort town, is situated on the mainland 9 miles NNW of Luka Senj. It stands on high ground, with a conspicuous tall belfry, and is fronted by a small harbor enclosed by breakwaters. There are depths of 2 to 5m alongside the quays and the harbor is used by small craft and coasters. A conspicuous water tower stands 0.6 mile ENE of the harbor. The port monitors VHF channels 10 and 16.

**11.33 Vinodolski Kanal** (45°11'N., 14°40'E.) is an extension of Velebitski Kanal and leads between the E side of Otok

Krk and the mainland. The channel, 9 miles long, extends NW from the vicinity of Novi Vinodolski to the S end of Tihi Kanal.

The Adriatic Highway follows the mainland coast, close inland, along the E side of the channel and is conspicuous in places.

**Rt Silo** (45°09'N., 14°40'E.), marked by a light, is located on the W side of the channel and is fringed by shoals. This point is the termination of a narrow and low tongue of land which projects from the E side of Otok Krk. Plic Konjska, with a depth of 4.4m, lies about 0.5 mile SE of the point.

Zaliv Soline, a nearly land-locked small bay, lies 1.5 miles WNW of Rt Silo and is entered through a narrow channel. Although there are depths of 10 to 12m over a width of 100m in the entrance, the bay has depths of only 2 to 4m and is used mostly by small craft.

**Tihi Kanal** (45°13'N., 14°37'E.), 3 miles long, connects the NW end of Vinodolski Kanal to Rijecki Zaliv. The channel is deep and tortuous and leads between the mainland and the NE end of Otok Krk. Otocic Sveti Marko, barren and light-colored, lies close off the N extremity of Otok Krk and divides the N part of the fairway into two passages. The main passage leads NE of the island and is 0.2 mile wide. During strong gales, the current in this channel may attain a rate of 3 knots. The passage leading SW of the island is suitable only for small craft. A light is shown from the NE side of Otocic Sveti Marko.

A road bridge spans the two passages of Tihi Kanal at the S end of Otocic Sveti Marko. The W passage has a vertical clearance of 50m and the E passage, under the center span, has a vertical clearance of 60m.

Southbound vessels using Tihi Kanal are generally given the right of way. Approval to transit Tihi Kanal must be obtained from the Rijeka port authority.

## Kvarner and Approaches

**11.34 Otok Susak** (44°31'N., 14°18'E.), the S and outer island in the approaches to Kvarner, is bold and mostly flat. Its extremities are fronted by shallow banks. A light is shown from a prominent structure, 12m high, surmounting the summit which rises near the center of the island. The village of Susak, with a prominent belfry, is situated in a cove at the NE side of the island.

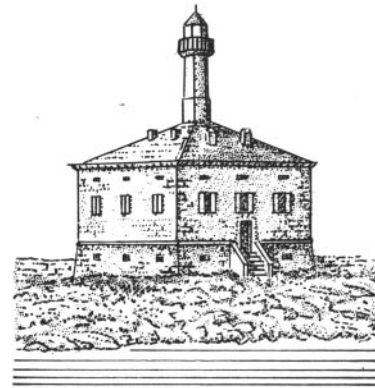
**Otok Unije** (44°38'N., 14°15'E.), a long and irregular shaped island, lies with Rt Vnetak, its SW extremity, located 7 miles NNW of Otok Susak. The island consists of a chain of partly wooded hills and the summit, 132m high, stands in the SE part. The shores are rocky in places and indented, especially along the E side. A reef, marked by a beacon, extends up to 0.3 mile S from Rt Arbit, the S extremity of the island. Rt Lokunji, the N extremity of the island, is marked by a light. The village of Unije, with a prominent church, stands at the head of a small bay near the center of the W side of the island. It is fronted by a small craft harbor used by local ferries. Vessels can anchor in the bay, in depths of 20 to 25m, mud, about 0.6 mile offshore. Local knowledge is advised.

Otococi Srakane, consisting of two narrow islets, extends up to 3.7 miles SE of the SE extremity of Otok Unije. These islets are partly wooded and steep-to. Hrid Silo lies close SE of the

SE islet. A light is shown from a prominent structure, 10m high, standing on this rock.

**11.35 Unijski Kanal** (44°37'N., 14°20'E.) leads between Otok Unije and Otococi Srakane, at the W side, and Otok Losinj, at the E side. This passage is partially landlocked and affords good shelter for a large number of vessels. It is reported to be a refuge for fishing vessels. Anchorage can be taken nearly anywhere, according to draft and shelter required, but the bottom close to the shore of Otok Losinj is reported to be rocky. The currents in the channel are tidal and are affected by the winds. The flood current is reported to sometimes attain a rate up to 2.5 knots.

**Hrid Galiola** (44°44'N., 14°11'E.), a low and rocky islet, lies on a reef 5 miles WNW of the N extremity of Otok Unijski. A light is shown from a conspicuous structure, 19m high, standing on this islet at the E side of the entrance to Kvarner.



**Hrid Galiola Light**

**11.36 Otocic Zeca** (44°46'N., 14°19'E.), a light-colored islet, lies at the E side of the channel 1.5 miles off the W coast of Otok Cres. The summit of the islet, 65m high, rises near its S end and is surmounted by a pyramid topped with a globe and a staff. A light is shown from a tower, 8m high, standing at the SW side of the island.

**Rt Pernat** (44°57'N., 14°19'E.), a conspicuous and steep-to point, is located on the W coast of Otok Cres 10 miles N of Otocic Zeca. Brdo Helm, 482m high, rises 5.5 miles SSE of the point and is prominent.

Hrid Zaglav, marked by a light, is located at the E side of the channel. This rock lies on a shoal about 0.6 mile offshore 2 miles SSW of Rt Pernat.

**11.37 Rt Crna Punta** (44°57'N., 14°09'E.) is located on the W side of Kvarner 7.2 miles W of Rt Pernat. This point is dark-colored, steep-to, and thickly wooded. It rises to Vrh Brdo which stands 1.5 miles NNW and is surmounted by a stone pyramid. A light is shown from a prominent structure, 7m high, standing on the point and a stone monument is situated 0.3 mile NW of the light.

The coast to the S of Rt Crna Punta is described beginning in paragraph 11.44.

**Vrh Ucka** (45°17'N., 14°12'E.), double-peaked, rises 3 miles inland 20 miles N of Rt Crna Punta. This mountain is 1,401m

high and is surmounted by a television mast. It is very conspicuous from all parts of Kvarner.

**Rt Sveti Andrija** (45°04'N., 14°10'E.), marked by a light, is located 7 miles N of Rt Crna Punta and several prominent hotels are situated to the NE of it. Luka Rabac, a sheltered inlet, is entered SW of this point and the small resort town of Rabac stands on its NE side. The town is fronted by a small harbor which has depths of 3 to 4.5m alongside the quays and is used by small craft, coasters, and local ferries. Anchorage can be taken by medium-sized vessels, in depths of 17 to 22m, mud, in the center of the inlet.

**Caution.**—Numerous submarine cables lie within the above channels and may best be seen on the chart.

**11.38 Kanal Vela Vrata** (45°08'N., 14°15'E.) connects the N end of Kvarner to Rijecki Zaliv and leads between the N end of Otok Cres, on the E side, and the mainland coast, on the W side. The channel is deep and clear, the bottom being formed of mud.

**Rt Prestenice** (45°07'N., 14°17'E.) is located at the E side of the channel. This point is steep-to, partly wooded, and rises rapidly to the SE. A light is shown from a prominent structure, 13m high, standing on the point.

Rt Brestova is located on the W side of the channel 2.3 miles WNW of Rt Prestenice. A light is shown from a framework tower, 5m high, standing on this point.

**Regulations.**—A Traffic Separation Scheme has been established within Kanal Vela Vrata and may best be seen on the chart. This scheme is not IMO-adopted. All vessels with a length greater than 20m are required to use the traffic lanes. It has been reported (2003) that an extended navigation detail is necessary for transiting the TSS.

## Rijeka (45°20'N., 14°26'E.)

World Port Index No. 41010

**11.39 Rijeka**, an extensive port, lies on the N shore of Rijecki Zaliv and comprises of the combined facilities of Rijeka Luka and Susacka Luka, close E. The main commercial harbor has several piers projecting from the shore which are protected by an extensive breakwater.

### Rijeka Home Page

<http://www.portauthority.hr/rijeka>

**Winds—Weather.**—The bora, dry winds from N to NE, often blows with extreme violence during the winter in the N part of Rijecki Zaliv, but the position of the harbor on the NE side of the gulf gives considerable protection from these storms. The scirocco, humid winds from S to SE, predominates in spring and autumn and raises a small sea in the W part of the harbor. These winds are often accompanied by prolonged rain and thick mists.

**Depths—Limitations.**—The approaches to the port are deep. Rijeka Luka, the main harbor, has 2,545m of total quayage and provides 30 berths for ocean-going vessels. These berths are 79 to 246m long and have depths of 6.3 to 9.6m alongside. There are general depths of 15 to 30m within the

basin. In addition, there is 450m of berthing space, with depths up to 6m alongside, which is used by passenger ferries, fishing vessels, and small craft. Vessels up to 250m in length can be handled.

Susacka Luka, entered near the root of the main breakwater, is protected by short breakwaters and has an entrance 43m wide. This basin has 904m of principal commercial quayage, with depths of 6.5 to 8m alongside.

The container terminal, situated E of Susacki Luka, consists of 407m of quayage with depths of 10 to 12m alongside. A ro-ro berth, 60m wide, lies close E of Susacki Luka and has a depth of 11m.

**Aspect.**—The city, with many prominent buildings, stands along the shore and is backed by high land. A light is shown from a conspicuous structure, 38m high, standing N of the head of the breakwater of the main commercial harbor.

A large and conspicuous stone hospital, with a red roof, is situated 0.3 mile ESE of the light. Numerous office buildings are situated to the E of this hospital. Numerous industrial installations, including a refinery and tanks, are situated to the W of the light.

**Pilotage.**—Pilotage is compulsory for vessels over 500 grt and all vessels carrying dangerous cargo. Pilots can be contacted on VHF channel 9, 12, or 16 and board within the anchorage areas or about 2.3 miles SW of the head of the main breakwater. Pilots will board vessels carrying dangerous cargo about 8.5 miles SSE of the main breakwater. Vessels should send an ETA 24 hours in advance and a confirmation 2 hours in advance.

Pilots are available at Rijeka, with advance notice, for all Croatian harbors in Rijeka Zaliv.

It is reported that pilots, on request, will board vessels over 200,000 dwt about 2 miles S of the S entrance to Kanal Vela Vrata.

**Anchorage.**—Two designated anchorage areas, which may best be seen on the chart, lie centered 2.5 miles SW and 2.5 miles SE of the head of the main breakwater and have depths of 47 to 63m. A designated tanker anchorage area, which may best be seen on the chart, lies centered 4.5 miles SE of the head of the main breakwater and has depths of 57 to 63m.

In strong S winds, this roadstead may become untenable and vessels should seek shelter off the NW coast of Otok Krk.

**Caution.**—Although the approach to Rijeka generally presents little difficulty, vessels in winter should be prepared for severe weather in case of the rapid appearance of bora winds.

A prohibited anchorage area, which may best be seen on the chart, fronts the shore and extends SSW from the main harbor entrance between the two designated anchorage areas.

Several wrecks, some dangerous, lie in the approaches to the port and may best be seen on the chart.

**11.40 Luka Martinscica** (45°19'N., 14°29'E.), a shipyard complex, is situated 1.5 miles SE of Rijeka. This facility lies within a natural inlet and is protected by breakwaters. It can handle vessels up to 60,000 dwt.

**Urinj Oil Terminal** (45°17'N., 14°32'E.) is situated at Rt Skrkovac, 4.2 miles SE of Rijeka. This anchorage berth can accommodate tankers up to 200,000 dwt which secure stern-to. The depths at the berth are reported to be from 45m forward to 20m aft, over mud. Two mooring buoys, lying about 70m off-

shore in a depth of 17m, mark the limits to which the stern of the vessel may approach the shore.

It is reported that an LPG terminal is situated at Srsica in the vicinity of the W entrance point of Bakarski Zaliv. The berth, 68m long, has a depth of 10m alongside and can handle vessels up to 4,500 dwt.

### **Bakar (45°18'N., 14°32'E.)**

World Port Index No. 41030

**11.41** The port of Bakar lies within Bakarski Zaliv, a large and nearly land-locked basin, which is entered 6 miles ESE of Rijeka. It serves as the bulk cargo harbor for Rijeka and has facilities for oil and ore.

**Winds—Weather.**—The bora blows with great violence in the vicinity of Bakarski Zaliv and although the NW part of the basin is protected, the wind coming off the slopes in the S part sometimes renders the entrance impossible to navigation. The bora approaches suddenly, sometimes lasting for two or three days, and then ceases just as rapidly. The scirocco blows along the axis of the basin and sometimes produces seas which frequently inundate the area.

**Depths—Limitations.**—There are depths of 30 to 44m in the middle of the entrance to Bakarski Zaliv and 20 to 35m within the basin.

The main facilities on the NW shore include a bulk berth, 384m long, with a depth of 18.5m alongside which can accommodate vessels up to 170,000 dwt and 18m draft. The oil facilities on the SW shore can handle tankers up to 80,000 dwt, mooring stern-to, and tankers up to 40,000 dwt and 9.7m draft, berthing alongside.

**Aspect.**—The shores of the basin are bold and rise steeply on all sides. Shoals, which front the entrance points, are marked by lighted buoys. A prominent castle stands close NE of the E entrance point and several conspicuous industrial installations are situated in the vicinity of the W entrance point.

**Pilotage.**—Pilotage is compulsory for vessels over 500 grt and all vessels carrying dangerous cargo. Pilots can be contacted on VHF channel 10 or 16 and board in the vicinity of the anchorage areas. Pilots are provided by Rijeka.

**Anchorage.**—Sheltered anchorage can be taken nearly anywhere, in depths of 24 to 29m, mud, within the NW part of Bakarski Zaliv. Vessels carrying inflammable cargo are prohibited from anchoring, except for the purpose of berthing, within the basin.

**11.42 Omisalj Oil Terminal (45°13'N., 14°33'E.)** (World Port Index No. 41045) lies within Omisaljki Zaliv, an inlet, which is entered on the NW coast of Otok Krk, 7 miles SE of Rijeka.

**Depths—Limitations.**—The entrance to the inlet is 700m wide; there are depths of 55m in the approaches and 30m within the entrance. The oil terminal consists of two T-shaped piers with depths of 28m alongside Berth No. 1 and 26m alongside Berth No. 2. Tankers up to 350,000 dwt and 27m draft can be accommodated alongside.

**Aspect.**—The W side of the inlet is formed by Tenka Punta peninsula, on which stands a prominent tank farm. The village of Omisalj, with a prominent belfry, is situated on a hill at the

head of the inlet. The entrance fairway is indicated by a lighted range which may best be seen on the chart.

**Pilotage.**—Pilotage is compulsory for vessels over 500 gross tons. Pilots can be contacted on VHF channel 10 or 16 and are available day and night. Vessels should send an ETA 72 hours, 48 hours, and 24 hours in advance. Pilots are provided by Rijeka.

**11.43 Port Dina (45°12'N., 14°33'E.)**, a petrochemical and gas terminal, lies in the vicinity of Rt Zaglav which is located 2 miles S of the entrance to Omisaljki Zaliv and is the S entrance point of Uvala Sapan (Uvala Sepen).

An LPG berth, formed by an L-shaped jetty with mooring dolphins, has a depth of 11.5m alongside and can handle gas carrier vessels up to 15,000 cubic meters and 10.5m draft.

A chemical berth, formed by a T-shaped jetty and mooring dolphins, has a depth of 15m alongside and can handle vessels up to 60,000 dwt and 14.5m draft.

In addition, there is a multi-purpose quay, 90m long, with a depth of 6m alongside.

**Anchorage.**—A designated gas carrier vessel anchorage area, which may best be seen on the chart, lies centered about 2.5 miles WSW of Rt Zaglav.

### **Mainland Coast—Rt Crna Punta to Rt Marlera**

**11.44 Rt Crna Punta (44°57'N., 14°09'E.)**, previously described in paragraph 11.37, is the E entrance point of a double bay, formed by a small projection. Uvala Voscice, the E and smallest bay, is not recommended for anchorage. Anchorage, sheltered from N and W winds, can be taken, in a depth of 44m, mud over rock, in the outer part of Uvala Koromacno, the W bay. A cement factory, with a tall chimney and a silo, is situated near the village of Koromacno in the NE corner of this bay and is fronted by a quay used by small craft.

**Zaliv Rasa (44°59'N., 14°05'E.)** is entered between Rt Ubac, which is located 3.5 miles WSW of Rt Crna Punta and marked by a light, and Rt Mulac, 0.5 miles WSW. This irregular-shaped inlet is narrow, deep, and extends about 6 miles N to connect with a shallow canal.

Anchorage can be taken nearly anywhere within this inlet, but the best anchorages lie in the sheltered coves on the E side.

The village of Trget is situated in a cove 4.7 miles N of Rt Ubac and fronted by two piers. A timber terminal quay, 150m long, has a depth of 11m alongside. A livestock terminal quay, which can handle vessels up to 100m in length, has a depth of 7m alongside.

Anchorage can be taken, in a depth of 16m, mud and gravel, about 0.2 mile S of the village of Trget.

The village of Brsica (Rasa) is situated at the head of Zaliv Rasa and has a small coal loading facility. There are two quays, with depths of 6m alongside, and a T-head pier, 70m long, with a depth of 8.8m at its head.

**Pilotage.**—Pilotage is compulsory for vessels over 500 grt. Pilots can be contacted on VHF channels 9 and 12 and are available day and night. For further information, see pilotage for Rijeka in paragraph 11.39.

**Caution.**—Local magnetic anomalies have been reported within Zaliv Rasa.

Unmarked shellfish havens lie in places along the shores of Zaliv Rasa.

Several submarine cables lie across the S part of the inlet and should be avoided when anchoring.

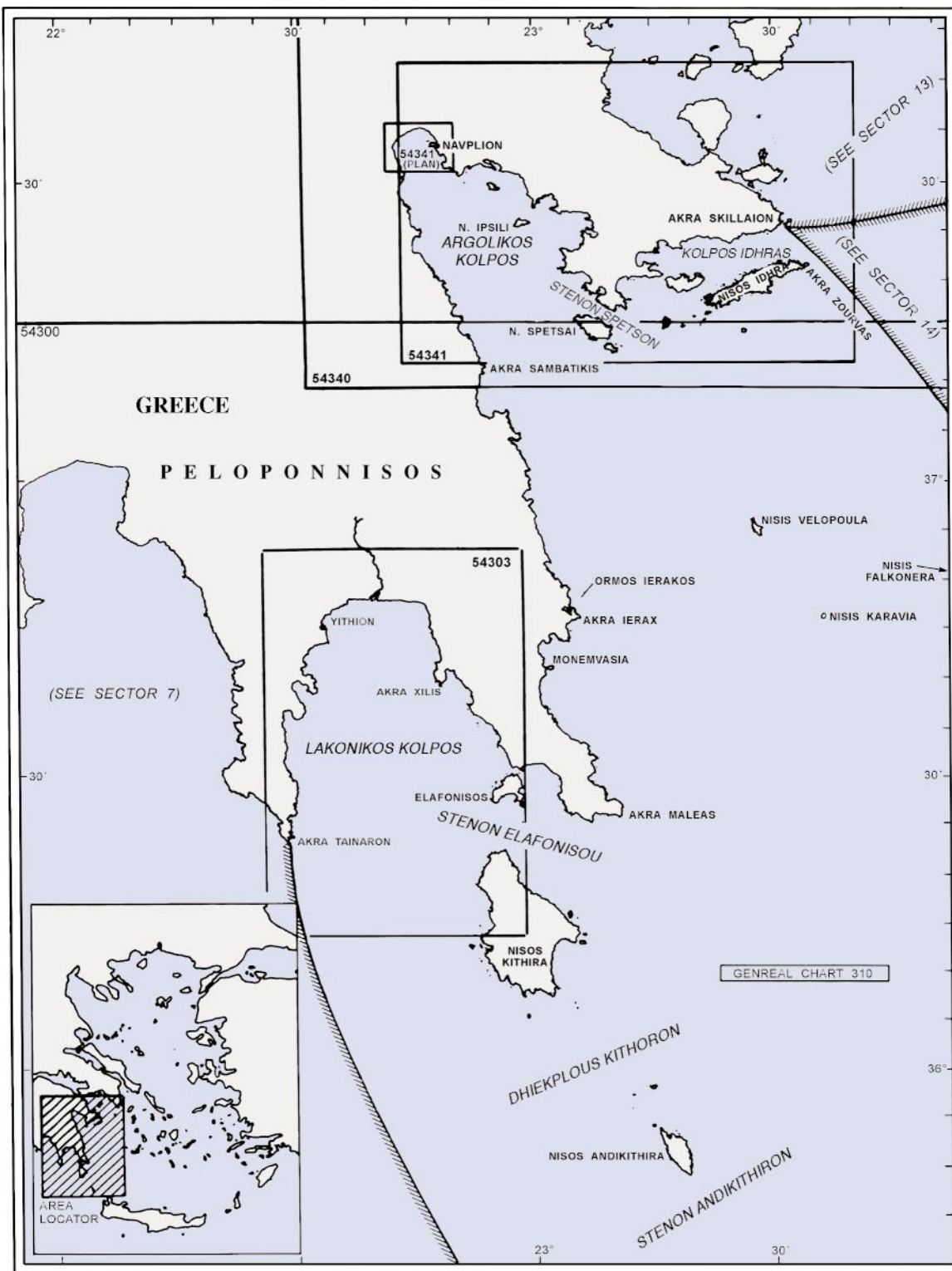
**11.45 Luka Krnica** (44°57'N., 14°03'E.), a narrow inlet, indents the coast close S of the entrance to Zaliv Rasa. It has high sides and provides shelter from all but SE winds. A small fishing village is situated at the head.

Luka Vinjole, a wooded inlet, is entered 1.9 miles SSW of Luka Krnica and provides shelter to small craft with local knowledge. It is divided into two parts by a rock, with a least depth of 0.3m, which lies close within the center of the entrance.

**Luka Budava** (44°53'N., 14°00'E.) is entered between Rt Seka, located 1.3 miles SSW of Luka Vinjole, and Rt Arne, 0.8 mile SSW. This inlet extends W and NW and has high sides covered with shrubs. Hrid Seka, a rock, lies at the N side of the entrance about 0.2 mile S of Rt Seka and is marked by a light. The village of Valtura, with a prominent belfry, stands 1 mile W of the head of the inlet. A point, surmounted by a house, divides the head of the inlet into two shallow coves. Temporary anchorage can be taken, in depths of 13 to 20m, about 0.2 mile SE of this point.

**Rt Marlera** (44°48'N., 14°00'E.), marked by a light, is located 5.2 miles S of the entrance to Luka Budava and is fully described, along with the coast to the SW of the point, in Pub. 131, Sailing Directions (Enroute) Western Mediterranean.





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).  
**SECTOR 12 — CHART INFORMATION**





## SECTOR 12

### GREECE—AKRA TAINARON TO AKRA SKILLAION

**Plan.**—This sector describes the S and SE coasts of Peloponnisos and the passages which lead into the Aegean Sea from the SW. The general descriptive sequence is NE from Akra Tainaron to Akra Skillaion.

#### General Remarks

**12.1 Tides—Currents.**—The currents between the islands and the mainland, as well as outside the islands, depend principally on the force and direction of the winds. It often happens, however, that the land and sea breezes in summer cause great variation in the currents; the land breezes out of Argolikos Kolpos and Saronikos Kolpos necessarily cause eddy currents in the vicinity of Nisos Spetsai and Nisos Idhra, both in the channel within and outside the islands. To this may be ascribed, about halfway between the E end of Nisos Idhra and Stavronisi, a ripple occasioned by the meeting of the two currents, which generally appears at intervals between the land and sea breezes, and which before now, here and elsewhere, had been taken for shoal water.

#### Lakonikos Kolpos

**12.2 Lakonikos Kolpos** (36°30'N., 22°40'E.), an extensive gulf, is entered between Akra Tainaron, formerly known as Cape Matapan, and Akra Ayia Maria, 22 miles ENE. Yithion, in the NW corner of the gulf, is the principal port of this area. Several mountains stand on the W side of the gulf and the most conspicuous peaks, from N to S, include Oros Taiyetos, rising 35 miles N of Akra Tainaron, Mavrovouna, Oros Kouvenova, Ori Sangia, Ori Miniatika, and Oros Kakorouni. The highest peak of Oros Taiyetos is nearly always covered with snow except during the summer months. In clear weather, these peaks may be sighted from a great distance, but Oros Taiyetos is almost always enveloped in clouds, except during the dry summer months. During SE winds, most of these mountains are usually covered with clouds.

Kourkoula, round-topped and easily distinguished, rises near the NE corner of the gulf. Also conspicuous are Dhidhimoi Korifai and Korifi Kimatissa which stand along the E side.

Korifi Xili, a prominent promontory, extends 2 miles S from the E side of the gulf. Its summit, in the form of a truncated cone, appears like an island when seen from the S. Several white rocks surmount this summit and resemble the ruins of a castle. From the W, this promontory has a different appearance.

The visibility within the gulf is normally extremely good and is sometimes the cause of distances being underestimated. In about mid-April, with a high and steady barometer, bad weather from the NE accompanied by thick mist has been known to last for up to 36 hours.

#### Lakonikos Kolpo—West Side

**12.3 Akra Tainaron** (36°23'N., 22°29'E.), the W entrance point of Lakonikos Kolpos, is the S extremity of a small peninsula. This small peninsula has an isthmus, 3.2 miles wide, at its N end and forms the S end of Peloponnisos. It appears as a triangular or wedge-shaped island when seen from the E or W. When the summit of this small peninsula is below the horizon, Ori Miniatika, a flat-topped mountain, may still be identified. This conspicuous peak stands 10.5 miles NNW of the point and is 1,076m high.

When viewed from the S, Akra Tainaron is sometimes reported to be difficult to recognize against the background of high land. However, Akra Kisternes, located 1 mile NE of the point, and the terraced cliffs of Akra Grosso, located 7.5 miles NNW of the point, are conspicuous. A light is shown from a prominent structure, 16m high, standing on Akra Tainaron.

**Caution.**—During strong N winds, vessels near the coast in the vicinity of Akra Tainaron should be prepared for heavy squalls which descend from the high land. Squalls that descend from the mountains on the W side of Lakonikos Kolpos are especially severe.



**Akra Tainaron Light**

**12.4 Limin Asomaton**, entered 0.7 mile NNE of Akra Tainaron, affords good shelter from all winds except those between S and SE. As the hills surrounding this small inlet are not as high as those around many of the others. There are depths of 18 to 30m in its outer part.

Akra Kisternes, a small promontory, is located 1 mile NE of Akra Tainaron. It is 105m high and has a conspicuous, sharp, and rounded summit.

Ormos Vathi, a narrow inlet, is entered close N of Akra Kisternes and is subject to heavy squalls from all directions. Anchorage is available near the head, in a depth of 20m, but the inlet here is only 120m wide.

**Limin Kagio** (36°26'N., 22°29'E.), entered 2 miles NNW of Akra Kisternes, has a low isthmus at the head. This bay, although open to the E, forms a natural sheltered harbor for small craft. A light is shown from the S entrance point and a conspicuous tower surmounts a hill which rises close inland of the SW shore. The prominent buildings of a former monastery are situated within the NW shore.

Harbor Shoal, with two rocky and shallow heads, lies in the middle of the bay. This danger can usually be distinguished in the daytime by the color of the water over it. Anchorage, sheltered from E winds, can be taken, in a depth of 31m, in the S part of the bay. Anchorage can also be obtained N of Harbor Shoal, in a depth of over 50m. It is reported (1991) that a fish haven lies close SSE of the S head of Harbor Shoal.

A light is shown from the NW entrance point of Ormos Melingani, a small bight, lying 4.5 miles N of Limin Kagio. A prominent tower and a chapel surmount the hill which rises close SW of the light.

**12.5 Ormos Kolokithias** (36°36'N., 22°30'E.), entered between the S extremity of a bluff red promontory and a point, marked by a tower, 2 miles SW, affords poor anchorage due to its exposed position and because of the brief squalls which frequently descend from the surrounding high land. The village of Kotronas stands at the head of the bay. The only recommended anchorage berth lies in the NE part of the bay.

**Ormos Skoutari** (36°39'N., 22°31'E.) is entered between Akra Stavri, the NE extremity of the bluff, reddish promontory and Akra Paganía, 2.1 miles NE. A prominent hill rises close NW of Akra Stavri and the white dome of a church standing in the village at the head of the bay is conspicuous. Akra Paganía, fronted by a reef, is 120m high and the bold extremity of a flat promontory. A sheltered anchorage berth, in a depth of 20m, lies about 0.7 mile SE of the village.

A conspicuous tower stands on a small coastal projection 3 miles NNW of Akra Paganía.

**12.6 Yithion** (Gythion) (36°45'N., 22°34'E.) (World Port Index No. 41950), a small port, is fronted by an open roadstead which is sheltered from the S by Nisis Kranai, an islet joined to the mainland at its W end by a causeway. Large vessels work cargo at the anchorage with the use of lighters.

**Depths—Limitations.**—The harbor fronts the N part of the town and is protected from the E by a quayed mole extending N and then NE. There are depths of 2 to 8m alongside the quays which are used by fishing craft, coasters, small craft, and yachts. Vessels up to 130m in length and 7m draft have been accommodated alongside.

**Aspect.**—A light is shown from a prominent tower, 23m high, standing on the E end of Nisis Kranai. A prominent ruined turret is situated close W of the light; a conspicuous church surmounts a hill which rises close behind the town.



Yithion Light

Akra Mounda, located 1.2 miles S of Nisis Kranai, is fronted by rocks. Mavrovounion, a village, stands on rising ground 0.5 mile NW of the point and is conspicuous from all directions.

**Anchorage.**—Vessels should anchor, in a depth of 31m, about 0.3 mile NNW of the light on Nisis Kranai.

**Caution.**—A foul ground area lies about 0.3 mile N of the light tower on Nisis Kranai and should be avoided.

Strong E winds sometimes create a swell in the roadstead.

## Lakonikos Kolpo—East Side

**12.7 Potamos Evrotas** (River Iris) (36°48'N., 22°40'E.) flows through a cultivated valley at the head of Lakonikos Kolpos and enters the gulf via several mouths. The coast along the head of the gulf is low and marshy and should not be approached within 1 mile.

**Elaia** (36°45'N., 22°48'E.), a prominent village, stands on the NE side of the gulf and is fronted by a small craft harbor and an open roadstead. Akra Molaon, located close S of the village, is surmounted by a conspicuous tower and fronted by an islet, 12m high. The depths in the vicinity of the roadstead are irregular. Vessels should anchor about 0.5 mile W of the village, in depths of not less than 22m, taking care to avoid a shallow spit which extends seaward from a low and sandy point N of the village.

**Akra Xilis** (36°39'N., 22°49'E.), marked by a light, is the S extremity of a small peninsula which forms the S end of Korifi Xili, a prominent promontory previously described in paragraph 12.2.

Ormos Xilis, open to the S, is entered between Akra Xilis and Akra Koukourianikon, 2.5 miles E. The village of Plitra, fronted by a mole, stands at the head of this bay and the submerged ruins of an ancient town lie nearby. Anchorage can be taken in the N part of the bay, in depths of 22 to 33m, sand.

Akra Arkhangelos, formed by a narrow tongue of land with a hill standing near its extremity, is located 2.7 miles SE of Akra Xilis. Anchorage within a bight can be taken, in a depth of 38m, about 0.4 mile ENE of this point.

Akra Kakavlaki, a bluff point, is located 1.5 miles SE of Akra Arkhangelos. This point is fronted by rocks and a prominent tower stands close NE of it. Glaronisi, an islet, lies on a coastal shoal bank about 0.4 mile offshore, 0.8 mile SE of the point.

**12.8 Akra Koulendi** (36°34'N., 22°56'E.), 103m high, is located 5.3 miles SE of Akra Arkhangelos and is surmounted by a conspicuous tower. The coast to the S of this headland is low whereas the coast to the N is high and mountainous.

**Nisos Elafonisos** (36°29'N., 22°58'E.), 276m high, is a mostly barren island which lies close offshore on the E side of the entrance to Lakonikos Kolpos. Ormos Sarakiniko, a bay, indents the S side of the island and provides anchorage, in depths of 15 to 27m. A village, with a prominent white church, is situated at the NE side of the island. A boat channel leads between the N shore of the island and the mainland. A rock, marked by a light, lies close off the NE extremity of the island.

**Akra Ayia Maria** (36°28'N., 22°56'E.), the SW extremity of Elafonisos, forms the E entrance point of Lakonikos Kolpos and lies on the N side of Stenon Elafonisosou.

## Stenon Elafonisosou

**12.9 Stenon Elafonisosou** (36°25'N., 23°00'E.) leads between Elafonisos and the SE extremity of Peloponnisos, on the N side, and Nisos Kithira, on the S side. This passage forms the

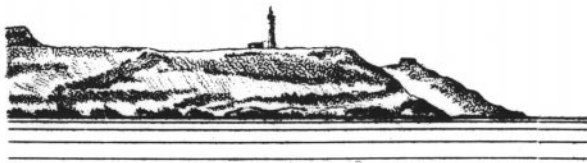
most direct route for vessels proceeding to the Grecian archipelago from the W, although it is the narrowest of the three channels which lie between the mainland of Greece and the island of Kriti (Crete). Heavy traffic is reported in both directions through this channel.

Strong winds and sudden changes of weather are frequent in Stenon Elafonisou. Winds from the NW may blow to the W of Akra Maleas when winds from the N or NE are blowing to the E of this cape.

**Ormos Viatika** (Neapoleos) (36°30'N., 23°02'E.), a large bay, lies on the N side of Stenon Elafonisou and is frequented by vessels encountering strong adverse winds. A prominent church stands in the village of Neapolis which is situated on the NE side of the bay. The village is fronted by a small craft pier which was reported to be damaged. Vessels anchor as convenient off Neapolis, in a depth of 27m, or about 0.5 mile from the head of the bay, in depths of 18 to 22m. The bottom on the E side of the bay is uncertain, being rocky in places, and winds from the S cause a heavy swell within the bay.

**12.10 Nisos Kithira** (36°15'N., 23°00'E.), a mountainous volcanic island, lies with Akra Spathi, its N extremity, located 5 miles S of Akra Ayia Maria. Oros Mirmingari, the summit of the island, is 506m high and rises near the center of the W side.

Akra Spathi is formed by steep cliffs up to 100m high and is fronted by a reef. Vessels should pass at least 0.5 mile off this point. A light is shown from a prominent structure, 25m high, standing close S of the extremity of the point.



**Akra Spathi Light**

Akra Armenopetra, the NW extremity of the island, is located 5 miles SW of Akra Spathi. A rock, 10m high, lies close off this point and appears as a well-defined cone when seen from the N or S.

Ormos Fana Kopia, which affords the only anchorage in this vicinity, is entered between Akra Koufoyalos, located 3 miles SSE of Akra Armenopetra, and Akra Limniona, 2.3 miles SSW. Two rocky islets lie on a shoal bank which extends 0.8 mile NNE of Akra Limniona. The bay is protected from the E and W, but the backwash caused by the swell striking the cliffs in the N part creates a confused sea and swell. Vessels should anchor, in a depth of 29m, off the SE side of the bay.

**Akra Trakhilos** (36°08'N., 23°00'E.), located at the S end of Nisos Kithira, is the S extremity of a narrow tongue of land which extends S from the shore.

**Nisidhes Lindho** (36°12'N., 22°54'E.), consisting of two islets fringed by rocks, lies about 0.5 mile offshore, 5.7 miles NW of Akra Trakhilos. The S and largest islet is 28m high.

Nisidhes Strongila, consisting of two islets, lies about 0.8 mile offshore, 1.4 miles SSE of Nisidhes Lindho. The N islet is 30m

high and the S islet is 33m high. Being comparatively small and low, all of these islets are difficult to identify against the high land, especially at night, and they should be given a wide berth.

**Ormos Kapsaliou** (36°08'N., 23°00'E.), a small bay exposed to the S, is entered close E of Akra Trakhilos and forms a natural harbor. During strong winds from between SE and SW, this bay is unsafe. Oros Kapsali, 477m high, stands 1.7 miles NW of the bay. This prominent peak is flat topped and a conspicuous monastery is situated on its NW shoulder. Another prominent hill, 322m high, stands immediately N of the bay and is surmounted by a white house. A conspicuous white mill stands on Akra Grosso, the E entrance point of the bay. The town of Kithira, fronted by a large fortress, stands on the NW side of the bay and is very conspicuous. The town is fronted by a small-craft harbor. The best anchorage berth is in a depth of 29m, mud and sand, about 0.3 mile SSW of the harbor.

**Akra Kapello** (36°08'N., 23°03'E.), the SE extremity of Nisos Kithira, is located 2.3 miles E of Ormos Kapsaliou and is fronted by rocks. During N and NE winds, a heavy swell is experienced off this point and it should be given a wide berth.

Ormos Ayiou Nikolaou, a bay, is entered 5.5 miles N of Akra Kapello and is subject to a heavy swell during S and SE winds. Limin Avlemonos, a cove, lies at the head of the bay and provides shelter to small craft. Vessels can anchor in the bay, in a depth of 31m, sand and mud, about 0.4 mile SW of the castle which stands on the NW entrance point of Limin Avlemonos.

**12.11 Vrachonisidhes Dhragoneres** (36°13'N., 23°06'E.), consisting of two islets, lies close off the E extremity of the island. Nisis Dhragonera, the S and larger islet, is 39m high. Nisis Andidhragonera, the N islet, is 20m high and is marked by a light. Both of these islets are covered with scanty grass and low scrub and both appear similar, having a dip in the middle between two hummocks. During NE winds, the sea breaks heavily over the rocks which front the E side of Nisis Dhragonera. Small vessels can obtain temporary anchorage, in depths of 20 to 37m, between the island and the two islets. Local knowledge is required as patches of foul ground lie in the approach.

**Makronisi** (36°16'N., 23°05'E.) lies close off the coast 2.5 miles NW of Nisis Andidhragonera. This islet is 29m high and is marked by a light at the N end, but is low at its S end. It is connected at the S extremity to the mainland by a rocky ledge, with a depth of 0.6m, which acts as a breakwater during S winds. Fidhonisi, a small rock, lies 0.5 mile SE of the islet and is 13m high.

Limin Dhiakofti, also known as Angirovolion Makris, is a small natural harbor formed between the islet and the mainland coast. The village of Dhiakofti stands in the SW part of this harbor and is fronted by a stone pier which is used by coasters. Vessels with local knowledge can obtain good anchorage, in a depth of 22m, near the middle of the harbor.

**Ayia Pelayias** (36°19'N., 22°59'E.), a village, is situated on the coast 6 miles NW of Makronisi and can be identified by a tower standing close S of it. A mole, 220m long, fronts the village and has depths of 1.5 to 4m alongside. Small vessels can anchor, in a depth of 22m, off the village.

**Caution.**—Several submarine cables extend across Stenon Elafonisou and may best be seen on the chart.

## Dhiekplous Kithiron

**12.12 Dhiekplous Kithiron** (36°05'N., 23°05'E.), the middle channel of the three leading from the W into the Grecian archipelago, leads between Nisos Kithira and Nisos Andikithira. Several islets and dangers lie off both of these islands at the sides of the passage.

**Nisis Avgo** (36°06'N., 23°00'E.) lies 3.1 miles SW of Akra Kapello, the SE extremity of Nisos Kithira. This islet is 194m high and has a rounded surface which appears, as its name implies, like a large egg.

**Nisidhes Kofinidhia** (36°06'N., 23°09'E.), located 5 miles ENE of Nisis Avgo, consists of two small and rocky islets lying 0.6 mile apart. In cases of necessity, vessels can pass between these islets, but caution is necessary as the currents are strong and irregular in this vicinity. The N and larger islet is 10m high and flat. A rock, with a depth of 2.7m, lies close off its S side. Rocky patches, with depths of about 25m, lie 1.7 miles SE and 1.2 miles S of the S islet.

**Nisis Pori** (35°58'N., 23°15'E.), a rocky islet, lies on the S side of the channel and is 126m high and precipitous. A shoal, with a depth of 7m, lies about 0.8 mile N of this islet.

Vrakhos Poreti, a small and cliffy islet, lies 2 miles SW of Nisis Pori and is 40m high and also precipitous. Vrakhos Navtilos, 3m high, lies 1.2 miles SSE of Vrakhos Poreti and is surrounded by submerged rocks. From a distance, this above-water rock has the appearance of several scattered rocks, being very pointed and rugged. A shoal, with a depth of 6m, lies about 0.5 mile N of the rock.

**12.13 Nisos Andikithira** (35°52'N., 23°18'E.), a rocky and hilly island, has a barren aspect and rises to a summit, 378m high. Its coasts consist of steep and inaccessible cliffs. Akra Kefali, the N extremity of the island, is formed by red cliffs, 220m high. Akra Apolitares, the S extremity of the island, is formed by a level point, 24m high. A light is shown from a prominent structure standing on this point.

Ormos Potamou, an inlet, indents the N coast and offers the only shelter of the island. A light is shown from Akra Kastro, its E entrance point, and Potamos, a small village, is situated at the head. The sides of the inlet are high and rocky and a fort surmounts a hill which rises at the SE side. Small craft can anchor near the head of this inlet, in depths of 11 to 18m, but a heavy and dangerous swell rolls in during strong N winds.

Singular and conspicuous horizontal marks, which attract the eye, may be observed, at precisely the same level, all around Nisos Andikithira, Nisis Pori, and Vrakhos Poreti. Located about 2m above the water, these uniformly straight and horizontal marks are formed by the rock being worn away to a depth of 5cm and resemble the high water mark of places subject to regular tides. In winter, it is reported that the water level is much higher than usual, but never reaches the mark.

## Stenon Andikithiron

**12.14 Stenon Andikithiron** (35°45'N., 23°25'E.), the S channel of the three leading from W into the Grecian archipelago, lies between the S end of Nisos Andikithira and the NW end of Kriti (Crete). Levka Ori, the high peaks of Kriti, may be seen from the approaches to the channel and are nearly

always capped with snow. When using this passage, vessels are advised to keep to the N side. During N or NE winds, a strong current has been observed to set to the W.

## Peloponnisos—East Coast

**12.15 Akra Maleas** (36°26'N., 23°12'E.), the SE extremity of Peloponnisos, is formed by a bold headland, 553m high. A light is shown from a prominent structure, 15m high, standing 1 mile N of the point.

Violent squalls occur frequently near this headland, spilling over from the high mountains above it. The coast extending N from the point to the head of Argolikos Kolpos is mountainous, extremely rugged, and inhospitable in its general appearance.

The current in the vicinity of Akra Maleas generally sets W at a velocity of 1 knot, but its strength and direction can vary because of the wind.

Akra Kamili, a small and low promontory, is located 6.5 miles NW of Akra Maleas. A hummock, which closely resembles the hump of a camel, is located on this point. Several small islets and numerous rocks front the coast between this point and Monemvasia.

**Monemvasia** (36°41'N., 23°03'E.) is connected to the mainland at its W end by a bridge, under which only boats can pass, and a causeway. This small and narrow island is 199m high and a conspicuous castle surmounts its summit. A town, enclosed by walls, is situated on the S side and a light is shown from its E extremity.

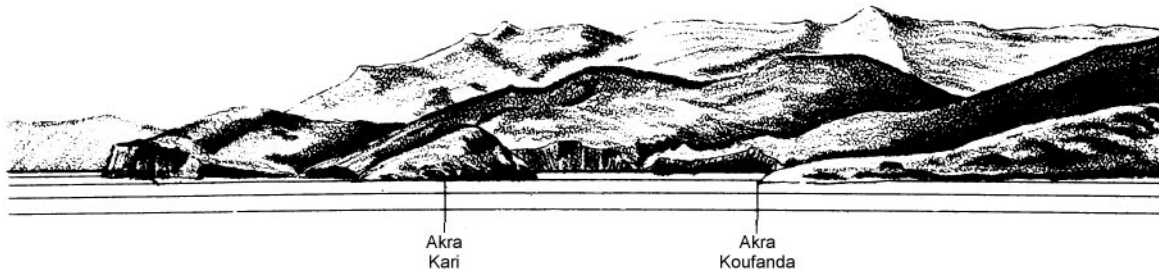
Kolpos Monemvasias, a bay, is entered between the E end of Monemvasia and Akra Kremmidhi, 3 miles NE, and provides protection from N, NW, and NE winds. Good anchorage can be taken within this bay, in depths of 9 to 18m, sand. The small village of Gephyra stands on the mainland W of Monemvasia and is fronted by a small craft harbor used by local fishing boats.

A small harbor, protected by a mole, fronts the NW end of the island in the SW corner of the bay. It has depths of 4 to 5m and is used by small craft. During the summer, temporary anchorage can be taken, in depths of 27 to 33m, sand and weeds, about 0.4 mile N of the bridge and causeway. Local knowledge is advised.

Akra Palaio Monemvasia is located on the N side of the bay 2 miles WNW of Akra Kremmidhi. This point is marked by a light and divides the N side of the bay into two parts. Vessels can take anchorage, in depth of 9 to 18m, sand, within Ormos Palaias Monemvasias, the NW part of the bay. Vessels can also take anchorage, in depth of 11 to 35m, within Ormos Kremmidhi, the NE part of the bay, but should avoid the foul ground caused by a sunken boom lying across the entrance.

**12.16 Ormos Ierakos** (36°47'N., 23°06'E.), a small inlet, lies 3.2 miles N of Akra Kremmidhi. It is entered between Akra Kari and Akra Koufanda, 0.3 mile NW. The entrance is backed by high land and is reported to be difficult to distinguish from seaward. However, vessels approaching from the N may sight a church which stands on the summit of a hill 2.5 miles NW of the entrance. The inlet is sheltered from all except NE winds and is used by local small craft.

**Akra Nisaki** (36°58'N., 23°00'E.), marked by a light on its NW side, forms the S entrance point of Ormos Kiparissiou, a small bay, and is fronted by rocks on the E side. Akra Kortia, located 0.8



Ormos Ierakos bearing 204°

mile N of Akra Nisaki, forms the N entrance point of the bay and is also marked by a light. A village is situated near the SW corner of the bay. Small vessels with local knowledge can take anchorage, in depths of 11 to 25m, within the bay.

**Akra Sambateki** (37°11'N., 22°55'E.), the SW entrance point of Argolikos Kolpos, is located 14 miles NNW of Akra Nisaki. This point is fronted by rocks and is marked by a light.

**Plaka** (Skala Leonidhion) (37°10'N., 22°52'E.) (World Port Index No. 42030), a small harbor, lies on the NW side of Ormos Poulithra 3 miles SSW of Akra Sambateki. It is protected by a mole and has depths of up to 6m alongside the quays. Small vessels of up to 4.5m draft can be handled. A conspicuous white sandy beach extends 1.3 miles N from the village in which a prominent white church stands. Vessels can anchor, in depths of 9 to 27m, within Ormos Poulithra.

**Caution.**—A submarine exercise area, which may best be seen on the chart, lies centered 16 miles SE of Akra Sambateki.

### Off-lying Islands and Islets

**12.17 Nisis Falkonera** (36°50'N., 23°53'E.), the outermost island lying off this part of the coast, is 183m high and marked by a light on its SE peak. A small above-water rock lies close off its NW extremity.

**Nisidhes Karavi** (36°46'N., 23°36'E.), consisting of a group of three sheer and barren islets, lies 14 miles WSW of Nisis Falkonera. The largest islet is 33m high; they resemble a ship under sail from a distance.

**Nisis Velopoula** (Nisis Parapola) (36°55'N., 23°28'E.), 227m high, is almost inaccessible. A light is shown from a prominent structure, 10m high, standing in the NW part of the island.

### Argolikos Kolpos

**12.18 Argolikos Kolpos** (37°15'N., 23°00'E.), an extensive gulf, is entered between Akra Sambatikis and Nisos Spetsai, 10 miles ENE, and is bounded on both sides by mountains. The slightly irregular W shore is low in places while the E shore is indented by several bays and is fronted by several islands. Navplio, a port, lies at the head of the gulf.

In Argolikos Kolpos during the summer the land and sea breezes are very irregular. The sea breeze, which normally reaches a force of from 4 to 5 at about 1600, sets in from the SSE about 1100 and blows until between 2000 and 2200. It is then succeeded by the land breeze from the NNE, which

continues until about 0600, when it falls calm until the sea breeze sets in again.

**Akra Tirou** (37°15'N., 22°53'E.), located 3.8 miles NW of Akra Sambateki, is the S entrance point of Ormos Tirou, a small bay, which offers shelter to small craft. This point is fronted by a reef and surmounted by three conspicuous windmills. Akra Trikeri, located 1.6 miles NNW of Akra Tirou, is bold and rises to a height of 293m. Ormos Zaritsi, another small bay, lies 2.7 miles NW of Akra Tirou and offers shelter to small vessels. A small prominent church stands near the shore of this bay.

**12.19 Paralios Astros** (37°25'N., 22°46'E.) (World Port Index No. 42040), a small harbor, lies on the N shore of Ormos Astros 10 miles NW of Akra Trikeri. The coast between is indented by several small bays which provide shelter to small vessels with local knowledge. The harbor fronts the S side of a small promontory and is protected by two moles. It has depths of 2 to 4m and is used by small craft. A light is shown from the SE extremity of the promontory. Anchorage can be taken, in depths of 12 to 18m, mud and sand, about 250m S or SE of the harbor.

**Ormos Navplion** (37°33'N., 22°46'E.) is entered between Akra Kiveri and Akra Khondros, 4 miles E, and forms the N portion of Argolikos Kolpos. Anchorage can be taken anywhere in the bay where depths permit. However, several obstructions and foul areas, which may best be seen on the chart, lie within the bay.

The sides of this bay are backed by high mountains while the head is low and marshy and is backed by a cultivated plain. Kiveri, a village, is situated 0.5 mile NW of Akra Kiveri and near the conspicuous ruins of a medieval castle. Temporary anchorage can be taken off this village, in depths of 11 to 15m, sand. Anchorage can also be taken, in a depth of 13m, good holding ground, about 1 mile E of the village of Miloi which stands 1.8 miles NNW of Kiveri.

The conspicuous acropolis of Larissa, with a beacon, is situated on a hill, 285m high, standing close W of the town of Argos, 5.2 miles N of Miloi. A prominent chimney stands 2.7 miles NE of Miloi, close E of the village of Nea Kios.

**12.20 Navplio** (37°34'N., 22°48'E.) (World Port Index No. 42050), a small port, lies on the E side of the bay and fronts the N side of Khersonisos Akronavplias, a small flat-topped peninsula. The harbor is protected from the SW by a mole and from the N by a stone breakwater, 0.5 mile long.

**Depths—Limitations.**—The entrance fairway has depths of 5.5 to 7m. The harbor has three piers and provides 1,100m of quayage, with depths of 2 to 6.4m alongside. Small vessels of up to 6,300 dwt and 5.5m draft can be accommodated. Larger vessels may load and discharge cargo from lighters in the anchorage.

**Aspect.**—The prominent resort town of Navplion is situated on the flat-topped peninsula with its modern part extending to the E. A light is shown from Akra Panayitsa, the SW extremity of the peninsula. A prominent prison building stands close NE of the light.

Nisis Bourtzi, a small rocky islet, lies on the W side of the harbor, 0.4 miles N of Akra Panayitsa. It is 20m high and is surmounted by a conspicuous fort. The entrance fairway leads close N of the head of the W mole and is marked on its N side by a lighted buoy.

Lofos Palamidhion, 223m high, is a precipitous ridge standing 0.5 mile E of Akra Panayitsa. It is located at the W end of a range of barren hills and is surmounted by a conspicuous fort.

**Pilotage.**—Pilotage is not compulsory, but is advisable if entering the harbor for the first time. Local pilots are available and can be contacted by VHF.

**Anchorage.**—A recommended anchorage berth lies, in depths of 10 to 14m, about 0.6 mile WNW of Akra Panayitsa.

**Caution.**—A submarine cable and a pipeline extend S from Nisis Bourtzi and may best be seen on the chart.

**12.21 Akra Khondros** (37°32'N., 22°49'E.) is the SE entrance point of Ormos Navplion. Ormos Karathona, a small bay, is entered 0.8 mile N of this point and provides good shelter. A small islet, 14m high, lies 0.2 mile NNW of Akra Khondros. Good anchorage can be taken, in a depth of 20m, about 0.3 mile N of this islet. A prominent church stands on the shore near the center of the bay.

Ayiou Vlkendiou, an isolated sponge reef, lies about 0.5 mile SW of Akra Khondros and has a depth of 10.1m.

**Nisis Tolo** (37°30'N., 22°52'E.), also known as Nisis Romvi, is bold, rocky, and rises to heights of 154m in its W part and 87m in its E part. Lights are shown from the W extremity and SE end of this island. Nisis Dhaskalia, 52m high, lies in the entrance to a small bay close off the S side of the island. The ruins of an old fort and a church stand on this islet. A narrow passage, with a least depth of 12.8m, leads between the N side of Nisis Tolo and the mainland.

Tolos Reef, with a least depth of 3.6m, lies about 0.8 mile SE of the SE end of Nisis Tolo.

Tolo is situated on the mainland 0.3 mile NW of the N extremity of Nisis Tolo. This resort village is fronted by a small craft harbor and Nisis Koronisi, a small islet, lies 0.3 mile E of it.

Limin Dhrepanon, a small bay, lies 3.4 miles E of Tolo. It has a high shore line which provides protection from all winds. The entrance to the bay, which is 0.3 mile wide, is reported to be difficult to identify. The ruins of a fort stand on the W entrance point and the E entrance point is marked by a light and surmounted by a small chapel.

**Nisis Platia** (37°30'N., 22°55'E.), a rugged and uninhabited island, lies 2 miles ESE of the SE end of Nisis Tolo and rises to a height of 82m. A prominent white triangular cliff is located on its W side.

**Akra Iria** (37°28'N., 23°00'E.), 70m high, is the S termination of a low stretch of coast. A dangerous reef, with a depth of 5.4m, lies 0.4 mile offshore about 1.2 miles NW of this point.

Nisis Ipsili, 243m high, lies 1.8 miles SW of Akra Iria. The S coast of this island is formed of prominent sheer cliffs and its SW extremity is marked by a light.

**12.22 Koilas** (37°25'N., 23°07'E.), a resort town, is situated on the SW side of Ormos Koiladhia, a harbor formed by a natural inlet. The inlet is entered between Akra Kokkinos, which is marked by a light, and a prominent headland, 0.9 mile E.

Nisis Koiladhi, an islet, lies in the entrance to this inlet and is fringed by rocks on its SW and SE sides. It is 24m high and provides protection from NW winds.

The entrance channel leading SW of the islet, which is normally used by vessels, is 0.2 mile wide and has depths in the fairway decreasing from 9 to 5m. The channel leading NE is also 0.2 mile wide and has depths in the fairway decreasing from 11 to 5m. It is clearer and much easier to navigate than the SW passage, but should not be used at night. The town is fronted by a small craft harbor.

Anchorage may be obtained, in depths of 5 to 10m, mud, about 0.3 mile S of the E extremity of Nisis Koiladhia. A conspicuous monastery stands close NW of the town.

**Caution.**—Several submarine cables lie within the inlet and may best be seen on the chart.

**12.23 Akra Korakas** (37°21'N., 23°04'E.), marked by a light, is fronted by rocks. Ormos Ververoudha, a bay, is entered between this point and Akra Ververoudha, 2.5 miles ESE. The N shore of this bay is steep and fronted by numerous rocks. The E shore is low.

**Limin Kheliou** (Porto Heli) (37°19'N., 23°09'E.) (World Port Index No. 42060), an inlet, is entered 1.6 miles SE of Akra Ververoudha and forms a natural harbor. An entrance channel, 0.2 mile wide, leads NE into the inlet which has depths of 6 to 10m. The small town of Porto Kheli stands on a promontory at the W side of the inlet. It is fronted by a small craft harbor which is mostly used by local ferries and yachts. Small vessels can anchor in the central part of the inlet, in depths of 6 to 10m, mud with good holding ground.

Numerous villas and hotels are situated around the shores of the inlet. The NW entrance point of the channel is marked by a light and a conspicuous building stands 0.4 mile NNE of it. Nisis Khinitsa lies 0.4 mile S of the SE entrance point. This islet is 10m high, and has two prominent hillocks. A detached rocky shoal, with a depth of 7m, lies about 0.2 mile offshore, 0.6 mile SE of the islet. It is sometimes marked by a discoloration of the water.

**Akra Aimilianos** (Akra Milianos) (37°17'N., 23°12'E.), a steep and white point, is surmounted by a prominent chapel. Vralchoi Kounoufia, a rocky reef, extends about 0.3 mile S of this point and is marked at its S edge by a light.

**12.24 Steno Spetson** (37°17'N., 23°08'E.), a channel mostly used by coastal vessels, lies at the SE side of Argolikos Kolpos and leads between Nisos Spetsai and the mainland. The passage itself has a minimum width of about 1 mile and is clear of dangers, but a few shoals lie in the SE approaches.

Ifalos Aimilianos, an isolated rocky shoal, lies about 1.3 miles S of Akra Aimilianos and has a least depth of 7m. Ifalos Trikeri, with a least depth of 5m, lies about 1.2 miles ESE of Ifalos Aimilianos.

Currents in the vicinity of these shoal patches sometimes set with considerable strength. Their direction and velocity depend mainly on the direction and force of the recent winds.

**Caution.**—Due to the existence of submarine cables, anchorage is prohibited within an area, which may best be seen on the chart, extending N between the NE side of Nisos Spetsai and the mainland.

**12.25 Nisos Spetsai** (Nisos Spetses) (37°16'N., 23°08'E.), a resort island, is generally rocky. The summit, 248m high, stands near the center of a ridge, which runs through the middle of the island, and is surmounted by a small chapel. The S and W sides of the island are wooded while the NE side is barren.

Nisos Petrokaravo, 22m high, lies 0.7 mile NW of the NW extremity of the island. This small islet lies on a rocky bank and is marked by a light.

**Spetsai** (37°16'N., 23°10'E.) extends for about 1 mile along the shore on the NE side of Nisos Spetsai. For the most part, this town consists of small houses and narrow streets, but some larger buildings stand near the seafront. A large yellow hotel, with a conspicuous dome between two steeples, is reported to stand at the W end.

A small harbor fronts the town and is protected by breakwaters. It has depths of up to 6m and is mostly used by small craft and yachts. Vessels can anchor off the town, in depths of 22 to 27m, mud, sand and small coral.

Akra Fanari, marked by a light, is the termination of a small promontory which extends N from the SE side of Nisos Spetsai. Ormos Baltiza, a small inlet, is entered close W of the point and is used by small craft with local knowledge. The outer part of this inlet is 250m wide and has depths of 5 to 7m.

**Nisos Spetsopoula** (37°32'N., 22°49'E.), 109m high, lies close off the SE end of Nisos Spetsai and is covered in vegetation. Dhiavlos Spetsopoulas, with a least depth of 12.8m, lies in the fairway leading between this islet and Nisos Spetsai.

Nisos Ayios Ioannis, surmounted by a chapel, lies 0.7 mile NE of the S extremity of Nisos Spetsopoula. It is the largest of a group of rocky islets and rocks which lie in this vicinity.

**Caution.**—Due to the existence of submarine cables, anchorage is prohibited within an area, which may best be seen on the chart, extending between Nisos Spetsopoula and the SE end of Nisos Spetsai.

### Kolpos Idhras and Approaches

**12.26 Kolpos Idhras** (37°22'N., 23°25'E.) lies off the SE end of the peninsula which separates Argolikos Kolpos from Saronikos Kolpos. This gulf is bounded on its S side by Nisos Dhokos and Nisos Idhra. It may be approached from the E via Stenon Idhras and from the SW via Stenon Petasi and Stenon Dhokou.

During strong NE winds Kolpos Idhras is subject to heavy squalls from all directions because of the high land. It often happens that the sea breeze, which blows from the E, abates

just as it reaches Nisos Dhokos. At times the current sets E even with a fresh NE breeze.

**12.27 Nisis Trikeri** (37°16'N., 23°17'E.), 127m high, is the largest islet of a chain which extends WSW from the W end of Nisos Idhra. It consists of two parts, each rising to a summit, which are connected by a narrow ridge. Vrakhonisis Dhrapi, 38m high, is the tallest of a group of three small islets lying 1.8 miles E of the S end of Nisis Trikeri. A shoal, with a depth of 7m, lies about 0.6 miles NE of this group.

Nisis Karteli, which is fronted on its N side by a reef, lies 1.5 miles NE of Vrakhonisis Dhrapi. Nisis Ventza, 20m high, and Vrakhonisis Dhisaki, a group of rocks, lies 1.2 miles ESE and 0.9 mile SE, respectively, of Nisis Karteli. A shoal, with a least depth of 3.9m, lies close NE of Vrakhonisis Dhisaki. Nisis Alexandos, 73m high, lies 0.5 mile NNE of Nisis Ventza and 0.6 mile S of the S end of Nisos Idhra.

**Nisos Idhra** (37°20'N., 23°28'E.) rises to form several peaks and is almost entirely composed of bare, sterile, mountainous land. Oros Eros (Klimakion), the summit, stands near the center of the island and is 564m high. A light is shown from a prominent structure standing on Akra Zourvas, the precipitous E extremity of the island.

Nisos Pondikonisi, 34m high, lies 0.6 mile NNW of Akra Bisti, the W extremity of Nisos Idhra. Nisis Petasi, a prominent islet, lies 0.5 mile ENE of Nisos Pondikonisi. Nisis Kivotos, consisting of two small islets and a rock, lies 0.4 mile offshore, 1.7 miles NE of Nisis Petasi. Vrakhonisis Palamidhas, a rocky islet, lies 0.2 mile offshore, 1 mile NE of Nisis Kivotos. A shoal patch, with a least depth of 14.9m, lies about 0.6 mile NW of this islet.

**12.28 Idhra** (37°21'N., 23°28'E.) (World Port Index No. 42090), a small harbor, lies at the head of a small bay and is protected by breakwaters. The entrance is 60m wide and has a depth of 8m. Depths decrease to 3m or less in the S and inner part of the harbor. There are depths of up to 4.5m alongside the quays which are mostly used by local ferries, small craft, and yachts. The town is built on the hills surrounding the harbor and a light is shown from the E entrance of the bay. In good weather, temporary anchorage can be taken, in depths of 30 to 60m, within the bay and close outside the harbor.

Nisos Kamini, a small islet, lies about 0.2 mile offshore, 0.7 mile W of the entrance to the bay and is surmounted by a small chapel. Vrakhonisis Vliko, also surmounted by a chapel, lies 0.3 mile offshore, 0.4 mile WSW of Nisos Kamini.

**Nisos Dhokos** (37°20'N., 23°20'E.) is rocky and barren. The island rises to heights of 268m in the W part and 293m near the SE extremity from which a light is shown. Ormos Skindos, a bay, indents the N coast of the island and provides safe anchorage, in depths of 13 to 40m. This bay lies within a restricted area and entry is prohibited by all vessels.

**12.29 Nisis Stavros** (37°15'N., 23°27'E.) is the S and outermost islet lying in the approach to Kolpos Idhras. It is 100m high, steep sided, and surmounted by a prominent chapel.

Ifalos Stavros, a dangerous shoal, lies about 0.8 mile SSW of Nisis Stavros and has a least depth of 0.6m.



**Stenon Petasi** (37°19'N., 23°22'E.) leads NE into Kolpos Idhras between Nisos Idhra and Nisos Dhokos. Although deep and clear of dangers, vessels should favor the N side of this passage at night. Due to the high and steep land on both sides, heavy squalls from various directions are sometimes experienced. The current in the channel usually runs E, even with fresh NE winds.

**Stenon Dhokou** (37°21'N., 23°17'E.), the narrower of the two channels leading into Kolpos Idhras from the SW, lies between the W end of Nisos Dhokos and the mainland. It is only 0.4 mile wide, but is clear of offshore dangers. The wind in the passage is almost always variable and calms under the high barren land of Nisos Dhokos are frequent.

**12.30 Akra Mouzaki** (37°21'N., 23°17'E.), marked by a light, is the extremity of a small promontory, 207m high. Akra Steno, the E extremity of a small peninsula, is located 1.4 miles NW of Akra Mouzaki. Nisis Kapari, an islet, and several rocks lie on a shoal bank which extends up to about 0.8 mile ENE of this point. A detached shoal, with a depth of 9m, lies about 1.1 miles ENE of the point.

**Ormos Kapari** (37°23'N., 23°15'E.) is entered between Akra Steno and Akra Kastri, 1 mile N. The town of Ermioni, with several prominent white buildings, stands along the low tongue of land of which Akra Kastri, marked by a light, is the E extremity. Limin Kastri, a small inlet, lies on the N side of this tongue and has depths of 5 to 15m. A quay and two piers on the S side of this inlet have depths of 1 to 3.5m alongside and are used by local ferries and small craft with local knowledge.

Anchorage can be taken in the S part of Ormos Kapari, in depths of 16 to 24m, stiff mud, good holding ground.

Ormos Dardiza (Dartouzas), a small bay, is entered 1 mile NE of Akra Kastri and several factories, fronted by a small pier and a mooring buoy, stand along its E shore.

**Akra Metokhion** (37°24'N., 23°25'E.), a low and shingly point, is located 7.4 miles ENE of Akra Kastri. A small and prominent chapel stands 0.9 mile NW of this point and several factories are situated along the coast to the W of it.

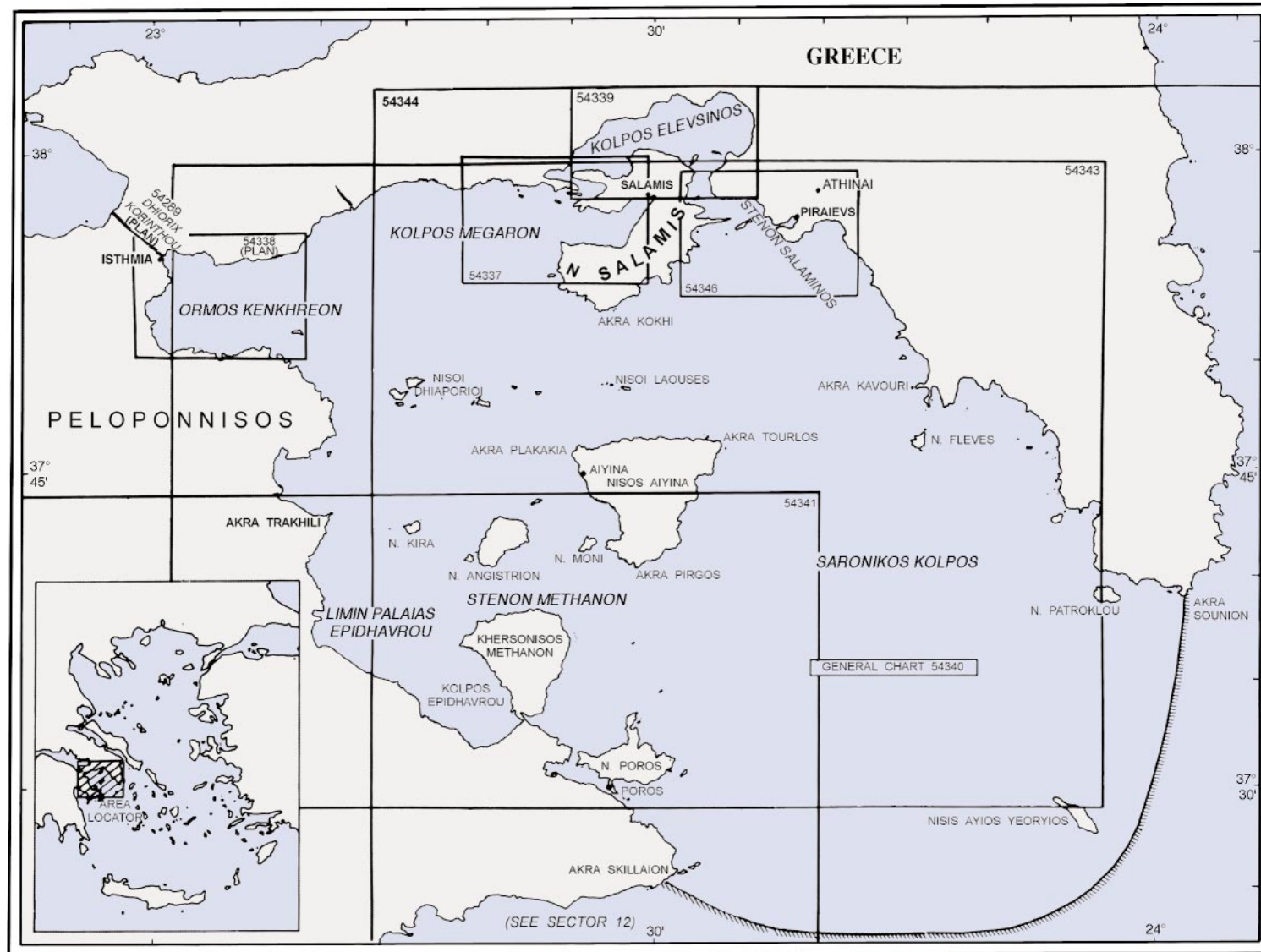
**Caution.**—Due to the existence of submarine cables, anchoring and fishing are prohibited in an area, which may best be seen on the chart, extending SSE between Akra Metokhion and the N coast of Nisos Idhra.

**12.31 Akra Skillaion** (37°26'N., 23°31'E.) is located at the NE end of Kolpos Idhras 5.6 miles ENE of Akra Metokhion.

Nisidhes Tselevinia, consisting of two islets, lies close E of this point. Nisis Spathi, the W of the two islets, is connected to the S part of Akra Skillaion by a shallow reef. Nisis Skilli, the E islet, is fronted by a reef on its E side. A light is shown from a hut standing on the NE extremity of this islet. A narrow passage, with a depth of 16m in the fairway, leads between the two islets.

A prominent monastery is situated close to a point which is located 1.6 miles WSW of Akra Skillaion and fronted by a small islet.

**Stenon Idhras** (37°24'N., 23°30'E.), the E entrance of Kolpos Idhras, is entered between Akra Zourvas, the E extremity of Nisos Idhra, and Akra Skillaion, 5 miles NNW. It leads NNW between the mainland and the NE side of Nisos Idhras. At night, vessels are advised to give the N shore of the passage a wide berth.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 13 — CHART INFORMATION**



## SECTOR 13

### GREECE—SARONIKOS KOLPOS

**Plan.**—This sector describes Saronikos Kolpos, beginning with the W side, and includes the off-lying islands and the port of Piraievs. The N part of the gulf, including Kolpos Elevsinos, is then described as far as the entrance to Dhiorix Korinthou (Corinth Canal).

#### General Remarks

**13.1 Winds—Weather.**—Saronikos Kolpos is subject to strong winds from the S and SW during the period from November through March. These winds have been known to make entry into the gulf very difficult. Usually, the winds from the S are the most violent and they can change direction rapidly to W and NW after rain.

**Saronikos Kolpos** (37°40'N., 23°40'E.), a large gulf, is entered between Akra Skillaion and Akra Sounion, 27 miles NE, and contains the large islands of Poros, Aiyina, and Salamis along with a considerable number of smaller islands and islets. Traffic is usually heavy in the outer and NW parts of the gulf which form the approaches to the port of Piraievs and Dhiorix Korinthou. Both sides of the gulf are mountainous. Akra Skillaion is the termination of a mountainous range which reaches its summit 15 miles WNW. Spartare Panion Oros, 647m high, is the summit of a mountainous range which extends 11 miles SSE to Akra Sounion. Oros Imittos, 1,026m high, is the summit of a mountainous range, 9 miles long, which stands centered 8 miles E of Piraievs.

**Nisis Ayios Yeoryios** (37°29'N., 23°55'E.), 300m high, lies near the middle of the SE approach to Saronikos Kolpos and is fringed by rocks. A light is shown from the SE extremity of this small and rocky island.

**Caution.**—A Traffic Separation Scheme (TSS), which may best be seen on the chart, has been established within Saronikos Kolpos and lies between Nisos Aiyina and Nisis Fleves. This scheme is IMO-adopted and Rule 10 of the International Regulations for Preventing Collisions at Sea (1972) applies.

Large vessels should reduce speed to bare steerage way before entering the northbound lane of this TSS.

Vessels in the area lying between the N boundaries of this TSS and the adjacent coasts of the mainland, including Stenon Salaminos, should proceed with caution as heavy traffic may be encountered from all directions. This traffic usually consists of small craft, fishing boats, and pleasure craft.

Submarines frequently exercise within areas, which may best be seen on the chart, lying in Saronikos Kolpos.

#### Saronikos Kolpos—West Side

**13.2 Akra Skillaion** (37°26'N., 23°32'E.) is the SW entrance point of Saronikos Kolpos. Nisidhes Tselevinia, the islets lying close off this point, are fully described with Kolpos Idhras in paragraph 12.26.

Akra Aliko is located at the E side of a small bay 3.6 miles NW of Akra Skillaion. The coast between is fronted by rocks

in many places. Nisis Bourtzi, 20m high, lies 0.4 mile NNW of Akra Aliko and is surmounted by an ancient fort. Ifalos Mavrokordhatou lies about 0.6 mile ENE of the islet. This shoal has a least depth of 11m and is rocky and steep-to.

**Nisos Poros** (37°31'N., 23°29'E.) is a mountainous island which is conspicuous due to its granite rocks and extensive pine woods. Vigla, the summit of the island, is 354m high and stands in the E part. Nisis Modhi, a rocky islet, lies 0.8 mile SSE of the E extremity of Nisos Poros. It is 102m high and resembles a crouched lion from a distance. Ifalos Lonev, a detached shoal, lies about 1.6 miles ENE of Nisis Modhi and has a least depth of 9m.

Due to the high land of Nisos Poros, the deep channel leading between its SE side and Nisis Modhi is subject to calms or unsteady winds.

Khersonisos Porou, a small peninsula, projects from the S side of Nisos Poros and is marked by a light at the S end. It is 80m high and connected to the island by a low and sandy isthmus. Several conspicuous windmills are reported to be situated on this peninsula.

Stenon Porou leads between the S end of Khersonisos Porou and the mainland. This passage is only available to small vessels and ferries with local knowledge. The fairway, which is marked by buoys, is only 100m wide and has a least depth of 4m. An overhead power cable spans the fairway and has a least vertical clearance of 44m.

Ormos Porou is entered E of Khersonisos Porou and a prominent monastery stands close inland on its NE shore. This small bay provides good anchorage, in depths of 27 to 34m, sand.

Nisis Platia lies 1.4 miles NE of the N extremity of Nisos Poros. This small islet is 7m high and is surrounded by foul ground. Nisis Petrokaravo, 15m high, is the largest of a group of rocks, lying 2.6 miles NNW of Nisis Platia.

**Caution.**—An area prohibited to navigation extends 50m from the shore of Ormos Porou and Khersonisos Porou. Vessels must not enter this area without permission from the naval authorities.

Due to submarine cables and pipelines, which may best be seen on the chart, anchorage is prohibited in the W end of Stenon Porou.

**13.3 Limin Pogonos** (37°30'N., 23°25'E.), a bay, lies between the SW side of Nisos Poros and the mainland and is one of the best natural harbors in Greece for size, convenient depths, and shelter. It is entered from the N between Akra Dana and Akra Formi, 0.3 mile W. The fairway is clear and has depths of 30 to 40m. The N side of the harbor is deep, but the S side is fronted by a bank with depths of less than 5m. Good anchorage can be taken within Limin Pogonos, in depths of 15 to 28m.

Ormos Vidhi forms the W end of Limin Pogonos. A water terminal, with a floating stage pipeline, is situated at the head of this small and shallow inlet.

**Poros** (37°30'N., 23°27'E.), a large town, stands along the W side of Khersonisos Porou at the E end of Limin Pogonos. The

small town of Galatas is situated on the mainland to the S of it. A conspicuous clock tower and a black marble column stand on the SW extremity of Khersonisos. A naval college stands on a small promontory 0.3 mile NNE of the clock tower and is fronted by several mooring buoys. Quays fronting the town are used by ferries, small craft, and yachts with drafts of up to 3.5m.

**Stenon Methanon** (37°39'N., 23°25'E.), deep and clear of dangers, lies between Khersonisos Methanon, on the S side, and the islands of Aiyina, Moni, and Angistrion, on the N side.

**Caution.**—Due to the existence of submarine power cables, anchoring prohibited areas, which may best be seen on the chart, extend between the E part of the N coast of Khersonisos Methanon and Nisos Aiyina and between the W part of the N coast of Khersonisos Methanon and Nisis Agistri.

**13.4 Khersonisos Methanon** (37°36'N., 23°22'E.), a mountainous peninsula, is joined to the mainland at the S end by a rocky isthmus, 77m high. Its coasts are precipitous and are fronted in places by above-water rocks. Korifi Kheloni (Khioniza), an extinct volcano, stands near the center of the peninsula. It is 743m high and forms the summit. The town of Methana stands at the SE side of the peninsula and is fronted by a small harbor. The quays have depths of up to 6m alongside and are used by local ferries and small coasters. There is also a small craft and yacht basin.

**Nisis Moni** (37°41'N., 23°26'E.), a rugged islet, is separated from the SW coast of Nisos Aiyina by Stenon Monis, a narrow channel with depths of 27 to 36m, within which the winds are always confusing. This islet is 179m high, steep-to, and is covered with pine trees in its N part. A light is shown from its SW extremity.

**13.5 Nisis Angistri** (37°42'N., 23°21'E.), 292m high, is covered with pine trees. Nisis Dhorousa, a rocky islet, lies close off the SW end of this island. A channel, 0.2 mile wide, leads between the island and the islet and has depths of 13 to 15m in the fairway. The village of Angistri is situated on the NW side of the island and is fronted by a small craft harbor.

Stenon Vathi leads between Akra Kostis, the SW extremity of Nisis Moni, and Akra Skilomanga, the S extremity of Nisis Angistrion, 4 miles WSW.

Nisis Kira lies 2.3 miles WNW of Nisis Dhorousa. This small island is 137m high and is fronted by rocks on its SE side. Spalathronisi, a steep-to islet, lies 0.7 mile W of Nisis Kira and is marked by a light on its NE side. The passage lying between them is deep and clear.

Nisis Metopi lies with its S end located 0.8 mile NE of Nisis Angistrion. This islet is 18m high and surrounded by rocky foul ground. Stenon Angistrioun a narrow channel, lies between this islet and the NE side of Akra Angistrion and is available to small vessels with local knowledge. The fairway, which has a least depth of 5.5m, leads between the rocky shoal banks extending from either shore and is only about 200m wide.

**13.6 Nisos Aiyina** (37°43'N., 23°30'E.) lies on the NE side of Stenon Methanon and near the middle of the gulf. This island consists generally of barren hills, but some fertile valleys and plains lie on its W side. Oros, 532m high, is the sum-

mit of the island and stands near the S end. The Temple of Aphaia, a perfectly developed classical temple, stands on a hill at the NE end of the island.

Akra Krasopilia is the NE extremity of Nisos Aiyina. Akra Tourlos is located 0.5 mile S of Akra Krasopilia and is marked by a light. This point is fronted by five small and rocky islets, one of which resembles a boat under sail. Nisis Nisidha, a small islet, lies about 0.2 mile offshore, 0.7 mile WNW of Akra Krasopilia. It is surrounded by rocks and should be given a wide berth.

Ormos Ayias Marinas, a small bay, is entered 2 miles SW of Akra Krasopilia and affords temporary anchorage, during fine weather, in any convenient depth over a bottom of sand and weeds. Yachts anchor, in depths of 4 to 6m, in the NW corner of the bay and landing can be effected at a pier in a cove at the N end of the bay. A village, with a prominent church and several hotels, is situated close within the head of the bay.

Akra Plakakia, marked by a light, is the NW extremity of Nisos Aiyina and lies 7 miles W of Akra Krasopilia. The coast between is fronted by rocks in several places.

The town of Aiyina, with several prominent buildings and a cathedral, stands 1.2 miles SSE of Akra Plakakia and is fronted by a small harbor which is protected by breakwaters. The quays have depths of up to 3.7m alongside and are used by yachts, fishing vessels, and local ferries.

Ormos Marathonos, a small bay, indents the SW side of Nisos Aiyina and is sheltered from W and NW winds. It provides spacious and excellent anchorage. A good berth, in depths of 18 to 35m, mud and sand, lies about 0.5 mile SW of the town of Marathon which stands on the NE side of the bay.

Stenon Metopis leads between the shoals fronting the NW side of Nisos Aiyina and the shoal extending ENE from the N end of Nisis Metopi. The navigable fairway through this passage is 0.4 mile wide and has a least depth of 8.5m.

**Caution.**—Vessels are prohibited from approaching within 50m of the N and E coasts of Nisos Aiyina for 2 miles W and S of Akra Krasopilia.

**13.7 Kolpos Epidhavrou** (37°35'N., 23°17'E.), a small gulf, is entered between the NW side of Khersonisos Methanon and Akra Kleftis, about 6.5 miles W. A conspicuous church stands near the coast at its SW end. This gulf is subject to heavy squalls because of the surrounding mountainous land if there is any wind.

Ormos Ayios Vlasi, a small bay, lies close S of Akra Kleftis. During good weather, especially in summer, this bay affords temporary anchorage in its N part, in depths of 24 to 37m, sand. However, vessels should leave this roadstead if winds from the E arise.

Limin Palaias Epidhavrou, a small inlet, is entered between Akra Kleftis and Akra Kalamaki, 0.4 mile N. Small vessels with local knowledge can anchor in its SW part, in depths of 3 to 6m. A small town, with a conspicuous church, is situated at the head of the inlet and stands at the foot of steep wooded slopes. It is fronted by a shallow small craft harbor.

Akra Trakhili, fronted by a small islet, is located 4.5 miles N of Akra Kalamaki. The coast between is indented by several small coves which provide limited protection to small vessels with local knowledge.

Ormos Sofikou lies in the NW part of a bight which is entered between Akra Trakhili and Akra Trelli, 2.8 miles NNW. This cove affords anchorage to small vessels with local knowledge, in depths of 7 to 9m, hard and fine sand. However, as this cove is surrounded by high land, the winds are always confusing.

Petronisi, 54m high, lies 1 mile E of Akra Trelli and is fronted by a bank, with a depth of 14.8m, on its E side. The passage leading W of this islet is deep and clear.

**13.8 Akra Spiri** (37°48'N., 23°10'E.) is located 2.6 miles N of Petronisi and a chain of islets projects E for 14 miles from this point.

**Nisoi Dhiaporioi** (Nisidhes Pendasia) (37°49'N., 23°16'E.), consisting of a group of six islets, lies at the W end of this chain. Nisis Ayios Thomas, 42m high, is the W islet of this group and lies 2.8 miles E of Akra Spiri. Nisis Ayios Ioannis, 81m high, is the N and largest of the group. Nisis Molathi, the E islet of the group, lies 1 mile SE of the E end of Nisos Ayios Ioannis and is fringed with rocks and shoals. Vessels should avoid approaching this group of islets.

Nisis Ipsili, 140m high, lies 2 miles ESE of Nisis Molathi and is the highest islet of the chain. Nisis Stakhtorroï, 20m high, lies 1.5 miles NE of Nisis Ipsili and is fringed by a shoal on its S side. Nisis Platia, 15m high, lies 1 mile ESE of Nisis Stakhtorroï and is steep to except at its SW side.

**Nisidhes Eleousai** (Nisidhes Lagouses) (37°49'N., 23°28'E.), consisting of a group of four islets fringed by reefs, lies 3.6 miles E of Nisis Platia. Nisis Lagousa, the E and largest islet of this group, is 34m high and is marked by a light at its E end.

**Kolpos Kenkhreon** (37°53'N., 23°05'E.), a large bay, lies at the NW end of Saronikos Kolpos and is entered between Akra Spiri and Akra Ayioi Theodoroi, 7.5 miles NNW.

Nisis Evraios, 83m high, lies in the S approach to the bay 3.5 miles NNW of Akra Spiri. This bluff islet is marked by a light on its NE side and several rocks lie close off its W extremity. Nisis Platia, 25m high, lies 2.5 miles W of Nisis Evraios and is fringed by a shoal bank.

**13.9 Akra Kekhries** (37°52'N., 23°00'E.) is a small and rugged promontory on which stands the ruins of a mill. It is the S entrance point of Ormos Kenkhreon, a small bight, which lies at the W side of Kolpos Kenkhreon. This bight is open to the E and provides anchorage to small vessels with local knowledge.

Akrokorinthos, a conspicuous city in ruins, will be seen rising over the comparatively low land extending to the W of Ormos Kenkhreon. It is situated on a hill, 573m high, which rises 6.5 miles WNW of Akra Kekhries.

The SE entrance of Dhiorix Korinthou (Corinth Canal) lies 3 miles N of Akra Kekhries. For further information on the canal, see paragraph 7.24.

Several white mounds of earth stand along the W side of the approach to the canal entrance and are conspicuous from seaward.

Vessels waiting to enter the canal may anchor in a designated area, which may best be seen on the chart, which extends up to 0.7 mile SE of the canal entrance. This area has depths of 11 to

31m and the holding ground is good. The bottom consists of sand in the center and mud and sand near the shore. Care must be taken not to obstruct the approach to the canal entrance.

**Ormos Kalamaki** (37°53'N., 23°00'E.) is entered 3.7 miles NNE of Akra Kekhries at the NW extremity of Kolpos Kenkhreon.

The village of Kalamaki stands on the NE side of Ormos Kalamaki; a soya factory is situated close SE of it. The factory is fronted by a T-shaped pier with a berthing face 85m long and a depth of 11m alongside.

The N side of Kolpos Kenkhreon to the E of Kalamaki is described with the N side of Saronikos Kolpos beginning in paragraph 13.29.

**Caution.**—A prohibited anchorage area, which may best be seen on the chart, extends S from the N shore of Kolpos Kenkhreon.

### Saronikos Kolpos—East Side

**13.10 Akra Sounion** (37°39'N., 24°02'E.), the SE entrance point of Saronikos Kolpos, is formed by a high headland. It is surmounted by the conspicuous ruins of a temple which consist of about fifteen columns of white marble. A rocky shoal, with a least depth of 6m, lies close off the SW side of the point.

Limion Sounion, a cove, lies on the W side of Akra Sounion and provides shelter for small craft with local knowledge during N winds. Anchorage can be taken, in depths of 7 to 11m, in the center of the cove. The bottom is mainly coarse sand and the depths decrease to 2m near the shore. There are also patches of stones and rocks which cause the holding ground to be uncertain in places. Nisis Arkhi, a small islet, lies in the approach to the cove 0.4 mile W of Akra Sounion.

Ormos Legrainon, with a noticeable sandy beach, is entered between a point, located 1.2 miles WNW of Akra Sounion and another point 1 mile W. This small bay provides convenient shelter and is frequently used when strong N or NE winds combine with a current setting S and make the passage of low-powered vessels through Stenon Keas and Dhieklpous Kafireos impracticable. Vessels can anchor, in a depth of 10m, mud, in the center of the bay.

**Nisis Patroklou** (Nisis Gaidhouroniso) (37°39'N., 23°57'E.), 251m high, is precipitous and is marked by a light on its NE side. This island is separated from the mainland by a passage with a least depth of 11m in the fairway. A dangerous wreck lies close off the SW extremity of this island and a dangerous rock lies about 0.7 mile E of the NE extremity.

**13.11 Akra Katafili** (37°40'N., 23°56'E.), located 4.2 miles WNW of Akra Sounion, is marked by a light. A prominent hill, 233m high, stands close inland of this point.

Ormos Anavissou, a small bay, is entered 2.7 miles N of Akra Katafili and, during summer, affords suitable anchorage for small vessels with local knowledge. It is not safe in winter except during N winds. Depths decrease from 20m in the entrance to 8m within the bay. The village of Fokaia, with several prominent hotels, is situated at the E side of the bay and is fronted by a small craft harbor.

Nisis Arsidha, 137m high, lies 0.5 mile SW of the N entrance point of Ormos Anavissou.

Vrakhoi Kouthounoi, a shallow and rocky spit, extends 1 mile SW from a point on the coast located 1 mile N of the N entrance point of Ormos Anavissou.

Akra Zostir is located 7 miles NW of Nisis Arsidha. The coast between recedes and forms a bay which is fronted by several islets and rocks which lie up to 1.4 miles from the shore. Due to these dangers, vessels are advised to give this area a wide berth.

Ormos Vouliagmenis, a small inlet, is entered between Akra Zostir and the S end of Khersonisos Lomvardha, a small peninsula, 0.7 mile W. A conspicuous hotel stands on Kher-sonisos Lomvardha and Vrakhonisos Kasidhis, a rock, is located 0.3 mile SSW of the S extremity. This rock is 10m high and lies on a shoal bank which extends up to about 0.6 mile seaward. The inlet has depths of 5 to 10m and affords good anchorage.

**Nisis Fleves** (37°46'N., 23°46'E.), 93m high, lies 1.8 miles SSW of the entrance to Ormos Vouliagmenis. This island is fringed by rocks and a small islet lies close off its NE extremity. A light is shown from a structure standing on the SW side of this island.

**Caution.**—All vessels, except naval vessels, are prohibited from anchoring within Ormos Vouliagmenis without permission of the authorities.

**13.12 Akra Kavouri** (37°49'N., 23°46'E.), 40m high, is the W extremity of a wooded peninsula and is surmounted by two prominent radio masts. Kavouronisi, a small islet, lies close W of this point. Ifalos Kakowidhi, a rocky shoal, lies about 1 mile N of Akra Kavouri and has a least depth of 3m.

Prasonisi, a small islet, lies 1.5 miles NNW of Akra Kavouri and is connected to the coast by a shallow shoal bank.

Vrakhoi Mermingia, consisting of a group of above and below-water rocks, lies 2 miles NW of Akra Kavouri and is marked by a lighted beacon.

Akra Koliass, surmounted by a small chapel, is located 5.2 miles NW of Akra Kavouri. A rocky and shallow spit extends up to 0.5 mile SW from the vicinity of this point and is marked by a lighted beacon. An airport, with an aeronautical light, is situated 0.5 mile SE of the point.

**Piraiakis Khersonisos** (37°56'N., 23°38'E.) is located 5 miles NW of Akra Koliass and is surmounted by the buildings of the city of Piraiëvs. This peninsula has white and reddish-colored cliffs and appears as an island when viewed from about 10 miles to the S. Ormos Falirou, a large bay, is entered 1 mile E of the peninsula. Several small boat harbors and yacht marinas, protected by breakwaters, front the coast and the shores of the bays lying between Akra Koliass and Piraiakis Khersonisos.

**13.13 Nisis Psittalia** (37°56'N., 23°35'E.), an island, lies on the NW side of the SW approach to Piraiëvs. A light is shown from a prominent structure, 14m high, standing at the NE end. Several white tombs, resembling beacons, are situated near this light. The summit of the island rises near the middle. It is 45m high and is surmounted by a monument with a mast. A light is shown from the SW extremity of the island. A wreck lies about 0.2 mile off the N coast of the island, 0.5 mile NE of the SW extremity; it has a depth of 18m. A dangerous wreck is reported to lie about 1.8 miles SSE of the E end of Nisis Psittalia.

Poros Themistokleous, 0.3 mile wide, is the strait leading between the E side of Nisis Psittalia and the mainland. Poros Aiyiniton is the strait leading NW of the island.

Nisis Atalandi, marked by a light, lies 0.4 mile WSW of the SW extremity of Nisis Psittalia. This islet is surrounded by a shallow bank which extends 0.4 mile WSW from its W side. Several stranded wrecks lie on this bank.

Dangerous wrecks are reported to lie about 0.4 mile SSW and 0.7 mile S of Nisis Atalandi. Another dangerous wreck lies close NW of the island.

Vrakhoi Skrofes, a group of above and below-water rocks, lies on a shoal about 0.9 mile WSW of Nisis Atalandi.

**Caution.**—A prohibited area, which may best be seen on the chart, extends 0.1 mile seaward from the coast of Nisis Psittalia.

Submarine pipelines, which may best be seen on the chart, extend up to 0.8 mile seaward of the S side of Nisis Psittalia and anchoring and fishing are prohibited in their vicinity. Due to the existence of submarine cables, a prohibited anchorage area, which may best be seen on the chart, extends between the E end of Nisis Psittalia and the mainland.

Anchoring is prohibited in the approaches to Ormos Baik-houtsi, a small cove, which indents the SW end of Piraiakis Khersonisos.

Vessels without permission are prohibited from entering Ormos Kanellopoulou, a small cove, which fronts the naval college at the W side of Piraiakis Khersonisos.

### Piraiëvs (37°56'N., 23°38'E.)

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**13.14 Piraiëvs**, the port for Athinai (Athens), is formed by an inlet which indents the coast between the N side of Piraiakis Khersonisos and the S side of Dhrapetsona, an industrial area. It consists of three harbor basins. Prolimin, the outer harbor; Limin Kendrikos, the main or central harbor; and Limin Alon, the inner harbor which is used by small local vessels and ferries.

Annexes to the port, which are described later, include Limin Foron (paragraph 13.15), Limin Dhrapetsona (paragraph 13.15), Hercules Port (Limin Irakleous) (paragraph 13.18), and the Perama coast facilities (paragraph 13.18).

**Depths—Limitations.**—The entrance to the harbor of Piraiëvs is protected by two breakwaters, the heads of which should be given a wide berth, and has a depth of 26m.

The harbor has 6,800m of total berthing space, with depths of 3.2 to 12m alongside. There are facilities for general cargo, container, passenger, cruise, and ro-ro vessels. The maximum allowable draft for Piraiëvs is 10.9m (1998).

The port annexes also have extensive repair facilities with several dry docks. The largest dry dock is 420m long and 75m wide and can handle vessels of up to 500,000 dwt.

**Aspect.**—From the S approaches, the buildings and acropolis of Athinai, standing 4.2 miles NE of Piraiëvs and 2.5 miles inland, are plainly visible. The buildings of the city of Piraiëvs, standing on Piraiakis Khersonisos, are also prominent. A signal station surmounts a conspicuous silo which stands on a pier projecting from the N side of the middle of the harbor. The gantry cranes standing at the container quays are conspicuous.

**Pilotage.**—Pilotage is compulsory for foreign vessels and Greek vessels of more than 500 grt within the Piraevs pilotage area, which includes Poros Themistokleous, Piraevs harbor, Ormos Keratsiniou, Stenon Navstathmou, Kolpos Elevsinos, Ormos Salaminos, and Poros Megaron.

Vessels proceeding to Piraevs harbor may embark a pilot about 1 mile from the entrance.

Vessels proceeding to harbors and port installations E of Nisos Salamis, or entering Kolpos Elevsinos via Stenon Navstathmou, may embark a pilot about 1.5 miles S of the entrance to Piraevs harbor.

Vessels proceeding to harbors and port installations W of Nisos Salamis, or entering Kolpos Elevsinos via Poros Megaron, may arrange to embark the pilot off Akra Petritis (37°56'N., 23°24'E.). However, vessels navigating the area for the first time are advised to embark a pilot off Piraevs.

Pilots can be contacted on VHF channel 12. Vessels should send an ETA 48 hours and 24 hours in advance.

**Regulations.**—A speed limit of 5 knots is in force within the harbor.

**Signals.**—The following traffic signals are shown from a mast at the signal station surmounting the silo:

Piraevs Traffic Signals		
Day	Night	Meaning
Cone, point up, between two vertical balls	White light between two red lights, vertically disposed	Entry is prohibited
Two cones, points together, over a ball	Green light, white light, and red light, vertically disposed	Entry and departure are prohibited
Two cones, points together, over a cone, point down	Green light, white light, and green light, vertically disposed	Departure is prohibited
Three balls, vertically disposed	Three red lights, vertically disposed	Port is closed
<b>Note.</b> —When no signal is shown, vessels may enter or leave freely.		

**Anchorage.**—A designated anchorage area, which may best be seen on the chart, extends S and SW of Nisis Atalandi.

**Caution.**—Heavy traffic is frequently encountered in the approaches to Piraevs with small craft proceeding in all directions and numerous large vessels at anchor.

**13.15 Akra Themistokleous** (37°57'N., 23°37'E.) is located 0.5 mile NW of the head of the N breakwater at Piraevs harbor. A conspicuous cement works with tall chimneys is situated in the vicinity of this point.

**Limin Foron** (37°57'N., 23°37'E.), an annex to the port of Piraevs, is entered close N of Akra Themistokleous. A fertilizer plant and a glass works stand on the shore of this inlet

and are fronted by a quay, 200m long, with a depth of 7m alongside. Provlis Socony, a T-shaped pier, projects 115m W from the W end of the promontory forming the N side of this inlet. The berthing face at the head is 64m long and has a depth of 9m alongside.

**Limin Dhrapetsonas** (37°57'N., 23°37'E.), an annex to the port of Piraevs, is entered close N of Provlis Socony. This inlet is mostly used by tankers and has 1,000m of total berthing space, with depths of 5 to 11.5m alongside. Vessels of up to 198m in length and 10.6m draft can be accommodated alongside. It is reported that there is also a repair berth and a new vehicle carrier berth within this inlet.

**13.16 Akra Keos** (37°57'N., 23°36'E.) is located 0.3 mile W of the N entrance point of Limin Dhrapetsonas and a wreck, with a depth of 18m, lies close WSW of it. A breakwater, marked by a light at its seaward end, projects 0.4 mile W from a point on the shore close N of Akra Keos.

Due to the existence of submarine cables, a prohibited anchorage area extends for a radius of 300m, centered on the point of the N shore of Akra Keos.

**Nisos Salamis** (Nisis Salamina) (37°56'N., 23°30'E.), a large island, lies along the N shore of Saronikos Kolpos. It rises to a height of 390m and is mostly rocky and hilly. Long and tortuous channels lying on its NE and NW sides separate this island from the mainland and lead into Kolpos Elevsinas.

**Stenon Salaminos** (37°59'N., 23°33'E.), the channel passing NE of Nisos Salamis, consists of Ormos Keratsiniou and Stenon Navstathmou.

### Nisos Salamis—Southeast Side

**13.17 Akra Konkhi** (37°52'N., 23°27'E.) is the S extremity of the island. A light is shown from a prominent structure, 12m high, standing on this point. Nisidhes Peristeria, consisting of a group of small islets, lies on a coastal bank 0.5 mile E of Akra Konkhi. This group is fronted by a reef on its S side.

Akra Perani is located 4.2 miles NE of Akra Konkhi. An islet lies in the entrance of a bay 0.5 mile W of this point. Akra Tourlos, on which two beacons stand, is located 1.3 miles NE of Akra Perani.

**Akra Kinossoura** (37°57'N., 23°35'E.), the E extremity of Nisos Salamis, is the E end of Khersonisos Kinossoura, a narrow and hilly peninsula. This point is marked by a light; several stranded wrecks are reported to lie along the N shore of the peninsula.

**Ormos Keratsiniou** (37°57'N., 23°34'E.), which forms the S part of Stenon Salaminos, is entered between Akra Kinossoura and Akra Keos, 1.2 miles E. This bay may be approached via Poros Themistokleous, which leads E of Nisis Psittalia, or via Poros Aiyiniton, which leads NW of the island.

From its entrance, the fairway of Ormos Keratsiniou leads to the S end of Stenon Navstathmou, 2 miles WNW.

A dangerous wreck, marked by a lighted buoy, lies in the bay about 0.4 mile NW of Akra Kinossoura. Wrecks, with depths of 18.2m and 24m, lie about 0.3 mile NNE of Akra Kinossoura.

**Caution.**—An area in which anchorage is prohibited, which may best be seen on the chart, lies in the SW part of Ormos Keratsinou.



A submarine pipeline, which may best be seen on the chart, crosses the NW end of Ormos Keratsinou near the S entrance of Stenon Navstathmou.

**13.18 Hercules Port** (Limin Irakleous) (37°58'N., 23°36'E.), an annex to the port of Piraievs, lies at the NE corner of Ormos Keratsiniou. It consists of an inner harbor, protected by a breakwater, and an outer container terminal which extends to the W of the inner harbor. A conspicuous tall chimney stands near a mill which is situated close to the root of the breakwater.

The inner harbor has 5,450m of total berthing space with depths of 4 to 12.5m alongside. It has facilities for general cargo, bulk, and ro-ro vessels. Vessels of up to 10m draft can be accommodated alongside.

The container terminal has two quays, 950m and 700m long, with depths of 7.2 to 13m alongside.

**Perama** (37°58'N., 23°35'E.), a small town, is situated along the W part of the N shore of Ormos Keratsiniou and is an annex of the port of Piraievs. An oil terminal fronts a storage depot situated in the E part of the town. It consists of a jetty which extends 350m SE and has depths of 9 to 11m alongside. The W part of the town is fronted by extensive ship repair facilities. A small harbor for fishing vessels fronts the W end of the town.

**Ormos Ambellkion** (37°57'N., 23°33'E.), a small inlet, lies in the SW corner of Ormos Keratsiniou and contains moorings and repair facilities for naval vessels. There are depths of 6 to 10m in the entrance which decrease regularly toward the shallow and sandy head of the inlet. Several lay-up berths extend along the N side of Khersonisos Kinosoura to the E of the entrance to this inlet.

**Caution.**—Several dangerous wrecks are located N of Khersonisos Kinosoura and caution should be exercised while navigating in the vicinity.

**13.19 Stenon Navstathmou** (38°00'N., 23°35'E.), the N part of Stenon Salaminos, is entered from Ormos Keratsiniou NE of Akra Pounda which is located 1.4 miles WNW of Akra Kinosoura. A coastal bank extends about 0.4 mile E of Akra Pounda and is marked at its seaward edge by a lighted buoy.

Nisis Ayios Yeoryios lies at the SW end of the channel 0.7 mile NW of Akra Pounda. This islet is 9m high and is connected at its W end to the E side of Nisos Salamis by a causeway. A conspicuous tank stands at the E end of this islet. A shoal lies on the W side of the channel about 0.3 mile N of the E end of the islet. It has a least depth of 7.1m and is marked by a lighted buoy.

A government dockyard and a naval base, which are backed by hills, front the E side of Nisos Salamis between Nisis Ayios Yeoryios and Akra Arapis, 1.3 miles N. A prominent hill, 210m high, stands 0.7 mile W of Akra Arapis.

Nisis Leros, 61m high, is located with its NE extremity 0.9 mile NNE of Akra Arapis. This islet lies at the NW side of the channel and is connected at its SW end to Nisos Salamis by a causeway. Several mooring buoys lie along the W side of the channel between Nisis Ayios Yeoryios and Nisis Leros.

Akra Filatouri, marked by a light, is located on the E side of the channel 0.6 mile E of Akra Arapis. Nisis Arpidhoni lies 0.2 mile offshore, 0.6 mile NE of Akra Filatouri. This islet is

located at the seaward edge of the coastal bank and is marked by a light at its W end.

Nisis Megali Kira, 18m high, lies at the NE end of the channel and is marked by a light. This islet along with Nisis Mikri Kira, another islet lying close SE, are collectively known as Nisidhes Farmakousai. These islets are connected to each other and to the mainland by causeways. A pier, 100m long, extends SE from the SE side of Nisis Megali Kira and a pier, 120m long, extends SSW from the SW side of Nisis Mikri Kira.

Limenisikos Amfiali, a small harbor, lies on the NE side of the channel, 1.2 miles NE of Akra Filatouri. It is protected by a breakwater and the quays in the N part have a depth of 4.9m alongside.

The fairway leading through Stenon Navstathmou has a maximum permissible draft of 10.9m (1998).

**Regulations.**—A speed limit of 6 knots is in force within the channel.

Vessels are prohibited from passing in the channel and, at all times, S bound vessels have priority of passage over N bound vessels.

Tug escorts are required for vessels over 120m in length for daytime transits and for vessels over 75m in length for night transits.

All traffic movements are controlled by the naval authorities. Foreign vessels desiring to transit this passage should request permission from Piraievs Port Authority or Elevisis Port Authority. Requests should include the name of the vessel, nationality, grt, length, maximum draft, destination, cargo, and time of passage.

Night transits are discouraged by the authorities. However, if unavoidable, requests for such must be made at least 6 hours in advance and not later than 2000.

**Caution.**—Landing on Nisis Ayios Yeoryios is prohibited.

A ferry runs across the S part of the channel.

Navigation prohibited areas, which may best be seen on the chart, front the shores on both sides of the channel fairway.

Several submarine cables and pipelines lie across the channel and may best be seen on the chart.

## Nisos Salamis—Southwest Side

**13.20 Akra Kanakia** (37°53'N., 23°24'E.) is located 2.5 miles NW of Akra Konkhi, the S extremity of the island. The coast between is rocky, indented and mostly steep-to. A rocky reef, with a least depth of 7.1m, lies about 0.3 mile SSW of Akra Kanakia.

Nisidhes Kanakia, consisting of two islets, lies 0.7 mile NNW of Akra Kanakia and is fronted by rocks. The W and smaller islet is marked by a light.

**Akra Petritis** (37°56'N., 23°24'E.), fronted by rocks, is located 2.1 miles NNE of Akra Kanakia. Ifalos Mastif, a rocky reef, lies about 1 mile N of this point and has a least depth of 7.1m.

**Ormos Salaminos** (37°57'N., 23°25'E.) indents the W coast of Nisos Salamis and is entered between Akra Petritis and Akra Karas, 1.7 miles NNE. Akra Karas is the W extremity of the N part of Nisos Salamis and is marked by a light. The town of Salamis (Koulouri) is situated at the head of this bay and is fronted by a small craft harbor. Vessels can anchor, in a depth

of 9m, mud, about 0.4 mile SW of the harbor or in a depth of 22m, mud and weed, about 1 mile SW of the harbor.

A prominent war memorial is reported to stand on the N side of the bay near the head.

A naval fuel depot is situated on the S side of the bay, 1.5 miles E of Akra Petritis. It is fronted by a T-shaped jetty with dolphins and mooring buoys on each side. The head is 60m long and has a depth of 10m alongside. A submarine pipeline extends about 300m NNE from close E of the jetty and several buoys lie at its seaward end.

Pilotage is compulsory within Ormos Salaminos. For further information, see pilotage for Piraievs in paragraph 13.14.

**Caution.**—Navigation and anchoring without permission are prohibited within an area, which may best be seen on the chart, which extends up to 0.5 mile N of the fuel depot. This area is marked by yellow conical buoys. Similar buoys mark the limit of shoal water on the W side of the approach to the jetty.

### Poros Megaron—Southwest Approach

**13.21 Nisis Revithousa** (37°58'N., 23°24'E.), 47m high, lies with its SE extremity, which is marked by a light, located 0.5 mile WNW of Akra Karas, the N entrance point of Ormos Salaminos. A shoal, with a least depth of 5.8m, lies about 300m W of the W end of this island and is marked by a lighted buoy moored close W of it. Vessels proceeding into Kolpos Elevsinos generally pass to the E of this island.

**Nisis Makronisos** (37°58'N., 23°25'E.), 42m high, lies in the inner approach to Poros Megaron, 0.5 mile N of Akra Karas. This island is marked at its W extremity by a light. A channel, suitable for small craft, leads N of the island. The fairway is narrow and has a least depth of 5.3m.

The main channel leading to Poros Megaron passes to the SE of Nisis Makronisos. The fairway, which has a least depth of 10.8m, is marked by lighted buoys.

**Akra Tikhos** (37°58'N., 23°25'E.), located 0.8 mile NNE of Akra Karas, is the E termination of a promontory and forms the SW entrance point of Poros Megaron. A conspicuous radio mast stands close W of this point.

**Megara Oil Terminal** (Agia Trias) (37°58'N., 23°24'E.) lies on the S side of the promontory 0.8 mile W of Akra Tikhos. A T-head pier, 205m long, extends SE from the shore. Its head is 63m wide and has a depth of 12.8m alongside. Tankers of up to 85,000 dwt and 12m draft can be accommodated.

Pilotage is compulsory and is provided from Piraievs. Pilots can be contacted by VHF and with prior notice board off Akra Petritis. Vessels proceeding to this terminal for the first time are advised to embark the pilot off Piraievs harbor.

**13.22 Ormos Ayiou Yeoryiou** (37°58'N., 23°26'E.) lies at the E side of the inner approach to Poros Megaron 1.4 miles ENE of Akra Karas. This bay provides good shelter and is bordered on its N side by a promontory which forms the NW end of Nisos Salamis. Depths of less than 5m lie up to 0.2 mile offshore at the head of this bay and a patch of foul ground lies in the NE corner. Vessels can anchor, in a depth of 13m, mud and sand, good holding ground, about 0.4 mile W of the head of the bay.

Ormos Vourkadhi, a shallow bay, lies on the W side of Poros Megaron, 1.2 miles NW of Akra Tikhos. It is available only to small craft with local knowledge.

**Poros Megaron** (37°59'N., 23°25'E.) lies between the NW side of Nisos Salamis and the mainland to the W. This strait consists of a channel which leads 0.6 mile NW from the S entrance and then 0.9 mile NE into Kolpos Elevsinos. The fairway, which is marked by lighted buoys, is dredged to a depth of 7.9m over a bottom width of 180m.

A conspicuous tank farm is situated on the NW side of the channel.

Generally, vessels up to 183m in length and of suitable draft can use this passage.

Pilotage is compulsory for foreign vessels of 150 grt and over and Greek vessels over 1,000 grt. For further information, see pilotage for Piraievs in paragraph 13.14.

**Caution.**—Vessels about to enter Poros Megaron from either end should give a signal of one prolonged blast.

A ferry runs across the N part of the channel.

**13.23 Kolpos Elevsinos** (38°01'N., 23°31'E.) is a landlocked gulf lying at the N head of Kolpos Saronikos. It can be approached from the SE via Stenon Salaminos or from the SW via Poros Megaron.

The S, SE, and N sides of the gulf are backed by steep mountains. The coast on the NE side is low and is backed by a cultivated plain. Numerous factories and industrial plants are situated along this stretch of the gulf. The NW side of the gulf is covered with pine woods and backed by a plain.

The bottom of this gulf is notably level and the shores are, for the most part, bordered by shallow banks. Long periods of N winds may reduce the water level in Kolpos Elevsinos by as much as 0.6m.

A wreck, with a depth of 10.5m, lies about 1 mile NNW of the N entrance of Stenon Salaminos and is marked by a lighted buoy.

Dangerous wrecks are reported to lie about 0.8 mile N, 0.6 mile ENE, 0.8 mile ENE, and 1.8 miles NE of the N entrance of Stenon Salaminos.

**Caution.**—An extensive area, 0.4 mile wide, within which anchoring and stopping are prohibited, extends NE and SE between the N entrances of Poros Megaron and Stenon Salaminos and may best be seen on the chart.

A submarine pipeline lies close W of Akra Ayios Nikolaos and extends between the N and S shores of Kolpos Elevsinos.

A prohibited area, which may best be seen on the chart, fronts a small harbor, used by naval craft, lying at the W side of Ormos Palaska, 1.5 miles E of the N entrance of Stenon Salaminos.

**13.24 Nea Peramos** (38°00'N., 23°25'E.) is situated on the NW shore of the gulf, 0.8 mile NNE of the N entrance of Poros Megaron. This town can easily be identified by its conspicuous church. A tall mast and several prominent buildings stand at an airport close N of the town.

**Akra Ayios Nikolaos** (38°02'N., 23°29'E.), located 3.5 miles ENE of Nea Peramos, is surmounted by a chapel. Loutropirgos, a prominent resort village, is situated 0.7 mile W of this point.

**Voxitos Ore Terminal** (38°02'N., 23°30'E.) lies on the N side of the gulf, 0.3 mile ENE of Akra Ayios Nikolaos. It consists of an ore discharging pier, 50m long, with several mooring buoys situated off its head.

**13.25 Elevisis Shipyard** (38°02'N., 23°30'E.) lies in the NW part of Ormos Tourkolimano, 0.6 mile NE of Akra Ayios Nikolaos. It is fronted by a quay, 640m long, which has depths of 7 to 8m alongside. A jetty, 200m long, extends SE from the quay and has depths of 7 to 9m alongside and 9 to 10m at its head. Several floating docks are situated at the SW end of the quay. A conspicuous overhead crane stands in the N part of the shipyard.

**Petrola Hellas Oil Terminal** (38°02'N., 23°31'E.) lies in the NE part of Ormos Tourkolimano, 1.2 miles NE of Akra Ayios Nikolaos. This terminal fronts a refinery and a large tank farm and consists of a quay and three jetties.

No. 1 Jetty, the middle jetty, is 240m long; No. 2 Jetty, the E jetty, is 512m long; and No. 3 Jetty, the W jetty, is 200m long. Each of these jetties has a depth alongside of at least 14.3m. The quay, which extends E from the root of No. 2 Jetty, has a depth of 11.5m alongside and can handle LPG carriers up to 150m in length. Drafts alongside are limited by the maximum draft permitted through Stenon Navstathmou.

**13.26 Elevisis** (38°02'N., 23°33'E.) (World Port Index No. 42200) fronts a projecting part of the N shore of Kolpos Elevisinos. The town, in which a conspicuous clock tower and several tall chimneys stand, is an industrial center with several large factories.

**Depths—Limitations.**—The old harbor consists of a small basin formed by two moles. It has depths of 4 to 5.5m in the center and is used primarily by small craft.

The main harbor lies close E of this small basin and consists of a quay, 310m long, with depths of 7 to 9m alongside and a pier which projects 300m SSW from the E end of the quay and has depths of 7 to 12m alongside. Vessels up to 10m draft can be handled, but docking can be difficult during strong W winds.

A jetty, 235m long, extends SW from a point on the shore 0.2 mile NW of the small basin. It is quayed for 93m on either side and has depths of 10 to 11m alongside. A mooring buoy lies close SW of the head of this jetty.

A pier and a quay front a cement factory which is situated 0.4 mile NW of the small basin. The pier, 110m long, projects SSW from the shore and has a depth of 10m alongside its head. The quay, 442m long, extends NW from the root of the pier and has depths of 9.5 to 10m alongside.

A jetty fronts a steel plant which is situated 1.1 miles ENE of the small basin. It is 180m long and has depths of 9 to 10m alongside.

**Pilotage.**—Pilotage is compulsory for foreign vessels of 150 grt and over and Greek vessels over 1,000 grt. Vessels should send an ETA 72 hours, 48 hours, and 24 hours in advance. For further information, see pilotage for Piraeus in paragraph 13.14.

**Anchorage.**—Anchorage may be taken off Elevisis, in depths of 12 to 20m, mud. A recommended berth lies in a depth of 13m, about 0.2 mile W of the W jetty.

**Caution.**—A prohibited area, which may best be seen on the chart, fronts the shore at the E side of Elevisis and extends up to 0.4 mile seaward. Several mooring buoys lie within this area and permission for entry must be obtained from the naval authorities.

**13.27 Aspropirgos Oil Terminal** (38°02'N., 23°36'E.), consisting of two jetties, lies at the E side of Kolpos Elevisinos, 2.6 miles ESE of the town of Elevisis. The N jetty projects 170m W from the shore and has depths of 7.2 to 7.9 alongside. It provides berths for coastal tankers of up to 5,000 dwt and 100m in length. The S jetty projects 430m S and then 350m W from the root of the N jetty. It provides berths, with depths of 11.8m alongside, for tankers of up to 60,000 dwt and 200m in length. An LPG berth, situated between the two jetties, has a depth of 7.2m alongside and can handle vessels of up to 115m in length. Drafts alongside the terminal are limited by the maximum permitted through Stenon Navstathmou. Pilotage is compulsory and is provided by Piraeus.

**Mobil Oil Terminal** (38°01'N., 23°35'E.) is situated 0.4 mile S of Aspropirgos Oil Terminal. It consists of a jetty which projects 250m NW and then 300m WSW from the shore and has a depth of 13m alongside. A mooring buoy lies 270m SSE of the head.

**13.28 Skaramanga Shipyard** (38°01'N., 23°35'E.) lies at the SE side of Kolpos Elevisinos and fronts the shore for a distance of 0.5 mile. The yard has 20 repair berths, two dry docks, and three floating docks. Repairs of all kinds can be effected for vessels of up to 500,000 dwt.

**Skaramanga Oil Terminal** (38°00'N., 23°35'E.) is situated close SW of the shipyard and consists of a jetty projecting 200m NW from the shore. Vessels generally secure stern-to at the head of this jetty in a least depth of 8.5m. A wreck, with a depth of 9m, is reported to lie about 0.3 mile NW of the head of this jetty.

**Caution.**—The SW side of Skaramanga oil jetty falls within the limits of a prohibited area.

## Saronikos Kolpos—North Side

**13.29 Kolpos Megaron** (37°57'N., 23°20'E.) is a slight indentation which lies between Akra Tikhos and Akra Ayioi Theodoroi, 14 miles WSW.

**Pakhi** (37°58'N., 23°22'E.) (World Port Index No. 42190), a village, stands 2.8 miles W of Akra Tikhos and is fronted by a small craft harbor which is protected by two moles and sheltered on its W side by a small promontory. This village serves as the port for the town of Megara which is situated 1.3 miles NW.

Nisis Pakhaki, an islet, lies S of the promontory and is separated from it by a passage, 0.2 mile wide, with a least depth of 10m. Nisis Pakhi, 47m high, lies SSE of Nisis Pakhaki and its E end is marked by a light. A passage, 0.2 mile wide, leads between these islets and has a least depth of 15m in the fairway. A detached shoal, with a depth of 23m, lies about 0.5 mile ESE of the E end of Nisis Pakhi and is marked by lighted buoy.

Anchorage may be taken NE of Nisis Pakhi, in depths of 25 to 46m. Small vessels may anchor, in depths of 7 to 10m, close off the harbor.

**13.30 Pakhi Oil Terminal** (37°58'N., 23°23'E.) fronts a refinery which stands 0.8 mile E of the village of Pakhi. A T-shaped pier projects 100m S from the shore and has a berthing face, 130m long, with a least depth of 30m alongside. Tankers of up to 600,000 dwt and 29m draft can be accommodated.

Pilotage is compulsory and is provided from Piraievs. Pilots can be contacted on VHF channel 16 and with prior notice board off Akra Petritis. Vessels proceeding to this terminal for the first time are advised to embark the pilot off Piraievs harbor.

**Akra Ayioi Theodoroi** (37°55'N., 23°08'E.) is located 11 miles WSW of Pakhi in the vicinity of a resort area. A conspicuous church is situated 1.8 miles W of this point.

Yerania Ori, 1,370m high, is a conspicuous peak standing 6 miles N of Akra Ayioi Theodoroi.

Akra Sousaki, located 4 miles W of Akra Ayioi Theodoroi, is a small and low promontory. This point is marked by a light, but on certain bearings it is reported to be difficult to distinguish against the background shore lights.

**Ayioi Theodoroi Oil Terminal** (37°55'N., 23°05'E.) fronts a refinery, with two conspicuous chimneys, which is situated

on the N shore of Kolpos Kenkhreon 2.5 miles W of Akra Ayioi Theodoroi.

**Ayioi Theodoroi Oil Terminal Home Page**

<http://www.moh.gr>

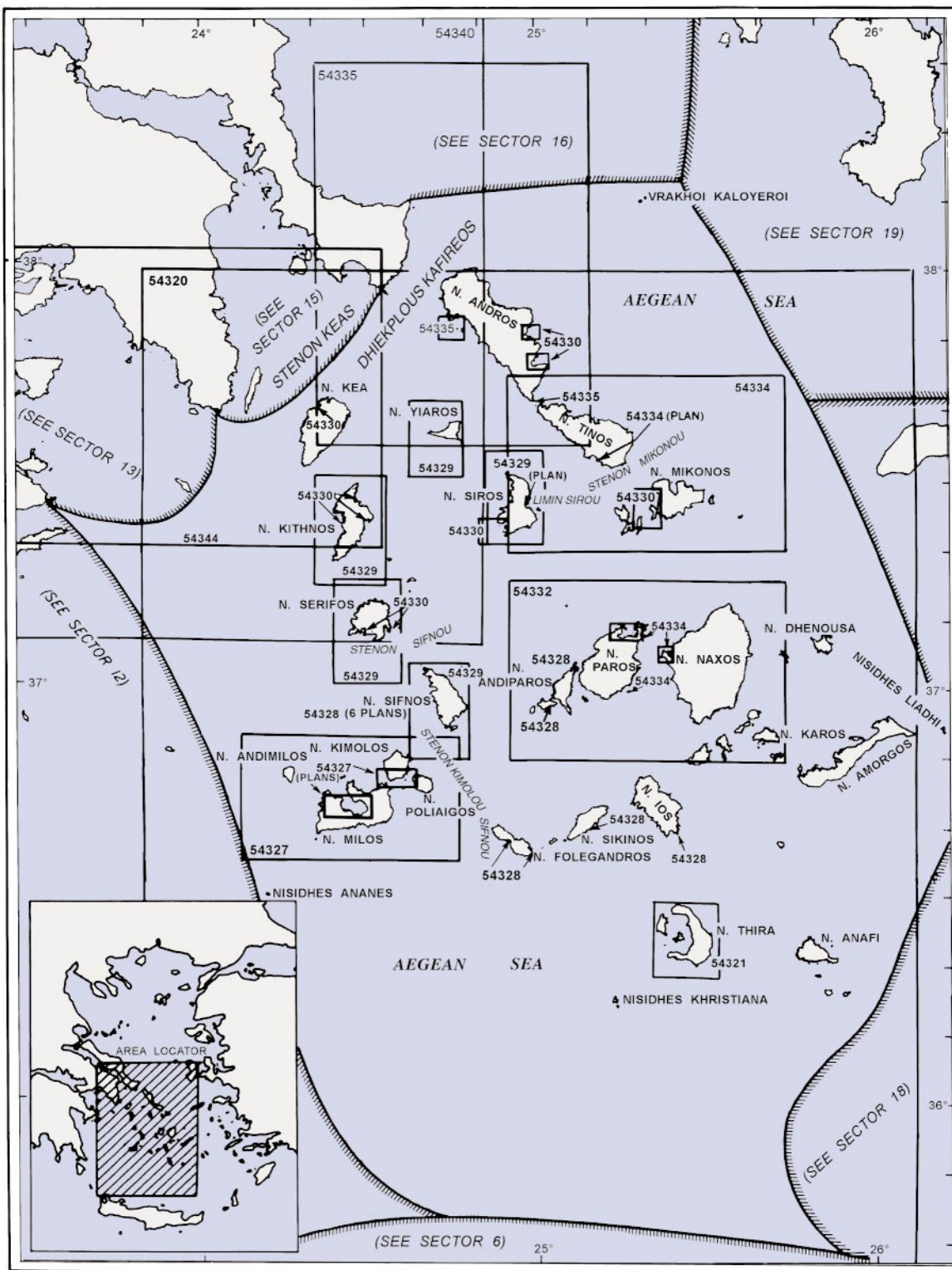
**Depths—Limitations.**—The terminal consists of a T-shaped pier projecting 300m SE from the shore. From the midpoint of this pier, a jetty projects 90m NE and another jetty projects 160m SW. In addition, there are numerous dolphins and mooring buoys. This facility provides five berths, with depths of 7 to 22m alongside, and can accommodate vessels of up to 21.9m draft. It was reported that tankers of up to 323,100 dwt and 346m in length have been handled.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 10 and board 0.5 mile SE of the terminal. Vessels should send an ETA 72 hours, 48 hours, and 24 hours in advance.

**Anchorage.**—Tankers waiting for a berth may anchor, for periods not exceeding 10 days, in a designated area, which may best be seen on the chart, extending up to 1 mile S of the terminal.

**Caution.**—A prohibited anchorage area, which may best be seen on the chart, lies in the NW part of Kolpos Kenkhreon.





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).  
**SECTOR 14 — CHART INFORMATION**



## SECTOR 14

### GREECE—KIKLADHES NISOI

**Plan.**—This sector describes the islands of the S Aegean archipelago which are collectively known as Kikladhes Nisoi. The descriptive sequence begins with the W group, which lies on the E side of the S approach to Saronikos Kolpos, and proceeds N from Nisos Milos to Nisos Kea. The S group is then described and includes Nisidhes Khristiani, Nisos Thira, and Nisos Anafi. Descriptions of the N and S central groups follow. The S central group includes Nisos Folegandros, Nisos Ios, Nisos Anidhros, Nisos Amorgos, and Nisidhes Liadhi. The N central group includes Nisos Paros and Nisos Naxos with their neighboring islands. Lastly, the N group is described and includes Nisos Yiaros, Nisos Siros, Nisos Mikonos, Nisos Tinos, and Nisos Andros.

#### General Remarks

**14.1 Tides—Currents.**—The general S or SW current in Dhiokplous Kafireos sets at 2 to 3 knots. However, it is greatly accelerated by strong N winds and rates of 5 to 7 knots have been experienced.

This S or SW current continues through Steno Keas. The general rate of the current in this passage is 2 to 3 knots, but with very strong N winds, rates of 5 to 7 knots have been experienced.

**Caution.**—Navigation within Dhiokplous Kafireos can be difficult for low-powered vessels, small craft, and sailing vessels because of strong currents and N winds, especially during the summer months. Such vessels should use Stenon Dhisvaton or Stenon Mikonou and in either case pass S of Nisos Kea. Vessels unable to pass through this channel in a NE direction are advised to seek shelter in Ormos Gavriou or Ormos Karistou. Numerous submarine cable areas extend between the islands and islets of Kikladhes Nisoi and may best be seen on the chart.

#### Kikladhes Nisoi—West Group

**14.2 Nisos Milos** (36°41'N., 24°27'E.), a mountainous island, is almost divided into two parts by Ormos Milou, an extensive bay. When approached from the NW, it has the appearance of two peaked hills. Korifi Profitis Ilias, the summit of the island, stands near the SW end and is 751m high. The surface of the island is rugged and bare, while the valleys and low-lying areas are fertile. There are thermal springs on the island and extensive mineral deposits.

**Nisos Paximadhi** (36°38'N., 24°19'E.), marked by a light, lies 1 mile SSW of Akra Psalis, the SW extremity of Nisos Milos. This low islet is surrounded by dangerous rocks and should be given a wide berth. The inshore passage is clear in mid-channel but vessels are advised to pass to the SW of the islet.

**Nisidhes Ananes** (36°33'N., 24°09'E.), a group of rocky islets, lies 9.2 miles SW of Nisos Paximadhi. A light is shown

from the highest islet which attains a height of 70m. This group should be given a wide berth.

**Akra Psalis** (36°39'N., 24°19'E.), the SW extremity of Nisos Milos, is fringed with rocks. The S coast of the island is steep-to, for the most part, with shoals extending seaward from a few points.

Ormos Provato lies 6 miles E of Akra Psalis and is entered between Akra Akrotiri and Akra Zefiros, 1.7 miles E. Small craft may obtain anchorage, sheltered from N winds, near the head of this bay which is divided into two parts by a small projection. A reef, with a depth of 2m, lies on a rocky shoal which extends up to 0.4 mile S of Akra Zefiros.

**Akra Stili** (36°40'N., 24°31'E.), the SE extremity of Nisos Milos, is the termination of a tongue of land which is fronted by foul ground and a large above-water rock. A rocky shoal, with a depth of 3.7m, lies about 0.5 mile SE of this point. Vessels rounding the point should keep well clear.

**Vrakhoi Ktenia** (36°38'N., 24°35'E.), lying 3.2 miles SE of Akra Stili, consists of two isolated, steep-to, and unmarked above-water rocks.

Akra Roma, the E extremity of Nisos Milos, is located 2 miles NNE of Akra Stili and a conspicuous factory is reported to stand 0.3 mile N of it.

**Ormos Voudhia** (36°45'N., 24°32'E.), entered 3 miles N of Akra Roma, is open to the E. A jetty, used for loading ore, is situated at the N end of this bay. It is 100m long and has a depth of 11m alongside the head. Vessels of up to 23,000 dwt can be accommodated. Strong winds from the S or SE make berthing dangerous. A local pilot is available. On arrival, vessels usually anchor within the bay. The recommended berth is about 0.5 mile SSE of the jetty.

**14.3 Akra Akrotiri** (36°41'N., 24°19'E.), located 4.2 miles N of Akra Psalis, is a prominent point fronted by several rocks. Akra Kalefati is located 1.5 miles NNE of Akra Akrotiri and is also fronted by rocks. Akra Vani, the NW extremity of Nisos Milos, is located 1 mile NE of Akra Kalefati and is high and rocky.

**Nisos Andimilos** (36°48'N., 24°14'E.), rugged and precipitous, lies 6 miles NW of Akra Vani and attains a height of 686m. This island is surrounded by great depths and is conspicuous from a great distance. A light is shown from its W side.

Dhiavlos Andimilou, the channel leading between Nisos Andimilos and Nisos Milos, is deep and clear of dangers. Due to the high land, sudden gusts of wind often blow close offshore on both sides of this strait. A current is reported to set S, close to the W coast of Nisos Andimilos.

**Ormos Milou** (36°43'N., 24°26'E.), a large bay, indents the N coast of the island and provides a safe anchorage. It is entered between Akra Vani and Akra Fourkovouni, 2.4 miles E. The shores of the bay are generally high and bold, but the land within the head is low and marshy.

Akra Bombardha is located on the NE side of the bay, 2.5 miles SE of Akra Fourkovouni. This point is formed by a light-colored bluff and is marked by a light. A prominent war



monument stands 0.2 mile NE of the light. Akra Kalamaria, a very prominent projection, is located on the SW side of the bay, 2.2 miles ESE of Akra Vani.

Adhamas, a small port, lies on the N side of the head of the bay, 0.5 mile ENE of Akra Bombardha. The harbor is formed by a mole and a jetty and has 200m of berthing space with depths of up to 5.5m alongside. Small craft, passenger ferries, and coasters, with drafts of up to 4.9m, can be accommodated. Upon request, persons with local knowledge are available to assist when berthing.

The town of Milos, formerly known as Plaka, is situated on a rocky elevation 1.3 miles SE of Akra Fourkovouni.

Titan pier projects from the E shore 1.2 miles E of Akra Bombardha. It has depths of up to 3.7m alongside the head and is used by vessels loading cement.

Mikobar jetty projects from the E shore, 1.7 miles ESE of Akra Bombardha. It is used by vessels loading ore and several mooring buoys lie close off the head.

Anchorage can be obtained in the bay as convenient, in depths of 18 to 45m, mud.

**Caution.**—Several foul patches and wrecks lie within the bay and may best be seen on the chart.

Anchoring prohibited areas, which may best be seen on the chart, lie close E of Akra Vani, close N of Akra Fourkovouni, and 1.5 miles W of Akra Bombardha.

**14.4 Akra Lakidha** (36°46'N., 24°24'E.) is located 1.1 miles NNE of Akra Fourkovouni. Monopodhro lies on a bank about 0.2 mile offshore, 0.5 mile SSW of this point. This bold rock is 5m high and very prominent.

**Nisos Akradhia** (36°47'N., 24°24'E.), consisting of two rocky islets, lies 1 mile NW of Akra Lakhida. A light is shown from the NW side of the W islet.

Akra Spilas, the N extremity of Nisos Milos, is located 1 mile ENE of Akra Lakidha. The coast between is fronted by rocks. To the E of this point, the N coast of the island forms a wide gulf, open to the N. Akra Pounda, a salient point, is located 1.6 miles SE of Akra Spilas. Nisos Kara, a small islet, lies 0.5 mile NW of this point. Vrakhoi Kaloyeroi, a group of rocks, lies in the E part of the gulf, 1.7 miles ENE of Akra Pounda. Vrakhoi Kounidhi, another group of rocks, lies 1.2 miles ENE of Vrakhoi Kaloyeroi and extends up to 0.3 mile N from the E entrance point of the gulf.

**Akra Pelekouda** (36°46'N., 24°31'E.), a prominent point, is located 0.8 mile E of Vrakhoi Kounidhi and is marked by a light. Nisos Pilonini, formerly a small islet, lies 1 mile SE of the light and is joined to the shore at its W side by a narrow isthmus of rubble.

**14.5 Stenon Milou Kimolou** (36°46'N., 24°32'E.) separates the NE end of Nisos Milos from Nisos Kimolos. This channel has depths of 6m over a least width of 0.4 mile and presents no difficulty for small craft. However, rocky banks extend from each side of the channel and the fairway for large vessels, with a depth of 12m, only has a least width of about 200m.

**Nisos Ayios Yeoryios** (36°45'N., 24°34'E.), an islet fringed by rocks and shoals, lies on a bank 1.5 miles E of Nisos Pilonini and can be passed on either side.

Nisos Ayios Evstathios, another islet fringed by rocks and shoals, lies 0.7 mile N of Nisos Ayios Yeoryios. A small chapel is situated on the W side of this islet. A light is shown from a framework tower standing at the N end of the islet and a conspicuous ruined structure is situated close N of it. Depths lying between this islet and Nisos Kimolos do not exceed 11m and vessels are advised to transit through Stenon Piryi.

**Caution.**—Due to submarine cables, anchoring is prohibited in an area, which may best be seen on the chart, extending between the NE end of Nisos Milos and the SW side of Nisos Kimolos.

**14.6 Nisos Kimolos** (36°47'N., 24°34'E.) is mostly mountainous and barren. Paleokastros, 345m high, is the summit of the island and stands in the N part. Several small islets and rocks lie close off the shores in places.

Akra Poloni, the S extremity of Nisos Kimolos, is surmounted by a conspicuous small church. Vrakhoi Thermo, a group of rocks, lies close off the NW coast of the island. Nisos Klima, a rocky islet, lies on a bank 0.2 mile off the E coast of the island and is surrounded by rocks.

**Nisos Poliaigos** (36°46'N., 24°39'E.), a barren and hilly island, lies SE of Nisos Kimolos and is separated from it by Stenon Piryi. The summit of the island is 370m high and its coasts are bold and irregular. Several rocks, some of which are above-water, front the shores in places. A light is shown from a structure standing at the NE side of the island. The light structure is situated halfway up a steep cliff and is reported to be difficult to identify.

**Dhiekplous Kimolou** (36°52'N., 24°40'E.) leads between Nisos Poliaigos and Nisos Kimolos, on its S side, and Nisos Sifnos, on its N side. This strait is 6.5 miles wide, deep, and free from dangers in mid-channel.

**Stenon Poliaigou Folegandrou** (36°42'N., 24°45'E.) lies between the SE side of Nisos Poliaigos and the NW extremity of Nisos Folegandros. This strait is 10 miles wide, deep, and clear of dangers.

**14.7 Nisos Sifnos** (36°58'N., 24°42'E.) is traversed by a series of mountains extending N to S. Moni Prof Ilias, the summit of the island, is 694m high and stands near the center. The coasts of the island are generally precipitous.

Nisos Kitriani, 103m high, lies about 0.3 mile offshore, 0.7 mile E of Akra Kondos, the SW extremity of the island. A shoal patch, with a least depth of 8.8m, lies about 0.8 mile S of this islet.

Ormos Vathi, indenting the SW side of the island, is entered 0.9 mile N of Akra Kondos. This small bay offers anchorage within its N part, in depths of 5 to 8m, sand, to small craft. Akra Maistros, the S entrance point of the bay, is marked by a light.

Ormos Kamares is entered 4 miles NNW of Ormos Vathi and offers good shelter from N winds. A small craft harbor fronts the village at the head of the bay and is protected by two moles. Vessels can anchor near the center of the bay, in depths of 25 to 35m. Akra Kokkala, the N entrance point of the bay, is marked by a light.

**Caution.**—Two reefs lie SSE of the light on Akra Kokkala. The first lies 0.3 mile SSE of the light and has a minimum depth of 15m. The second lies 0.5 mile SSE of the light and has

a minimum depth of 31m. Caution should be exercised while approaching the bay from SSE.

**14.8 Akra Filippos** (37°03'N., 24°38'E.), the NW extremity of the island, is marked by a light. This point is formed by the end of a small peninsula, 100m high, and is fronted by a small islet and several shoals. Tsoukala, a detached rock, lies 0.4 mile NW of the point and is 1m high.

Ormos Faros indents the S coast of the island and is entered 3.2 miles NE of Akra Kondos. Akra Stavros, a promontory fringed by rocks, forms the E entrance point of this bay and is marked by a light. Nisis Khrisopiya, a low islet, lies close offshore, 0.2 mile WSW of Akra Stavros. This islet, which is surmounted by a church, forms the W entrance point of the bay. Small vessels can take anchorage, in depths of 10 to 12m, firm sand, about 200m off the village at the head of the bay.

Ormos Platiyialos is entered 1.3 miles SW of Akra Stavros. This bay is open to the SE, but provides anchorage, in a depth of 12m, sand and weed, about 300m from the head. Local knowledge is required. During strong N winds, this bay is unsafe because of violent squalls which blow down off the high land.

**Dhiekplous Sifnou** (37°05'N., 24°34'E.) separates Nisos Sifnos from Nisos Serifos. This strait is 7 miles wide and is clear of dangers in mid-channel.

**14.9 Nisos Serifos** (37°10'N., 24°29'E.) is mountainous and barren. Troulles, 483m high, is the summit of the island and stands near the center. Abandoned mines dating from the Roman era remain in many parts of the island.

**Akra Kiklops** (37°07'N., 24°25'E.), marked by a light, is the SW extremity of the island. Ormos Koutala, entered 1.9 miles ENE of Akra Kiklops, provides anchorage to small craft with local knowledge. A pier, formerly used to load ore, projects from the W side of the bay.

Akra Spathi, marked by a light, is located 4.4 miles ESE of Akra Kiklops. Ormos Livadhi, a deep bay, is entered 1.3 miles NE of this point and is well sheltered. A village, situated at the head of the bay, is fronted by a small craft harbor. Small vessels can anchor within the bay, in depths of 15 to 20m, firm sand. Local knowledge is required.

Nisis Vous, a rocky islet, lies off the E side of the island, 1.6 miles NE of Akra Amino, the E entrance point of Ormos Livadhi. It is 132m high and is fringed by rocks and foul ground.

**Nisis Serfopoula** (37°15'N., 24°36'E.) lies on a bank 4.5 miles NE of Nisos Serifos. This islet is 190m high and has steep cliffs on the S side. A small rock fronts its E extremity.

**Nisis Piperi** (37°18'N., 24°32'E.), 216m high, lies near the middle of the E approach to Dhiekplous Serifou, 5.5 miles NNE of Nisos Serifos. This islet slopes uniformly down from its steep SE end to its NW point and presents a remarkable wedge-shaped appearance, particularly when viewed from the N. Currents in the vicinity of this islet are reported to be strong.

**Dhiekplous Serifou** (37°15'N., 24°27'E.) leads between Nisos Serifos and Nisos Kithnos and is generally frequented only by local vessels. This strait is 7 miles wide and is clear of dangers in mid-channel, except for the two islets lying in the E approach which have been described above.

**14.10 Nisos Kithnos** (37°24'N., 24°25'E.) is hilly and rugged. Petrovounio, 355m high, is the summit of the island and stands in

the NW part. Several small rivers flow through ravines between the hills. During the summer, or the Etesian season, high winds may be encountered in the vicinity of this island.

**Akra Ayios Dhimitrios** (37°18'N., 24°22'E.), the SW extremity of the island, is marked by a light and is fringed by shoals.

Akra Kolia lies in the middle of the island on its W side. Close NNW of this point is situated Nisis Merikou, a low rocky islet. The channel between the two is foul and forms the entrance points for Ormos Merikhas.

**Merikha** (37°23'N., 24°23'E.), a small harbor, lies at the head of Ormos Merikhas, a bay, which indents the W coast of the island 6 miles NNE of Akra Ayios Dhimitrios. This bay is entered between Akra Merikha and Nisis Merikou, 0.2 mile SW. A dangerous wreck, with a depth of 1m over it, lies close N to Nisis Merikou. Akra Merikha, marked by a light, is the extremity of a promontory which is surmounted by a hill, 60m high. A wreck is reported to lie about 500m SSE of this point. Nisis Merikou is a low islet lying close offshore.

The harbor is protected by a mole and has 173m of berthing space with depths of up to 6m alongside. It is used by small craft, coasters, and local ferries, but local knowledge is necessary. Vessels can anchor in the middle of the bay, in depths of 20 to 29m, mud and weed, good holding ground.

**14.11 Ormos Apokrousis** (37°25'N., 24°24'E.) is entered 0.8 mile N of Ormos Merikhas and offers good anchorage for small craft, in depths of 10 to 24m, firm sand and shells. Local knowledge is advised.

**Akra Kefalos** (37°29'N., 24°26'E.), marked by a light, is the N extremity of the island. A prominent hill, 168m high, stands close SW of this point.

**Ormos Loutron** (37°26'N., 24°26'E.) indents the NE side of the island. The buildings of the village of Loutra, a former health resort, stand close within the head of the bay and are visible from seaward. A quay, 84m long, is reported to front the village and is protected by a mole. Close N, a small mole, which forms part of a tramway, extends SE from the shore.

Anchorage can be obtained by small vessels in the center of the bay, in depths of 25 to 35m. Care should be exercised upon entering this bay due to the numerous shoals which extend from its shores. Local knowledge is advisable.

Ormos Ayiou Stefanou indents the SE side of the island and is entered 7 miles NE of Akra Ayios Dhimitrios. This bay offers shelter to small craft and a fishing settlement is situated near the head. The outer part of the bay is too deep for anchoring and local knowledge is required for entry.

**14.12 Dhiekplous Kithnou** (37°30'N., 24°22'E.) separates Nisos Kea from Nisis Kithnou. This strait is 6 miles wide and is clear of dangers. In summer, winds cause a strong SW current to set through the center of this passage.

**Nisos Kea** (37°38'N., 24°20'E.), the N island of the W group, is mountainous with a ridge extending along its E side. Oros Ayios Ilias, the summit of the island, stands close E of the center. It is 561m high and is surmounted by two conspicuous radio towers.

**Ormos Ayiou Nikolaou** (37°40'N., 24°19'E.), a small bay, indents the NW side of the island. It forms a natural harbor and provides the best shelter in the island. Akra Ayiou Nikolaou,



Nisis Eskhati

the SW extremity of a narrow promontory, is the N entrance point of the bay. This point is fronted by rocks and is marked by a light shown from a prominent structure. The village of Korissia, with several prominent buildings, is situated on the W side of an inlet in the S part of the bay. It is fronted by a small quayed harbor which is protected by a mole. The main berth is 80m long and has a depth of 6.5m alongside. It is used by small vessels and ferries. There are facilities for small craft and yachts at several other places within the bay.

Anchorage may be obtained by large vessels in the NW part of the bay, in depths of 25 to 30m, mud. The recommended berth is about 0.3 mile ENE of Akra Ayiou Nikolaou.

**Akra Tamelos** (37°31'N., 24°17'E.), the S extremity of Nisos Kea, is marked by a light shown from a conspicuous structure.

**Steno Keas** (37°40'N., 24°15'E.) separates Nisos Kea from Makronisos. This strait is 8 miles wide and is free of dangers in mid-channel. Small craft and low-powered vessels may experience difficulty when transiting NE through this passage.

## Kikladhes Nisoi—South Group

**14.13 Nisidhes Khristiani** (36°15'N., 25°12'E.) consists of a group of three islets lying on a bank.

Nisis Khristiani, the N and largest islet, is 285m high, bold, and rugged. An above-water rock lies close off its SW extremity.

Nisis Askania, the middle islet, lies 0.5 mile SSE of Nisis Khristiani. It is 143m high and is closely fringed with rocks. The channel lying between these two islands is foul.

Nisis Eskhati, the S and smallest islet, lies 1 mile SE of Nisis Askania. It is 17m high, fringed by rocks, and is marked by a light.

**Nisos Thira** (36°24'N., 25°24'E.) is the largest and principal island of a group of islands and islets which presently form the remains of a circular volcanic island known as Kallisti. Nisis Thirasia and Nisis Aspro lie on the W edge of the crater. Nisis Palaia Kameni and Nisis Nea Kameni rise from great depths in the middle of the crater.

Profitis Ilias, the conical summit of Nisos Thira, stands in the SE part of the island. It is 566m high and surmounted by a large and conspicuous white monastery which at a distance appears as a brilliant snowcap. Two radio masts stand close to the monastery and several ancient tombs are cut into the rock at the SE side of this peak. Three other prominent peaks, each over 300m high, stand in the N part of the island. The coasts of Nisos Thira are fronted by rocks and reefs in many places. A

conspicuous chimney is reported to stand 0.7 mile NW of Akra Kamari, the E extremity of the island.

**Akra Akrotiri** (36°21'N., 25°21'E.), the SW extremity of the island, is marked by a light shown from a prominent structure. An aeronautical radiobeacon is situated at the E side of the island, 6.5 miles NE of the light.

The W side of the island consists of a deep gulf formed by the crater of a submarine volcano. The sides of the gulf are formed by dark cliffs, 150 to 300m high, of volcanic material. This gulf may be entered from the SW, W, and N. The SW channel leads between Akra Akrotiri and Nisis Aspro and has a least depth of 12m over the bar. The W channel leads between Nisis Aspro and Nisos Thirasia and has a least depth of 18m over the bar. The N channel leads between Nisos Thirasia and Nisos Thira. It is 0.8 mile wide and very deep in mid-channel.

Nisis Palaia Kammeni, 97m high, lies 2.7 miles NNE of Akra Akrotiri and is dark. Nisis Nea Kammeni, 134m high, lies close NE of Nisis Palaia Kammeni and is formed by a mass of solid lava. Both of these islets form the plug of the volcano.

**14.14 Skala Thira** (36°25'N., 25°26'E.), a small craft harbor, lies at the foot of the cliffs on the E side of the gulf. The town, with several prominent buildings, stands at the top of the cliffs and is connected to the waterfront by a cable car. Several mooring buoys lying off the harbor are used by passenger liners and vessels loading pumice.

It is reported that a quay, 180m long, with facilities for ro-ro vessels lies 1.8 miles S of the town. This quay is situated in Ormos Athiniou, a small cove, and is used by ferries.

Depths in the gulf are generally too deep for anchoring. During offshore winds, anchorage can be obtained, in a depth of 16m, about 0.7 mile ENE of Akra Exomitis which is located 4.5 miles ESE of Akra Akrotiri. Anchorage can also be obtained within bights entered 1 mile and 2.7 miles ESE of Akra Akrotiri. These bights are sheltered from all N winds and have depths of 12 to 15m over bottoms of sand and weed.

**Nisis Thirasia** (36°26'N., 25°20'E.) is low, rocky, and fronted by rocks in several places.

**Nisis Aspro** (36°23'N., 25°21'E.), fronted by shoals, lies 1.6 miles NNW of Akra Akrotiri. This islet is 61m high and has a prominent white summit. Ifalos Mansell, a detached reef, lies about 1.7 miles NW of Nisis Aspro. It has a least depth of 2.7m and should be given a wide berth.

During good weather, temporary anchorage can be obtained, in depths of 16 to 18m, sand and weed, about 0.3 mile S of the SW end of Nisis Aspro.

**Ifalos Kolombos** (36°31'N., 25°28'E.), an isolated shoal, lies 3.5 miles NE of Akra Kolombos, the NE extremity of Nisos Thira. It has a least depth of 18m, consists of cinders, and is the remains of a volcanic island.

**14.15 Nisos Anafi** (36°22'N., 25°47'E.) is hilly, barren, and fronted by shoals and rocks. Ayios Elias, 579m high, is the summit of the island and stands close N of the center.

The village of Anafi is situated close inland at the middle of the S coast of the island. It is fronted by a small craft harbor which is protected from the W by a breakwater extending 200m S to a small islet. A jetty in the harbor is used by local ferries and fishing boats. Small craft can anchor, in a depth of 3m, sand, good holding ground, off the harbor.

Vrakhonisis Ftina, 15m high, and Vrakhonisis Flini, 18m high, are two small islets which lie 2.3 miles SSE of the harbor and are surrounded by rocks and foul ground.

**Nisos Pakhia** (36°16'N., 25°50'E.), a small island 223m high, lies 5 miles SSW of the E extremity of Nisos Anafi.

**Nisos Makra** (36°16'N., 25°53'E.), another small island, lies 5 miles SSE of the E extremity of Nisos Anafi. It is 128m high and fronted by rocks and shoals which extend up to 1 mile seaward.

**Caution.**—A submarine cable, which may best be seen on the chart, extends between Nisos Thira and Nisos Thirasia and anchoring is prohibited in its vicinity.

### Kikladhes Nisoi—South Central Group

**14.16 Nisos Folegandros** (36°38'N., 24°54'E.) is a barren and hilly island with high and precipitous coasts. It consists of two parts which are joined by a narrow neck. Korifi Ayios Eleutherios, the summit of the island, is 415m high and stands in the S part. The NW part of the island is 311m high.

Ormos Vathi, a small bay, indents the SW side of the island and is open to the SW. It is sometimes used as a refuge in N and E winds. Anchorage can be taken, in a depth of 15m, sand and weed, about 300m SSW of a small promontory located near the head of the bay. A reef, with a depth of 3.5m, lies midway between this berth and the promontory. Local knowledge is advised. A light is shown from a prominent structure standing on the S coast of the island, 2 miles SE of the W extremity.

**Karavostasi** (36°37'N., 24°57'E.), a settlement, is situated at the head of Ormos Karavostasi at the SE end of the island. This settlement is fronted by a small craft harbor and the village of Folegandros stands 1.7 miles NW of it. A small islet, with a chapel situated near its center, lies close offshore in the S approach to the bay and two small islets, fronted by shoals, lie close offshore in the N approach. Small vessels can anchor in the center of the bay, in a depth of 12m. Local knowledge is required.

The passage between Nisos Folegandros and Nisos Sikinos is partly obstructed by islets and shoals, but depths in most of the narrow channels are deep. Vrakhonisis Adhelfia, consisting of two small islets, lies 1.5 miles NE of the SE extremity of Nisos Folegandros and is fronted by rocks. The E islet is 93m high and the W islet is 55m high. A detached shoal, with a least depth of 4.5m, lies 0.4 mile NW of the W islet.

Nisos Kardhiotissa, 154m high, lies 1.6 miles NE of Vrakhonisis Adhelfia and is the largest islet in the passage. Nisos Kaloyeros, a small islet, lies 1.1 miles E of the NE end of Nisos Kardhiotissa and 0.3 mile SW of the SW end of Nisos Sikinos. An above-water rock lies close off the NW end of this islet. A shoal, with a least depth of 6.7m, lies in mid-channel about 0.6 mile WSW of Nisos Kaloyeros. This shoal is usually indicated by a sudden change in the color of the water and vessels are advised to pass to the W of it.

**14.17 Nisos Sikinos** (36°41'N., 25°07'E.), 552m high, is a rocky and barren island which is fronted by small islets and rocks in several places. Ormos Skala, a small bay, indents the middle of the SE coast and a light is shown from the E entrance point. A settlement stands around the bay and is fronted by a small craft harbor. Small craft can anchor in the center of the bay, in a depth of 6m.

**Stenon Sikinou Iou** (36°43'N., 25°13'E.) separates the NE extremity of Nisos Sikinos from the W extremity of Nisos Ios. This strait is 3 miles wide, deep, and clear.

**Nisos Ios** (36°44'N., 25°20'E.) is a rocky and mountainous island. Korifi Pirgos, the summit, is 713m high and stands near the center. Some of the land is fertile and cultivated with olive groves and orchards. The shores of the island are fronted in places by several small islets and rocks and vessels should stay at least 1 mile from the coast.

Ormos Manganari, a small bay, indents the S side of the island and is open to the S. It is entered between Akra Akh-ladhi, the S extremity of the island, and Akra Pargari, 1.2 miles ENE. This bay provides anchorage, in depths of 10 to 20m, firm sand. The best berth, in a depth of 11m, lies about 250m SSW of Nisos Pori, an islet lying at the head.

Ormos Tris Klisies, a small bay, is entered 1.5 miles NNE of Ormos Manganari and offers shelter in N and W winds. Vessels with local knowledge can anchor, in a depth of 20m, mud and sand, about 0.3 mile W of Akra Louka, the N entrance point of the bay.

Ormos Kalamos, on the SE side of the island, is entered 2 miles N of Ormos Tris Klisies. Temporary anchorage, during W winds, can be taken, in depths of 10 to 18m, in the middle of this bay, but the shores are fringed with rocks.

**14.18 Ormos Iou** (36°43'N., 25°16'E.) indents the NW part of the island and a small quayed harbor lies on its E side. A small promontory projects from the head of this bay, close N of the harbor, and is surmounted by several prominent buildings. The town of Ios stands 0.5 mile E of the harbor. There are depths of 2 to 6m alongside the quays which are mostly used by small craft, yachts, and ferries. Small vessels can anchor within the bay, in depths of 10 to 20m. Local knowledge is advised. Akra Fanari, the W entrance point of the bay, is marked by a light and fronted by a reef. A prominent small church stands 0.7 mile NE of the light.

**Nisos Anidhros** (36°38'N., 25°41'E.), an uninhabited islet, lies 15.7 miles E of the S extremity of Nisos Iou and is 194m high. A rock, almost awash, lies 0.7 mile SW of its S end and a conical rock lies close off its SE end.

**Nisos Amorgos** (36°50'N., 25°55'E.) is mountainous throughout and has cliffs rising sheer from the sea in places. The surface of the island is broken into detached rocky peaks

which are separated by cultivated valleys. Oros Krikelos, the summit, stands in the NE part of the island and is 821m high.

**Akra Kaloteri** (36°48'N., 25°45'E.), the W extremity of the island, is fronted by rocks. Nisis Gramvousa, a small island, lies close N of this point. A group of small islets lies on a shoal bank off the N end of this island. A light is shown from the N islet. A narrow passage, with a depth of 13m, leads between the S side of Nisis Gramvousa and the N side of Akra Kaloteri. However, it is bordered by rocks and vessels are advised to pass to the N of the islets lying off the N end of Nisis Gramvousa. Small vessels can obtain temporary anchorage, in depths of 18 to 24m, about 0.2 mile off the SW side of Nisis Gramvousa.

**Ormos Katapola** (36°50'N., 25°52'E.) indents the N coast of the island. This bay is entered between Akra Ayios Ilias, marked by a light, and Akra Kato Akrotiri. 0.5 mile SE. The bay is clear of dangers except for a shoal patch, with a depth of 5m, which lies close off its N shore, 0.4 mile ESE of Akra Ayios Ilias. The head of Ormos Katapola affords safe anchorage, in depths of less than 20m, over a bottom of light sand. The holding ground is good and vessels ride safely even during strong NE gales when squalls are experienced.

A settlement, situated at the S side of the bay, is fronted by a small quayed harbor. The main quay is 60m long and is used by coasters, ferries, and small craft.

**14.19 Nisis Nikouria** (36°53'N., 25°55'E.) lies close off the N coast of Nisos Amorgos, 4 miles NE of Akra Ayios Ilias. This islet is 365m high and the narrow passage leading between its E end and the coast is shallow and foul. Ormos Kalotiri, a bay, is formed by the S side of Nisis Nikouria and the NW coast of Nisos Amorgos. It is open to the W and subject to squalls and variable winds. Vessels with local knowledge can anchor in this bay, in depths of 33 to 37m. The best berth lies about 0.9 mile WSW of the E extremity of Nisis Nikouria where the holding ground is good.

**Akra Langadhia** (36°55'N., 25°57'E.), marked by a light, is located on the NW coast of the island, 2.5 miles NE of Nisis Nikouria. Ormos Ayias Annas, a small and deep bay, lies S of this point. It is open to the W and is subject to heavy weather from that direction. The holding ground in this bay is bad, but in an emergency, vessels can anchor, in a depth of 25m, loose shingle, in the NE corner. Aiyialis, a small village, is situated in the SE part of the head of the bay. It is fronted by a small craft harbor which is formed by a mole. There is a berth, 95m long, with depths of up to 6m alongside which is used by small craft and ferries. During unsettled weather, sudden wind shifts and violent gusts are sometimes encountered in the bay because of the high surrounding land.

**Akra Korax** (36°46'N., 25°48'E.), the S extremity of the island, is located 3.2 miles SE of Akra Kaloteri and is marked by a light. The S coast of Nisos Amorgos offers no anchorages or shelter of any significance.

**Nisidhes Liadhi** (36°54'N., 26°10'E.), consisting of four islets, forms the E group of Kikladhes Nisoi. The N and largest islet is 61m high, barren, and marked by a light. The S islet is low, flat, and surrounded by shoals.

## Kikladhes Nisoi—North Central Group

**14.20 Nisis Strongilo** (36°57'N., 24°58'E.), 187m high, is a bold and rugged islet which is marked by a light on its SW side. A shoal patch, with a depth of 4.6m, lies about 0.9 mile N of the N extremity of this islet.

Nisis Dhespotiko is 195m high and is marked by a light at its E extremity. This islet lies close E of Nisis Strongilo and is separated from it by a deep channel, 0.4 mile wide.

**Nisos Andiparos** (37°00'N., 25°03'E.), 300m high, is a relatively-flat island. A large grotto, considered to be one of the most remarkable in the world, is entered on the E slope of the summit of the island which stands near the center.

**Nisidhes Portes** (37°06'N., 25°06'E.), consisting of two above-water rocks, lies at the outer end of a chain of islets, rocks, and shoals which extend up to 3.2 miles NNE of the N end of the island. A light is shown from the NE side of the NE rock.

Ormos Dhespotiko lies between the SW side of Nisos Andiparos and the E extremity of Nisis Dhespotiko. Nisis Tsimindiri, a small islet, lies in the N part and obstructs the passage. Shallow boat channels pass on either side of this islet. Small vessels with local knowledge may obtain anchorage, in depths of 5 to 10m, firm sand, in the center of this bay.

**Stenon Andiparou** (37°01'N., 25°05'E.) separates Nisos Andiparos from Nisos Paros. The narrowest part of the strait is obstructed by rocks and shoals. Nisis Pandieronisi lies 3 miles NE of the S extremity of Nisos Andiparos. It is the outer islet of a chain of small islets and rocks which extend NW into the S entrance of the strait. Two shallow channels, used by local small craft, extend through the passage.

**Nisos Paros** (37°03'N., 25°11'E.) has the appearance of a round mountain with two peaks. Korifi Ayios Ilias, the NW peak, is 770m high and Korifi Karmboli, the SE peak, is 747m high. Both stand close S of the center of the island. The coast of the island is irregular and fronted in places by numerous small islets, rocks, and reefs.

**14.21 Ormos Trio** (37°00'N., 25°14'E.) indents the SE coast of the Nisos Paros 2.5 miles NE of Akra Mavros, the S extremity of the island. This bay lies between Akra Pirogos and Akra Khoni, 1.8 miles NE. It is open to the SE, but affords anchorage, in a depth of 15m, in its center.

Trionisi, a small island, lies 1 mile E of Akra Mavros. Makronisi, another small island, lies 0.7 mile SE of Akra Khoni. Several small islets and rocks lie on a shoal bank which extends up to 0.4 mile N of this island.

**Akra Kratzi** (37°38'N., 25°16'E.), a prominent cape, is marked by a light. A prominent hill, 229m high, stands 0.9 mile WSW of the light.

Ormos Marmara is entered between Akra Kratzi and Akra Kefalos, 0.6 mile N. This bay provides shelter to small craft during offshore winds. Anchorage can be taken, in depths of 8 to 9m, firm sand, near the middle of the bay.

Ormos Marmara and Ormos Trio are reported to be unsuitable for anchorage not only in the winter, but in the summer during the windy season.

Vrakhoi Amaridhes, a group of above-water rocks, lies on a shoal bank about 2 miles E of Akra Kratzi. A light is shown from the largest rock and other rocks extend up to about 0.3

mile N and S of it. A dangerous wreck is reported to lie about 0.5 mile SE of the light.

**Akra Korakas** (37°09'N., 25°14'E.), the NW extremity of the island, is the N extremity of an irregularly-shaped peninsula. A light is shown from a prominent structure, 10m high, standing on this point.

**Ormos Naousis** (37°08'N., 25°14'E.), a large bay, indents the greater part of the N side of the island and is entered between Akra Korakas and Tza-Kamaki, 1.7 miles E. It forms a large and safe natural harbor and is capable of accommodating several vessels. Tza-Kamaki is the NW extremity of an irregular peninsula which rises to a height of 66m and forms the NE end of the island. This peninsula is fronted with numerous small islets, rocks, and shoals extending up to 0.9 mile seaward and should be given a wide berth.

The town of Naousa stands on the S shore of the bay and is fronted by a small craft harbor. Two conspicuous churches are situated in the vicinity of the town.

Ormos Ayiou Ioannou, an inlet, lies in the NW corner of the bay and affords sheltered anchorage, in depths of 11 to 16m, mud or sand and weed. Ormos Plastira, another inlet, lies in the SW corner of the bay and is generally used by commercial vessels which anchor, in depths of 7 to 10m. Two islets lie on a bank off the N shore of this inlet and the W one is surmounted by a prominent chapel.

Ormos Langeri, an inlet, lies at the E side of the bay and also affords sheltered anchorage, in a depth of 11m, but the entrance is obstructed by several shoals and local knowledge is advised.

**14.22 Ormos Paroikias** (37°05'N., 25°08'E.) indents the NW coast of the island, 6 miles SW of Akra Korakas. This bay is entered S of Akra Ayios Fokas which is low and marked by a light. Vessels approaching from the W are advised to pass N of Nisidhes Portes, the N islet of the chain extending from the N end of Nisos Andiparos. Kaki Skala, a small islet, lies in the S approach to the bay, 1.4 miles SW of Akra Ayios Fokas. There are numerous rocky reefs, with minimum depths of 6.6m, in the vicinity of this chain of islets. Extreme caution should be exercised while navigating in this area. The town of Paros stands on the SE side of the bay and is fronted by a small craft harbor. A prominent church and several windmills stand in the vicinity of the town. Anchorage is available in the middle of the bay, over a bottom of sand and mud, but it is not suitable for large vessels.

**Stenon Parou Naxou** (37°03'N., 25°19'E.) leads between Nisos Paros and Nisos Naxos. The main fairway, which passes W of Vrakhoi Amaridhes, is 1.7 miles wide and has ample depths. During NE winds and when there is no wind, a current sets S through this passage at a rate of about 1.5 knots. With W winds, a current usually sets N at a rate of about 1 knot.

**14.23 Nisos Naxos** (37°05'N., 25°29'E.), the largest island of the Kikladhes Nisoi, is mountainous throughout its length. Oros Zeus, the summit, is 1,005m high and stands 7.5 miles NNE of Akra Katomeri, the S extremity of the island. Oros Korona, another prominent peak, is 991m high and stands 5.7 miles N of the summit.

The E and NW coasts of the island are mostly clear, but vessels bound for anchorages along the SE and SW coasts must

exercise caution as these shores are fronted in places by rocks and shoals which extend up to 0.9 mile seaward.

**Akra Stavros** (37°12'N., 25°32'E.), the N extremity of the island, is marked by a light.

Ormos Moutsouna, entered 8.3 miles SSE of Akra Stavros, is protected from the N by a prominent headland which terminates in Akra Moutsouna, the E extremity of the bay. This bay affords good anchorage with NW winds. Vessels with drafts of less than 6.5m moor off a small jetty and load emery from lighters. However, loading is impossible with a swell or onshore winds and difficult with N winds. Local knowledge is required.

Ormos Kalando is entered 1.4 miles NE of Akra Katomeri, the S extremity of the island. This bay provides good anchorage in N winds, in depths of 15 to 35m. The best berth lies in a depth of 18m, firm sand, about 0.5 mile from the head.

On the SW side of the island, good anchorage can be obtained in the bights to the SE and NW of Akra Roga, a small promontory, located 4 miles NW of Akra Katomeri. The SE bight has depths of 9 to 15m; the NW bight a depth of 16m, firm sand and weed. Mavros Vrakhos, an above-water rock, lies on a shoal bank 1 mile SSE of Akra Roga.

**14.24 Ormos Naxou** (37°06'N., 25°21'E.), at the W side of the island, is open to the N, but offers anchorage during S and E winds. This bay is entered between Akra Mounгри and Nisis Apollonos (Nisis Vakkhos), 1.7 miles NE.

Vrakhos Frouros, a rock awash, lies 0.3 mile N of Akra Mounгри and is surrounded by shallow shoals. A narrow and clear passage leads between this rock and several rocky shoals fronting the point, but vessels are advised to pass to the N of all of these dangers. A prominent hill, 150m high, stands close S of Akra Mounгри.

Nisis Apollonos, an islet, lies close offshore and is connected at its SE end to Nisos Naxos by a causeway. The ruins of an ancient temple are situated on this islet and are visible from seaward. A breakwater extends 0.2 mile SW from the E side of the islet and is marked by a light at its seaward end. A rocky shoal, with a least depth of 9.2m, lies about 0.2 mile W of the light.

The town of Naxos stands on a conical hill at the NE side of the bay and is fronted by a small harbor. The main pier projects 240m SW and has depths of up to 7m alongside. A prominent belfry stands in the town. Vessels usually anchor, in depths of 11 to 13m, sand and weed, about 0.4 mile WSW of the harbor.

Winds from between N and NE prevail, but winds from the S are also common except from July to September. At times, a swell sets into the bay and causes the roadstead to be unsafe.

Ormos Prokopi is entered S of Akra Prokopiou which is located 1.2 miles SW of Akra Mounгри. This bay offers anchorage, in depths of 11 to 13m, sand and weed, good holding ground.

Ifalos Kalipso (Chapman Rock) lies about 0.6 mile SW of Akra Prokopiou and has a least depth of 2.5m. When approaching the roadstead, vessels are advised to pass between this rock and Vrakhoi Amaridhes, 1 mile SSW.

**Caution.**—A dangerous wreck lies S of Chapman Rock.

**14.25 Andikeria** (36°51'N., 25°41'E.) consists of two rugged and barren islands. The W island is known as Nisis Dhrima

and the E island, fronted by rocks and shoals on its NE side, is known as Nisis Andikaros. These islands are separated by a narrow passage with a depth of about 3m.

**Nisos Karos** (36°54'N., 25°39'E.) is located 1.8 miles N of Andikeria. This small island is 152m high and mostly steep-to. Vrakhonisis Plaki, located 1.3 miles SSE of the SW extremity of the island, is the S and outer islet of a group lying off the W part of the S coast of the island.

**Koufonisia** (36°56'N., 25°36'E.), located 2 miles NW of Nisos Karos, consists of two small islands. The NE island is known as Ano Koufonisos and a light is shown from its W side. The SW island is known as Kato Koufonisos and an islet lies 0.7 mile SE of its E extremity. These islands are separated by a narrow channel with depths of 5 to 7m. Under favorable conditions, vessels may obtain anchorage, in depths of 11 to 15m, firm sand, in the SE approach to this channel. Local knowledge is advised.

**Kopria** (Nisis Prasoura) (36°59'N., 25°38'E.), lying 2.3 miles NNE of Ano Koufonisos, is rocky, 70m high, and steep-to. A light is shown from the summit of this small islet.

**Nisidhes Makares** (37°05'N., 25°42'E.), a group of three rocky islets, lies 6.2 miles NNE of Kopria. A shallow rock lies close off the S side of Nisis Strongili, the S islet. Nisis Ayios Nikolaos, the N islet, is 109m high.

**Nisis Dhenousa** (37°07'N., 25°49'E.), 382m high, has an irregular shape and is mountainous. The depths near the shores are deep, but small islets, rocks, and shoals extend up to about 1 mile off the N, NW, and SW coasts of this island. Ormos Dhendron indents the S side of the island and a prominent white chapel stands near a sandy beach at the head of this bay. A light is shown from Akra Kaloterousa, the NE extremity of the island.

**14.26 Nisidhes Bouvais** (37°14'N., 25°55'E.), located 7.8 miles NE of Akra Kaloterousa, consists of a group of above and below-water rocks lying on a bank. A light is shown from the summit of the largest rock which is 50m high.

**Nisos Skhinousa** (36°52'N., 25°31'E.), 133m high, is a small and irregular-shaped island fronted by rocks and shoals in many places. Nisis Ofidhousa, a small islet, lies 1.3 miles S of the SW extremity of the island. It is the S and outer islet of a group which extends S from the W part of the S end of the island. A small group of above-water rocks lie on a detached bank 1 mile ESE of Akra Psili, the N extremity of the island. Ormos Psili Ammos, a small inlet, indents the E side of the island, 1 mile SSE of Akra Psili. It is used by small craft with local knowledge. Ormos Mirsini, another small inlet, indents the W side of the island, 1.9 miles SW of Akra Psili. A light is shown from the NW entrance point and it is also used by small craft with local knowledge.

**Nisos Iraklia** (36°50'N., 25°27'E.) is a small and hilly island. Korifi Pappas, the summit, is 418m high and rises precipitously from the sea near the middle of the S coast. Small islets lie close off its W extremity and off the N part of its E side.

**Nisis Mikros Avelos** (36°50'N., 25°24'E.) is the W and smaller of two small islets which lie close together 1 mile SW of the W extremity of Nisos Iraklia. This islet is marked by a light and is the SW islet of the group which lies off the S coast of Nisos Naxos.

## Kikladhes Nisoi—North Group

**14.27 Nisis Yiaros** (37°37'N., 24°37'E.) is a hilly and barren island, 489m high. Glaronisi, a small islet, lies close off the SE extremity and the narrow channel separating the two is foul.

**Caution.**—Navigation within 2 miles of the coast of Nisis Yiaros is prohibited without prior permission from the naval authorities.

**Nisos Siros** (37°26'N., 24°54'E.) is a hilly and mostly barren island. Its coast is indented by several bays and coves, but most of them are exposed and interspersed with projecting points. The N part of the island is rugged, but the S part has gentler slopes. Oros Siringas, the summit, is 447m high and stands in the N part of the island. Prominent peaks, 440m high and 319m high, stand 1 mile SSE and 5 miles S, respectively, of the summit.

**Akra Trimeson** (37°31'N., 24°53'E.), a sheer rocky cape, forms the N extremity of Nisos Siros. A light is shown from a prominent structure standing on this cape.

**14.28 Nisis Aspro** (37°23'N., 25°00'E.) lies 1 mile SE of Akra Fokotripes, the SE extremity of the island. This islet is white, 46m high, and marked by a light on its SE side. The SE side of the islet is high and sheer and the NW side is low. Reefs extend up to about 0.4 mile N from its NW and NE ends. Vessels should give this islet a wide berth and be aware that submerged obstructions lie between it and the SE coast of Nisos Siros.

**Nisis Dhidhimi** (Nisis Gaidharos) (37°26'N., 24°58'E.) lies 0.5 mile offshore, 1.5 miles N of Akra Fokotripes. This islet is 39m high and a light is shown from a prominent structure standing on its W summit. Nisis Strongilo, a small islet, lies close off the E end of Nisis Dhidhimi and is 38m high.

**Akra Velostasi** (Vinglostasi) (37°22'N., 24°53'E.), the SW extremity of the island, is marked by a light.

Ormos Foinikos, a small bay, indents the SW side of the island, 1.6 miles N of Akra Velostasi. It is entered between Akra Dhiakoftis and Akra Agrilio, 0.4 mile N, and provides good anchorage to small craft. Nisis Strongilo lies 0.8 mile S of Akra Dhiakoftis. This islet is 41m high and is the S and outer danger in the SE approaches. Nisis Psathonisi lies 0.6 mile W of Akra Dhiakoftis. This low islet lies in the W approach and is marked by a light. A resort village is situated in the N part of the bay and is fronted by a small craft harbor which is mostly used by yachts.

## Siros (Syros) (37°26'N., 24°57'E.)

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**14.29 Limin Sirou**, a bay forming a natural harbor, lies at the E side of Nisos Siros and is protected by two breakwaters. The town of Siros, also known as Ermoupolis, stands along the N and W sides of the bay and from seaward gives the appearance of two distinct conical hills which are covered with white houses and surmounted by churches. The bay may be approached by passing SW or N of Nisis Dhidhimi (Nisis Gaidharos).

**Depths—Limitations.**—The N side of the harbor, including the breakwater, is quayed and provides 1,280m of total berthing space, with depths of 5.5 to 9.1m alongside. Vessels of up to 200m in length and 8.3m draft can be accommodated.

A bunker station, consisting of a platform used as a fueling berth, is situated in the S part of the harbor. It has a depth of 12.8m alongside its NW side and can handle vessels of up to 9.1m draft. Two floating docks are situated at the shipyard and extensive repairs can be carried out on vessels of up to 75,000 dwt.

**Aspect.**—The S part of the harbor is largely industrial and contains several prominent shipyards, workshops, factories, and oil tanks. A light is shown from Akra Kondoyiannis which is located 0.4 mile ESE of the root of the S breakwater. A tall and conspicuous chimney stands at a factory situated on the W side of the harbor.

**Pilotage.**—Pilotage is compulsory for commercial vessels over 150 grt. Pilots can be contacted on VHF channel 12 and board about 0.5 mile E of the entrance. Vessels should send an ETA at least 24 hours in advance. Significant changes in arrival time should be reported at least 4 hours in advance.

**Anchorage.**—Vessels may obtain temporary anchorage off the harbor and S of the prohibited anchorage area. However, this roadstead is not recommended due to the weedy nature of the bottom and the poor holding ground.

During the summer, anchorage can be obtained, sheltered from the prevailing N winds, in a depth of 20m, S of Nisis Dhidhimi. Anchorage can also be obtained in the summer, sheltered from NE winds, in depths of 22 to 33m, coarse sand and shell with patches of weed, between Nisis Dhidhimi and the coast to the SW.

**Caution.**—A prohibited anchorage area, which may best be seen on the chart, lies outside the harbor and N of a line extending from the vicinity of the N breakwater head to the N extremity of Nisis Dhidhimi.

**14.30 Nisis Nata** (37°22'N., 25°03'E.), 11m high, is fringed by shoals and marked by a light. A rock, with a depth of less than 2m, lies about 0.3 mile WSW of this small islet.

**Vrakhos Mermingas** (Nisis Mirmingas) (37°12'N., 25°04'E.), an isolated steep-to rock, lies 10.5 miles S of Nisis Nata and is marked by a light.

**Nisis Rinia** (37°25'N., 25°14'E.) is a barren, irregularly-shaped, and rocky island. It is almost divided into two parts by a narrow isthmus. The N and higher part of the island rises to a height of 149m.

Ormos Skhino is entered between the NE extremity of the S part of the island and a point 1.2 miles NNW. This bay affords shelter during S and W winds to vessels with local knowledge. Anchorage can be taken, in a depth of 25m, at the head close E of the narrow isthmus.

Ormos Miso, a small bay, indents the W side of the island to the W of the narrow isthmus. Vessels can anchor, in depths of 14 to 27m, sand, in the N part of the bay and are protected from N winds.

**Dhiavlos Dhili** (37°23'N., 25°16'E.) separates Nisis Rinia from Nisis Dhilos. The S part of this strait is 0.5 mile wide and deep, but two islets lie in the middle of the N part. The passage leading to the E of these islets is obstructed. The passage leading to the W has depths of 7 to 9m and a least width of

about 250m. With N winds, a strong current sets through this strait and along the E coast of Nisis Dhilos. Vessels can anchor SE of the S islet, in depths of 16 to 22m, with a good holding ground of dark sand, mud, and weed.

**Nisis Dhilos** (37°23'N., 25°16'E.) is a small and barren island. Its summit is 106m high and surmounted by a beacon. A museum, with a conspicuous red roof, stands near the ruins of the ancient city of Dhilos at the NW side of the island. The ruins are fronted by a small quay which is frequented by numerous ferries bringing large numbers of visitors.

**Caution.**—Navigation within 0.2 mile of the coast and landing on the island is prohibited without the permission of the local authorities.

**14.31 Stenon Dhilos-Mikonos** (37°24'N., 25°17'E.) is the strait which separates Nisos Dhilos from Nisos Mikonos. It may be entered from the S by passing either W or NE of Nisidhes Prasonisia.

**Nisidhes Prasonisia** (37°23'N., 25°18'E.), consisting of three rocky islets, lies at the SE end of Stenon Dhilos-Mikonos. A rock, with a depth of 1.8m, lies about 0.3 mile ESE of the SW and smallest islet. A light is shown from the largest islet.

**Nisos Mikonos** (37°27'N., 25°23'E.) is a mountainous and barren island. The coasts are sheer and irregular with many small bays. Oros Ayios Ilias, 364m high, stands at the NW side of the island and Oros Anomeritis, 351m high, stands at the E end.

**Akra Armenistis** (37°29'N., 25°18'E.), steep and rugged, forms the NW extremity of the island and is fronted by a small islet and several rocks. A light is shown from a prominent structure, 19m high, standing on this cape.

**14.32 Mikonos** (37°27'N., 25°20'E.), a resort town, stands on the W side of the island and is fronted by a small harbor protected by breakwaters. It is approached between Akra Tourlos, located 1.2 miles S of Akra Armenistis, and Nisis Ayios Georgios, an islet lying close N of the N extremity of a peninsula extending from the SW side of Nisos Mikonos. A small islet and several shallow shoals lie up to about 0.4 mile NW and W of Nisis Ayios Georgios and should be given a wide berth.

The N breakwater provides berths, with depths of up to 10m alongside, which are used by passenger ferries and coasters. A quay, 150m long, has depths of 4 to 7m alongside and is used by small craft. Vessels of up to 150m in length and 6.2m draft have been accommodated.

Ormos Tourlos, a small bay, lies to the N of the town and is open to the W and SW. It provides good shelter from NE winds in summer. It has been reported (1996) that a harbor is under construction in the N part of the bay.

Ormos Korfos, another bay, lies to the S of the town and is open to the N. Vessels can anchor in the entrance, in depths of 22 to 24m, firm sand. A power station is situated on the E side of the entrance to this bay and is fronted by a submarine pipeline which extends 100m from the shore and is marked by a buoy at its outer end.

Storms and adverse weather are frequently experienced in this vicinity during the months of February and March.

Ormos Ornos affords anchorage to small vessels near its head, in depths of 6 to 12m, good holding ground. This bay in-



dents the W part of the S coast of the island and its head is separated from the head of Ormos Korfos by a low and sandy isthmus over which the N wind blows strongly. Local knowledge is advised.

**Ormos Ayias Annas** (37°25'N., 25°25'E.), a small bay, indents the S coast of the island and lies between Akra Makrokefalos, a high cape, and a point, 1.2 miles NE. It can be entered by passing on either side of two rocky islets which lie in the middle of the entrance. Anchorage may be obtained, in depths of 16 to 18m, firm sand, at the head of the bay.

A factory stands at the NE side of the bay and is fronted by an ore-loading berth consisting of a small pier with several mooring buoys. Vessels of up to 22,000 dwt can be accommodated, but this berth is reported to be unsafe during SW to W winds.

**14.33 Nisis Dhragonisi** (37°27'N., 25°29'E.), a small island, is 149m high. Its N, SW, and SE coasts are fringed with rocks and shoals. The passage between Nisis Dhragonisi and the E end of Nisis Mikonos has a least width of 0.5 mile and is deep and free of dangers.

**Nisis Khtapodhia** (37°25'N., 25°35'E.) lies 4.8 miles ESE of Nisis Dhragonisi and is marked by a light at the SW end. Rocks and shoals extend up to about 0.5 mile NNE of the N extremity of this islet and rocks, above and below water, lie about 0.3 mile W of its W end.

**Stenon Mikonou** (37°30'N., 25°15'E.) separates Nisos Mikonos from Nisis Tinos. This strait is 4.5 miles wide and is clear of dangers. Squalls from the highlands frequently blow down on the N side of this passage during N winds.

**Nisos Tinos** (37°36'N., 25°09'E.) is a mountainous and wooded island with hills extending over its entire length. Korifi Tsiknias, 713m high, stands near the SE end of the island and is the summit. Oros Kambos, 637m high, stands near the middle of the SW coast and is another prominent peak.

**Akra Livadhia** (37°37'N., 25°15'E.), the NE extremity of the island, is marked by a light shown from a prominent structure. A shallow shoal lies about 0.3 mile NW of the light.

**14.34 Tinos** (37°32'N., 25°10'E.), a resort town, stands at the SW side of the island and has a conspicuous church situated close N of it. The town is fronted by a small harbor protected by two breakwaters. Anchorage off the harbor is not recommended, but in an emergency, vessels should moor, in depths of 30 to 35m, sand, about 300m SSW of the head of the S breakwater. The harbor has extensive facilities for small craft and yachts. A main berth, 180m long, has depths of 5 to 10m alongside and is used by coasters.

Ormos Ayios Nikolaou, a bay open to the S, lies 1 mile SE of the town of Tinos. It provides anchorage, in depths of 10 to 15m, firm sand, about 0.2 mile offshore. Vrakhoi Akako, a rocky shoal, is located in the entrance to this bay. It lies about 0.5 mile SE of the W entrance point and has a depth of 11m. During N winds, although protected from the full force, heavy squalls can be experienced in this roadstead.

Ormos Stavros, open to the S, lies 1.2 miles WNW of the town of Tinos. This bay provides anchorage, in depths of 18 to 36m, but the holding ground is poor and this area is subject to fierce squalls during N winds.

Nisis Planitis, 87m high, is located 9.4 miles WNW of Akra Livadhia. This islet, which is marked by a light, lies close off the N coast of Nisos Tinos and is connected to the shore by a narrow isthmus. Ormos Panormos is entered between Nisis Planitis and a point, 0.7 mile SSE. This bay forms a natural harbor and provides shelter for small craft with local knowledge at its W side.

**Nisis Dhisvaton** (37°40'N., 24°58'E.) is the NW and outer of three small islets which lie close off the NW end of Nisos Tinos. A light is shown from a prominent structure standing on this islet.

**Stenon Dhisvaton** (37°41'N., 24°58'E.) leads between Nisos Tinos and Nisos Andros. This strait is clear and free of dangers in mid-channel, but the shores should not be approached. During N winds, a current sets SW through the strait. Low-powered vessels which are bound NW should favor this passage during N winds as the currents are not as strong as those within Dhiokplous Kafireos.

**Nisos Andros** (37°50'N., 24°50'E.), the N island of the Kikladhes Nisoi, is mountainous and wooded. The high peaks are snow-covered for several months of the year. Kouvarion, 1,134m high, is the summit and stands near the center of the island.

**14.35 Akra Ayios Kosmas** (37°46'N., 25°00'E.), marked by a light, is the SE extremity of the island. Ormos Korthiou is entered N of the point and provides anchorage, in depths of 9 to 17m, sand and weed with good holding ground, near the head. This bay is not safe with winds from between NE and E and a considerable swell is caused by N winds. Small craft with local knowledge can find shelter closer inshore.

Ormos Kastrou lies 5 miles NW of Akra Ayios Kosmas and is divided into two parts by a narrow tongue of land which projects 0.3 mile NE from the head of the bay. Nisis Tourlitis is located close NE of the seaward end of this tongue of land. This small islet lies on a rocky shoal and is marked by a light.

The town of Andros stands on a tongue of land and extends inland. A mole, 230m long, extends SE from the N shore of Limin Kastrou, the NW part of the bay, and is used for berthing by small craft. Vessels can anchor, in depths of 10 to 20m, about 250m S of the head of the mole. Ormos Paraporti, the SE part of the bay, is seldom used.

Akra Gria, located 3.2 miles N of Andros, is marked by a light shown from a prominent structure.

**Akra Fassa** (37°58'N., 24°42'E.), the NW extremity of the island, is marked by a light shown from a prominent structure, 21m high, standing 0.5 mile SE of the point. Akra Pirgos, surmounted by a conspicuous ruined tower, is located 1.3 miles SW of the light.

**14.36 Ormos Gavriou** (37°52'N., 24°44'E.) (World Port Index No. 42880), open to the S, lies 7 miles SSE of Akra Fassa. This bay is entered between Akra Kolona and Akra Goremi, 3.2 miles WNW. Its entrance is obstructed by Gavriou, a group of six islets fringed by rocks. Nisis Megalo, the SE islet and largest of the group, is 58m high and lies 1.3 miles W of Akra Kolona. Nisis Tourleta, the SW islet of the group, is 14m high and lies 0.8 mile W of the S part of Nisis Megalo.

Akra Kourouni, a prominent small promontory, extends from the head of the bay 1.5 miles NW of Akra Kolona. Ifalos Vouvi, a dangerous and shallow rocky shoal, lies 0.7 mile W of the S extremity of this promontory.

Akra Kolona is marked by a light and Ormos Batsi, a small bay, is entered close E of it. A resort village is situated on the E side of this bay and is fronted by a small craft harbor used by vehicle ferries. Small vessels can anchor in the outer part of the bay, sheltered from all but S winds, in depths of 11 to 14m, sand.

Ormos Fournos, a small bay, lies close E of Akra Kourouni and provides good anchorage, in depths of 10 to 17m, sand. Ormos Petros, another small bay, lies WNW of Akra Kourouni and provides good anchorage, in depths of 10 to 15m, sand and weed.

Gavrion, a resort village, stands on the E side of an inlet, which forms a naturally sheltered harbor, at the NW corner of the bay. This village is fronted by a small harbor which has two jetties and a quay. There are depths of 1.7 to 5m alongside and facilities for small craft, yachts, and vehicle ferries. Small vessels can anchor, in depths of 6 to 7m, weed with good holding ground, about 200m W of the head of the N jetty. During strong N winds, heavy gusts frequently descend from the high land.

Ormos Gavriou also affords good anchorage during N winds, in depths of 31 to 37m, between Nisis Megalo and Ormos Fournos.

**14.37 Dhiokplous Kafireos** (Stenon Kafireos) (38°00'N., 24°39'E.) leads between the N side of Nisos Andros and the S side of Nisos Evvoia. This strait has a least width of 6 miles and is clear of dangers in mid-channel.

Dhiokplous Kafireos is open to N winds. Whenever bad weather from the N prevails throughout the whole Aegean Sea,

the wind blows in the channel with great strength; S winds rarely blow and can be considered as favorable. Throughout the winter and summer, from November to March and particularly from May to September, there is the greatest likelihood of N winds. Often during the summer, local N winds blow with great strength in the channel when good weather conditions prevail in the neighboring regions. It is common for a vessel to pass Akra Sounion in the forenoon with a fresh breeze from Saronikos Kolpos and experience this breeze as far N as the N end of Nisos Kea, where the vessel meets a strong breeze blowing through Dhiokplous Kafireos.

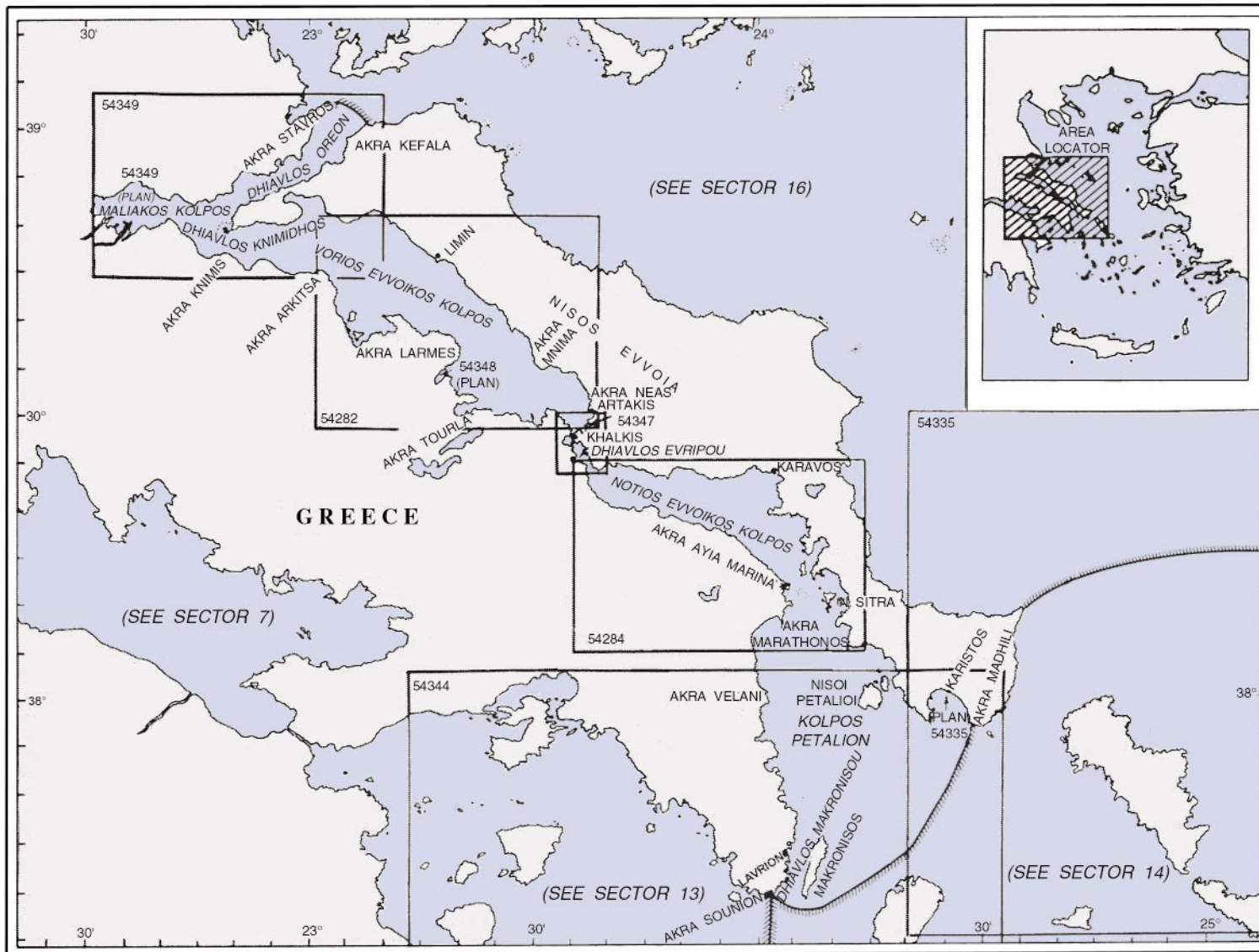
See paragraph 14.1 for further information on navigation hazards in Dhiokplous Kafireos.

**Akra Kafireas** (38°10'N., 24°35'E.), located 13 miles NNE of Akra Mandhili, is a high and prominent headland which forms the NW entrance point of the strait. The coast extending to the SSW of the point is wooded. Nisis Arapis, an islet, lies 0.5 mile NE of the point and a light is shown from its summit.

**14.38 Vrakhoi Kaloyeroi** (38°10'N., 25°18'E.) consists of two detached rocks. Megalos Kaloyeros, the SW and larger rock, is formed by a volcanic heap, 36m high. It is marked by a light and fronted on the SE side by rocks. The sides of this rock are remarkable for several curiously shaped lumps which, from some directions, resemble the heads of hooded monks. The rock has the appearance of a sugarloaf, but when seen from the E or W it appears to be split into two parts. It also has been mistaken for a sail when seen from the W at a distance of 8 or 9 miles.

Mikros Kaloyeros, the NE and smaller rock, is only 2m high and a reef, on which the sea breaks, extends up to about 100m S of it.





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 15 — CHART INFORMATION**



## SECTOR 15

### GREECE—CHANNELS WEST OF NISOS EVVOIA

**Plan.**—This sector describes the inland sea route between the W coast of Nisos Evvoia and the mainland. The general descriptive sequence is from SE to NW.

#### Nisos Evvoia

**15.1 Nisos Evvoia** (38°30'N., 24°00'E.), a large and mostly mountainous island, lies parallel to and a short distance off the E coast of the mainland of Greece. Kandhilion Oros, the highest mountain range, stands along the SW side of the island. Oros Dhirfis, 1,743m high, is the summit of the island. This peak is snow-covered for most of the year and stands near the middle of the island.

From the S, the island is separated from the mainland by Kolpos Petalion, Notios Evvoikos Kolpos, Dhiavlos Evripou, Porthmos Evripou, Vorios Evvoikos Kolpos, and Dhiavlos Oreon. Bridges at Khalkis connect the island to the mainland. Vessels use this inner route to avoid the bad weather in the Aegean Sea, but are limited in size by the restrictions of the narrow channels in the vicinity of Khalkis.

#### Dhiavlos Makronisou

**15.2 Dhiavlos Makronisou** (37°40'N., 24°05'E.) lies at the SW entrance to Kolpos Petalion and leads between the rugged and irregular coast of the mainland, on the W side, and the island of Makronisos, on the E side. The principal dangers in this channel, which has a least width of 1.5 miles, are Ifalos Passa, Ifalos Makri and Ifalos Tripiti. The central fairway is deep and clear.

**Makronisos** (37°42'N., 24°08'E.) is a hilly and rugged island with cliffy coasts. Korifi Tripiti, 281m high, is the summit and stands 1 mile S of Akra Tripiti, the N extremity of the island.

Ifalos Tripiti, a dangerous reef, lies about 0.5 mile NW of Akra Tripiti. It usually breaks even in calm weather and several wrecks are reported to lie in the vicinity.

**Akra Angalistros** (37°39'N., 24°06'E.), a bluff point, forms the S extremity of the island and is marked by a light. A prominent hill, 173m high, stands 2.3 miles N of this point.

Ifalos Makri, with a least depth of 3m, lies about 0.5 mile offshore, 2.2 miles NNW of Akra Angalistros. This reef should be given a wide berth.

**Akra Fonias** (37°41'N., 24°04'E.) is located 3 miles NE of Akra Sounion, which is described in paragraph 13.10. A light is shown from the S side of this prominent cape.

Ifalos Passa, a detached rock, lies about 0.3 mile offshore, 1.3 miles SW of Akra Fonias. This rock is almost awash and is the outermost danger along this stretch of coast.

Ormos Gaidhouromandra is entered between Akra Fonias and Akra Perdhika, 0.8 mile NNW. This small bay affords shelter to small craft in either of two coves which are entered on both sides of a headland in the NW part of the bay. Small craft with local knowledge can anchor, in a depth of 5m, mud, good holding ground.

**15.3 Lavrion** (37°43'N., 24°04'E.), a town, stands along the W and NW sides of a small bay which lies 1.3 miles N of Akra Fonias and forms a natural harbor. Akra Ergastiria, the E end of a small and hilly peninsula, forms the N entrance point of the bay. This point is marked by a light; a reef, with a depth of 5m, lies about 250m SE of it and is marked by a buoy. A huge pile of mineral waste stands on the S entrance point and four large chimneys are situated on the hills rising steeply behind the town.

The town is fronted by several quays and piers which are used by ore carriers, vehicle ferries, fishing vessels, and small craft. The main facilities include Central Quay, 100m long, with a depth of 5.3m alongside, and the Passenger Pier, which is L-shaped and has a berth 130m long, with depths of 5 to 7m alongside. Vessels of up to 10,000 dwt, 140m in length, and 6.1m draft can be handled.

Pilotage is compulsory for vessels loading ore. Pilots, who are officials of the ore company, can be contacted on VHF channel 12 or 16 and board 0.4 mile S of Akra Ergastiria Light.

Anchorage within this small bay is not recommended and vessels should stay clear of the S shore as several hulks front a shipbreaking yard.

**Ormos Thorikou** (37°44'N., 24°04'E.), a small bay, is entered 1 mile N of Akra Ergastiria and provides good sheltered anchorage. The best berth, in a depth of 18m, mud and weed, good holding ground, lies in the middle of the bay. Several factories and buildings, fronted by small craft piers, are situated along the NW shore of the bay.

**15.4 Ormos Ayiou Nikolaou** (37°45'N., 24°04'E.), a small bay, is entered 0.7 mile NE of Ormos Thorikou and is sheltered from N winds. Akra Vrisaki, the N entrance point, is marked by a light.

An ore-loading jetty, 70m long, extends from the NW side of the bay and has a depth of 5m alongside its head. Two mooring buoys lie close off the head of this jetty. A chemical pier extends from the N side of the head of the bay and has a depth of 6m alongside.

A power station, along with several factories, is situated 0.5 mile W of Akra Vrisaki and is fronted by a pier. This pier extends SE for 150m and has a berth, 50m long, at its head, with a depth of 14m alongside.

**Ormos Avlaki** (Ennia) (37°47'N., 24°05'E.), a small bay open to all E winds, lies 2.8 miles N of Akra Vrisaki and provides good anchorage to small craft. Akra Mavrovouni, the NW entrance point of Dhiavlos Makronisou, forms the N entrance point of the bay.

#### Kolpos Petalion—South Part

**15.5 Kolpos Petalion** (37°50'N., 24°15'E.) is entered between Akra Sounion and Akra Mandili, 29 miles NE. This gulf lies between the mainland and the SW side of the SE end of Nisos Evvoia. Its N limit is considered to be in the vicinity of Akra Marathonos, located 29 miles N of Akra Sounion.

**Ormos Raftis** (Ormos Markopoulou) (37°53'N., 24°02'E.), a small bay, lies on the W side of the gulf, 5.6 miles NNW of Akra Mavrovouni. Akra Koroni, the S entrance point of the bay, is the termination of a conspicuous promontory, 131m high. Nisis Koroni, a small islet, lies close off the E side of the promontory and is 41m high. Nisis Raftis, 93m high, lies in the entrance to the bay, 0.3 mile NNE of Akra Koroni. This islet is marked by a light and its summit is surmounted by a large white statue. Nisis Raftopoula, a small islet, lies 0.4 mile WNW of Nisis Raftis and is 16m high. Both of these islets may be passed on either side.

Oros Perati, a bold and prominent hill, rises behind the N entrance point of the bay and is 306m high. Nisis Perati, a small islet, lies about 0.4 mile offshore, 1.3 miles N of the N entrance point. The land to the W of the head of the bay rises to sharp rocky hills.

Akra Pounda is the extremity of a narrow peninsula projecting from the head of the bay. Small towns stand on the shores of the two coves formed by this peninsula and are fronted by small craft harbors. The area is a resort and numerous hotels and villas stand along the shores of the bay.

The bay affords a large area for anchoring, but it is open to the E and the depths are rather considerable in places. The holding ground is not as good as in Ormos Thorikou. The best anchorage berths lie, in a depth of 15m, about 0.5 mile SW or about 0.2 mile NE of Akra Pounda.

**Akra Velani** (37°59'N., 24°02'E.), located 6.8 miles N of Akra Koroni, is a low cape. Two islets, known as Kokkinonisia, lie near the edge of a shallow bank which extends up to 0.4 mile SE from the cape. A prominent church stands on the W islet and a light is shown from the E islet.

Ayios Ioannis, standing 2.8 miles SW of Akra Velani, is the highest of the hills in this vicinity and a conspicuous church surmounts the summit.

**Ormos Rafinas** (38°01'N., 24°01'E.), a small and sandy bight, lies 2 miles NNW of Akra Velani. A small town stands along the shore of the bight and is fronted by a small craft harbor which is protected by a mole and a breakwater. The harbor has depths of up to 6m and is mostly used by pleasure craft and ferries. Numerous villas and hotels extend along the shores to the N and S of the harbor.

**15.6 Akra Mandhili** (37°57'N., 24°31'E.) is the SE entrance point of Kolpos Petalion. Nisis Mandhili, 87m high, lies 0.5 mile SSE of this point. A light is shown from a conspicuous structure, 8m high, standing near the SE end of this islet. The passage leading between the islet and the coast is deep.

**Ormos Karistou** (37°59'N., 24°26'E.), a large bay, lies at the NE entrance to Kolpos Petalion and affords refuge for those vessels unable to navigate Dhiokplous Kafireos during strong NE winds. It is entered between Akra Bouri, located 2 miles WNW of Akra Mandhili, and Nisis Paximadhi, 4 miles W. Nisis Paximadhi, 13m high, is a small islet which lies close S of Akra Paximadhi and is marked by a light.

The town of Karistos stands at the head of the bay and is fronted by a small quayed harbor which is formed by two breakwaters. The harbor has depths of 2.6 to 5m and is used by small craft and local ferries. A prominent chapel stands on a small islet at the W side of the bay and a conspicuous white church stands in the center of the town.

Vessels can anchor in the bay, but should be prepared for violent squalls which blow down from the high land during N winds. The usual anchorage, in depths of 18 to 30m, sand, lies about 0.6 mile S of the main breakwater. However, this roadstead is not good because the holding ground is poor and it is exposed to all S winds.

**15.7 Nisoi Petalioi** (38°00'N., 24°15'E.), lying close off the SW side of Nisos Evvoia, consists of a group of islands and islets. The currents, which are greatly influenced by the prevailing winds, run strongly between the islands and islets in this group.

Nisis Megalo Petali is the SW and largest island of the group. This island is 371m high and lies with its SE end located 5.2 miles WNW of Nisis Paximadhi.

Stenon Xero, a narrow passage, leads between the two larger islands of Nisoi Petalioi and the coast of Nisos Evvoia. At the N end of this strait, shoals extend from the shores and reduce the width of the fairway, which has a least depth of 11m. Vessels approaching this strait from the S should avoid two shoals which lie up to 1.2 miles offshore, 3.5 miles NW of Nisis Paximadhi.

**Marmari** (38°03'N., 24°19'E.), a village, is situated at the E side of a small bay. It is fronted by a small craft harbor which is protected by a mole and used by yachts, local ferries, and fishing boats. The coast in this vicinity is low and the buildings of the village are prominent. Vessels can anchor, in depths of 22 to 31m, mud, close off the village.

**Akra Vigla** (38°05'N., 24°12'E.) is located 10.7 miles NW of Nisis Paximadhi. Nisis Elafi, a small islet, lies 0.4 mile SSE of the point and is 53m high.

Nisis Akio, 22m high, lies on a bank 2.1 miles W of Akra Vigla. This islet may be passed on either side.

Nisis Dhipsa, a low islet, lies 4.5 miles WNW of Akra Vigla and is marked by a light. This islet may also be passed on either side.

### Kolpos Petalion—North Part

**15.8 Akra Marathonos** (38°07'N., 24°03'E.), the S extremity of a narrow promontory, 79m high, forms the SW entrance point of the N part of the gulf. Akra Strongilo, located 5.7 miles E of this point, forms the SE entrance point. Oros Pirgadi, a prominent hill, stands 2 miles ENE of Akra Strongilo and is 451m high. Trokhalos, a small craft harbor, lies 3.2 miles NE of Akra Strongilo and is protected by two breakwaters.

Several islets and rocks lie in this part of the gulf and considerably reduce the navigable width of the passage.

**Akra Ayia Marina** (38°12'N., 24°05'E.), located 4.7 miles NNE of Akra Marathonos, is a bluff headland, 217m high, marked by a light.

Nisidhes Verdhouyi (Berdugi Islets), a group of four islets, lies centered 1.6 miles ESE of Akra Ayia Marina. The NW and SE islets of this group are marked by lights. The channel leading W of the group has a least depth of 11m; the channel leading E of it is deep and clear.

Nisis Petousi, located 2 miles NNW of Akra Strongilo, is the SW islet of Stouronisia, a group of islets and rocks, which lie on the E side of the main channel. Nisis Fonias, located 3.5

miles ESE of Akra Ayia Marina, is the NW islet of this group. A shoal, with a least depth of 3.7m, lies about 0.8 mile NW of Nisis Fonias.

Ormos Ayias Marinas, entered close S of Akra Ayia Marina, affords good anchorage for small vessels in its NW and SW corners. However, this bay is subject to occasional violent squalls during N winds.

**Caution.**—A prohibited area, the limits of which may best be seen on the chart, fronts the N shore of Ormos Ayias Marinas. This area lies at the S side of a naval establishment and entry is with permission only.

## Notios Evvoikos Kolpos

**15.9 Notios Evvoikos Kolpos** (38°20'N., 23°55'E.), 25 miles long, lies between the N end of Kolpos Petalion and the S entrance of Porthmos Evripou. From the S, this channel is entered between Akra Ayia Marina and the SW end of Nisis Kavaliani, 1.3 miles NE.

Nisis Kavaliani, a large islet, is 173m high and fringed by a shallow bank. A conspicuous ruin surmounts the summit of a hill standing at the SW end of this islet.

To avoid the shoals in the vicinity of Nea Psara, vessels should keep to the S side of the channel.

**Ormos Aliveriou** (38°23'N., 24°02'E.) indents the N side of the channel. This large bay is entered N of Akra Aliveri, which is marked by a beacon. The village of Karavos stands at the N side of the head and is fronted by a small quayed harbor protected by a breakwater. The town of Aliverion is situated 1 mile N of this village. Small vessels, with drafts of up to 4m, can berth at the main quay. The bay affords anchorage, in depths of 27 or 29m, close inshore with good holding ground.

Milaki Cement Factory is situated at the SE corner of the bay and is fronted by a jetty, 350m long, which projects W from the shore. A berth on the N side of the jetty has depths of 14.9 to 18m alongside; a berth at the S side of the jetty has depths of 13 to 23m alongside. Vessels of up to 153,200 dwt and 274m in length have been handled.

The Aliverion Power Station, with two prominent chimneys, is situated at the E side of the head of the bay. This station is fronted by a berth which consists of two mooring buoys and is protected from the S by a breakwater, with a depth of 9m along its N side. The berth is connected to the shore by a submarine pipeline. Vessels of up to 122,000 dwt and 261m in length can be handled.

**15.10 Ormos Oropou** (38°20'N., 23°48'E.), a small bay, lies on the S side of the gulf and is exposed to N winds. It is entered between Akra Oropos and a point, which is marked by a light, 2 miles ESE. A village is situated at the head of the bay and is fronted by two piers which are used by ferries. Vessels can anchor, in depths of 15 to 25m, sand, within the bay, leaving the fairway clear. Four conspicuous radio masts, 91m high, stand 1.3 miles WSW of Akra Oropos.

**Eretria** (Nea Psara) (38°23'N., 23°48'E.), a small resort town, stands on the N shore of the gulf. It is fronted by a small craft harbor which is used by ferries. Small vessels, with local knowledge, can anchor, in a depth of 15m, off the harbor. The

harbor is protected from the W by a mole and from the E by an islet connected to the coast by a causeway. The prominent ruins of an acropolis stand on the summit of a hill, 130m high, close N of the town. The harbor should be approached from the SSW as numerous small islets and below-water dangers lie adjacent to the entrance channel and extend up to about 1.4 miles SE and SW of the harbor.

**Ormos Levkandi** (38°25'N., 23°40'E.), a small bay, lies in the NW corner of the gulf. A pier, which serves a brickworks, projects from the NW side of the head. It has a berth, 60m long, with a depth of 7m alongside. Vessels can anchor, in a depth of 15m, about 100m SE of the head of the pier. Pilotage in the bay is compulsory as it lies within the Khalkis pilotage area.

## Dhiavlos Evripou

**15.11 Dhiavlos Evripou** (38°26'N., 23°36'E.) is the narrow passage at the NW end of Notios Evvoikos Kolpos which leads to Porthmos Evripou via Stenon Avlidhos, Dhiavlos Steno, and Notios Limin.

**Tides—Currents.**—The tidal currents in Stenon Avlidhos occasionally attain a rate of 2 knots, but are usually much weaker. The tidal currents in Dhiavlos Steno turn at about the same time as those in Porthmos Evripou. They usually have a rate of less than 1 knot, but sometimes rates of 3 knots have been observed.

**Pilotage.**—Pilotage in the passage area is compulsory for all foreign vessels and for Greek vessels over 1,000 grt. Vessels should send an ETA at least 8 hours in advance. Pilots can be contacted on VHF channel 12 and board vessels proceeding N about 1.2 miles SSE of the S entrance to Stenon Avlidhos. Pilots board vessels proceeding S about 0.7 mile NW of Akra Kakokefali.

The pilotage area extends from about 2.5 miles SE of Akra Avlis to 0.8 mile NW of Akra Kakokefali.

**15.12 Stenon Avlidhos** (38°26'N., 23°37'E.), the S part of Dhiavlos Evripou, is entered between Akra Avlis and Akra Bourtzi, 0.3 mile ESE. The navigable fairway, which is marked by lighted buoys, is constricted to a width of about 400m by shallow banks on each side of the channel. The N part of this passage is known as Khalkis Outer Harbor.

**Akra Avlis** (38°25'N., 23°38'E.), a very low point, is marked by a light shown from a prominent structure. Akra Bourtzi is formed by a sandy spit. A conspicuous ruined castle stands close within the point. It is easy to identify and appears as a low hill from a distance. When passing this point, the discolored water over the spit usually contrasts with the greenish color of the deep water in the fairway and serves as a good guide.

Ifalos Passandassi, a steep-to rock, lies on the NE side of the fairway, 1.7 miles NW of Akra Bourtzi. It is marked by a light and the prominent light structure is visible over the low land from the SE approach to Stenon Avlidhos.

**Ormos Megalo Vathi** (38°25'N., 23°36'E.), an inlet, indents the W side of the passage, 1.5 miles WNW of Akra Avlis. The Khalkis Shipyard and a chemical factory are situated along the shores of this inlet. Depths are generally less than 5m except in



the marked channel which has depths of 5.4 to 6m and leads to the head.

The Khalkis Shipyard, with two floating docks, extends along the N side of the inlet to the head. It is fronted, near the N entrance point of the inlet, by a jetty with depths of 8.5 to 10.7m alongside. A quay, 125m long, is situated at the head and has a depth of 5.9m alongside.

A chemical factory stands close SE of the head of the inlet and is fronted by a T-shaped pier which has a berthing face, 20m long, with a depth of 3m alongside.

**Akra Peram** (38°27'N., 23°36'E.), marked by a light, is located at the NW end of the passage 1.2 miles NW of Ifalos Passandassi. Several tanks and chimneys are situated in the vicinity of this point. A wharf, 350m long, lies 0.3 mile S of this point and has depths of 5.1 to 6.2m alongside. It serves a conspicuous cement factory which stands close W.

**Caution.**—Due to the existence of submarine cables, anchoring and fishing are prohibited in an area, which may best be seen on the chart, extending across the passage in the vicinity of Akra Avlis.

A submarine pipeline, which may best be seen on the chart, extends NE across the passage in the vicinity of Akra Peram.

**15.13 Dhiavlos Steno** (38°27'N., 23°35'E.), a narrow channel, leads NW into Notios Limin. It is entered between Akra Peram and Nisis Passashas, an islet, 0.3 mile NE. The channel has a least width of 160m, but the navigable fairway, which is marked by lighted buoys, is constricted by shallow banks on each side and is only about 60m wide.

**Depths—Limitations.**—Vessels are restricted to 180m in length and a maximum draft of 6.1m. It is inadvisable for vessels with drafts over 5.5m to transit the channel at night.

The channel is spanned by a bridge with a vertical clearance of 36m. In addition, an overhead power cable, with a vertical clearance of 37m, crosses the channel.

**Caution.**—Due to the existence of submarine cables, anchoring and fishing are prohibited within Dhiavlos Steno.

**15.14 Notios Limin** (38°27'N., 23°35'E.) is an almost circular basin which is entered from the S through Dhiavlos Steno and from the N through Porthmos Evripou. The main tidal currents flow along the E side of this basin and at the W side they are hardly perceptible.

Fort Evripou, in ruins, is situated on a hill, 68m high, at the W side of the N entrance to the basin. A conspicuous spire stands at the SE end of the fort and a white church stands near the center. Numerous small craft usually lie at anchor to the S of this fort.

Several beacons are situated at the W side of this basin and serve as a range for the fairway within Dhiavlos Steno. Vessels can anchor, in depths of 7 to 9m, mud, at the W side of the basin, clear of the fairway.

Ormos Vourkari, a shallow inlet, lies at the E side of the basin 0.4 mile S of the N entrance. A pier extends 440m S from the N entrance point of this inlet and has depths of 4.6 to 8.4m alongside. Vessels of up to 25,000 dwt and 6.4m draft can be accommodated. A quay, 300m long, extends N from the root of the pier along the NE side of the basin and has depths of 0.4 to 6m alongside.

## Porthmos Evripou

**15.15 Porthmos Evripou** (38°28'N., 23°35'E.), the narrowest part of the inland route, connects the NE corner of Notios Limin to the SE end of Vorios Evvoikos Kolpos. Kanithos stands on the W side of the strait and a conspicuous belfry stands at its SE end. The large and prominent town of Khalkis (Chalkis) stands at the E side. The Khalkis Bridge, a sliding bridge, spans the S end of the strait as is described in paragraph 15.16. Shallow quays and a small craft pier line the sides of the strait close above this bridge.

**Tides—Currents.**—The tides in Porthmos Evripou rise about 0.8m at springs and 0.5m at neaps, but the tidal ranges in Notios Limin are small. High water occurs in Porthmos Evripou about 1 hour and 12 minutes later than in Notios Limin. Because of these differences, strong tidal currents are caused in the strait and rates of up to 7 knots have been experienced at springs.

The level of the water in the strait is affected by small seiches which occur independently at the S end of Vorios Evvoikos Kolpos and at the N end of Notios Limin. These seiches are of no importance up to 4 days before and after springs, but at other times they may cause frequent and irregular changes of direction in the currents when the rates are less than 1 knot.

**Depths—Limitations.**—The channel has a least width of 39m at its S end, where it is spanned by the Khalkis Bridge. Vessels of up to 110m in length and 5.5m draft are permitted to pass through Porthmos Evripou.

Because the currents in the strait may attain rates of up to 7 knots, vessels are advised to transit only at slack water or with a favorable flow.

**Caution.**—Slack water may only last for about 10 minutes. Abnormal conditions may cause slack water to occur up to 15 minutes earlier or later than predicted.

Due to the existence of submarine cables and pipelines, anchoring is prohibited within Porthmos Evripou.

**15.16 The Khalkis Bridge** (38°28'N., 23°35'E.), a sliding bascule bridge, spans the S end of Porthmos Evripou and consists of two parts. When the bridge is opened, these parts are drawn into tunnels on either side.

The bridge is opened on request between 2200 and 0500. In special circumstances, such as for the passage of naval and government vessels, it may be opened between 1000 and 1700. On the 5th and 20th day of each month, the bridge remains closed all day for maintenance. Vessels can communicate with the bridge control office by VHF. In most weather conditions, vessels with proper care may pass through the bridge without difficulty.

The bridge is usually opened when two or more vessels are waiting to transit the strait, the current being favorable or at slack water. In exceptional circumstances, the bridge may be opened during the day for a single large vessel or for a single small vessel carrying perishable cargo.

If the bridge is already open for power vessels, sailing vessels with auxiliary engines are permitted to follow through at night under power, if the current is suitable.

In the event of bad weather or a strong wind, the bridge may not be opened, even with a favorable current, if the authorities consider that safe passage cannot be guaranteed.

**Signals.**—Vessels requiring the bridge to be opened, either by day or at night, should sound five blasts on the whistle having a total duration of 20 seconds. This signal will be answered by the appropriate signal. Once the answering signal has been made, the whistle signal must not be repeated.

The position of the two parts of the bridge (open or closed) is immediately apparent by day, but at night, a red light is shown from the middle of the bridge when it is closed. This light remains visible while the bridge is being opened and is only extinguished when the bridge is completely open. Two green lights are then shown on the W abutment of the bridge and two red lights are shown on the E abutment. These green and red lights help vessels to stay in the fairway and are much lower than the traffic signal lights.

The movements of the bridge are indicated by day by shapes and at night by lights displayed vertically from a mast standing at the signal station on the W end of the bridge. The movement signals are given in the accompanying table.

### Vorios Evvoikos Kolpos

**15.17 Vorios Evvoikos Kolpos** (38°45'N., 23°15'E.), 42 miles long, lies between the N entrance of Porthmos Evripou and the SE entrance of Maliakos Kolpos. Both sides of this gulf are generally steep-to and clear of dangers. Violent gusts of wind sometimes descend from the Kandhilion Oros range, which stands along the E side of the gulf, during NE and N winds. Heavy squalls may also be expected to blow down from the high land at the SW side of the gulf.

**Akra Kakokefali** (38°29'N., 23°36'E.), a prominent rocky promontory, is located at the SE end of the gulf, 1.1 miles NE of the Khalkis Bridge. A light is shown from a prominent structure, 12m high, standing on this point. Vessels waiting to transit Porthmos Evripou may anchor off this point.

Akra Mnima is located on the E side of the gulf, 7 miles NNW of Akra Kakokefali. A light is shown from a structure standing 200m offshore, 0.2 mile ESE of this point. Vessels transiting the gulf should pass nearer to Akra Mnima than to Akra Gaidharos which is located on the SW side of the gulf, 4 miles S. Akra Gaidharos, a low and sandy point, is fronted by a

shoal bank and dangerous wrecks are reported to lie about 1 mile N and 2.3 miles NE of it.

Ktiponision (Nisos Gaidharos), rocky and dark in color, lies 2 miles SW of Akra Gaidharos. This islet stands out well against the background of sandy hills.

**15.18 Psakhna Terminal** (38°34'N., 23°36'E.) is situated 3.5 miles ESE of Akra Mnima and fronts a prominent soya factory. It consists of a berthing platform, with several mooring buoys, which is connected to the shore by a catwalk. Several conspicuous silos stand at the root of this catwalk. The face of the platform is 10m long; the berths have a depth of 10.6m alongside.

Pilotage is compulsory and is provided from Khalkis.

Anchorage can be obtained, in a depth of 24m, good holding ground, about 1.5 miles SW of the terminal. A detached shoal, with a depth of 10m, lies about 0.6 mile SSW of the terminal.

**Ormos Skroponeriou** (38°30'N., 23°21'E.), a bay surrounded by high land, lies on the SW side of the gulf, 7.5 miles W of Akra Gaidharos. Nisis Gatza, a steep-to islet, lies 0.5 mile ESE of the N entrance point and may be passed on either side. This bay affords sheltered anchorage, in depths of 9 to 37m. The best berth is in the SW part of the bay, close W of a small peninsula that extends N from the S shore.

**Ormos Larmes** (38°34'N., 23°17'E.) is entered 4.6 miles NW of Ormos Skroponeriou and affords anchorage for small vessels. The small town of Larimna stands on the N side of the head of this bay. An islet, 6m high, lies close off the N shore of the bay and is surmounted by a prominent chapel. Vessels may anchor, in depths of 27 to 37m, between the islet and the S entrance point of the bay. An ore smelting works, with a prominent chimney, is situated on the S side of the bay and is fronted by a quay and several mooring buoys.

**15.19 Ormos Limnis** (38°46'N., 23°19'E.), a small and exposed bay, lies at the E side of the gulf. Steep hills rise behind the town of Limni which stands at the head. A factory, with a conspicuous chimney, stands 2 miles SE of the town. Vessels anchor close off this factory and secure their sterns to the shore.

The Khalkis Bridge—Signals		
Day signal	Night signal	Meaning
Three black balls	A green light over a white light over a red light	The bridge is closed and transit is prohibited.
A cone point down under two cones with points together	A white light between two green lights	The bridge is open for vessels proceeding S with slack water or with the current; passage N is prohibited.
A cone point up between two black balls	A white light between two red lights	The bridge is open for vessels proceeding N with slack water or with the current; passage S is prohibited.
A cone point down under two cones with points together and a red ball beside the hoist	A white light between two green lights and a red light beside the hoist	The bridge is open for naval vessels proceeding S against the current; passage N is prohibited.
A cone point up between two black balls and a red ball beside the hoist	A white light between two red lights and a red light beside the hoist	The bridge is open for naval vessels proceeding N against the current; passage S is prohibited.

**Kolpos Atalandis** (38°40'N., 23°08'E.), a large bay, lies on the W side of the gulf and is entered between Akra Kerata and Akra Livanates, 5 miles WNW. Nisis Atalanti, a large islet, lies close off the W shore of the bay and is 125m high. A light is shown from a rock lying close off the NW side of this islet. Nisis Gaidharos lies in the SW part of the bay and is connected to the shore by a causeway. Former ore loading piers project from the SE side of Nisis Gaidharos and from the SE side of the bay.

Good anchorage may be obtained, in depths of 11 to 18m, firm sand, between Nisis Atalandi and the coast to the W. Although open to the N, this roadstead is sheltered from the furious gusts of wind which blow down from the high land of Nisos Evvoia.

Akra Arkitsa, a low and sandy point, is located 3 miles NNW of Akra Livanates. A light is shown from a prominent structure, 15m high, standing on this point.

**Kolpos Aidhypsou** (38°52'N., 23°01'E.) lies on the N side of the gulf. The village of Loutra Aidhypsou is situated close within the E entrance point of this bay and is fronted by a small craft harbor used by ferries. Vessels with local knowledge can obtain sheltered anchorage, in a depth of 35m, in the NW part of the head of this bay.

### Dhiavlos Knimidhos

**15.20 Dhiavlos Knimidhos** (38°48'N., 22°49'E.) is the main channel leading from the NW entrance of Vorios Evvoikos Kolpos into Maliakos Kolpos.

**Akra Lithadha** (Kinaion) (38°49'N., 22°50'E.) is the W extremity of Nisos Evvoia and a conspicuous shrine stands on this point. Nisoi Likhadhes, a group of low islets and rocks, lies SW of the point. Nisis Strongili, the S islet of the group, is low and lies 1.1 miles SSW of Akra Lithadha. A prominent shrine stands near the N extremity of this islet; a light is shown from the summit. Research Rock, with a least depth of 8m, lies about 0.7 mile ESE of the light.

Akra Knimis, a low and salient point, is located 1 mile S of Nisis Strongili and is marked by a light. A conspicuous hotel is situated in the village of Kamma Vourla 2 miles WSW of the light.

The main passage leads between Akra Knimis and Nisis Strongili and is, with the exception of Research Rock, deep and clear.

Dhiavlos Strongilis, leading N of Nisis Strongili, has a least depth of 12m in mid-channel. However, the fairway is very narrow and this passage is not recommended, especially at night.

Poros Likhadhon, leading between Nisoi Likhadhes and Akra Lithadha, is narrow and has a least depth of 8.5m in the fairway. This passage is only suitable for small vessels with local knowledge. The tidal currents flow through this passage at rates of up to 2 knots.

Under normal conditions, the tidal currents in the channels between Vorios Evvoikos Kolpos and Maliakos Kolpos turn at about the same time as those in Porthmos Evripou. They attain rates of up to 1.5 knots, but are greatly affected by the prevailing winds.

### Maliakos Kolpos

**15.21 Maliakos Kolpos** (38°52'N., 22°38'E.) indents the mainland of Greece, but its limits are not clearly defined. According to the broadest acceptance, the SE limit of the gulf lies in the vicinity of Akra Knimis and its NE limit lies in the vicinity of Akra Dhrepanon, a low and sandy point, which is located 5.5 miles NNW of Akra Knimis and marked by a light.

The gulf proper is considered to be the inner part which is entered between Akra Khiliomili and Akra Karavofanaro, 1.6 miles N. Akra Khiliomili, a low point, is located 7 miles NW of Akra Knimis. It is fronted by a shoal and marked by a light shown from a prominent tower, 8m high. The S part of the gulf is shallow and should not be approached without local knowledge. Vessels may anchor as convenient in the W part of the gulf, in depths of 18 to 27m. Ormos Akhinou, lying close E of Akra Karavofanaro, affords good anchorage to vessels with local knowledge.

**15.22 Stilis** (38°55'N., 22°37'E.) (World Port Index No. 42440), a village, is situated at the head of Ormos Stilidhos, a large shallow bight, lying on the N side of the gulf. It is fronted by a small harbor and serves the town of Lamia which stands 8 miles W.

The harbor is entered via a channel, 45m wide, which leads NW through the obstructions and is dredged to a depth of 5.5m. There are two quays, 210m and 100m long, with depths of 6m alongside. Small vessels of up to 5m draft can be accommodated. An ore terminal, consisting of a T-shaped pier with several dolphins and mooring buoys, lies at the W side of the bight, 2.1 miles SW of Stilis. The head of the pier is 80m long and has a depth of 9.4m alongside.

Pilotage is compulsory; the harbor can be contacted on VHF channel 7 or 12. The pilot boards in the anchorage area.

**Caution.**—A submarine pipeline, which may best be seen on the chart, extends NE across the gulf from Akra Khiliomili and anchoring is prohibited in its vicinity.

### Dhiavlos Oreon

**15.23 Dhiavlos Oreon** (38°56'N., 23°00'E.), with a least width of 1.5 miles, separates the NW coast of Nisos Evvoia from the mainland of Greece and connects Maliakos Kolpos and Vorios Evvoikos Kolpos with Dhiavlos Trikkeri and the Aegean Sea. It is entered between Akra Dhrepanon and the W end of Nisos Evvoia. The shores on both sides of this passage consist of a low coastal strip backed by mountainous and wooded land. The tidal currents in the channel attain rates of up to 1.5 knots at springs.

**Akra Vasilina** (38°52'N., 22°51'E.), located 2.9 miles NNE of the W extremity of Nisos Evvoia, is a low and sandy point which is marked by a light shown from a prominent structure.

Achladi, a small town, is situated on the N side of the passage 2 miles NW of Akra Vasilina. It is reported (1994) to be fronted by a quay, 200m long, with a depth of 18.3m alongside. A prominent silo stands near the root of this quay.

Ormos Gardhikiou is entered 2.7 miles NNE of Akra Vasilina and provides good anchorage, in depths of 26 to 33m, about 0.5 mile from the head.

**Akra Ayios Sostis** (38°59'N., 22°57'E.) is located on the N side of the channel, 7.8 miles NE of Akra Vasilina. This salient point has prominent white cliffs on its E side and is marked by a light. Ormos Glifas lies close W of the point and provides anchorage, in a depth of 26m, near the head. Nisis Ayios Nikolaos lies about 0.2 mile offshore, 2.3 miles ESE of Akra Ayios Sostis. This low islet is covered with shrubs and surmounted by a chapel.

Ormos Oreon is entered E of Akra Nisiotissa, which is located 2.8 miles E of Akra Ayios Sostis, and provides anchorage, in depths of 29 to 31m, sand. The small town of Oreoi is situated at the head of this bay and is fronted by a small craft harbor used by fishing boats. Two small islets lie on a rocky bank at the S side of the bay, 0.3 mile E of Akra Nisiotissa.

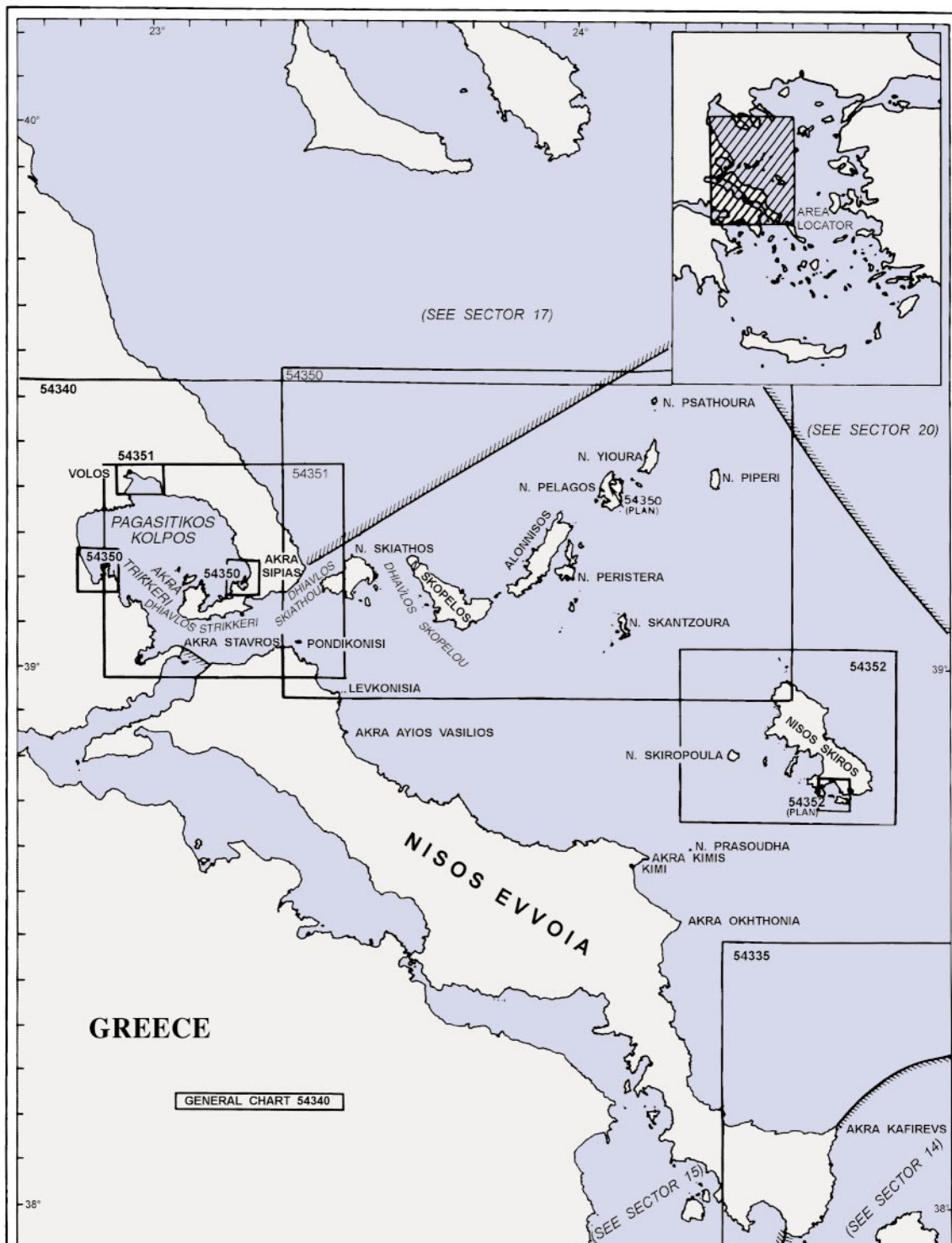
**15.24 Ifalos Oreon** (38°57'N., 23°03'E.) lies on the S side of the passage, 0.6 mile N of Akra Nisiotissa. This rocky and dangerous reef is marked by a lighted beacon.

**Akra Stavros** (39°02'N., 23°04'E.), the termination of a high promontory, is located on the NE side of the passage at the junction of Dhiavlos Oreon and Dhiavlos Trikkeri. Nisis Aryionisos, 66m high, lies on the N side of the passage, 1.9 miles S of Akra Stavros. This large islet is marked by a light at its E extremity and is fronted by several small islets and rocks on its N and S sides. Vessels are advised to pass at least 0.5 mile S of this danger.

Akra Kefala is located 3.4 miles SE of Akra Stavros and forms the SE entrance point of the passage.

**Caution.**—A submarine cable, which may best be seen on the chart, extends SE across the passage from Akra Ayios Sostis and anchoring and fishing are prohibited in its vicinity.





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).  
**SECTOR 16 — CHART INFORMATION**



## SECTOR 16

### GREECE—NISOI VORIOI SPORADHES AND PAGASITIKOS KOLPOS

**Plan.**—This sector describes the NE coast of Nisos Evvoia, from SE to NW, then Nisos Skiros and the remaining islands of the Nisoi Vorioi Sporadhes, from W to E, and finally Pagasitikos Kolpos and the port of Volos.

#### General Remarks

**16.1 Nisoi Vorioi Sporadhes** (39°10'N., 24°00'E.), also known as the Northern Sporadhes, is a group of islands and islets lying N of Nisos Evvoia. This group includes the principal islands of Nisos Skiros, Nisos Skiathos, Nisos Skopelos, and Alonnisos. The group lies within a marine sanctuary.

**Tides—Currents.**—Vessels navigating along the NE coast of Nisos Evvoia should pay close attention to the probability of being set towards the coast by the current, especially during NE winds.

In Dhiavlos Skiathou, the currents are variable and influenced by the wind, but generally set N at rates of 1 to 2 knots. Near the S entrance to the strait, a current setting ESE at a rate of 2 knots has been observed during calm weather in January.

#### Nisos Evvoia—East Coast

**16.2 Akra Kafireas** (38°10'N., 24°35'E.), a high and prominent headland, forms the SE extremity of Nisos Evvoia. Nisis Arapis, an islet, lies 0.5 mile NE of this point and a light is shown from its summit.

In the bight between Akra Kafireas and Akra Okhthonia, the almost unbroken line of precipitous coast is exposed to the full force of the NE winds, which, when strong, send in a heavy sea and accelerate the general SW current.

Between Akra Okhthonia and the middle of the above bight a current flowing SSW at a velocity of 1.2 knots has been experienced. Toward Akra Kafireas this current increases to 2 knots, where it then divides into a S and an E branch, at times sweeping around Akra Kafireas at a velocity of 3 knots.

Between a position 15 miles E of Nisos Skiros and Akra Kafireas, no current was observed during light SSW winds in September; in October the current there set SSW at a velocity of 0.7 knot with a fresh breeze from the N. Between 15 miles E of Nisos Skiros and NE of Nisos Andros the current set SE at a velocity of 0.7 knot with a gentle NNW breeze in November. In October between Nisos Skiros and Akra Kafireas, the current was observed to set SE at a velocity of 1 knot with a fresh NNW breeze.

**Akra Okhthonia** (38°32'N., 24°14'E.), a large and conspicuous headland, forms the E termination of Oros Oktonia, 761m high, which stands 2.5 miles inland. It is fronted by two islets and several rocks lying on a shoal bank which extends up to about 0.8 mile seaward.

**Caution.**—A dangerous wreck lies 1 mile offshore, about 3.3 miles NW of Akra Oktonia.

**16.3** The coast between Akra Kafireas and Akra Oktonia consists of an almost unbroken line of precipitous rocks.

Ormos Petrion, entered 7.6 miles SSW of Akra Oktonia, affords anchorage to small vessels and is sheltered from NE winds. Nisis Gamila, a small islet, lies close off the SW shore of this bay and is fringed by shoals. A breakwater, 200m long, extends W from the E shore of the bay. Anchorage may be obtained as convenient about 0.2 mile offshore, in depths of 18 to 20m, sand. A dangerous wreck lies close NW of the head of the breakwater.

**Ormos Kimis** (38°37'N., 24°09'E.) is entered between Akra Oktonia and Akra Kimis, 8 miles NNW. The settlement of Paralia Kimi is situated on the NW side of this bay and is fronted by a small quayed harbor protected by breakwaters. The town of Kimi stands 1 mile NW of the harbor. The quays have depths of up to 4.5m alongside and are used by small craft and ferries. Large vessels can obtain temporary anchorage, in depths of 18 to 22m, about 0.4 mile E of the harbor entrance.

**16.4 Nisis Prasoudha** (38°40'N., 24°15'E.), a steep-to islet, lies 4.5 miles E of Akra Kimis and rises gradually from high cliffs toward its center. A light is shown from a prominent structure, 18m high, standing on its summit.

Northwest of Nisis Prasoudha, an E current, with a velocity of 1 knot, was observed in September during strong N winds. About 15 miles ESE of the islet, a SE current, with a velocity of 1.5 knots, was observed during a gentle NW breeze.

Nisis Lithari (Nisis Glaros), 24m high, lies on a detached bank 3.5 miles SSW of Nisis Prasoudha. This islet is prominent but unmarked and vessels navigating along the coast are advised to pass E of it and E of Nisis Prasoudha.

Nisis Platia and Nisis Koili, two islets, both lie about 0.2 mile offshore, 0.5 mile NNW and 1.5 miles NW, respectively, of Akra Kimis.

**Kymassi** (38°49'N., 23°31'E.), an ore terminal, lies in the SE part of Ormos Mandoudhi which is entered between Akra Yero and a point, 1 mile SE. A village is situated 2 miles W of the head of this bay. The terminal consists of a Y-shaped pier, with a depth of 10.7m alongside, and two mooring buoys. Vessels of up to 23,000 dwt, 180m in length, and 8m draft can be accommodated. It is reported that an offshore anchor berth, with several mooring buoys, lies in a depth of 30m within the bay; vessels load from lighters.

Pilotage is compulsory. Local pilots are available, can be contacted on VHF channel 12, and board about 0.5 mile from the terminal. Vessels should send an ETA at least 24 hours in advance. Vessels may anchor within the bay, in depths of 27 to 33m, about 0.7 mile SE of Akra Yero. However, vessels are advised to remain underway if entry is delayed due to the considerable depths and poor holding ground in the outer approaches. During N and SE winds, a swell sets into the bay and the berth becomes untenable.



**16.5 Akra Ayios Vasilios** (38°53'N., 23°27'E.), a steep-to cape, is connected to the mainland by a low, sandy, and narrow neck. From a distance, it has the appearance of a rocky islet. A white hut stands 0.2 mile W of the extremity of the cape. Anchorage can be obtained, in a depth of 22m, about 0.5 mile SW of the E extremity of Akra Ayios Vasilios and about 0.4 mile offshore.

Levkonisia, located 4.5 miles N of Akra Ayios Vasilios, consists of a group of islets and rocks lying on a bank which extends up to 1.5 miles E of the coast. The NE islet is 21m high and is marked by a light. A narrow passage leads between this group of dangers and the coast. It has a least depth of 14.6m, but should only be used by small craft with local knowledge.

Mirmingonisia, consisting of a group of rocks of which one is above water, lies about 0.8 mile offshore, 4.3 miles NW of Levkonisia. The passage leading between this group and the coast is deep and clear.

**Akra Artermision** (39°02'N., 23°19'E.), located 4 miles NW of Mirmingonisia, is the NE extremity of Nisos Evvoia. Pondikonisi, 72m high, lies 1 mile NE of the point. A light is shown from a prominent structure, 17m high, standing on the N side of this islet. A small islet lies on a bank 0.5 mile SE of the E extremity of Pondikonisi.

## Nisoi Vorioi Sporadhes

**16.6 Nisos Skiros** (38°53'N., 24°30'E.), the SE and largest island of Nisoi Vorioi Sporadhes, is mountainous, with a low valley extending across the middle. Oros Kokhilas, 792m high, is the summit and stands in the S part of the island. The high mountains in the SE part are intercepted by deep gullies and are rugged except near their peaks, which are covered with trees. The NW part of the island, although mountainous, is wooded and cultivated. The shores of the island are fronted by small islets, rocks, and shoals in many places.

**Nisos Skiropoula** (38°50'N., 24°21'E.), 188m high, is the W and outer islet of several dangers lying off the W side of Nisos Skiros.

**Ormos Tris Boukes** (38°46'N., 24°35'E.) indents the S side of Nisos Skiros and is entered between Akra Marmara, which is marked by a light, and a point, 2.4 miles E. Three channels lead through the entrance of this large bay which is fronted by Nisis Plati, 40m high, and Nisis Sarakina, 131m high. Dhiavlos Marmara, the W channel, is the best and leads between Akra Marmara and the W side of Nisis Plati. Dhiavlos Plati leads between the E side of Nisis Plati and the W side of Nisis Sarakina. Vessels using this channel should keep to the E side as shoals extend from the E and SE side of Nisis Plati. Dhiavlos Sarakina leads N of Nisis Sarakina which is marked by a light at its NE end.

The bay affords excellent shelter, but heavy squalls are experienced during gales when the wind blows down from the mountains. The best anchorage berth, during a N gale, is in a depth of 29m, about 1 mile NNE of the SE extremity of Nisis Plati.

**16.7 Ormos Kalamitsas** (38°49'N., 24°32'E.), a large bay, indents the SW side of Nisos Skiros. It is entered between Akra Apoklistria, located 2.8 miles NW of Akra Marmara and Akra Valaxa (Akra Latomio), 1.8 miles W. Akra Valaxa, marked by

a light, is the S extremity of Nisis Valaxa, an islet, which lies off the W side of Nisos Skiros and is 219m high.

Nisis Exo Dhiavatis, 24m high, lies 1 mile SW of Akra Apoklistria and is the SW and outer islet of a group of reddish islets and rocks which front this point. Ormos Aragma and Ormos Linaria, both of which afford shelter, are two inlets indenting the N side of the bay.

The valley, which separates the mountainous land on the NW and SE sides of the island, extends NNE from the head of Ormos Aragma. Vessels can anchor as convenient, in depths of 18 to 35m, within this inlet. The bottom is mud, gravel, and weed, with good holding ground.

The small town of Linaria is situated at the E side of Ormos Linaria and is fronted by a small craft harbor. This inlet is better protected than Ormos Aragma, but the depths are considerable and submarine cables lie in the W part. Vessels can anchor, in a depth of 46m, about 0.3 mile W of the harbor.

**16.8 Akra Kartsino** (38°58'N., 24°29'E.), a rocky promontory fronted by rocks and shoals, is the N extremity of the island. Notio Podhi, marked by a light, is the largest of a group of small islets, rocks, and shoals which extend up to 1.4 miles N of the point. A narrow passage, with a least depth of 12.8m, leads between this group of dangers and the point and should only be used by small vessels with local knowledge.

Vorio Podhi, marked by a light, is the largest of a group of islets and rocks lying 1.2 miles NW of Notio Podhi. A passage, 0.6 mile wide, leads between these two groups of dangers and has a least depth of 31m.

**Akra Pouria** (38°55'N., 24°35'E.), a low and cultivated point, is surmounted by two windmills and fronted by Vrikolonisia, a group of small islets. Dangerous shoals extend up to 1.3 miles seaward of this point and depths of less than 11m lie up to 3 miles E of it.

The town of Skiros stands on the NE side of the island, 1.4 miles SSW of Akra Pouria. Anchorage can be obtained SE of the town, in a depth of 22m.

**Akra Lithari** (38°46'N., 24°41'E.), fronted by rocks, is the SE extremity of Nisos Skiros. A light is shown from a prominent structure, 12m high, standing on this cape.

**16.9 Nisos Skiathos** (39°11'N., 23°28'E.), the W of the Nisoi Vorioi Sporadhes, is a mountainous island. Lofos Stavros, 433m high, is the summit and stands in the NE part of the island. The sides of most of the mountains are steep and wooded and the coasts are fronted by rocks and shoals in many places.

Akra Kastro, the N extremity of the island, is fronted by a group of above-water rocks up to 32m high.

**Ormos Skiathou** (39°10'N., 23°30'E.) lies on the SE side of the island and is the N arm of a large bay which is fronted by several islets and rocks. The town of Skiathos stands on the N shore of the bay and is fronted by a small quayed harbor. The buildings of the town are prominent against the background of densely-wooded hills. An islet, 15m high, is connected to the town by a causeway and surmounted by a conspicuous building with a red roof. Several channels lead through the obstructions to the harbor. The quays have depths of 2 to 6.7m alongside and are used by coasters, yachts, and ferries. Local knowledge

is required. Small vessels can obtain anchorage off the harbor, in a depth of 20m, mud with good holding ground.

**16.10 Nisis Repi** (39°09'N., 23°32'E.) lies 2 miles ESE of Skiathos and is the outer danger at the E side of Ormos Skiathou. A light is shown from a prominent structure, 11m high, standing on this islet. Nisis Tsoungria, 89m high, lies 2 miles SW of Nisis Repi and is the outer danger in the S approach to the bay.

**Dhiavlos Skiathou** (39°10'N., 23°22'E.) lies between the SE coast of Khersonisos Magnisias and the W coast of Nisos Skiathos. This passage has a least width of 2 miles and a least depth of 18m in the fairway. However, it is not recommended for deep-draft vessels because of the imperfect nature of the survey and because floating debris, such as drifting seaweed and driftwood, is frequently encountered during NE winds.

**Akra Sipiias** (39°11'N., 23°21'E.), the NW entrance point of the passage, is formed by a steep and very dark colored cape. This cape is 111m high and is marked by a light.

Akra Arapis, the SW entrance point of the passage, is located 3.6 miles SW of Akra Sipiias.

Ifalos Levkari (Ifalos Levtheris), the head of a rocky shoal, lies on the W side of the fairway at the S end of the strait, 1.8 miles E of Akra Arapis. It is marked by a lighted beacon and should be given a wide berth.

Ifalos Ayia Eleni, with a least depth of 2.5m, lies about 0.7 mile offshore, 0.9 mile NW of Akra Pounda, the SW extremity of Nisos Skiathos.

**Caution.**—A submarine cable, which may best be seen on the chart, lies across Dhiavlos Skiathou; anchoring is prohibited in its vicinity.

**16.11 Nisos Skopelos** (39°09'N., 23°40'E.), 680m high, is a fertile and densely-wooded island.

**Akra Gourouni** (39°13'N., 23°37'E.), the N extremity of the island, is fronted by a shoal. A light is shown from a prominent structure, 14m high, standing 0.5 mile WSW of this cape.

A small craft harbor, protected by breakwaters, fronts the shore in Ormos Glossa, 2.8 miles SSE of the light. The village of Glossa, with a prominent church, is situated on a hill 0.5 mile NE of the harbor and the village of Klima is situated 0.7 mile SE of the harbor. Vessels can anchor, in a depth of 13m, about 0.3 mile S of the head of the N breakwater. The harbor has depths of up to 4.2m and is used by small craft, fishing boats, and ferries.

**Ormos Skopelou** (39°08'N., 23°44'E.) indents the NE side of the island and is completely exposed to the prevailing N winds, which are severe at times. The prominent town of Skopelos stands on a rocky projection at the SW side of the bay and a plain, backed by wooded hills, extends to the S of it. A small harbor fronts the town and is protected by two breakwaters. It has depths of 3 to 5m and is used by ferries, small craft, and local coasters. Small vessels with local knowledge can anchor in the bay under the cliffs in the NW part. Vessels anchor, in depths of 12 to 18m, and secure to the rocks at the foot of the cliffs by a hawser. Except in cases of necessity, vessels should not anchor here during the winter because of the heavy short seas that develop with NE winds.

**16.12 Akra Kiourto** (39°07'N., 23°48'E.) is the E extremity of the island. Akra Stafilos, located 3 miles SW of this point, is conspicuous. It is reddish in color and, when seen from a distance, appears to be a detached rock. Akra Miti, the SW extremity of the island, is located 4.5 miles W of Akra Stafilos.

**Nisis Dasa** (Dhasia) (39°07'N., 23°38'E.), 107m high, lies 2 miles NNW of Akra Miti. This islet is wooded and has a prominent conical summit. Nisis Strongilo, 38m high, lies 0.4 mile WSW of Nisis Dasa. This small islet is fronted by rocks on its S side. Vrakhos Kasidha, an above-water rock, lies 1.1 miles NW of Nisis Dasa and is fronted by a shallow rock on its N side.

Nisis Paximadha, located 2.5 miles NW of Nisis Dasa, is barren and steep-to; a dangerous submerged rock lies about 0.6 mile NW of it. These form the W and outer dangers lying off the W coast of the island.

**Caution.**—Small craft and sailing vessels are advised not to pass between Nisis Dasa and Nisis Strongilo, or between Nisis Dasa and the W coast of Nisos Skopelos, as the winds are very gusty and the currents are variable and strong in these passages.

**16.13 Dhiavlos Skopelou** (39°09'N., 23°33'E.) leads between the E side of Nisos Skiathos and the W side of Nisos Skopelos. The channel, with a least width of 3 miles, is the recommended passage through Nisoi Voriol Sporadhes for vessels bound to or from Thermaikos Kolpos. The passage presents no difficulties, but vessels are advised to favor the Nisos Skiathos side in order to avoid the off-lying dangers along the E side of the strait.

**Caution.**—A submarine cable, which may best be seen on the chart, lies across Dhiavlos Skopelou; anchoring is prohibited in its vicinity.

**16.14 Dhiavlos Alonnisou** (Iliodhromias) (39°08'N., 23°49'E.), 2 miles wide, leads between the E end of Nisos Skopelos and the SW extremity of Alonnisos (Iliodhromia). This channel is obstructed by Nisis Ayios Yeoryios, which is fronted by rocky shoals on its SE and W sides, and by Nisis Mikro which is marked by a light.

The main fairway lies between the E side Nisis Mikro and the W end of Alonnisos. It is 0.7 mile wide, deep, and clear. The fairway lying between Nisis Ayios Yeoryios and Nisis Mikro is deep and clear, but it is only 0.2 mile wide and is reported to be almost never used. The fairway lying between Akra Kiourto and the W side of Nisis Ayios Yeoryios is deep, but narrow.

In Dhiavlos Alonnisou the currents are greatly influenced by the winds, and at times attain considerable velocities.

**Alonnisos** (39°13'N., 23°55'E.) is a mostly barren and hilly island which is fronted by small islets and rocks in several places. The summit, 476m high, stands in the N part.

**Akra Telion** (39°08'N., 23°50'E.), the SW extremity of the island, is marked by a light. Akra Notos, the S extremity of the island, is located 1 mile SE of Akra Telion. Akra Kokkinokastro is located 3.2 miles NE of Akra Notos and is the prominent termination of a deep red promontory.

**16.15 Nisis Peristera** (39°11'N., 23°58'E.) lies parallel to and close off the SE coast of Alonnisos. This island is 260m high, barren, and marked by a light shown from the W side of its S part. Likorema, a steep-to islet, lies 1 mile E of the N end of this island.

**Gaidhouronisia** (39°04'N., 23°57'E.), consisting of a group of two low islets fronted by shoals, lies in the SE approach to Dhiavlos Alonnisou 6 miles SE of Akra Notos. At times, the sea breaks heavily over this group of dangers.

Nisis Adhelfi, 178m high, lies 2.5 miles NNE of Gaidhouronisia. A chain of islets, rocks, and shoals extends up to 2 miles NNE from the N end of this islet.

**Nisis Skantzoura** (39°05'N., 24°06'E.), located 12.5 miles ESE of Akra Notos, is the largest of a group of low islets. Vrakhonisis Korakas, 23m high, lies 2.2 miles SW of the S extremity of Nisis Skantzoura and is the S and outer islet of the group. A shoal, with a least depth of 3m, lies about 0.5 mile SE of this islet and is usually marked by heavy breakers.

**16.16 Nisis Pelagos** (39°20'N., 24°05'E.), 300m high, is a very mountainous island. Vrakhos Melissa, a steep-to above-water rock, lies about 1 mile E of the S extremity of this island.

Nisis Pelerissa, marked by a light, lies 1.8 miles NW of the S extremity of the island. This islet lies in the approach to Ormos Kira Panayia, a bay which indents the SW side of the island and provides shelter to small craft with local knowledge. Vessels entering the bay can pass on either side of Nisis Pelerissa.

Limin Planitis, an inlet, indents the N side of the island and also provides shelter to small craft with local knowledge.

**Dhiavlos Pelagonisou** (39°18'N., 24°00'E.) leads between the NE extremity of Alonnisos and the S end of Nisos Pelagos. This passage has a least width of 3.2 miles and is deep and clear, except for a group of small islets lying close off Akra Gregali, the NE extremity of Alonnisos.

**Nisis Yioura** (39°23'N., 24°10'E.) lies with Akra Yerondi, its S extremity, located 4 miles E of the N extremity of Nisos Pelagos. This island is formed by precipitous hills and is almost inaccessible. Nisis Prasson, 158m high, is located 1.2 miles SSW of Akra Yerondi. This islet lies at the SE end of a chain of small islets and rocks which extends up to 0.9 mile NW from its N end.

**Dhiavlos Yiouron** (39°22'N., 24°07'E.) leads between the NE end of Nisos Pelagos and the SW end of Nisos Yioura. This strait is deep and clear; vessels may pass on either side of Nisis Prasson and its surrounding dangers.

In Dhiavlos Yiouron the currents usually set according to the direction and force of the wind.

**Nisos Piperi** (39°21'N., 24°19'E.), the E island of Nisoi Vorioi Sporadhes, lies 6.5 miles E of Nisos Yioura. It is 353m high and the coasts consist of inaccessible cliffs.

**16.17 Nisos Psathoura** (39°30'N., 24°10'E.), the N island of Nisoi Vorioi Sporadhes, is low and fronted by shoals. A light is shown from a prominent structure, 25m high, standing close SSW of the N extremity of the island. The remains of fortifications are situated at the N extremity. Nisis Miga, a small islet, lies 0.6 mile S of the S end of Nisos Psathoura and is bordered by rocks and shoals. The channel lying between this islet and the S end of Nisos Psathoura is foul and should not be used.

The current during N winds and calms sets strongly toward Nisos Psathoura and has been the cause of many disasters. East of Nisos Piperi, in October, a slight NE set was observed with a fresh breeze from SSW. In November, between positions E of Nisos Piperi and N of Nisos Skiros, no current was observed with light breezes from the ESE.

**Caution.**—An IMO-adopted Area to be Avoided, which may best be seen on the chart, surrounds the NE part of Nisoi Vorioi Sporadhes, which has been designated a Marine Sanctuary, and is centered in the vicinity of Nisos Pelagos. This area has been established in order to avoid the risk of pollution and damage to the environment. All vessels carrying chemical, toxic, or nuclear substances and tankers over 500 grt carrying oil should avoid this area. The area extends up to 4 miles E of Nisos Piperi, up to 3.5 miles S of Nisis Skantzoura, up to 4 miles N of Nisos Psathoura, and up to 9 miles W of the W side of Nisos Pelagos.

### Dhiavlos Trikkeri

**16.18 Dhiavlos Trikkeri** (Dhiavlos Trikeri) (39°05'N., 23°10'E.) is the approach channel leading into Pagasitikos Kolpos and Limin Volou. It lies between the N coast of Nisos Evvoia and the S side of Khersonisos Trikkeri, a large peninsula, and is deep and clear in mid-channel. The passage is entered from the E between Pondikonisi and Akra Arapis, 5.6 miles N. It narrows to a width of 4.5 miles and divides into two arms at the W end. One arm leads W and NW into Dhiavlos Volou and Pagasitikos Kolpos and the other arm leads SW into the NE end of Dhiavlos Oreon.

Ormos Platania, entered 1.5 miles W of Akra Arapis, provides shelter, during N winds, to small vessels. Good anchorage can be obtained, in depths of 11 to 18m, in the middle of this bay.

Ormos Khondri Ammos (Andriami) is entered 4 miles WSW of Akra Arapis. The depths within this large bay are generally too deep for anchoring. However, small craft can moor, in depths of 5 to 8m, in a cove on the N side of the bay. The conspicuous mountain range on the N side of the passage rises to a height of 620m about 2.5 miles W of the head of this bay.

**Akra Kavoulia** (Akra Trikkeri) (39°06'N., 23°03'E.) is located at the SW end of Khersonisos Trikkeri. A light is shown from a prominent structure, 9m high, standing on this point.

**Dhiavlos Volou** (39°06'N., 23°01'E.) leads from the NW end of Dhiavlos Trikkeri into Pagasitikos Kolpos. This strait is entered between Akra Kavoulia and Akra Stavros, the NW entrance point of Dhiavlos Oreon, 3.5 miles SSE.

**Ormos Pteleou** (39°01'N., 22°59'E.) indents the SW side of this strait and is exposed to NE winds and swell. Small vessels can anchor, in a depth of 18m, off the village of Pigadhi which stands at the head of an inlet on the N side of the bay. Anchorage can also be taken, in depths of 13 to 24m, off the village of Akhillion which stands at the SW end of the bay. A conspicuous tower stands on the summit of a hill close SW of Pigadhi.

### Pagasitikos Kolpos

**16.19 Pagasitikos Kolpos** (39°15'N., 23°00'E.) is a large gulf which is mostly surrounded by high land. Khersonisos

Magnisias, a large promontory, forms the E side of the gulf. Oros Pilion, 1,610m high, stands at the N end of this promontory and, when seen from the S, shows two peaks some distance apart. However, the depression between these peaks is so slight as to give the appearance of a tableland.

The high land of Khersonisos Trikkeri forms the S side of the gulf; the mainland coast forms the W and N sides.

Nisis Palaion Trikerion, 109m high, lies off the NW end of Khersonisos Trikkeri, 3.5 miles NNE of Akra Kavoulia (Akra Trikkeri). A prominent hotel, formerly a monastery, stands on this islet. Nisis Pithou, a small islet, lies 1 mile NW of the NW end of Nisis Palaion Trikerion.

**Caution.**—Fishing nets, often unmarked at night, are reported to be moored within the more sheltered parts of Pagasitikos Kolpos.

An area prohibited to navigation, which may best be seen on the chart, lies in the W part of Pagasitikos Kolpos and extends up to 4 miles E from the shore. Vessels must not enter this area without permission of the naval authorities.

**16.20 Ormos Amaliapoleos** (Mitzellas) (39°10'N., 22°54'E.), a small bay, lies on the E side of Khersonisos Almiros, a peninsula, which projects N from the SW side of Pagasitikos Kolpos. It is sheltered from the E by Nisis Ayios Nikolaos, an islet, lying close off the coast. The prominent resort town of Amaliapolis stands at the W end of the head of the bay and is fronted by a shallow pier. Vessels can anchor, in depths of 16 to 29m, mud, sand and weed, off the pier.

Ormos Nies, entered 3.8 miles SSE of Ormos Amaliapoleos, provides temporary anchorage, but is exposed to N winds.

Ormos Almirou is entered between Akra Almirou, the N extremity of Khersonisos Almiros, and Akra Angistri, 7 miles NNE. The W shore of this bay is backed by low and marshy ground and the prominent town of Nea Ankhialos stands in the NW corner. A submarine pipeline extends 0.4 mile S from a point on the shore close W of Akra Anistri. A cement factory stands 0.5 mile W of Akra Anistri and is fronted by a loading berth consisting of several dolphins and mooring buoys.

**Ormos Sourpis** (39°10'N., 22°51'E.) lies in the SW part of Ormos Almirou and is entered W of Khersonisos Almiros. Tsingeli, a settlement, is situated on the SW side of this bay and can be easily identified by a house with a prominent red roof. A jetty, with a depth of 3.5m alongside its head, fronts the settlement. Anchorage can be obtained, in a depth of 12m, about 0.4 mile E of this jetty. A wreck, with a depth of 7m, and a shoal, with a depth of 8m, lie about 0.4 mile and 0.7 mile ENE, respectively, of the head of the jetty. It is reported that a pier, 500m long, fronts a factory standing close N of Tsingeli.

Ormos Trikkeri, a large bay, lies at the S side of the gulf and indents the W part of the N side of Khersonisos Trikkeri. It is entered 3 miles SE of the NE end of Nisis Palaion Trikerion. Nisis Prasoudha, an islet fronted by shoals, lies close off the E shore of this bay and is 13m high. Generally, the depths within this bay are too deep for anchoring, but small craft can moor near the head.

Ormos Vathoudhi, a small bay, lies at the SE side of the gulf and indents the NE part of Khersonisos Trikkeri. It is entered 5.6 miles E of the NE end of Nisis Palaion Trikerion and protected on the W side by Nisis Alatas, a long and narrow

islet. The village of Milina, fronted by a pier, stands on the NE shore of the bay and a prominent abandoned monastery is situated on the SE side of Nisis Alatas. Vessels can anchor, in a depth of 30m, in the middle of the S part of the bay.

**16.21 Ormos Volou** (39°19'N., 22°59'E.), a large bay, indents the head of Pagasitikos Kolpos and forms the approach to the port of Volos. It is entered between Akra Angistri and a point, 3.5 miles ENE.

Ormos Agrias lies at the E side of this bay and the small town of Agria, fronted by several piers, stands along its shores. Vessels can anchor, in depths of 13 to 20m, within this small bight.

A conspicuous cement factory, with a chimney, and an oil depot, with several tanks, are situated 1.3 miles NW of Agria.

A short pier, with a depth of 9.5m alongside its head, fronts the oil depot. Tankers, with drafts of up to 7.9m, can berth stern-to at this pier.

Two jetties front the cement factory. The E jetty, 130m long, has a depth of 20m alongside the head and a small foul ground area lies close S of it. The W jetty, 200m long, has a depth of 13m alongside the head.

## **Volos (39°22'N., 22°57'E.)**

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**16.22** The port of Volos lies at the head of an inlet on the NW side of Ormos Volou. This inlet is entered between Akra Sesklo and Akra Goritsa, 1.3 miles E. The harbor is protected by a breakwater which extends WSW from the E side of the inlet.

**Winds—Weather.**—The prevailing winds in the winter are from the NNE and in the summer from the SSE. During autumn and winter, strong NW winds are sometimes experienced.

**Depths—Limitations.**—Several piers extend from the N shore of the harbor and provide 2,500m of total quayage with depths of 8.3 to 11.6m alongside. There are facilities for general cargo, tanker, ro-ro, and bulk vessels. Vessels of up to 35,000 dwt, 200m in length, and 9.8m draft have been accommodated alongside.

**Aspect.**—The prominent commercial part of the town backs the NE side of the harbor. A conspicuous hospital, with a red roof, stands in the SE part of the town and a prominent silo stands on the N side of the harbor. A tower is situated near the root of the breakwater and a belfry stands 0.2 mile NNW of it. The prominent ruins of a white house are situated close W of Akra Sesklo and a light is shown from a framework tower standing 300m S of the point. The shoal bank on the S side of the harbor entrance is marked by a lighted buoy.

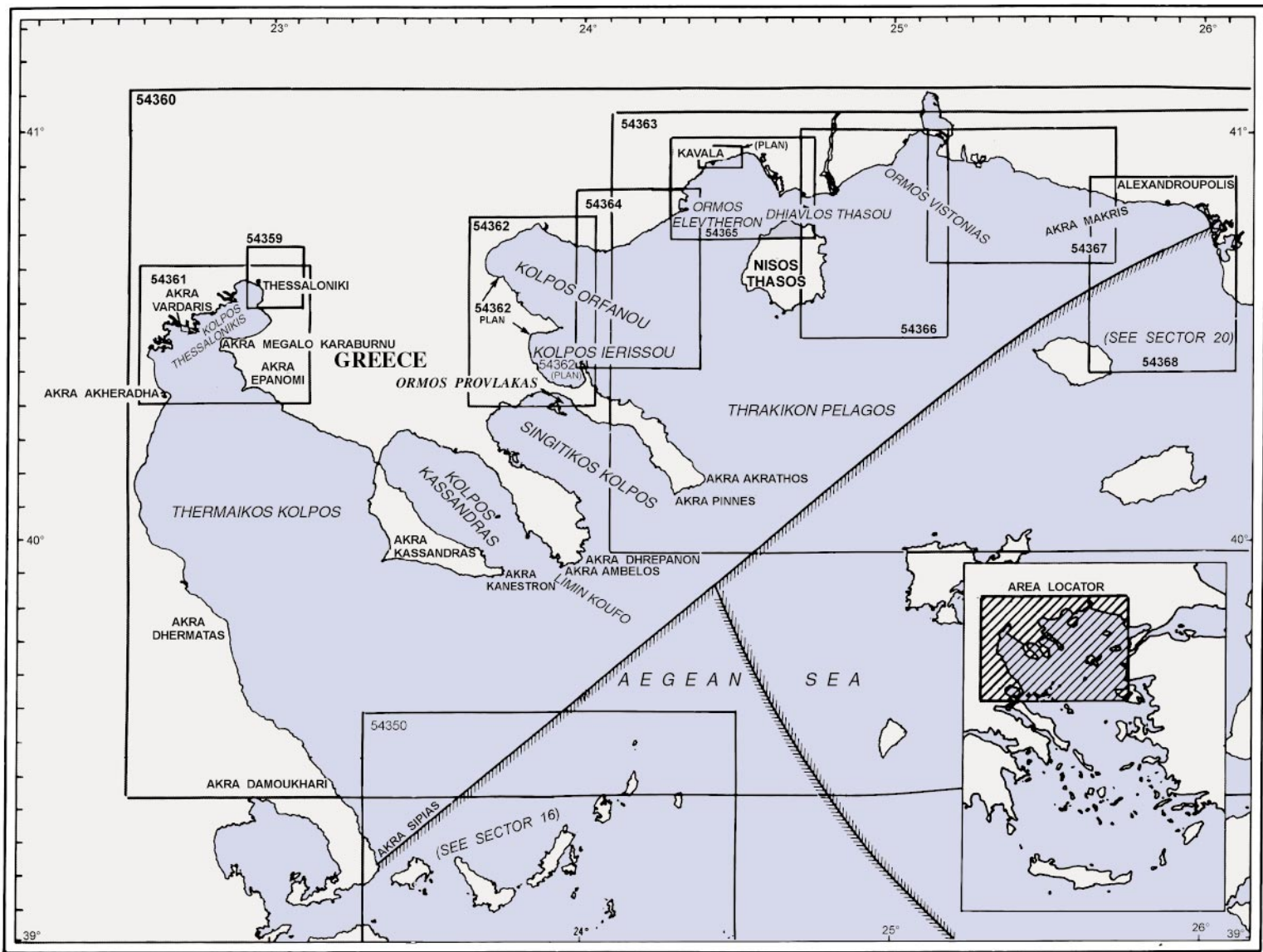
**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 6 and board about 1 mile SE of the harbor entrance.

**Anchorage.**—Vessels can anchor, in depths of 16 to 22m, about 0.8 mile SE of the head of the breakwater. Large vessels usually anchor, in depths of 35 to 40m, about 2 miles SE of the head of the breakwater.

**Caution.**—It is reported that crosswinds or currents may sometimes cause difficulty in transiting the harbor entrance.

A detached shoal patch, with a least depth of 10.2m, lies about 0.6 mile SE of Akra Sesklo.

A foul patch, the remains of a wreck, lies on the N side of the fairway, 0.2 mile SE of the head of the breakwater, and has a least depth of 9m.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 17 — CHART INFORMATION**



## SECTOR 17

### GREECE—THERMAIKOS KOLPOS TO ALEXANDROUPOLIS

**Plan.**—This sector describes the N shore of the Aegean Sea from Thermaikos Kolpos to the port of Alexandroupolis. The general descriptive sequence is from W to E.

#### Thermaikos Kolpos

**17.1 Thermaikos Kolpos** (40°00'N., 23°00'E.), a large gulf, is entered between Akra Sippias, the NW entrance point of Dhiavlos Skiathou, and Akra Paliourion, 47 miles NNE. Kolpos Thessalonikis, at the head of this gulf, leads to the port of Thessaloniki. The land on the SW side of the gulf presents a magnificent range of mountains with several conspicuous peaks. The land on the NE side is also mountainous, but the peaks are not so high. The head of the gulf is backed by low and marshy land through which several rivers flow to the sea.

**Caution.**—In March and April, a strong current has been observed setting out of Thermaikos Kolpos. This is probably caused by the melting of snow and freshets from the rivers.

A conspicuous church and a prominent small house stand on the coast 8.5 miles NW of Akra Sippias. Another conspicuous house is situated 1.2 miles farther NW.

**Akra Damoukhari** (39°24'N., 23°11'E.), a prominent headland, is surmounted by high wooded hills. A prominent white tower stands on a hill at the S side of the cove which is entered close S of the point.

**Akra Dhermatas** (39°48'N., 22°51'E.), marked by a light, is a prominent lofty headland. The coast extending up to 6 miles NW of this point is high, rocky, and terminates abruptly in a bluff. To the N of this bluff, the mountain ranges trend away from the coast and leave an area of low land bordering the shore of the gulf. The town of Karitsa stands on the NE slopes of Oros Ossa, 5 miles NW of Akra Dhermatas, and is conspicuous from seaward.

The village of Stomion is situated 6.8 miles NW of Akra Dhermatas. During good weather, small vessels can anchor, in a depth of 12m, about 0.5 mile off the village. Larger vessels can anchor, in a depth of 18m, sand and mud, about 0.8 mile NE of the village. Anchorage can also be obtained, in depths of 16 to 18m, mud, off the mouth of Potamos Piniou which flows into the gulf 2 miles NNW of the village. Silting occasionally occurs in the vicinity of the mouth of this river.

Akra Platamon, a low point fronted by shoals, is located 4.7 miles NNW of Stomion and surmounted by the conspicuous ruins of a fort. The village of Platamon, standing 5.7 miles NW of Akra Platamon, consists of a large and irregular group of buildings. These buildings are surrounded by a wall and are situated on a rocky height which overhangs the sea. A conspicuous fort stands near the coast 0.5 mile NW of the village.

**17.2 Akra Atheridha** (40°22'N., 22°40'E.), marked by a light, is a low point fronted by shoals. The low and sandy shore lying between Akra Platamon and this point is at times subject to heavy breaking surf.

**Akra Yardharis** (40°31'N., 22°45'E.), the SE extremity of a low spit, is located 9.8 miles NNE of Akra Atheridha. The shore between is generally low and marshy and is constantly changing. Two rivers flow into the gulf along this stretch of the coast and cause extensive silting. Potamos Axios flows through a delta lying close W of Akra Yardharis and is the largest river in this vicinity. Several old gun emplacements, which appear as grassy mounds, stand on the spit.

Nisis Kavoura lies on the coastal bank 0.3 mile S of the point and is connected to the shore by a causeway. A light is shown from a structure standing on the W end of this islet. A radio-beacon and a racon are situated at the light. A lighted buoy is moored about 0.7 mile SE of the islet and marks the edge of the coastal shoal bank.

**Akra Paliourion** (39°55'N., 23°45'E.), marked by a light, is a low point fronted by a dangerous rock which forms the SE extremity of Khersonisos Kassandra, a large peninsula.

**Akra Kassandra** (39°57'N., 23°21'E.), the SW extremity of the peninsula, is formed by a low promontory which appears as an island from a distance. A light is shown from a prominent structure, 14m high, standing 0.7 mile NE of the extremity of the promontory.

During winds from between NW and NE, vessels may obtain anchorage, in a depth of 24m, fine sand and shells, ESE of the light. During offshore winds, vessels can also anchor, in a depth of 22m, mud, about 1.5 miles NNE of the light, but the bottom is uneven and depths decrease rapidly towards the coast.

Akra Pirgos, surmounted by a tower, is located 9 miles NNW of Akra Kassandra and is fronted by foul ground.

**17.3 Dhiorix Portes** (Dhiorix Neas Potidhais) (40°12'N., 23°19'E.), a canal, cuts through the isthmus at the N end of Khersonisos Kassandra. It connects the E side of Thermaikos Kolpos to the head of Kolpos Kassandra (Toronaioi Kolpos) and is frequented by fishing vessels. The canal, which is subject to silting, has a least width at sea level of 35m and is maintained at a dredged depth of 2.7m. A bridge, with a vertical clearance of 18m, spans the E end of the canal and the remains of an ancient wall, which extended across the isthmus, stand close S of it.

Nea Moudhania, located 3.2 miles NNW of the W entrance to the canal, is fronted by a small craft harbor which is protected by a mole.

**Akra Epanomi** (40°22'N., 22°53'E.), marked by a light, is a very low point. A narrow sandy spit extends SSW from the point and is marked by a lighted buoy. Vessels are advised to pass at least 2 miles seaward of this point. Two prominent stranded wrecks are reported to lie in the vicinity of this point and a white stone hut, standing close NE of the light, is reported to be more prominent than the light structure. A radar reflector is situated at the light structure and several more stand close NE of it.

Wrecks with depths of 22m and 25m lie 3.2 miles WNW and 5.2 miles NW, respectively, of Akra Epanomi.



Akra Tuzla is located 7.1 miles NW of Akra Epanomi and is formed by a low and sandy spit which is difficult to distinguish, except from the N or S. A hut and several radar reflectors are situated 0.5 mile NE of the extremity of this point.

**Akra Megalo Karambournou** (Megalo Emvolon) (40°30'N., 22°49'E.), a cliffy point, is marked by a light shown from a prominent structure. A lighted buoy is moored about 0.8 mile SW of the point and marks the edge of the coastal shoal bank. An ancient fort stands close inland of the light and the prominent village of Angelokhori is situated 1 mile SE of it. A conspicuous water tower, consisting of a black framework structure, stands 1.8 miles SE of the point. A prominent church, with twin red belfries, is situated in the village of Nea Mikhanniona, 3 miles SE of the point.

**17.4 Kolpos Thessalonikis** (40°33'N., 22°53'E.), at the head of Thermaikos Kolpos, is entered between Akra Vardharis and Akra Megalo Karambournou, 3 miles ESE. The port and city of Thessaloniki are situated along the N shore of this bay. Muddy water from the rivers at the W side of the gulf may often be observed across the entrance to the bay.

**Akra Mikro Karambournou** (Mikro Emvolon) (40°12'N., 23°19'E.), 26m high, is located on the E side of the bay and marked by a light. Ormos Thessalonikis, entered N of this cliffy point, leads to the port. A conspicuous mill, with a tall chimney, is situated 1.1 miles NE of the point. A prominent radiomast and a church, with a conspicuous dome, stand 0.4 mile SE and 0.6 mile E, respectively, of the point.

Lighted buoys are moored about 0.6 mile W and 2.2 miles W of Akra Mikro Karambournou and mark the edges of the coastal shoal banks.

An aeronautical light is occasionally shown from the control tower of an airport situated on the SE shore of the bay, 4 miles SSE of Akra Mikro Karambournou. Two radio masts, 93m high, stand near the shore, 1.7 miles SW of the control tower.

A directional sector light, indicating the approach to the port, is shown from a tower standing 1.7 miles NNE of Akra Mikro Karambournou. A radiobeacon is situated at the light. A prominent tower stands 1 mile N of the light.

**Caution.**—Vessels must not exceed a speed of 10 knots within Kolpos Thessalonikis.

A recommended approach route, which is indicated on the chart, leads NNW and NE into the bay.

There is an almost constant mirage over the low shore on the NW side of the gulf and this has caused many accidents.

A lighted platform is situated 0.5 mile seaward of the runway at the airport on the SE side of the bay. A submarine cable and a line of piles supporting runway approach lights extend between this platform and the shore.

A prohibited anchoring area, which may best be seen on the chart, fronts the shore 1.9 miles SE of Akra Mikro Karambournou and extends up to 0.3 mile seaward.

### Thessaloniki (40°38'N., 22°56'E.)

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**17.5** Thessaloniki, an extensive port, extends along the E and N sides of Ormos Thessalonikis and includes a free zone

area. It is backed by the city and its suburbs which was formerly known as Salonica. The E and central parts of the port are sheltered by a detached breakwater.

**Winds—Weather.**—A strong, cold, and dry NW wind, known as the vardarac, sometimes blows down the valley of Potamos Axios. This wind mostly occurs in the winter and creates difficult sea conditions in the roadstead. It usually begins suddenly, lasts for 1 to 5 days, and is commonly of force 6 to 8. During the summer, N winds, known as the etesians, sometimes blow strongly and may reach gale force, raising clouds of dust.

**Depths—Limitations.**—The harbor consists of six main piers which provide about 6,000m of total quayage with depths of 5.5 to 12m alongside. There are facilities for ro-ro, bulk, general cargo, container, and tanker vessels. Vessels up to 66,000 dwt and 11.5m draft can be accommodated.

Several industrial installations are situated close W of the main harbor and are fronted by offshore berths which are connected to the shore by submarine pipelines.

A concrete sea islet (EKO), with two berths, is used by oil and gas carriers. It can handle vessels of up to 22,000 dwt, 170m in length, and 9.8m draft.

A multi-buoy offshore oil berth (EKO) lies in a depth of 14.6m and can handle tankers up to 95,000 dwt, 258m in length, and 12.8m draft.

Mamidoil Sea Berth can handle tankers up to 200m in length and 9.8m draft. Vessels anchor and secure their sterns to the buoys.

It is reported (1994) that a new Mamidoil Jet Oil Offshore Sea Berth has been established which can handle vessels of up to 170,000 dwt and 14m draft.

**Aspect.**—The old part of the city stands on the slope of a steep hill and is enclosed on its landward side by high walls with several towers. The modern suburbs, with many prominent large buildings, are situated on the lower ground and extend towards Akra Mikro Karambournou.

**Pilotage.**—Pilotage is compulsory for all vessels over 500 grt. Pilots can be contacted on VHF channel 12 and board within about 1 mile S of the E end of the breakwater. Vessels should send an ETA at least 24 hours in advance.

**Anchorage.**—Anchorage can be taken as convenient S of the harbor, in depths of 10 to 20m, mud. The roadstead has good holding ground, but is exposed to SW winds. Tankers are advised to anchor, in depths of 17 to 20m, about 1 mile WNW of the directional light.

**Caution.**—A patch of foul ground, reported (1998) to have a least depth of 5m, lies 0.5 mile SSW of the W end of the breakwater.

An outfall pipeline extends 0.3 mile SW from a point on the shore 0.7 mile SE of the E end of the breakwater. Anchoring and fishing are prohibited in the vicinity of this pipeline which is marked by a lighted buoy.

Due to the existence of submarine cables, an area prohibited to anchorage, which may best be seen on the chart, extends 4 miles S from the W side of the harbor.

Prolonged N winds can reduce the water level in the harbor and approaches by up to 0.6m.

## Khalkidhiki Khersonisos

**17.6** Khalkidhiki Khersonisos, a large and mountainous peninsula, projects SE into the NW part of the Aegean Sea. This main peninsula terminates in three smaller peninsulas, each about 25 miles long, lying roughly parallel to each other. Khersonisos Kassandra is the W peninsula, Khersonisos Sithonia is the central, and Khersonisos Ayion Oros is the E peninsula. The latter two are rugged and covered with forests.

## Kolpos Kassandras

**17.7 Kolpos Kassandras** (Toronaios Kolpos) (39°56'N., 23°50'E.) lies between Khersonisos Kassandra and Khersonisos Sithonia. This gulf is entered between Akra Paliourion, previously described in paragraph 17.2, and Akra Ambelos, 8 miles ENE. Vessels can anchor near the head, but elsewhere the depths within the gulf are generally too great.

In November a current setting NE at a velocity of more than 1 knot, with a light breeze from the ESE, has been observed at the S entrance of Kolpos Kassandras.

**Akra Soulina** (40°06'N., 23°26'E.), a small and sandy projection, is located on the W side of the gulf and is fringed by rocks. The village of Athitos is situated close inland of this point and can be easily identified by two conspicuous windmills, one standing on each side.

A prominent tower, visible from seaward, and a conspicuous school building are situated in the vicinity of the village of Nea Fokaia, 2.8 miles NW of Akra Soulina. It is reported (1994) that a prominent hotel stands 2.5 miles SSE of Akra Soulina.

The village of Potidhaia is situated 26 miles NW of Akra Paliourion. It stands on the N side of the E entrance to Dhiorix Portes, the canal, which cuts through the isthmus at the N end of Khersonisos Kassandra. A target, consisting of a lighted float, is moored about 2 miles NE of this village.

**17.8 Limin Koufo** (39°58'N., 23°55'E.), a small bay, lies on the E side of the entrance to the gulf and is frequented by fishing vessels. It affords shelter from all winds, the land on either side of the entrance being high and bold. The village of Koufos stands on the NE side of the bay.

Akra Papadhia is located 6.7 miles NW of Akra Ambelos at the S extremity of a small peninsula. An islet lies close off this point and is marked by a light. Spalathronisia, consisting of a group of three islets, lies up to 0.5 mile offshore, 1 mile NW of the light. Limin Toronis is entered close E of Akra Papadhia. This small inlet provides anchorage for small vessels with local knowledge.

Nisis Kelifos lies 6.5 miles NW of Akra Papadhia. This uninhabited islet is 110m high and is fringed by shoals.

Anchorage can be obtained, in a depth of 8m, close W of the village of Neos Marmaras which stands 5.2 miles NNW of Akra Papadhia. This village is fronted by a small pier and a conspicuous school building is situated near its S end. Porto Kara, a yacht basin, lies 1 mile S of the village and a conspicuous hotel stands on the N side of the entrance.

Akra Kastro, located 13 miles NNW of Akra Papadhia, is fronted by rocks. A shallow rocky shoal lies at the S end of a bank which extends up to 1.2 miles SSW of the point and should be given a wide berth.

**Skala Yerakini** (40°16'N., 23°26'E.), an ore terminal, lies at the head of the gulf. A factory stands close to the shore and is fronted by a small lighter pier. Vessels anchor, in a depth of 10m, about 0.2 mile NNE of the pier and load from lighters. Vessels can also anchor, in a depth of 22m, close S of a pier fronting the shore at Skala Kalivia, 1.5 miles NW of Skala Yerakini. Pilotage for these facilities is not compulsory but is available from Thessaloniki.

## Kolpos Ayiou Orous

**17.9 Kolpos Ayiou Orous** (Singitikos Kolpos) (40°12'N., 24°00'E.) lies between Khersonisos Sithonia and Khersonisos Ayion Oros. This gulf is entered between Akra Psevdhokavos, located 2.7 miles WNW of Akra Ambelos, and Akra Pinnes, 17.8 miles NE.

The peninsula on the W side of the gulf is mountainous and rises to its summit near the middle. The peninsula on the E side is also mostly mountainous, but is thickly wooded and intersected by numerous ravines. Numerous monasteries and chapels are scattered throughout this peninsula. Oros Athos, 2,033m high, stands near the SE end of the peninsula and is formed by an isolated cone of white limestone. Violent squalls descending from this peak are experienced all along the SE shore of Khersonisos Ayion Oros.

**Akra Psevdhokavos** (39°57'N., 24°00'E.), the SW entrance point of the gulf, is fronted by foul ground and marked by a light.

Akra Adholo, marked by a light, is located 5.5 miles NNE of Akra Psevdhokavos and dangerous rocky reefs extend up to 1.5 miles SE of it. Ormos Sikias is entered between this point and Akra Sikia, 1 mile NNW, which is fronted by an islet and several rocks. This bay provides good shelter for small vessels. The navigable fairway has a width of 0.6 mile and is clear and deep. A conspicuous white house stands 0.5 mile W of Akra Sikia and two windmills are situated on the beach at the head of the bay. There are depths of 30m in the center of the bay and 9 to 18m near the head. Small vessels are advised to anchor near the SW corner of the bay.

**17.10 Nisis Dhiaporos** (40°13'N., 23°47'E.), a large and wooded islet, lies close off the W shore of the gulf and is fronted by several small islets and rocks.

Ormos Mesopanayia, a small bay, is entered close SE of the extremity of Nisis Dhiaporos and provides anchorage for small vessels, with local knowledge, in depths of 7 to 16m.

Ormos Dhimitri, another small bay, is entered NW of Nisis Dhiaporos and between two small islets. It provides shelter to small vessels with local knowledge.

**Akra Arkoudha** (40°20'N., 23°47'E.), located at the head of the gulf, is prominent and rises abruptly to a height of 180m.

**Akra Pinnes** (40°47'N., 24°19'E.), the SE entrance point of the gulf, is marked by a light. The village of Dhafni stands 7.2 miles NW of Akra Pinnes and is fronted by a small pier. An ancient monastic community, consisting of twenty monasteries, is situated along the N part of Khersonisos Ayion Oros. Pilgrims and visitors to this community are landed at Dhafni.

**Nisis Ammouliani** (40°20'N., 23°54'E.), in the NE part of the gulf, is barren and 100m high; a group of small islets and rocks lies between its SE end and the mainland shore.

Ormos Provlakas lies between the N side of Nisis Ammouliani and the S side of the isthmus of Khersonisos Ayion Oros. Large vessels can anchor, in depths of over 40m, within this bay.

**Caution.**—Submarine cables, which may best be seen on the chart, extend across Ormos Provlakas from the N side of Nisis Ammouliani.

**17.11 Akra Akrathos** (40°08'N., 24°24'E.), the SE extremity of Khersonisos Ayion Oros, is marked by a light and fronted by a small islet. A conspicuous tower stands near the coast 2.1 miles NNW of this point. Akra Khalkias is located 11 miles NW of the point and is surmounted by a small chapel.

A SW current, with a rate of about 1.5 knots, has been observed about 1.5 miles off Akra Akrathos.

**Akra Arapis** (40°27'N., 24°00'E.), 129m high, is located 26 miles NW of Akra Akrathos. Numerous monasteries, many of which appear at a distance like small towns, are situated along this stretch of coast. Temporary anchorage can be taken by small vessels with local knowledge off some of these monasteries.

**Nisidhes Stiliaria** (40°27'N., 24°00'E.), consisting of two islets, lies close off Akra Arapis. The N islet lies 0.3 mile N of the point and is marked by a light. The narrow passage lying between these islets and the point is foul.

## Kolpos Ierissou

**17.12 Kolpos Ierissou** (40°28'N., 23°56'E.), a deep gulf, is entered between Nisidhes Stiliaria and Akra Elevthera, 6 miles NW. The town of Stratonion is situated near the head of a small bay, which forms the NW corner of the gulf, and is fronted by an ore terminal.

**Akra Elevthera** (40°32'N., 23°55'E.), 182m high, is formed by a steep and rugged projection. Elevtheraki, in islet, lies 0.4 mile SE of the point and is 56m high. An above-water rock lies close SW of this islet.

The village of Nea Rodha is situated in the S part of the gulf and is fronted by a boat harbor. The resort town of Ierissos is situated in the SW part of the gulf and is fronted by a small craft harbor. Vessels can obtain good anchorage, in a depth of 27m, sand, about 0.4 mile off Ierissos.

Ormos Plati is entered close inside the SE entrance of the gulf. This small bay has depths of 5 to 16m and provides safe refuge although the bottom is composed of mud, sand, shells, and stones and the holding ground is not good.

**17.13 Stratonion** (40°31'N., 23°50'E.), a small ore-loading port, lies in the NW part of the gulf. The town can easily be identified by an overhead transporter, several furnaces, and many prominent dwellings. A T-shaped pier fronts the town and can handle vessels of up to 4.6m draft alongside. Vessels of up to 18,000 dwt are secured alongside a loading pedestal, with several mooring buoys, which forms a berth close to the end of the transporter. Pilotage is compulsory and pilots in the service of the mining company assist with mooring. A sunken dam, with a least depth of 14m, lies in the approaches to the facilities.

## Kolpos Orfanou

**17.14 Kolpos Orfanou** (Strimonikos Kolpos) (40°39'N., 23°54'E.) is entered between Akra Elevthera and Akra Apollonias, 13 miles NNE. From a distance, the head of the gulf has a mountainous and wooded appearance. The fairly extensive plain lying between the coast and the foothills of the mountains only becomes apparent within a few miles of the head.

Akra Apollonias is fronted by dangerous shoals and should be given a wide berth. A conspicuous tower stands near the coast 3.7 miles ENE of this cape.

Akra Marmari, a salient point, is located 2.4 miles NW of Akra Elevthera. Ormos Marmari, a small bay, is entered close N of the point and a small islet lies on its W side about 0.3 mile offshore. This islet is 1m high and difficult to distinguish. The bay is clear and has a depth of 12m near its head.

The village of Olimbias stands at the head of a small bay which is entered 4.5 miles NW of Ormos Marmari. The S shore of the bay is indented by two coves which provide shelter to small craft.

**17.15 Nisis Kavanas** (40°37'N., 23°48'E.) lies 1 mile offshore, 4.8 miles NW of Akra Marmari. This islet is 54m high and is marked by a light at its E end. A reef, with several above-water rocks, extends up to about 0.3 mile WNW of the W side of this islet. The passage lying between the W side of the islet and the coast has a navigable fairway, 0.6 mile wide, with a least depth of 16m.

**Ormos Stavros** (40°40'N., 23°42'E.) lies on the SW side of the head of the gulf. The small resort town of Stavros, fronted by a small craft harbor, stands at the head of the bay and has a conspicuous church. Good anchorage can be obtained, in a depth of 25m, mud, about 0.4 mile NNE of the harbor.

A conspicuous mass of gray rock, 130m high, stands on the N side of the gorge of a river located 2 miles WNW of the church. This river is spanned by a prominent bridge standing 1 mile NNW of the church. A prominent church stands near the shore in the village of Asprovalta, 3.2 miles N of Stavros.

**Potamos Strimon** (40°47'N., 23°51'E.) empties into the N part of the gulf. This river is spanned by a bridge standing 1.5 miles inland and the small town of Nea Kerdhilia is situated on the W side of the entrance. It was reported (1986) that the river was silted up, except for a shallow boat channel, and oyster farms had been established off the entrance.

## Nisos Thasos

**17.16 Nisos Thasos** (40°40'N. 24°40'E.), the N island of the Aegean Islands, is separated from the mainland by Dhiavlos Thasou. This somewhat circular island is mountainous on its E side and appears as a mass of marble covered with trees. Oros Ipsarion, the summit, stands close N of the center of the island and is 1,129m high. The coasts of the island are fronted by rocks and small islets in many places.

**Akra Pakhis** (40°48'N., 24°39'E.), fronted by a shoal bank, is the N extremity of the island. Akra Evraiokastros, surmounted by a prominent chapel, is located 3 miles ESE of Akra Pakhis. Ormos Panayias, a bay, lies between Akra Pakhis and Akra Evraiokastros and the town of Thasos stands in its SE

part. Good anchorage can be obtained in the W part of this bay, in depths of 16 to 18m, excellent holding ground.

The town is fronted by a small craft harbor protected by breakwaters. Small vessels can anchor, in a depth of 11m, about 0.3 mile off the harbor.

**17.17 Akra Boumboras** (40°37'N., 24°47'E.), the SE extremity of the island, is fronted by rocks and marked by a light.

Nisis Gramvousa lies close off a point 6 miles N of Akra Boumboras. This small islet is 26m high and is surmounted by a small, but conspicuous church. Nisis Koinira, an islet, lies 0.6 mile offshore, 3.2 miles N of Akra Boumboras and is 141m high.

Akra Salonikios, the S extremity of the island, is located 6.4 miles SW of Akra Boumboras and is fringed by a shoal. Nisis Panayia, 35m high, lies 0.8 mile SW of this point and its SE end is fronted by two above-water rocks.

Akra Atspas is located 7.3 miles NW of Akra Salonikios and is marked by a light. Ormos Limenaria, a bay, is entered 3 miles SE of this point and the resort village of Limenaria stands on its N shore near a steep cliffy point. The village is fronted by a small craft harbor which is protected by a mole and used by fishing vessels. Anchorage, with local knowledge, may be obtained, in depths of 11 to 16m, about 100m SE of the harbor.

Akra Prinos, the NW extremity of the island, is located 7.8 miles NNE of Akra Atspas and is marked by a light. Vessels with local knowledge can anchor, in depths of 35 to 40m, within a bight on the NE side the point.

**Caution.**—Offshore production platforms are situated off the W coast of Nisos Thasos, 6.8 miles SW and 3.5 miles NW of Akra Prinos. A submarine pipeline, which may best be seen on the chart, extends NNE from these platforms to the mainland coast and anchoring is prohibited in its vicinity.

## Dhiavlos Thasou

**17.18 Dhiavlos Thasou** (40°50'N., 24°40'E.) leads between the N side of Nisos Thasos and the low shore of the mainland. This strait has a least width of 2 miles and is, with the exception of Nisis Thasopoula, free of off-lying dangers. The bottom consists of mud and sand.

The current through Dhiavlos Thasou and S of Nisos Thasos generally sets W. During S winds, the current in the strait was observed setting E at a velocity of 0.5 to 1.5 knots.

**Nisis Thasopoula** (40°50'N., 24°42'E.) lies 3.1 miles NE of Akra Pakhis. This islet is 112m high and is marked by a light at the SE end. The main fairway of the strait passes S of this islet.

**Akra Ammodhis** (40°46'N., 24°38'E.), the NW entrance point of the strait, is low and marked by a light. It is fronted by foul ground and a shallow rock, which is the outer known danger, lies about 0.8 mile SSW of the light.

Ormos Keramotis is entered between Akra Ammodhis and Akra Keramotis, 2.7 miles E. The town of Keramoti stands at the E side of the head of this small bay. Akra Keramotis, marked by a light, is the W extremity of a low and sandy spit which forms the SE side of the bay. A conspicuous pillar stands close E of the light. The town is fronted by a small harbor which has depths of up to 7m and is used by local coasters, ferries, and small craft. Small vessels can anchor, in a depth of 10m, about 300m W of the harbor. Larger vessels can anchor,

in depths of 13 to 15m, good holding ground, in the outer part of the bay. Local knowledge is advised as shallow patches lie near the entrance fairway.

**Akra Nestos** (40°46'N., 24°48'E.), the NE entrance point of the strait, is a low and salient point lying near the mouth of Potamos Nestos. The shore in this vicinity, which is low and swampy, should be given a wide berth as shoaling off the river entrance has been reported. Several radio towers stand 2.5 miles NNE of the point.

**Caution.**—Submarine cables lie within Dhiavlos Thasou and may best be seen on the chart.

## Kolpos Kavalas

**17.19 Kolpos Kavalas** (40°52'N., 24°30'E.), partially sheltered by Nisos Thasos, is entered between Akra Ammodhis and Akra Vrasidhas, 13.2 miles WSW. The W shore of this gulf is mountainous. The N shore is low and sandy and is backed by high mountains. The E shore is low and swampy with several lagoons which frequently overflow in winter. Xeronisi, an islet, lies on the W side of the gulf. It is located 2.5 miles N of Akra Vrasidhas and is 85m high.

**Ormos Elevtheron** (40°50'N., 24°19'E.), at the SW entrance of the gulf, is entered between Akra Vrasidhas and Akra Iraklites, 0.8 mile N. This bay affords shelter and is frequently used by vessels during S winds. There is little or no tidal current, but the sea level in the bay is greatly affected by the wind. A conspicuous fort stands near the shore in the SW corner and the village of Nea Peramos is situated on the W shore of the bay. Anchorage can be taken as convenient, in depths of 9 to 21m, mud, but this bay is open to the E. A small quayed harbor, with depths of up to 7.5m, lies at the N corner of the bay.

**17.20 Limin Neas Karvalis** (40°57'N., 24°29'E.), at the head of the gulf, is a small harbor fronting a fertilizer plant. Two conspicuous silver-colored tanks stand close E of the plant. A jetty extends about 300m S from the shore and has depths of 5.1 to 9.3m alongside. Vessels with drafts of up to 8m can be accommodated along its W side. Pilots are provided from Kavala.

A new bulk terminal has been reported (1995) to be located close W of Limin Neas Karvalis. The terminal consists of a 400m long jetty, with a depth of 12m alongside.

**Prinos Oil Terminal** (40°56'N., 24°31'E.) lies 1.5 miles offshore in the NE part of the head of the gulf. The berth consists of several mooring buoys and lies in a depth of 25m. Tankers of up to 100,000 dwt can be accommodated. Pilotage is compulsory. Pilots can be contacted by VHF and board in the vicinity of the terminal. Vessels are prohibited from approaching the berth without the permission of the authorities. If unable to berth at the terminal, tankers are required to anchor within the outer anchorage at Kavala.

## Kavala (40°56'N., 24°24'E.)

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**17.21** Kavala, on the NW coast of Kolpos Kavalas, lies between Akra Kalamitsas and the S extremity of a rocky promon-

tory, 1 mile ENE. The harbor is sheltered from the S and W by breakwaters. A basin, protected by a breakwater, lies close N of Akra Kalamitsas and is mostly used by fishing vessels.

**Depths—Limitations.**—The main harbor has 1,305m of total quayage with depths of 6.2 to 10m alongside. There are facilities for general cargo, bulk, ro-ro, and container vessels. Vessels of up to 200m in length and 8.4m draft can be accommodated.

**Aspect.**—The old part of the town stands on the promontory at the E side of the harbor and is encircled by walls. The new part of the town stands on the slopes above the E section of the harbor. The tower of the ruined fort standing on the promontory is prominent, but a white belfry situated near the S end of the promontory is the most conspicuous landmark in this vicinity. A yellow building, standing isolated on a hill at the back of the new section of the town, is reported to be very conspicuous from a considerable distance seaward. A prominent silo, with a tower at its N end, stands at the W side of the harbor near the root of the grain pier. A light is shown from the S end of the promontory. Prominent radio masts stand on the W side of the harbor, 1.3 and 1.6 miles WNW of the light.

**Pilotage.**—Pilotage is compulsory. Pilots can be contacted on VHF channel 12 and board about 0.5 mile S of the S breakwater. Vessels should send an ETA at least 24 hours in advance.

**Anchorage.**—Anchorage can be obtained as convenient, in depths of 30 to 40m, sand and mud, between 0.5 mile and 2 miles S of the light.

**Caution.**—The main harbor is sometimes subject to heavy seas during S winds.

During strong S and N winds, the water level may rise and fall, respectively, up to 0.5m.

## Ormos Vistonias

**17.22 Ormos Vistonias** (40°58'N., 25°05'E.) lies between Akra Baloustra, located 9.8 miles NE of Akra Nestos, and Akra Fanari, 6.5 miles ENE. Akra Baloustra is surmounted by a conspicuous church and a small fishing harbor, protected by breakwaters, lies 0.8 mile W of it.

**Akra Fanari** (40°57'N., 25°08'E.), the E entrance point of the bay, is surmounted by a prominent hotel and marked by a light. A small boat harbor lies close NNW of the light. A conspicuous monastery and a conspicuous silo stand 3 miles NNE and 3 miles N, respectively, of the point.

**Lagos** (41°00'N., 25°07'E.), a harbor basin, lies at the NE side of the bay close S of Limini Vistonias, a large lake with extensive plains on each side. This basin is divided into an E or military section and a W or commercial section. A village stands on the NW side of the basin and the N and W sides are quayed with depths of up to 5m alongside. A dredged channel, marked by buoys and beacons, leads NNE to the entrance and is indicated by a lighted range. An outer lighted buoy is moored about 1.3 miles WNW of Akra Fanari. There is a least depth of 4.3m in the narrow fairway, but the channel and basin are subject to silting. The village should be contacted by VHF for information concerning the latest depths in the approach.

**Akra Kourousmilou** (40°56'N., 25°16'E.), a rocky projection, is located 6.5 miles ESE of Akra Fanari. Vrakhoi Mermingia, a group of rocks, lies off this point and extends up to 0.5 mile

seaward. Akra Akhladha is located 5.1 miles ESE of Akra Kourousmilou at the W end of some prominent red cliffs.

Akra Maronis, located 14 miles ESE of Akra Kourousmilou, lies at the foot of a prominent mountain which rises 2 miles inland to a height of 678m.

**Akra Makris** (40°51'N., 25°44'E.) is located 7 miles W of the port of Alexandroupolis. A boat harbor, protected by breakwaters, lies 1 mile E of this point and a red cliff is located 0.5 mile E of it. A mountain ridge extends ENE from close N of the point. It stands 2 miles inland and backs the low land in the vicinity of Alexandroupolis.

## Alexandroupolis (40°50'N., 25°53'E.)

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**17.23** Alexandroupolis, lying at the NE end of the Aegean Sea, stands on low ground and is backed by a mountainous ridge. The harbor fronts the town and is protected by a breakwater.

**Depths—Limitations.**—The harbor has 2,467m of total quayage, with depths of 2 to 7.3m alongside. There are facilities for general cargo and bulk vessels. Vessels of up to 27,000 dwt, 182m in length, and 5.6m draft can be accommodated.

Tankers and LPG vessels are not permitted to enter the main harbor.

An offshore tanker berth, consisting of several mooring buoys, lies about 0.4 mile offshore, 1 mile E of the main harbor entrance. It is connected to the shore by a submarine pipeline and can handle tankers of up to 5.2m draft. The berth is used for discharging diesel oil and is marked by a buoy.

A submarine pipeline extends seaward 0.7 mile SSE from the shore 0.1 mile E of the outfall pipeline shown on the chart. Two lighted mooring buoys lie 0.2 mile SSE of the seaward end of the pipeline.

**Aspect.**—The coast in the vicinity of the port is low and backed by a mountain ridge. The town can be identified from a distance by a conspicuous church with three dome-shaped towers. A light is shown from a prominent structure, 18m high, standing with a signal station at the W side of the harbor.

**Pilotage.**—Pilotage is not compulsory, but is recommended for large vessels. The port can be contacted on VHF channel 12 or 19; vessels should send an ETA at least 24 hours in advance. Local private pilots are available and will board about 0.5 mile S of the entrance.

**Anchorage.**—The best anchorage berth, in a depth of 8m, mud, lies between 0.5 and 1 mile offshore. The roadstead has good holding ground, but there is no protection from SW winds, which when strong, cause a heavy sea. In addition, the current, which generally sets along the coast, causes vessels to swing broadside to the sea and to roll heavily.

During onshore gales from between SE and WSW the roadstead is unsafe.

**Caution.**—A dangerous wreck is reported to lie in an approximate position 2.6 miles S of the head of the breakwater.

An isolated patch of foul ground lies about 0.4 mile S of the head of the breakwater.

An outfall pipeline, lying 0.2 mile E of the offshore tanker berth, extends 0.7 mile S from the shore and is marked by a lighted buoy.

The coast extending E and SE of the port should be given a wide berth when approaching the harbor. It is fronted by a shallow shoal bank and several wrecks.

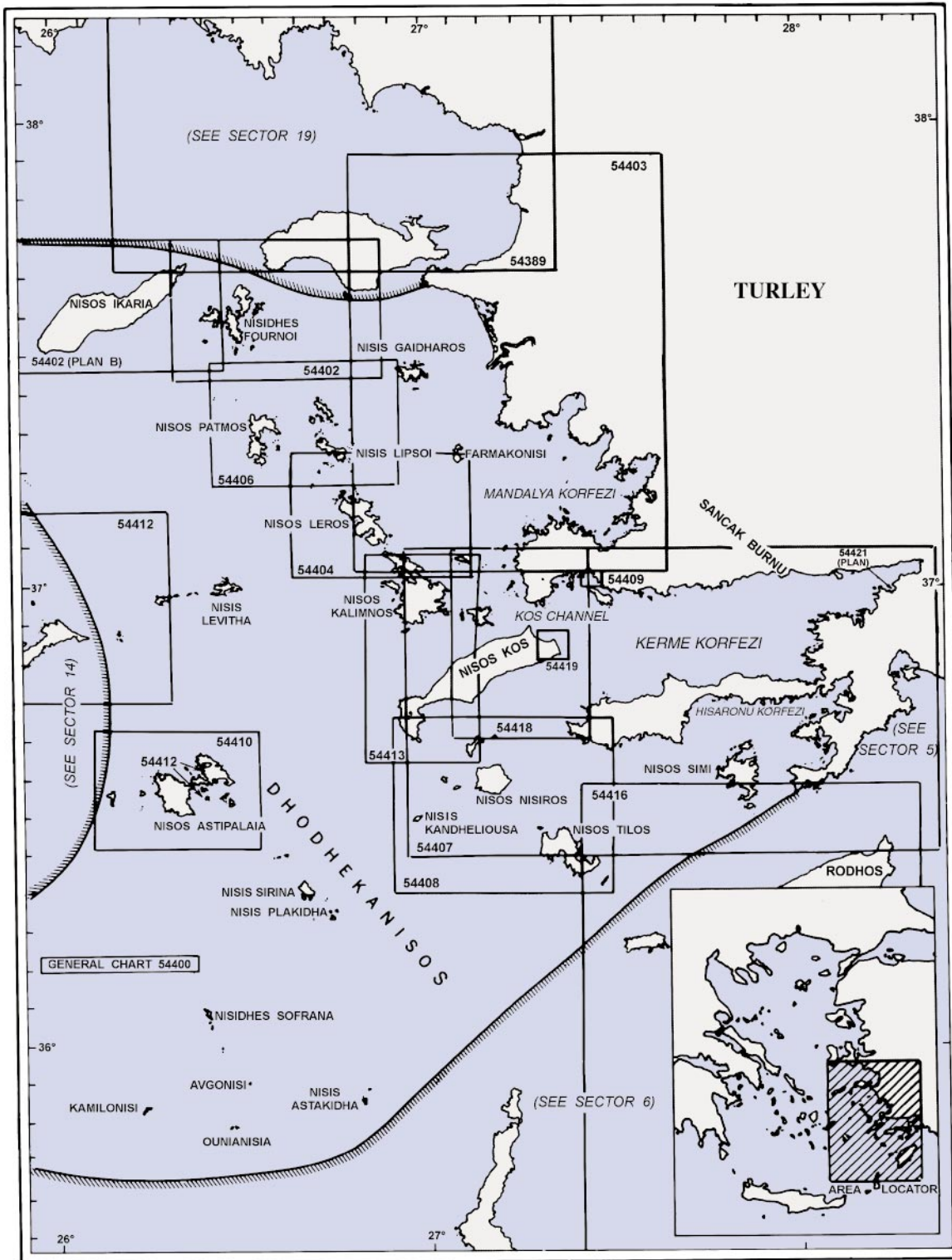
A reef fronts the W end of the town and depths of less than 5m lie up to 0.5 mile offshore.

Strong or prolonged N winds may reduce the water level within the harbor.

Extensive works are in progress (2000) at the mouth of Khimarros Maistrou and immediately E of the stream.

Numerous fishing vessels may be encountered in the approaches to the port.





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).  
**SECTOR 18 — CHART INFORMATION**





## SECTOR 18

### GREECE—DHODHEKANISOS AND THE SOUTHWEST COAST OF TURKEY

**Plan.**—This sector describes the Dhodhekanisos (Dodecanese), the SE part of the Sporadhes, which is one of the principal groups of islands and islets in the Aegean Sea. The SW coast of Turkey lying between Alobi Burnu, on the N side of Rhodes Channel, and Tavsan Adasi, at the S entrance to Samos Strait, is also included.

The coast and off-lying islands are described in a general S to N sequence.

#### Nisis Sirina

**18.1 Nisis Sirina** (36°21'N., 26°41'E.), a small island, lies at the S end of the Dhodhekanisos on the SW side of the recommended track leading into the Aegean Sea via Dhiavlos Karpathou. This island is rugged and 322m high.

Nisidhes Adhelfia, a group of three rocky islets, lies 4 miles NW of the NW end of Nisis Sirina; the E islet is 164m high.

Nisis Plakidha, located 3.7 miles SE of Nisis Sirina, is the S and largest of a small group of rocky islets. This islet is 71m high and marked by a light at the W end. A rock, 3m high, lies 2.5 miles WSW of Nisis Plakidha and resembles the hull of a vessel.

**Nisis Astakidha** (35°53'N., 26°50'E.), 61m high, is the largest of a group of four rocky islets lying on a bank 27 miles SSE of Nisis Sirina. Nisis Astakidhopoula, the S islet, lies 0.2 mile S of Nisis Astakidha and is marked by a light.

**Ounianisia** (35°49'N., 26°29'E.), lying 18 miles WSW of Nisis Astakidha, consists of two prominent small islets. A light is shown from the summit of the W islet. On certain bearings, these islets have the appearance of two hummocks, close together

**18.2 Kamilonisi** (35°52'N., 26°14'E.), lying 11 miles WNW of Ounianisia, is low, rocky, and prominent. This islet is yellowish in color, barren except for a few stunted bushes, and marked by a light.

**Nisidhes Sofrana** (36°05'N., 26°24'E.), lying 15 miles NE of Kamilonisi, consists of two rocky islets. Nisis Megalo Sofrano, the N islet, is 227m high and is marked by a light at its N end. Nisis Mikro Sofrano lies 1 mile S of the S end of Nisis Megalo Sofrano and a large above-water rock lies in the middle of the passage which leads between them.

Karavonisia, consisting of two high steep islets, lies 3.1 miles SE of Nisis Mikro Sofrano.

Avgonisi, a small islet, lies on a shoal bank 5.8 miles SE of Karavonisia.

**Vrakhonisis Kandheliousa** (36°30'N., 26°58'E.), lying 15.5 miles NE of Nisis Sirina, is located on the NE side of the recommended track leading into the Aegean Sea. This rocky islet is 105m high and is marked by a light shown from a prominent structure, 10m high, standing on its SW end. A low tower stands on a hill near the middle of the SE side of the islet. A shallow shoal extends up to about 1 mile SW of the islet.

#### Nisos Astipalaia

**18.3 Nisos Astipalaia** (36°36'N., 26°25'E.), the W island of the Dhodhekanisos, lies on the SW side of the recommended track, 18 miles NW of Nisis Sirina. This island consists of two large rocky masses, which are connected by a narrow isthmus, and has the appearance of being two islands from a distance. The coasts of the island are generally high and indented by numerous small bays. Monte Vardia, the summit of the SW part, is 482m high, and Monte Castelano, the summit of the NE part, is 366m high.

**Akra Poulari** (36°35'N., 26°29'E.), the SE extremity of the NE part of the island, is marked by a light. Nisis Kounoupoi, 89m high, lies 3 miles S of this point and is the outermost and largest of several islets fronting the SE side of the island. The N and S parts of this islet are joined by a low isthmus.

Akra Flouda, marked by a light, is located 6.2 miles NW of Akra Poulari and is the N extremity of the island.

Nisis Ofidhousa lies on a bank 6 miles W of the W side of Nisos Astipalaia and is the outermost of several islets lying off the W end of the island. This islet is 113m high and has precipitous cliffs. A shoal, with a depth of 8.5m, lies about 0.4 mile N of the N end of the islet.

**18.4 Astipalaia** (36°32'N., 26°21'E.) stands on a promontory at the SE side of Nisos Astipalaia which separates Ormos Livadhia from Ormiskos Skala. This town, which contains numerous churches and chapels, is dominated by a prominent castle. Small craft with local knowledge can anchor within Ormos Livadhia.

A small harbor lies at the head of Ormiskos Skala and small vessels, with local knowledge, can anchor, in a depth of 10m, within the bay. Although the holding ground is good, this roadstead has been reported to be unsafe in N and NW winds because of squalls which blow down from the surrounding hills. There is a main quay, 100m long, which has depths of 5 to 5.9m alongside and is used by ferries.

**Ormos Maltezana** (36°34'N., 26°23'E.), which affords good shelter in all weathers, lies between Akra Dhiapori and Akra Vrissi, 1 mile E. This bay is protected from the S by numerous islets and rocks lying across the entrance and may be entered by three channels. The W channel is only suitable for small craft with local knowledge. The middle channel lies between Glinonisi and Khondronisi, two islets, and has a navigable width of only 200m. Perasma Vrissi, the E channel, lies between Khondronisi and Akra Vrissi and is the safest and most used entrance. Small vessels can anchor, in a depth of 24m, in the middle of the bay.

#### Nisis Levitha

**18.5 Nisis Levitha** (37°00'N., 26°28'E.), 130m high, is the largest and E island of a group which lies on the NE side of the

recommended track. It has high coasts and a light is shown from Akra Spano, the E extremity.

Nisis Kinaros, 296m high, lies 5.5 miles W of the W side of Nisis Levitha and is the W island of this group. The wreck of a large freighter, with the bridge and masts above water, is reported to lie on the NW side of this island against the base of the cliffs.

Nisidhes Liadhi and Nisos Amorgos, located SW of Nisis Kinaros, lie on the SW side of the recommended track and have been previously described in paragraph 14.19 and paragraph 14.18, respectively.

## Nisos Tilos

**18.6 Nisos Tilos** (36°27'N., 27°21'E.) is generally rugged, precipitous, and mountainous, except for a plain at its N end. Korifi Profitis, the summit, is 654m high and stands at the NW end of the island. Nisis Anditilos, consisting of two small islets, lies 1.9 miles SE of Akra Episkopi, the SE extremity of the island. A prominent microwave relay station stands 0.5 mile W of Akra Episkopi.

Ormos Livadhia indents the E side of the island and is considered to be the safest anchorage of the island, although it is exposed to NE winds. A conspicuous cathedral stands 1 mile WSW of the E entrance point of the bay. Anchorage can be obtained, in depths of 20 to 26m, good holding ground, in the SE part of the bay.

Ormos Playio, open N, indents the N end of the island and the town of Ayios Andonios stands at its head. A small craft harbor fronts the town and is protected by two breakwaters. An isolated windmill stands on the coast 0.3 mile W of the harbor. Vessels can anchor off the harbor, in depths of 14 to 18m, sand, poor holding ground. Small vessels can anchor, in a depth of 10m, about 0.2 mile NNW of the E breakwater.

**Nisos Gaidharos** (36°29'N., 27°18'E.) lies on a shoal bank 1 mile NNW of the NW extremity of Nisos Tilos. This islet is 156m high and is marked on its NW side by a light.

## Nisos Nisiros

**18.7 Nisos Nisiros** (36°35'N., 27°10'E.) and two off-lying islets lie off the Turkish coast in the approach to Hisaronu Korfezi and Kerme Korfezi. This island is mountainous with precipitous and terraced sides. It has many fruit groves and hot springs. Korifi Ilias, the summit, is 698m high and rises near the center of the island. The village of Mandrakion is situated on the NW extremity of the island and can easily be distinguished. A light is shown from Akra Palos, the NE extremity of the island. Palos, a small fishing harbor, lies 1.7 miles E of Mandrakion and is enclosed by breakwaters.

Nisis Pakhia, 137m high, and Nisis Pergousa, 81m high, are two islets which lie 3.5 miles SW and 4.5 miles WSW, respectively, of the NW extremity of the island.

**Nisos Yiali** (36°40'N., 27°07'E.), 179m high, consists of two parts, connected by a low isthmus.

Ormos Yiali, a small bay, indents the SE side of this island and is used by vessels loading pumice stone. A shallow bank fronts the shore of this bay and a light is shown from an islet lying close off the E entrance point. A conspicuous transporter, supported on pylons, is situated at the head of the bay. A berth,

consisting of a pylon and several mooring buoys, lies at the seaward end of the transporter which extends 0.2 mile offshore. Vessels of up to 230m in length and 11m draft can be handled. Local knowledge is required and berthing masters are obtained from Piraievs; the berthing master boards about 1 mile SW of the berth. Vessels can obtain anchorage, in depths of 5 to 7m, in the N part of the bay.

Nisis Stronili, a rocky islet, lies 2.1 miles E of the N extremity of the island and is 120m high.

## Nisos Simi

**18.8 Nisos Simi** (36°35'N., 27°50'E.), 617m high, lies on the N side of Rhodes Channel and is a mountainous island.

Nisis Kouloundros, marked by a light, is located 1.5 miles SSE of the S end of the island. This islet is 87m high and is the S and outer of several islets lying off the S side of Nisos Simi.

Nisis Nimos, 363m high, lies close off the N end of Nisos Simi and is marked by a light at the NE end. This large islet is separated from the island by a narrow passage, 150m wide, with a least depth of 4m. Vrakhonisis Khondros, two rocky islets, lie off the W side of Nisis Nimos and are marked by a light.

Marmaras, marked by a light, is located 6.5 miles WNW of Nisis Kouloundros. This islet lies at the SW and outer end of Nisidhes Dhiavates, a chain of islets and rocks, which extend 1.8 miles SW from the W side of Nisos Simi.

**Ormos Simis** (36°37'N., 27°50'E.), a large and deep bay, indents the NE end of the island and is entered between the SE extremity of Nisis Nimos and Akra Koutsoumba, 1.2 miles SSE, which is marked by a light. The prominent town of Simi stands on hills surrounding the head of an inlet on the S side of the bay. The shores of this inlet are quayed and have depths of up to 6m alongside, but a rock, with a depth of 4.6m, lies near the entrance. Small craft, with local knowledge, and ferries use this inlet.

Ormos Paidhi is entered 0.9 mile S of Akra Koutsoumba. This inlet is deep, but the entrance is narrow and encumbered by an above-water rock which lies in the middle of the fairway. Several windmills and a circular building are situated on a hill 1 mile W of the head of this inlet. There are depths of 9 to 37m within the inlet; a small pier, with a depth of 6.4m, extends from the head.

Limin Panormitis indents the S part of the W side of the island and provides shelter for small craft with local knowledge. A prominent windmill stands on the E side of the entrance and a conspicuous monastery is situated near the head of this small bay.

## Sombeki Korfezi

**18.9 Sombeki Korfezi** (Yesilova Korfezi) (36°38'N., 28°00'E.) indents the Turkish coast and lies at the W end of a peninsula which extends SW from Kadirga Burnu. This gulf is entered between Kizil Burnu and Boz Burnu, 5.4 miles N. Bozburnu Limani and Sogut Limani are two bays which lie, respectively, at the NE and SE ends of the gulf. These bays are fronted by several islets with narrow channels leading between them. A number of small harbors lie within the bays and are only used by small craft with local knowledge.

## Hisaronu Korfezi

**18.10 Hisaronu Korfezi** (36°42'N., 27°50'E.), an extensive gulf, is entered between Boz Burnu and Ince Burnu, 14 miles W. The N side is formed by Resadiye Yarimadasi (Datca Yarimadasi), a large and reddish peninsula with a high mountainous ridge extending through its center. The S side of the gulf, to the NE of Boz Burnu, is fronted by a chain of five islets. Farther NE, it is formed by conspicuous, bold, and precipitous cliffs. Numerous small inlets and coves lie along both shores of the gulf and are used by small craft with local knowledge.

**Hisaronu Limani** (36°47'N., 28°06'E.), a large bay, is entered at the NE end of the gulf and has depths suitable for anchoring in any part of it. Eren Dagi, 842m high, stands on the SE side of this bay and is prominent. The conspicuous ruins of an ancient temple and theater are situated 0.7 mile NW of the summit of this hill. The prominent villages of Orhaniye and Hisaronu stand 1.5 miles SW and 2 miles NNW, respectively, of the hill.

Several small inlets and coves indent the shore of the bay and provide shelter to small craft with local knowledge. Ergus Cay, a river, flows into the N part of the bay.

**Ince Burnu** (36°39'N., 27°41'E.) is the SE extremity of a narrow promontory. A light is shown from a prominent tower, 8m high, standing on the point.

## Nisos Kos

**18.11 Nisos Kos** (36°50'N., 27°10'E.) is mountainous and very fertile. Oros Dikeo, the summit of the island, is 846m high and stands near the middle of a ridge which extends 13 miles SW along the S side from the E extremity. Several spurs slope gradually from the N side of this ridge to a plain bordered by a sandy coast. A mountainous ridge also extends S along the W end of the island.

Nisos Kos lies in the approaches to Kerme Korfezi and divides the entrance into two channels. The S channel leads between the SE side of the island and the NW end of Resadiye Yarimadasi (Datca Yarimadasi). Kos Channel, the N channel, leads between the N side of the island and the mainland to the N.

**Akra Krikellos** (36°40'N., 26°58'E.) is the S extremity of Nisos Kos. A conspicuous radio tower stands on the summit of Mount Latra which is 427m high and stands 2 miles NNW of the point.

Ormos Kefalou is entered between Akra Krikellos and Akra Khelona, 8.5 miles NE. A small harbor, protected by a mole, lies on the SW side of the bay and the village of Kefalos stands 0.8 mile NW of it. A conspicuous ruined castle is situated close S of this village. Vessels can anchor, in a depth of 40m, about 0.5 mile NE of the head of the mole. A small rocky islet lies close offshore, 1 mile NE of the mole.

The resort village of Kardhamania (Cardamena) is situated 2.3 miles NE of Akra Khelona and is conspicuous from seaward. A small craft harbor, protected by a breakwater, fronts the village and several windmills stand on the coast in this vicinity.

**Akra Ayios Fokas** (36°51'N., 27°21'E.), marked by a light, is the E extremity of Nisos Kos. A conspicuous radio mast stands on the summit of a hill 1.7 miles W of this point.

Akra Louros, located 2 miles NNW of Akra Ayios Fokas, is low and sandy and is marked by a light.

Akra Skandharion (Akra Ammoglossa), located 3.2 miles NW of Akra Louros, is also low and marked by a light. A shoal bank, with depths of less than 9m, extends up to about 0.8 mile N of the light and should be given a wide berth. A prominent hotel is reported to stand close S of the light. During SE storms, excellent anchorage has been reported to be available, in depths of 15 to 18m, mud and weed, WSW of the light.

**18.12 Kos** (36°54'N., 27°17'E.), a resort town, stands on the NE end of the island, 2.5 miles WNW of Akra Louros. It is fronted by a small harbor basin with an entrance, 70m wide. A new quay, 200m long, extends SE from the outer side of the E entrance point and has depths of 7.5 to 8.2m alongside. A T-headed pier and a mooring buoy are situated close SSE of the harbor entrance. The pier has a depth of 5.2m alongside its head, but is somewhat exposed. The harbor is mostly used by small craft, ferries, and coasters. Kos Marina, protected by jetties, lies 0.7 mile SE of the harbor basin.

A chimney stands on the W side of the harbor; a prominent castle stands at the E side. The roadstead off the town is particularly good during strong NW winds, but becomes untenable with onshore winds from N, through E, to S. Vessels may anchor off the town in any convenient depth over a bottom of mud and weed. A good berth, in a depth of 11m, lies about 0.2 mile E of the new quay.

**Mastikhari** (36°51'N., 26°58'E.), a small town, is situated 10.7 miles SW of Akra Skandharion (Akra Ammoglossa) and is fronted by a small craft harbor. The coast between is fronted by a shallow shoal bank which extends up to about 0.6 mile seaward in places.

**18.13 Kos Channel** (36°56'N., 27°16'E.), the N passage leading into Kerme Korfezi, leads between Akra Skandharion (Akra Ammoglossa) and the mainland to the N. This channel is approached from the SW via Dhiavlos Kapari, which lies between the N side of Nisos Kos and the S side of Nisis Pserimos. Vessels are advised to use the N side of this channel where the depths are considerable.

**Fener Burnu** (Huseyin) (36°58'N., 27°16'E.), the NW entrance point of Kos Channel, is marked by a light shown from a prominent structure, 9m high. An above-water rock, fringed by shoals, lies about 0.3 mile SW of the point and is marked by a beacon. Magpie Rock, with a least depth of 1.2m, lies about 0.5 mile offshore, 0.8 mile SE of Fener Burnu. Karga Adasi, a small islet, lies 1.4 miles E of Magpie Rock. It is fringed by shoals and is marked by a light.

**Nisis Pserimos** (36°56'N., 27°08'E.), a small island, rises to a height of 268m and is fronted by small islets and off-lying rocks in places. Akra Roussa, the S extremity of this island, is marked by a light. A wreck, with a depth of 11m, lies about 0.6 mile S of the light.

Nisis Plati, a large islet, lies 1 mile W of Nisis Pserimos and is fringed by rocks, some above water.

Vrakhonisis Nikrothikes, a small rocky islet, lies close N of the N end of Nisis Plati and is marked by a light.

The S channel leading into Kerme Korfezi lies between Akra Ayios Fokas, the SE extremity of Nisos Kos, and Deveboynu Burnu, 10.4 miles S.

**Deveboynu Burnu** (36°41'N., 27°22'E.), a bold cape with steep cliffs, is connected to the mainland by a low and narrow isthmus. From a distance, this point resembles an island. A light is shown from a prominent structure, 9m high.

## Kerme Korfezi

**18.14 Kerme Korfezi** (Gokova Korfezi) (36°55'N., 27°45'E.) lies between Resadiye Yarimadasi, a large peninsula, and the Turkish mainland to the N. This extensive gulf extends ENE for 45 miles and is deep in its outer part. The precipitous mountains, which rise within the N shore of the inner part of the gulf, descend almost to the water in a series of cliffs. The S side of the gulf forms a succession of small bays which are separated by low rocky points. These bays are backed by land which gradually rises to an elevated ridge. During offshore winds, vessels may obtain shelter in many of the small bays.

**Bodrum** (37°02'N., 27°26'E.), a small harbor, lies on the N side of the gulf at the head of Bodrum Limani which is entered between Degirmen Burnu and Ecme Burnu, 1 mile E. It is surrounded by an amphitheater of hills and is protected by breakwaters. There are depths of 3 to 5m within the harbor basin which is mostly used by small craft and yachts. The port monitors VHF channel 16.

**Kara Ada** (36°58'N., 27°30'E.) lies in the SE approach to Bodrum Limani. This island is 385m high and is marked by a light at its NW end. A channel leads along the NE side of the island into the bay and has a depth of 22m in the fairway.

The bay provides anchorage for vessels of all sizes. A conspicuous gray castle, which appears white in sunlight, stands on Kale Burnu, a small promontory which projects from the head of the bay. A prominent hotel stands 0.5 mile E of the castle. Anchorage can be obtained, in a depth of 18m, mud and weed, SSE of the castle.

**Caution.**—An outfall pipeline extends 0.5 mile S along the W side of the bay and shoals extend up to 0.7 mile S of the W entrance point. Local knowledge is advised.

**18.15** The coast to the E of the bay consists of plains with low projecting points. Inland, the hills are wooded and backed by mountains.

The head of Kerme Korfezi is entered between Oren Burnu and Longoz Burnu, 6.2 miles SE. Camaltibuku, entered E of Oren Burnu, affords anchorage near the shore, where there are depths of 31m, stiff mud, about 0.3 mile offshore.

Akbuku, 7 miles E of Oren Burnu, affords anchorage on the N side of its head, in a depth of 26m, sand and weed. The SE part of this bay is shallow and rocky.

Gelibolu Limani lies on the S side of the head of the gulf, 10 miles ENE of Longoz Burnu. This bay affords good anchorage, in a depth of 22m, mud, about 0.3 mile from its head. Conical hills, surmounted by the remains of ancient forts, stand on each side of the low ground at the head of this bay.

**Gokova Iskelesi** (37°03'N., 28°19'E.), lying on the N side of the head of the gulf, is a small ore terminal. Two small jetties,

with depths of 3.7m alongside, front the shore. Vessels of up to 60m in length and lighters can berth alongside these jetties without much difficulty as the shore is steep-to. Large vessels moor, with stern lines to the shore, close off the jetties in a depth of 10m.

## Nisos Kalimnos

**18.16 Nisos Kalimnos** (37°00'N., 27°00'E.), one of the largest islands of the Dhodhekanisos, lies 6 miles NW of Nisos Kos and is fronted by several islets. This mountainous island is separated from Nisis Pserimos by Dhiavlos Kalimnou. Oros Ilias, the summit of the island, is 676m high and stands on the middle ridge. Another prominent peak, 663m high, stands 0.2 mile SE of the summit.

**Kalimnos** (36°57'N., 26°59'E.), a small harbor, lies along the shore at the head of Limin Kalimnou, a bay which indents the SE side of the island. This bay is entered between Akra Ayios Yeoryios and Akra Khali, 3.5 miles ENE. The harbor is protected by a mole and has quay depths of 2.5 to 6.6m alongside. It is used by fishing vessels, small craft, ferries, and coasters.

A church, with a conspicuous cupola, stands near the root of the mole and a prominent cross stands close SW of it. A conspicuous clock tower stands at the NW side of the harbor and several conspicuous tanks stand at the E side.

Vessels can anchor, in a depth of 11m, about 270m ESE of the head of the mole, but this roadstead is not recommended during strong N winds due to the squalls which descend from the hills with great violence. Vessels can also anchor farther out in the bay, in depths of 22 to 37m, mud, sand, and weed. Several submarine cables extend S into the bay from the E shore.

**18.17 Ormos Argano** (37°01'N., 26°57'E.) lies on the NW side of the island and is entered between Akra Kastelli and a promontory, 141m high, located 1.7 miles NW. Nisis Kalavros lies in the entrance, 1 mile NW of Akra Kastelli. This small islet is 94m high and is marked by a beacon. An isolated shoal patch, with a least depth of 7m, lies about 0.3 mile ESE of the E side of the islet. The mountains on either side of the bay rise almost perpendicularly and form a conspicuous deep ravine which extends SE. Vessels can anchor, in depths of 18 to 27m, mud, good holding ground, about 0.3 mile off the head of the bay. However, this bay is only suitable for anchoring during good weather.

**Nisis Nera** (36°55'N., 26°56'E.), 58m high, lies with its N end located 0.5 mile S of the SW side of Nisos Kalimnos. This islet is 180m high and may be passed on either side.

**Nisis Safonidhi** (36°53'N., 26°55'E.) lies 1.6 miles SSW of Nisis Nera. This islet is 51m high and marked by a light.

**Nisis Telendhos** (37°00'N., 26°54'E.), a large islet, fronts the W side of Nisos Kalimnos and is 459m high. Apano, a rocky islet, lies on a bank 0.4 mile S of the W extremity of Nisis Telendhos.

Nisis Ayia Kiriaki, a small islet 63m high, lies 0.5 mile off the W coast of Nisos Kalimnos, 0.7 mile SSW of the SE extremity of Nisis Telendhos.

**Nisis Kalolimnos** (37°04'N., 27°05'E.), a large islet, is 116m high and fringed by shoals. A light is shown from a framework tower standing on its E extremity. The S side of this islet is indented by coves which are fronted by rocks, and the middle of the N side is formed by cliffs. Nisis Pitta, a small rocky islet,

lies 2.3 miles NW of Nisis Kalolimnos and is fringed by shoals.

**Glaronisia** (37°05'N., 26°53'E.) consists of two islets lying close off the N extremity of Nisos Kalimnos. The N islet is marked by a light on its N side.

## Nisos Leros

**18.18 Nisos Leros** (37°10'N., 26°50'E.), a hilly island, is separated from Nisos Kalimnos by Dhiavlos Lerou, a narrow passage. Korifi Skoumbardha, the summit of the island, is 327m high and stands at the W side of the S part. Oros Kleithi, another prominent peak, is 321m high and stands at the E side of the N part of the island. The coast is indented by several bays which afford the most secure anchorages in the Dhodhekanisos.

Nisis Velona, 22m high, lies close SE of Akra Dhiapori, the SE extremity of the island, and vessels can pass to the N or S of it. The main channel passes to the S of Nisis Velona and to the N of Glaronisia. The fairway is 0.2 mile wide and deep.

**Nisis Ayia Kiriaki** (37°09'N., 26°53'E.) lies 0.6 mile off the E side of the island. This islet is 76m high and is marked by a light at its E end. Nisis Peganouisi, 144m high, lies 0.5 mile offshore, 1.8 miles SSE of the light.

**Ormos Alindhas** (37°10'N., 26°51'E.) indents the NE side of Nisos Leros and affords good shelter during N winds, but is exposed to the E. The town of Alindha stands along the W shore of this bay and the small craft harbor of Ayia Marina fronts the S shore close inside the entrance. Vessels may anchor off the harbor, in depths of 18 to 33m. Local knowledge is required as an area of foul ground extends across the entrance and several wrecks lie within the bay.

**Ormos Partheni** (37°11'N., 26°47'E.) indents the NW side of Nisos Leros and is sheltered from all winds. This bay has good holding ground and affords the best anchorage for large vessels. A conspicuous chimney stands near the beach at the head of the bay. Vessels may anchor as convenient near the head. The bay may be approached from the SW via Dhiavlos Farios and from the NE via Dhiavlos Arkhangelos. These two channels lead between the N coast of Nisos Leros and the off-lying islets and rocks.

**Nisis Tripiti** (37°13'N., 26°49'E.), 24m high, is the NE and outer islet of a group lying off the E part of the N coast of the island. Vessels approaching Ormos Partheni should pass close W of this islet and enter Dhiavlos Arkhangelos.

**Nisis Arkhangelos** (37°12'N., 26°46'E.) is the largest islet of a group lying off the W part of the N coast of the island. This islet is 127m high and a prominent mill in ruins is located on it.

**18.19 Ormos Lakki** (37°07'N., 26°50'E.) indents the SW side of the island and is entered between Akra Angistro and Akra Lakki, 0.4 mile WNW. The entrance to this narrow and deep bay is, except when approaching from SW, difficult to distinguish. The shores are mostly rocky and indented in places by shallow and sandy coves. Patches of rock, some above water, and foul ground lie close offshore in places.

Akra Lakki, 66m high, rises steeply and is marked by a light. Akra Angistro is formed by precipitous cliffs, 46m high, and is also marked by a light. A reddish hill, 248m high, stands 0.8

mile NNW of Akra Lakki and a gray hill, 256m high, stands 0.6 mile E of Akra Angistro.

The town of Lakkion, fronted by a small quayed harbor, stands at the N side of the head of the bay. The harbor has depths of 2 to 11m alongside and is mostly used by ferries and small craft. The bay affords excellent anchorage, but it is not safe in SW gales. Vessels may anchor, in depths of 12 to 46m, mud, good holding ground, but local knowledge is advised because of several rocky areas.

A naval base is situated along the SE side of the bay. The facilities include a fuel pier, 115m long, with depths of 7 to 8m alongside. There is also a quay, 140m long, with depths of 5 to 6m alongside and several mooring buoys.

**Caution.**—Except with the permission of the naval authorities, vessels are prohibited from approaching within 200m of the S shore of Ormos Lakki.

Due to anti-submarine nets, an area of foul ground extends across the entrance of Ormos Lakki.

Due to the existence of submarine cables, a prohibited anchorage area, which may best be seen on the chart, extends across Dhiavlos Lerou.

## Nisos Lipsoi

**18.20 Nisos Lipsoi** (37°18'N., 26°45'E.), 277m high, consists of a limestone formation and is fronted by several off-lying islets and rocks. The village of Lipso, fronted by a small craft harbor, stands at the E side of the head of a bay which indents the SW side of the island. A prominent church is situated on the SE side of the head of the bay. Small craft can anchor within the inner part of the bay, but submarine cables lie in the vicinity of the entrance and approaches.

**Nisidhes Kalapodhia** (37°15'N., 26°49'E.), consisting of two rocky islets, lies on a bank 1.8 miles SE of the SE extremity of the island. The E islet is 25m high and is marked by a light at the E end.

**Nisis Saraki** (37°14'N., 26°42'E.), a small islet, is marked by a light and fronted by shoals which extend up to 0.8 mile SSW and 0.5 mile ESE of it. An above-water rock lies 0.4 mile SSW of the light.

Nisis Frangos, 75m high, lies 1.5 miles NNE of Nisis Saraki. This islet is fronted by shoals and rocks which extend up to about 0.5 mile NW and SE of it.

Nisidhes Khalavra, a group of islets and rocks, lies on a bank 1 mile NE of Nisis Frangos and about 0.5 mile SW of the SW side of Nisos Lipsoi. The highest islet in this group rises to a height of 65m.

Vrakhonisidhes Aspro, a group of islets and rocks, lies off the E side of Nisos Lipsoi. A rock, with a least depth of 4.9m, lies 1.9 miles NE of the NE extremity of the island and is the outer danger.

**Nisidhes Manoli** (37°20'N., 26°43'E.), a group of islets and rocks, lies 0.5 mile off the N end of Nisos Lipsoi. The N and outer islet is 30m high.

**Nisis Arkoi** (37°23'N., 26°44'E.), 111m high, is the largest of an extensive group of large islets which lie within 5 miles of the N end of Nisos Lipsoi. This group is fringed by shoals, is of no importance, and should be given a wide berth.

## Nisos Patmos

**18.21 Nisos Patmos** (37°20'N., 26°33'E.), barren and rugged, consists of three distinct masses which are connected by two narrow and low isthmuses. The coasts of the island are generally steep and cliffy and are fronted by rocks and small islets in places. A conspicuous white church stands on the summit of the island which is 272m high and rises in the SW part of the central mass. Other prominent peaks include Korifi Prasso, which is 243m high and stands in the S mass, and Korifi Grosso which is 228m high and stands in the NE part of the N mass.

**Akra Yermanos** (Yeranos) (37°20'N., 26°45'E.), the E extremity of the island, is marked by a light.

Vrakhonisis Khelia, a rocky islet, lies on a bank 2 miles SSW of the light and is 114m high. A shallow reef lies 0.6 mile S of the S side of the islet and a group of above-water rocks and shoals lies 0.7 mile N of the N side of the islet.

**Skala Patmou** (37°18'N., 26°33'E.), a small harbor, lies on the SW side of an inlet which indents the W side of the bight lying between Akra Yermanos and Akra Tragos, 3 miles SW. The town of Patmos, with a conspicuous monastery, stands on a hill close S of the harbor. The bottom of the inlet consists of sand and weed and the harbor is protected by a breakwater. The main quay is 200m long and has a depth of 7.5m alongside; it is used by cruise vessels and ferries. Vessels can anchor, in a depth of 26m, off the head of the breakwater. Large vessels can anchor, in a depth of 40m, sand, about 0.2 mile off the N entrance point of the inlet. Anchorage can also be obtained, in depths of 29 to 37m, in the N part of the bight about 1.8 miles W of Akra Yermanos.

**Akra Ilias** (37°16'N., 26°34'E.), the SE extremity of the island, is marked by a light.

**Nisis Anidhro** (37°24'N., 26°30'E.), 103m high, lies 2.5 miles NW of the NW extremity of Nisos Patmos. A light is shown from a structure standing on the summit of this rocky islet and a beacon is situated close SW of it.

Nisis Petrokaravo, a group of rocks 70m high, lies 2 miles W of Nisis Anidhro. Vrakhos Fournoi, a rocky reef, lies about 3.5 miles N of Nisis Anidhro and has a least depth of 8.8m.

## Nisidhes Fournoi

**18.22 Nisidhes Fournoi** (37°35'N., 26°30'E.) is a group of islands, islets, and rocks which provide shelter to small craft with local knowledge. The group is separated from the SW end of Nisos Samos by a passage known as Stenon Fourmon. The current in this passage always sets N and causes a confused sea.

Nisis Fournoi, the largest island of the group, consists of two parts joined by a narrow isthmus. The summit of this island is 514m high and stands near its N end. A light is shown from Akra Alonaki, the N extremity of this island.

Nisis Fimaina, the W island of the group, is 470m high. A light is shown from Akra Trakhili, the W extremity of this island. Nisis Alatonisi, 142m high, lies 3.8 miles SSE of the light and is the outer islet on the SW side of the group. A shallow isolated shoal lies about 0.6 mile WSW of the islet.

Poros Fournon, the passage leading between the E side of Nisis Fimaina and the W side of Nisis Fournoi, is not recommended except in case of necessity. Nisis Dhiaporoi, a long

islet, lies at the E side of this channel. The fairway is 137m wide and has a least depth of 18m.

Ormos Korseon indents the W side of the S part of Nisis Fournoi. This small bay is affected by winds from between W and N, but otherwise provides good anchorage, with a bottom of sand and weed, to small craft. The village of Fournoi stands at the head of the bay and two prominent windmills are situated on a ridge 0.4 mile SW of it. A small pier, used by small craft, fronts the village and is sheltered by a breakwater.

## Nisos Ikaría

**18.23 Nisos Ikaría** (37°36'N., 26°10'E.), a long and narrow island, is separated from Nisidhes Fournoi by a deep and clear passage. This island is traversed by a chain of mountains with peaks reaching heights of 610 to 1,037m.

**Akra Dhrapanon** (37°42'N., 26°22'E.), a flat point, forms the NE extremity of the island and is marked by a light. A prominent hill, 153m high, stands 0.7 mile SW of this point.

**Akra Papas** (37°31'N., 25°58'E.), the SW extremity of the island, slopes steeply to the sea. A light is shown from a prominent structure, 11m high, standing on this point. A conspicuous church stands close E of a village situated on the S side of the island, 8.5 miles ENE of the light.

Akra Armenistis, the NW extremity of the island, is located 9 miles NE of Akra Papas and is marked by a light. A small bay lying close SE of the point provides good anchorage, in a depth of 31m, during S winds. Several small islets lie close off the E entrance point of the bay.

Akra Evdhilos is located 4.8 miles E of Akra Armenistis. An islet, marked by a light, lies close N of this point. Ormos Evdhilou, a small bay, is entered close E of the light and a village stands at its W side. A breakwater projects E from Akra Evdhilos and shelters a small craft harbor which lies close S of it.

Ormos Ayios Kirikos indents the S side of the island, 6 miles SW of Akra Dhrapanon. A village, with a conspicuous blue-domed church, stands on the shore of the bay. A small craft harbor is formed by a quayed mole, 300m long, which extends E from the E shore of the bay. A berth on the N side of this mole has depths of 6 to 7m alongside and is used by ferries. Small craft can anchor, in depths of 7 to 9m, in the N part of the harbor, but it is open between NE and SE and the shelter is poor.

## Coastal Features—Fener Burnu (Huseyin) to Samos Strait

**18.24 Chuka Channel** (Cuka Bogazi) (36°58'N., 27°11'E.) lies between the NE side of Nisos Pserimos and the islands fronting the mainland shore. This passage is 6 miles long and leads NW from Kos Channel. The border between Greece and Turkey lies in the vicinity of this passage.

**Ince Burnu** (37°08'N., 27°15'E.), the NW extremity of an irregularly-shaped peninsula, is located 10 miles N of Fener Burnu (Huseyin), the NW entrance point of Kos Channel, which has been previously described in paragraph 18.13. The coast between is fronted by several off-lying islands. Karabakla Bogazi, a channel, leads inshore of these islands and is used by small vessels with local knowledge.

**Catalada** (37°00'N., 27°13'E.), 154m high, is the largest of a group of islets and above-water rocks lying centered 3.5 miles

NW of Fener Burnu. This islet is formed by two parts joined by a narrow isthmus and a light is shown from its NE end. Yas-siada, a small islet, lies 0.6 mile SW of the S end of Catalada and is fronted by a reef on its SW side. A stranded wreck is reported (1994) to lie on the N side of this reef.

Topan Adasi, located 1.9 miles WSW of the N end of Catalada, is the W and outer islet of the group. This conical islet is marked by a light at its S end.

Cavus Adasi, 65m high, lies 1.1 miles offshore, 2.7 miles NNE of Topan Adasi. This islet is fringed by shoals and a tower stands on its NE extremity.

Buyuk Kiremit Adasi lies 1.5 miles offshore, 3.4 miles SSW of Ince Burnu. This islet is fringed by a shoal bank and marked by a light.

**Nisoi Limnia** (Kardak Adalari) (37°03'N., 27°09'E.), consisting of two above-water rocks fringed by shoals, lies 2.5 miles W of Cavus Adasi. Vessels may pass to the E or W of this danger, but should give the rocks a wide berth.

**18.25 Mandalya Korfezi** (Gulluk Korfezi) (37°15'N., 27°20'E.) is entered between the N end of a peninsula, of which Ince Burnu is the NW extremity, and Tekagac Burnu, 14 miles NNW. The shores of this large gulf are indented by numerous bays and inlets, some of which afford anchorage, and are fronted in places by several islets and rocks.

The peninsula forming the S entrance point is fronted by several shoals and rocks. Wreck Rock (Gemitasi), 6m high, lies 1.3 miles NNE of Ince Burnu and is fringed by foul ground. This prominent rock is the N and outer danger in this vicinity.

**Nisis Farmakonisi** (37°17'N., 27°07'E.) lies in the N approach to the gulf, 5.5 miles SW of Tekagac Burnu. This large islet is characterized by gentle slopes and rises to a height of 111m at its S end. A light is shown from the summit. Several ancient ruins are situated in the S part and a conspicuous house stands 0.3 mile NNW of the light.

**Buyuk Farilyabuku** (37°09'N., 27°21'E.) indents the S side of the gulf, 3.8 miles E of Wreck Rock. This narrow inlet affords sheltered anchorage to vessels with local knowledge. Konel Adasi (Buyuktavsan), 118m high, is located 1.5 miles NE of the entrance to this inlet. Fener Adasi (Kucuktavsan), a small islet, lies close NW of the NW end of Konel Adasi and is marked by a light at its N extremity.

Turkbuku Golu, entered 2.6 miles ESE of Buyuk Farilyabuku, also affords shelter from all winds except those from between NE and ESE. This bay provides anchorage, in depths of 18 to 27m, mud, but sometimes very heavy squalls blow through the valley at the head.

Torba Limarli, a bay, and Guvercinlik Korfezi, a small inlet, indent the SE corner of the gulf and provide anchorage. Both roadsteads are sheltered by the islets which lie in the approaches.

**Asin Korfezi** (Asen) (37°12'N., 27°32'E.) indents the E side of the gulf and is sheltered by the surrounding hills. A conspicuous castle stands on the summit of a promontory projecting from the head of this bay. The village of Gulluk stands

on the NE side of a small cove which lies on the SE side of the bay. A deep-water jetty, used for loading ore, projects 150m NW from the head of this cove. Vessels with drafts of up to 8.5m can be handled alongside.

**18.26 Incegol Burnu** (37°14'N., 27°30'E.), the NW entrance point of Asin Korfezi, is formed by a spur which rises to a height of 196m about 0.7 mile ENE of its seaward extremity. A light is shown from a prominent tower, 9m high, standing on this point.

Kazikli Limani, entered 4 miles NNW of Incegol Burnu, affords shelter to vessels with local knowledge. Anchorage may be taken, in depths of 15 to 22m, mud, near the head of the bay. Small vessels may anchor, in sheltered depths of 7 to 11m, within a narrow inlet which indents the NW side of the head. Toprak Adasi, 37m high, is located 3.3 miles WSW of the N entrance point of this bay. Isolated shoals with depths of 10.8m and 7.3m lie about 2 miles SSE and 1 mile E, respectively, of this small islet.

**Akbuk Limani** (37°21'N., 27°21'E.) indents the N shore of the gulf. This bay provides shelter, but the entrance is encumbered by several islets and shoals and the shores are fronted by a shallow bank. Panayir Adasi, 29m high, lies in the W approach to the bay, 1 mile S of the W entrance point. Small vessels with local knowledge may pass to the N of this islet. The main fairway leads E of this islet and has a least depth of 10m. Anchorage can be obtained in the NE part of the bay, in depths of 11 to 18m, mud. The village of Akbuk stands on the E side of the head. Vessels can also anchor, in depths of 11 to 16m, within Kuruerik Limani, an inlet which indents the SW side of the bay.

**18.27 Tekagac Burnu** (37°21'N., 27°13'E.), the NW entrance point of Mandalya Korfezi (Gulluk Korfezi), is a salient point. A light is shown from a prominent tower, 12m high, on the point.

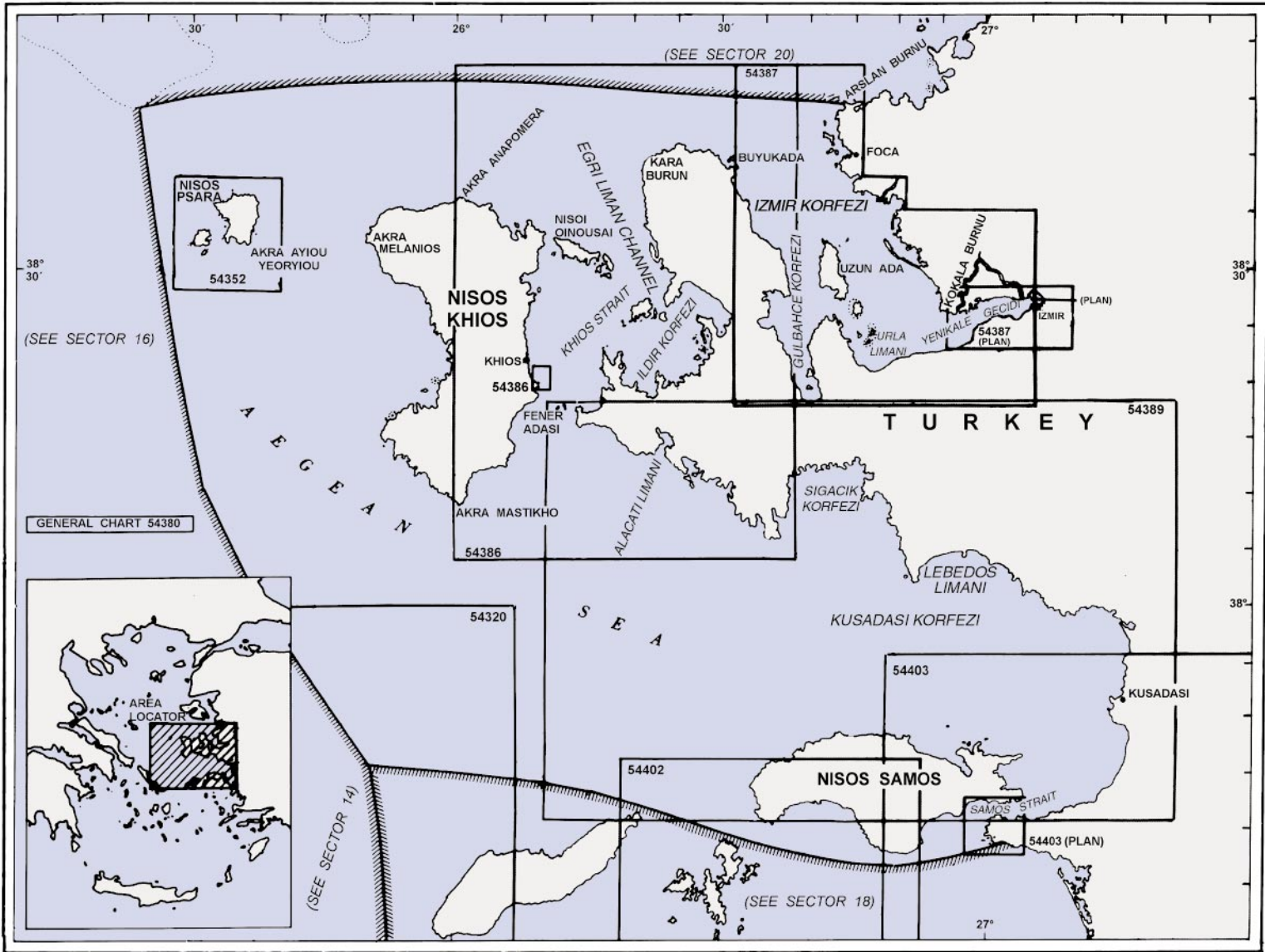
**Menderes Burnu** (Duzburun) (37°28'N., 27°10'E.), located 7 miles N of Tekagac Burnu, is a low and swampy projection through which a river flows into the sea. A low stretch of coast extends 10 miles N from this point to the base of Samsun Dagi, a large promontory. The shore of this stretch is broken in places by the mouths of several lagoons which lie close inland. A range of mountains, which rise steeply at the N end of this stretch of coast, extend 15 miles E from the seaward extremity of Samsun Dagi.

**Nisis Gaidharos** (Agathonisis) (37°28'N., 26°58'E.) lies 9 miles W of Menderes Burnu and is fronted by several islets and rocky shoals. This small island is 201m high and marked by a light at the SW side. Nisis Kouneli, a prominent islet, lies 0.9 mile S of the island and is 56m high.

**Tavsan Adasi** (37°39'N., 27°00'E.), a small islet, lies close off the SW extremity of Samsun Dagi and forms the SE entrance point of Samos Strait. A light is shown from a framework tower, 8m high, standing on this islet.







Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 19 — CHART INFORMATION**



## SECTOR 19

### TURKEY—WEST COAST—SAMOS STRAIT TO IZMIR

**Plan.**—This sector describes the Turkish coast between Samos Strait and the port of Izmir. The islands lying in the approach to Izmir Korfezi. The general descriptive sequence is from S to N.

#### Nisos Samos

**19.1 Nisos Samos** (37°45'N., 26°50'E.), separated from the Turkish coast by Samos Strait, is a mountainous island fronted in several places by small islets. Oros Kerketevs, the summit of the island, is 1,434m high and stands near the W end. This mountain has three barren peaks composed of white rock which, in sunlight, give the appearance of snow. The W peak is slightly higher than the others and a small chapel stands on the S peak. Oros Karvounis stands near the middle of the island. This prominent mountain is 1,150m high, round-topped, and has wooded sides.

**Akra Ayios Dhomenikos** (37°41'N., 26°35'E.), a bold cape, forms the SW extremity of the island and is marked by a light.

Kolpos Marathokambou, a bight, indents the S side of the island and lies E of Akra Ayios Dhomenikos. Anchorage is not recommended in this bight due to the dangerous squalls which blow down from the mountains during N winds. The village of Marathokambos stands on a hill near the head of the bight and is fronted by a small craft harbor protected by breakwaters.

**Limin Kalovasi** (37°48'N., 26°41'E.), a small quayed harbor, lies on the NW coast of the island and is protected by two breakwaters. There are general depths of up to 4m in the harbor. The main quay is 80m long and has depths of 3.6 to 5.6m alongside. Small vessels up to 5.5m can be accommodated. The entrance is 145m wide, but the fairway considered safe for vessels with the maximum draft is only 55m wide. Pilotage is not compulsory, but pilots are available and local knowledge is recommended. The town stands 1 mile E of the harbor. Vessels can anchor, in depths of 27 to 37m, sand and weed, about 0.2 mile NW of the head of the W breakwater.

**19.2 Ormos Vathi** (Samos) (37°45'N., 26°58'E.) indents the E end of the N coast of the island. This large inlet is entered between Akra Kendron and Akra Kotzikas, 1 mile NE. A light is shown from a structure, 5m high, standing 0.3 mile E of Akra Kotzikas. The shores of the inlet are bordered by wooded hills and the land at the head is low. The town of Vathi stands along the E side of the head and extends inland.

A power station stands close E of the village of Kokkaruion, 1.5 miles WNW of Akra Kendron, the W entrance point. It is fronted by an offshore tanker berth which consists of several mooring buoys and is connected to the coast by a submarine pipeline.

A small quayed harbor fronts the town and is protected by a mole. It has depths of 2 to 8m alongside and is mostly used by small craft and ferries. Vessels usually anchor off the harbor, in

depths of 5 to 18m, mud. The inner part of the inlet provides anchorage, in depths of 10 to 38m, good holding ground.

**Akra Prason** (37°47'N., 27°04'E.) is the E extremity of a rugged and cliffy peninsula which rises to a height of 373m. A shoal patch, with a least depth of 11m, lies about 0.2 mile E of this point.

**Akra Gatos** (37°43'N., 27°04'E.), the SE extremity of Nisos Samos, is marked by a light. Akra Fonias, also marked by a light, is located 5.7 miles WSW of Akra Gatos. Akra Asprokavos is located 4.3 miles SW of Akra Fonias and is fronted by a small islet, an above-water rock, and several shoal patches which lie up to 0.7 mile seaward.

**Pithagorion** (Tigani) (37°41'N., 26°57'E.), a small harbor, lies close W of Akra Fonias and is protected from the SW by a breakwater. A conspicuous fortified monastery and a church stand near the shore close W of the root of the breakwater. The N side of the breakwater is quayed and has depths of 5 to 8m alongside. The harbor can accommodate small craft and coasters of up to 500 dwt. During N winds, anchorage is available in any convenient depths within the bights lying E and W of the harbor.

**Caution.**—A small restricted area, which may best be seen on the chart, lies within Kolpos Marathokambou. It has been established for the purpose of detonating explosives.

From March to October, winds from the NW predominate and often send a heavy swell into Ormos Vathi.

#### Samos Strait

**19.3 Samos Strait** (37°41'N., 27°00'E.), known as Dilek Bogazi by the Turks, separates Nisos Samos from the large promontory of Samsun Dagi. The SW entrance lies between Akra Asprokavos and Tavsan Adasi, 5.6 miles E, which is described in paragraph 18.27. The NE entrance lies between Akra Gatos and Zeytin Burnu, 1.8 mile S.

**Baytak Adasi** (37°41'N., 27°01'E.), a small islet, lies in the strait 3 miles E of Akra Fonias. It is 16m high and marked by a light shown from a prominent tower, 7m high.

Vessels proceeding through the strait may pass to the S or N of Baytak Adasi. The N fairway is usually preferred as it is wider. However, it is subject to heavy tide rips and a shoal, with a least depth of 9m, lies 0.5 mile NE of the islet. During N winds, the squalls in this strait are reported to be not as strong as those experienced off the W end of Nisos Samos. The current in the narrows of the strait usually sets E, sometimes at a rate of 3 knots. In the passage to the S of Baytak Adasi, the current occasionally sets W.

In Samos Strait the current usually sets E and sometimes attains a velocity of 3 to 4 knots; S of Baytak Adasi, the current, at times sets in a W direction.

The border between Greece and Turkey lies in the vicinity of the strait and passes to the N of Baytak Adasi.

## Kusadasi Korfezi

**19.4 Kusadasi Korfezi** (37°55'N., 27°05'E.), a large gulf, indents the Turkish coast and lies between the NE entrance of Samos Strait and Doganbey Burnu, 22 miles NNW.

**Arslan Burnu** (37°49'N., 27°14'E.), located at the SE side of the gulf, is a prominent point. A conspicuous tower stands 0.4 mile ENE of this point. An isolated hill, surmounted by the prominent ruins of a fort, stands near the shore 2.5 miles SE of this point.

Yalanci Burnu, 21m high and cliffy, is located 2.1 miles N of Arslan Burnu. The coast between is fronted by reefs which extend up to about 1 mile seaward.

**19.5 Kusadasi** (37°52'N., 27°15'E.) (World Port Index No. 44770), a town, stands partly on level ground and partly on the slope of a hill at the head of a bay which lies between Yalanci Burnu and Akburun, 1.3 miles NE. The town is fronted by a small commercial harbor, a fishing vessel basin, and a yacht marina.

**Kusadasi Home Page**

<http://www.egeports.com>

**Depths—Limitations.**—The harbor has two main piers. The old pier is 239m long and has depths of 7.3 to 11.5m alongside. The new pier is 208m long and has depths of 9 to 12m alongside. General cargo and passenger vessels with drafts of up to 10m can be accommodated.

The port also includes an offshore oil terminal which lies 0.5 mile E of Arslan Burnu. It consists of several mooring buoys and is connected to the shore by a submarine pipeline.

**Aspect.**—Akburun consists of a remarkable, projecting white cliff which is surmounted by a conspicuous hotel. Guvercin Adasi, a small islet, lies 0.3 mile NE of Yalanci Burnu and is joined to the mainland by a causeway. A prominent tower is situated near the middle of this islet; a light is shown from a prominent structure, 8m high, standing at its NW end.

**Pilotage.**—Pilotage is compulsory for foreign vessels exceeding 150 grt and Turkish vessels over 500 grt. Pilots can be contacted on VHF channels 12 and 16, and board close outside the harbor. Pilotage is not compulsory for berthing at the oil terminal. However, it is recommended and available from Izmir by prior request.

**Anchorage.**—Vessels can anchor off the port, in depths of 27 or 29m, soft mud, between Guvercin Adasi and Akburun. The roadstead is exposed to winds from N, through W, to SW. During the summer, the sea breezes invariably blow, sometimes with considerable strength, and almost always cause a heavy swell. Although the holding ground is good, the anchorage is not considered safe for large vessels. Small craft with local knowledge may obtain shelter to leeward of Guvercin Adasi.

**19.6 Kavo Mikron Taliane** (37°58'N., 27°15'E.) is located 6.5 miles N of Kusadasi. A prominent ruined bridge is situated 0.2 mile E of this point and Kucuk Menderes Nehri empties into the gulf 1.7 miles SSE of it. The land in the vicinity of the

river mouth is low and covered with rushes. Stone embankments, which once confined the river, are still visible in many places. The ruins of the ancient port of Ephesus stand 3.5 miles E of the river mouth.

In fine weather, temporary anchorage may be obtained, in depths of less than 18m, on the coastal bank about 0.8 mile SW of the ruined bridge. Vessels are advised to take frequent soundings when approaching this roadstead.

**Doganbey Burnu** (38°02'N., 26°52'E.) is the N entrance point of the gulf. Doganbey Limani (Lebedos Liman), a large bay, is entered E of this point and is completely open to the S. It is backed by mountains, 400 to 800m high, standing 3 to 4 miles inland. Buyukcay (Malkeji River) flows into the bay through a small delta lying 4 miles NW of Sunger Burnu, the E entrance point. Sican Adasi, an islet, lies 0.5 mile offshore near the mouth of this river. Kisik Yarimadasi, a round promontory, lies at the head of the bay and is joined to the shore by a sandy neck. Several prominent ruins stand on Kisik Yarimadasi and on the shore of the bay to the NW.

Kormen Adasi a rocky islet, lies close WSW of Doganbey Burnu.

**Doganbey Adasi** (38°02'N., 26°54'E.), an islet, lies 0.7 mile SSE of Doganbey Burnu. It is 52m high, fronted by several above-water rocks, and marked by a light.

## Sigacik Korfezi

**19.7 Sigacik Korfezi** (38°07'N., 26°45'E.), a large bay, is entered between Doganbey Burnu and Teke Burnu, 14 miles WNW. The depths within this bay, except near the shore and in the NE corner, are considerably deep.

Cifte kale Adasi, an islet, lies close offshore, 1.2 miles NW of Doganbey Burnu. It is 58m high, joined to the coast by a partly-submerged causeway, and surmounted by a prominent ruined castle. Malkaya Burnu, located 6 miles N of Cifte kale Adasi, consists of conspicuous green cliffs. Kucuk Adalar, an islet with conspicuous white cliffs, lies 0.5 mile S of the extremity of a rocky tongue which projects from the coast 1.4 miles NW of Malkaya Burnu.

**Sigacik** (38°12'N., 26°47'E.), a village, stands at the SE head of a narrow inlet which is entered at the NE part of the bay. The entrance to the inlet is not easily distinguished from a distance, but a deep valley, located 2.5 miles W, is prominent and appears as an opening in the land. The village is enclosed by a wall and fronted by a castle. A prominent mosque stands close SE of the castle.

An islet, marked by a light, lies close off the S entrance point of the inlet. During good weather, vessels can anchor, in depths of 27 to 37m, WSW of the light. The village is fronted by a small craft harbor, protected by a mole, and a yacht marina. Small vessels can anchor in the middle of the inlet, in a depth of 14m, sand and mud, with good holding ground.

**Teke Burnu** (38°06'N., 26°36'E.), the NW entrance point of the bay, is the S extremity of a bold headland, 363m high, which is prominent when viewed from any direction. A light is shown from a structure, 8m high, standing on this point. It is reported that baffling winds are frequently experienced in the vicinity of the point. A group of conspicuous white cliffs are located on the W side of the bay, 5 miles NNE of this point.

## Sigacik Korfezi to Khios Strait

**19.8 Ak Burun** (38°16'N., 26°14'E.) is located 20 miles NW of Teke Burnu at the SE side of the entrance to Khios Strait. The coast between is indented by numerous bays and inlets, some of which afford shelter.

Sarpdere Limani, a small bay, is entered 5.6 miles NW of Tele Burnu. It is exposed to SW winds, but affords shelter to small craft with local knowledge.

**Mersin Korfezi** (38°12'N., 26°26'E.), entered 3.5 miles WNW of Sarpdere Limani, affords shelter from all but SSE winds. The entrance to this bay is fronted by Dumblelek Adalari, a group of three islets. Cigdem Adasi, the S and outer islet, lies 1 mile S of the W entrance point. An above-water rock, painted white, lies almost in the middle of the entrance channel. The fairway, about 300m wide, passing E of this rock is normally used and has a least depth of 17m. Small craft with local knowledge generally anchor off the NE shore near the head of this bay, in a depth of 20m.

**Alacati Limani** (38°14'N., 26°23'E.), a large inlet, has high land on both sides, but is low and marshy at the head. Bozalan Burnu, the E entrance point, is 45m high, fronted by a prominent white cliff, and marked by a light. A prominent hill, 216m high, and a sharp peak, 81m high, stand 2.5 miles NNE and 1.5 miles WNW, respectively, of the light. The shores of this inlet are fringed by shallow banks and a drying area fronts the head. Vessels can anchor in convenient depths within the inlet. The bottom is mud, with good holding ground. Local knowledge is advisable. It is reported that the shallow banks, on a clear bright day, are plainly indicated by the discoloration of the water.

## Nisos Khios

**19.9 Nisos Khios** (38°20'N., 26°00'E.), a rocky and mountainous island, is separated from the Turkish mainland by Khios Strait. Pelinaion Oros (Mount Elias), the conspicuous summit of the island, is 1,297m high and rises near the N end. It has precipitous cliffs and a conical peak. From this summit, the mountains gradually decrease in height, terminating in a hill, 293m high, at the S end of the island. The hills consist mostly of red marble with white streaks.

In the vicinity of Nisos Khios the winds are variable in winter, but N and SW winds are the most frequent. From April to October, N winds predominate. In the fall and winter, NE winds are sometimes strong, causing considerable swell.

**Akra Mastikho** (38°09'N., 26°01'E.), the S extremity of the island, is a bold headland which shows up well at night.

Off the S end of Nisos Khios the current is strong and uncertain in direction, but in Ormos Kalamotis and along the W side of the island, it usually sets N.

Nisos Venetiko, a conspicuous and conical islet, lies 1.2 miles S of the headland and is marked by a light. An isolated shoal, with a depth of 13m, is reported to lie about 10.5 miles SW of the light.

**Akra Mesta** (38°15'N., 25°52'E.), fronted by a small and rocky islet, is the W extremity of the S part of the island.

**Ormos Mesta** (38°18'N., 26°56'E.), an inlet, is entered 4 miles NE of Akra Mesta and provides shelter to small craft with local knowledge. The W entrance point of this inlet is

marked by a light and surmounted by an ancient watchtower. Spits, with below-water rocks and depths of less than 9m, extend up to about 100m N of both of the entrance points. The inlet is deep in its outer part and a fairway, with a depth of 10m, leads to the head where two quays front the shore. The N quay is 120m long and has depths of 6.8 to 7.8m alongside and the S quay is 150m long and has depths of 5.1 to 6.6m alongside. A T-headed pier fronts the settlement of Limenas which stands at the head of the inlet. Its head is 15m long and has a depth of 3.3m alongside. Small craft with local knowledge can anchor, in depths of 10 to 20m, between 200 and 400m from the head of the inlet.

**19.10 Ormos Volissos** (38°28'N., 25°55'E.), a small and shallow harbor, lies 10 miles N of Ormos Mesta. It is protected by a breakwater and is used by small craft and fishing boats. A village, with a prominent castle, stands on a hill 1 mile N of the harbor. Vessels can anchor about 0.5 mile S of the castle.

**Akra Melanios** (38°33'N., 25°50'E.), the NW extremity of Nisos Khios, is fronted by a coastal bank and surmounted by a round tower. During SE gales, the squalls descending from the hills to the E of this point are reported to be severe.

**Akra Anapomera** (38°36'N., 26°00'E.), the N extremity of the island, is the termination of a spur which extends N from the summit of the island. Nisis Gertis lies 0.4 mile offshore, 1 mile E of the point. This small and rocky islet is marked by a light.

**19.11 Akra Vamvakas** (38°34'N., 26°08'E.) is located 5.3 miles ESE of Nisis Gertis. Nisis Glastri, a small rocky islet, lies 0.5 mile E of this point and is fronted by a reef.

Ormos Marmaro, a small bay, is entered 1 mile W of Akra Vamvakas. Vessels may anchor, in a depth of 13m, within this bay, but it should be avoided, except in cases of emergency, as it is very exposed and subject to violent squalls. A quay, 70m long, is situated at the head of the bay and has depths of up to 4m alongside. Nisis Margarita, an islet, lies close off the E entrance point of the bay and is marked by a light at the NW side.

**Nisis Strovillo** (38°33'N., 26°10'E.), a conspicuous conical islet, lies close off Akra Ayia Paraskevi, the NE extremity of Nisos Khios, and is marked by a light.

Nisis Ayois Stefanos, a low islet, lies 5 miles S of Nisis Strovillo and fronts two inlets which indent the E side of the island and provide shelter to small craft with local knowledge.

**19.12 Khios (Chios)** (38°22'N., 26°08'E.) (World Port Index No. 42820), a small port, lies midway along the E coast of the island. The harbor fronts the town and is protected by breakwaters.

**Depths—Limitations.**—The harbor has 750m of total quayage with depths of up to 8m alongside. Small cargo vessels and passenger ferries with drafts of up to 6.1m can be accommodated.

**Aspect.**—The town contains several churches and tall buildings which are conspicuous from seaward. The citadel, the old walled part of the town, stands N of the harbor. Several quarries of red firestone are situated in the vicinity of the town. A prominent gray tower stands close W of the root of the N breakwater and the tower of the cathedral stands on the SW side of the harbor.

**Pilotage.**—Pilotage is compulsory for all foreign vessels. Pilots can be contacted on VHF channel 12.

**Anchorage.**—Anchorage is available off the harbor up to 0.5 mile S and up to 2 miles N of the entrance, but the depths fall away steeply from the shore. The recommended berth for large vessels, in depths of 22 to 33m, mud, lies about 0.7 mile NE of the citadel. The bottom nearer the harbor is composed of soft mud, poor holding ground.

**19.13 Akra Ayia Eleni** (38°20'N., 26°10'E.) is located 2.5 miles SSE of Khios. The coast between is fronted by a shallow bank which extends up to about 0.5 mile seaward in places. This point is low, rugged, and rises to a round hill which is surmounted by an old tower. A prominent power station stands 0.5 mile W of the point and a group of oil tanks is situated 0.3 mile NW of it. Several mooring buoys, for the use of tankers, front this group of tanks and lie close offshore.

Akra Nenita is located 6.2 miles SSW of Akra Ayia Eleni. This point is formed by steep, white cliffs with flat tops and is surmounted by a ruined tower on its S side.

Megalos Limnionas, a large bay, is entered N of Akra Nenita and affords convenient anchorage for small vessels which are unable to proceed through Khios Strait during strong N winds. Vessels can anchor, in depths of 15 to 18m, sand and weed, in the N part of the bay.

Ormos Kalamotis, lying 4 miles SW of Akra Nenita, also affords anchorage in its N part, in depths of 26 to 29m, sand and weed. A conspicuous conical hill, surmounted by a ruined monastery, stands 3 miles NNE of Akra Mastikho, the SW entrance point of the bay.

## Nisos Psara

**19.14 Nisos Psara** (38°35'N., 25°35'E.) is a small island with a summit, 531m high, standing near its N end.

**Akra Ayios Yeoryios** (38°32'N., 25°37'E.), the SE extremity of the island, is fringed by a shallow bank. A light is shown from a prominent structure, 9m high, standing on this point.

Akra Trifilli, the S extremity of a narrow peninsula, is located 2.2 miles W of Akra Ayios Yeoryios. Limin Psaran is entered E of this peninsula and the village of Psara stands at its head. The village is fronted by a small craft harbor and protected by two moles. A conspicuous church stands close W of the harbor entrance and several windmills stand on the peninsula N of Akra Trifilli.

Anchorage within Limin Psaran is considered secure during the summer. Small vessels with local knowledge can anchor, in a depth of 14m, good holding ground, about 0.3 mile ESE of the small harbor. Vessels can also anchor, in a depth of 22m, about 0.5 mile SE of the harbor.

**Nisis Andipsara** (38°11'N., 26°30'E.), an islet, lies 1.5 miles W of the SW end of Nisos Psara and is 150m high.

North of Nisos Psara the current may set very strongly, making it advisable to give this side of the island a wide berth. Along the E coast of the island the most common current direction is N while along the W coast, the current is S. However, these may be reversed, particularly along the W coast, where the flow may often be N.

## Khios Strait

**19.15 Khios Strait** (38°25'N., 26°15'E.), known as Cesme Bogazi by the Turks, separates the Turkish mainland from Nisos Khios. The W side of the strait is formed by the E side of Nisos Khios, which has previously been described beginning in paragraph 19.9.

In Khios Strait, the current sets strongly N with S winds, especially after N or NE winds.

**Ak Burun** (38°16'N., 26°14'E.), consisting of moderately-high white cliffs, is the SE entrance point of the strait. Anchorage can be taken by vessels, which are unable to proceed through the strait during N winds, to the SE of this point in any convenient depth, sandy bottom.

**Caution.**—A dangerous wreck lies about 2 miles SSE of Ak Burun.

**19.16 Fener Adasi** (Sungukaya Adasi) (38°18'N., 26°12'E.) lies in the middle of the S part of the strait, 2.4 miles NW of Ak Burun. A light is shown from a prominent structure, 8m high, standing on the summit of this small islet.

Detached shoals with depths of 10m and 9.1m lie about 0.5 mile WSW and 0.4 mile NE, respectively, of the light.

Bogaz Adasi, an islet, lies 0.7 mile E of Fener Adasi. The fairways of the passages leading E and W of these two islets are clear of dangers.

**Nisoi Oinousai** (38°31'N., 26°15'E.), lying at the N entrance of the strait, consists of a group of two islands and several islets. Small craft with local knowledge can obtain shelter within several inlets formed between these islands and islets.

Nisis Pasha, the E island of the group, is marked by a light at its SE end. Nisis Vatos, the S islet of the group, lies close S of the S end of Nisis Pasha and is 43m high.

Nisis Oinousai, the largest and W island of the group, is 182m high. Limin Oinousson, a small bay, fronts the village of Oinoussa which stands on the S shore of the island. This village is fronted by a small craft harbor used by local ferries. This bay, which affords good shelter, is protected from the S by a group of three small islets and two breakwaters. Small craft with local knowledge can enter and obtain good anchorage within the bay.

**Egri Liman Channel** (38°31'N., 26°20'E.), leads between the E side of Nisis Pasha and the mainland coast. This strait is 3.5 miles wide, deep, and generally frequented by traffic on through passage.

**Dhiavlos Spalmatori** (38°33'N., 26°10'E.) leads between the W side of Nisis Oinousai and the NE coast of Nisos Khios. This strait has a least width of 0.9 mile and the fairway is deep and clear.

**19.17 Bati Burnu** (38°18'N., 26°14'E.) is located on the E side of the strait, 1.6 miles N of Ak Burnu. This point is fronted by rocks and the coast to the NE is formed by prominent chalk cliffs. During strong S winds, anchorage can be obtained in the bay lying NE of Bati Burnu, in depths of 18 to 22m, coarse sand, good holding ground.

Fener Burnu, a red point, is located 3 miles NE of Bati Burnu. It is fronted by a shallow bank and marked by a light.

**Kaloyeri Sigleri** (38°20'N., 26°16'E.), a rocky shoal, lies on a shallow bank 0.7 mile NW of Fener Burnu. A light is shown from a prominent tower, 9m high, standing on a rock, awash, near the middle of the shoal.

**Cesme** (38°19'N., 26°18'E.), a small quayed harbor, lies at the SE head of Cesme Korfezi, a bay, which is entered NE of Fener Burnu. A conspicuous stone arch stands on the SW side of Kara Dag Burnu, a broad headland, which is located 0.5 mile ESE of Fener Burnu. The town of Cesme stands on a slope at the E side of the bay. A prominent castle is situated in the town and a conspicuous television tower stands on a ridge close N of it. The harbor is protected from the NW by a rubble breakwater. It has depths of up to 4m alongside and is used by small craft, coasters, and local ferries. Pilotage is compulsory for Turkish vessels of 1,000 gross tons or more and for all foreign vessels exceeding 150 gross tons. Vessels should send an ETA 24 hours in advance. Vessels can anchor, in a depth of 22m, about 0.3 mile NE of Fener Burnu.

**Uc Burunlar** (38°23'N., 26°17'E.) is the low extremity of a narrow sloping promontory. Several rocks lie on a shallow bank, with a least depth of 2.8m, which extends up to 1.6 miles N of this point.

**Toprak Adasi** (38°23'N., 26°16'E.), a small islet, lies 0.9 mile NNW of Uc Burunlar. It is composed of loose red stones and is marked by a light.

**19.18 Ildir Korfezi** (38°24'N., 26°23'E.), a gulf, indents the SE side of Khios Strait and is fronted by Kumuthi Sigleri, a group of rocky patches and islands. The gulf lies between Uc Burunlar and Colak Burnu, 6.5 miles NE. The SW part of the gulf is a resort area. Numerous prominent buildings and hotels are situated along the coast and several small craft harbors and yacht marinas front the shore.

Kara Ada, 218m high, lies 2.4 miles W of Colak Burnu and is the largest island of the Kumuthi Sigleri group. Uzan Ada, consisting of two islets and several shoal patches, lies 1 mile SW of the SW end of Kara Ada. Toprak Ada, 105m high, is located 1 mile SW of Colak Burnu and is the outer islet lying off the SE side of Kara Ada.

The N passage leading into the gulf lies between Colak Burnu and Toprak Ada. The fairway has a least width of 0.6 mile and is deep. The W passage leads SW of Uzan Ada. The fairway has a least width of 1.5 miles and a least depth of 14m.

Gerence Korfezi, a bay, indents the NE side of the gulf and provides anchorage in its NW part. Ufak Ada lies 3.6 miles SSE of Colak Burnu. This small islet is marked by a light and is the outer of several islets lying off the S shore of the gulf.

**Colak Burnu** (38°27'N., 26°24'E.), the N entrance point of the gulf, is the S extremity of Teke Dagi, a promontory which rises to a height of 312m.

**Kara Burum** (38°40'N., 26°22'E.), fronted by rocks, is the NW extremity of Karaburun Yarimadasi, a large peninsula, which has bold and high coasts and lies along the NE side of Khios Strait. A light, with a racon, is shown from a prominent structure, 13m high, standing on this point.

Komur Burnu, formed by the E end of a steep cliff, is located 2.8 miles NE of Kara Burum. This point is fronted by rocks and is the N extremity of Karaburun Yarimadasi.

Kanlikaya Burnu, a bold and dark point, is located 2.7 miles E of Komur Burnu.

## Izmir Korfezi

**19.19 Izmir Korfezi** (38°33'N., 26°45'E.) is located between Karaburun Yarimadasi and the mainland coast. The entrance of this gulf is considered to lie between Kanlikaya Burnu and Aslan Burnu, 13 miles ENE. The width of the gulf varies, but narrows as the inner part is approached. The shores differ greatly in character. The W side of the gulf is high and steep, while the E side is mostly low and backed by a plain. The S shore is backed by high hills and fronted by several islands. Several conspicuous peaks rise within the mountain chain which extends along the peninsula at the W side and are visible from a considerable distance. Several small craft and fishing boat harbors lie along the shores of this gulf.

**Winds—Weather.**—In Izmir Korfezi, the strong sea breezes of summer force the water towards the head of the gulf. When the wind falls, a W set out of the gulf can attain a velocity of up to 1.5 knots.

The land and sea breezes are well-developed during the summer. The sea breeze is from the SW and NW and, from May to September, blows regularly from about 1000 until sunset. Its average velocity is 14 knots, but may exceed 22 knots when aided by a gradient for W winds. It causes a short troublesome sea.

During the winter, the strongest winds are from the NW. Once every 2 or 3 years the winds may reach gale force, but they do not last long. Near Saip Iskela, SE winds sometimes blow strongly out of the gulf.

**19.20 Buyukada** (38°40'N., 26°31'E.) lies off the NE shore of the gulf, 2.2 miles ESE of Kanlikaya Burnu. This islet is 45m high and has a steep white cliff at its SW end. A light is shown from a structure, 10m high, standing on the NE side of the islet.

**Foca** (38°40'N., 26°45'E.), a small town, stands on the E side of Foca Limani, a small bay, which indents the E side of the gulf, 4.3 miles S of Aslan Burnu. The coast between is fronted by several islets and shoals which extend up to about 1 mile offshore. Fener Adasi lies on the N side of the entrance to the bay, 4.2 miles SSW of Aslan Burnu. This small islet is marked by a light at its W side. The shores of the inner part of the bay are fringed by a shallow bank and the NE side is quayed. Small craft and fishing vessels with local knowledge can anchor, in a depth of 18m, within the bay. A light is shown from the N extremity of a small promontory which projects from the S shore of the bay.

Deve Burnu, 34m high, is a small, dark, and cliffy peninsula lying on the S side of the entrance to Foca Limani. It is connected to the mainland by a low and sandy isthmus and resembles an island.

**Venedik Kayalari** (38°37'N., 26°45'E.) lies 0.6 mile offshore, 2.3 miles SSE of Deve Burnu. This dangerous reef has parts above water and is marked by a light.

**19.21 Leventler Limani** (38°38'N., 26°45'E.), a small inlet, is entered close NE of Venedik Kayalari and several jetties, with depths of 3.8 to 6m alongside, project from the shore at its head.

Kapan Burnu, located 5.3 miles SE of Venedik Kayalari, is the W extremity of the low shore on the NE side of the gulf. A



bank, with depths of less than 7m, extends up to 0.7 mile W of this point. The shore in this vicinity is backed by several lagoons and fisheries.

**Cilazman Burnu** (38°27'N., 26°54'E.) lies on the SE side of the gulf at the N side of the entrance to Izmir Limani. A lighted buoy is moored about 0.7 mile SW of this point and marks the coastal bank in this vicinity.

Cali Burnu is located 2.5 miles SE of Cilazman Burnu and a jetty extends 0.4 mile SSW from it. Pelican Banks, with depths liable to change, fronts this point and is marked by a lighted buoy moored about 0.9 mile S of the seaward end of the jetty.

**19.22 Uzan Ada** (38°30'N., 26°43'E.), 202m high, is the largest island lying in the gulf. It is located midway between the shores and fronted in many places by rocks and shoals.

Isareis Burnu, the N end of a narrow tongue of land, forms the N extremity of the island. A light is shown from a framework structure, 6m high, standing 0.8 mile SE of this point. A prominent radio mast stands on the E side of the island, 1.6 miles SSE of the light.

A detached shoal, marked by a lighted buoy, lies 1.4 miles SW of Keric Burnu, the SE extremity of the island. This shoal has a least depth of 4.3m and is located on the S side of Mentec Gecidi, the passage which leads between the S side of the island and the mainland.

A prominent radio mast stands on the S side of Uzan Ada, 1.2 miles NW of Keric Burnu. A bay indents the SW side of the island and a fueling pier projects from the head. This pier is 60m long and has a depth of 14.6m alongside. Numerous mooring buoys are situated within the bay.

Hekim Adasi, an islet, lies 1.2 miles SE of Keric Burnu and is 119m high at its S end.

**19.23 Gulbahce Korfezi** (38°26'N., 26°39'E.), a small gulf, lies in the SW part of Izmir Korfezi and can be approached via Mordogan Gecidi, which leads W of Uzan Ada, or via Mentec Gecidi and passing N or S of Hekim Adasi. An islet, 22m high, lies on a shallow bank at the head of this gulf. Vessels with local knowledge anchor within the coves indenting the shores of this gulf, but heavy squalls occasionally descend from the high land.

**Cicek Adalari** (38°24'N., 26°47'E.), a group of islets and rocks, lies off the SE shore of Izmir Korfezi. Yassica Ada, 38m high, is the E islet of the group and lies 2.3 miles SSE of Hekim Adasi. A light is shown from a structure standing on a rock lying 0.4 mile N of the N end of Yassica Ada.

**19.24 Ura Limani** (38°23'N., 26°46'E.), a bay, lies at the S end of Izmir Korfezi and is fronted by Cicek Adalari. Karantina Adasi, an islet, fronts the head of the bay and is connected to the shore by a causeway. A prominent hospital stands on this islet. Adacik, a small islet, lies 2.1 miles NW of Karantina Adasi and is also connected to the shore by a causeway. This islet is surmounted by a prominent hotel. Vessels can anchor, in a depth of 18m, about 0.5 mile SE of Adacik.

A light is reported (1993) to be shown from Kayikbasi, on the S shore of the gulf, 4.8 miles E of Karantina Adasi.

**Caution.**—An area, within which navigation is prohibited without permission, fronts the entrance to Leventler Limani and may best be seen on the chart.

Anchoring near or approaching the coasts of Uzan Ada without permission is prohibited.

A spoil ground area, which may best be seen on the chart, lies 1.4 miles NE of Cicek Adalari.

### Izmir (38°26'N., 27°08'E.)

World Port Index No. 44750

**19.25** The port of Izmir (Smyrna) lies at the E end of Izmir Limani, a bay, which extends 10 miles E from Cali Burnu. The city of Izmir and its suburbs stand along the S side of the head of the bay and the town of Karsiyaka stands along the N side. The old inner harbor fronts the W side of the city and is protected by a detached breakwater. The new commercial harbor, known as Alsancak, fronts the N side of the city and consists of several large piers.

**Tides—Currents.**—The tidal rise is about 0.8m at springs and 0.1m at neaps. Winds from the S can increase the water level by up to 1.1m and winds from the N can cause it to decrease by the same amount.

**Depths—Limitations.**—The old inner harbor has depths of up to 7.9m alongside and is used by small craft and coasters.

An approach channel, about 1 mile long, leads to the new commercial harbor and is dredged to a depth of 12m (1980). The main facilities include 1,429m of quayage, with depths of 7 to 12m alongside, which provide five berths for general cargo and bulk vessels. There is also 1,050m of quayage, with depths of 12 to 13m alongside, which provide seven berths for container, ro-ro, and passenger vessels. Vessels of up to 11.8m draft can be accommodated.

Turan Oil Terminal is situated on the N shore of Izmir Limani and consists of two jetties which provide stern-to berths with depths of 5.2 and 7m. Tankers of up to 5.4m draft can be handled. In addition, an offshore oil berth, consisting of several mooring buoys, is situated 1 mile SW of the jetties. This berth has a depth of 10m; tankers of up to 9.8m draft can be handled.

**Aspect.**—The fairway within Izmir Limani leads between the shallow banks which front the shores and is marked by lighted buoys at its narrowest part. The city is conspicuous and stands at the foot of a hill, 186m high, which is surmounted by a prominent castle. A large and conspicuous grain elevator stands on the SW side of the commercial harbor.

**Pilotage.**—Pilotage is not compulsory for vessels entering Izmir Limani, but vessels entering the bay for the first time or at night are advised to employ the services of a pilot. Pilots can be contacted on VHF channel 4, 12, 14, 16, or 24 and upon request will board S of Pelikan Banks.

Pilotage is compulsory for vessels exceeding 150 grt entering the inner harbor and pilots will board about 1.0 miles SW of the entrance to the dredged approach channel.

**Regulations.**—All vessels should send an ETA at least 24 hours in advance.

**Anchorage.**—The middle harbor area is spacious and vessels can anchor as convenient W or NW of the detached breakwater at the old inner harbor. A good berth, in depths of 14 to 18m, good holding ground, lies between 0.2 and 0.5 mile NW of the breakwater.

An explosives anchorage area, the limits of which are indicated on the chart, lies in the N part of Izmir Limani.

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Vessels must receive permission from the port authority prior to anchoring within the port. Vessels can anchor without permission, in a depth of 12m, in the E part of Goztepe Koyu, a bight, which lies on the S side of Izmir Limani, 2.5 miles SW of the old inner harbor.

**Caution.**—Vessels have reported experiencing difficulty in safely navigating the waters in the vicinity of Tuzla mud flats and caution is required in the waters lying between Cilazman Burnu and Pelikan Banks.

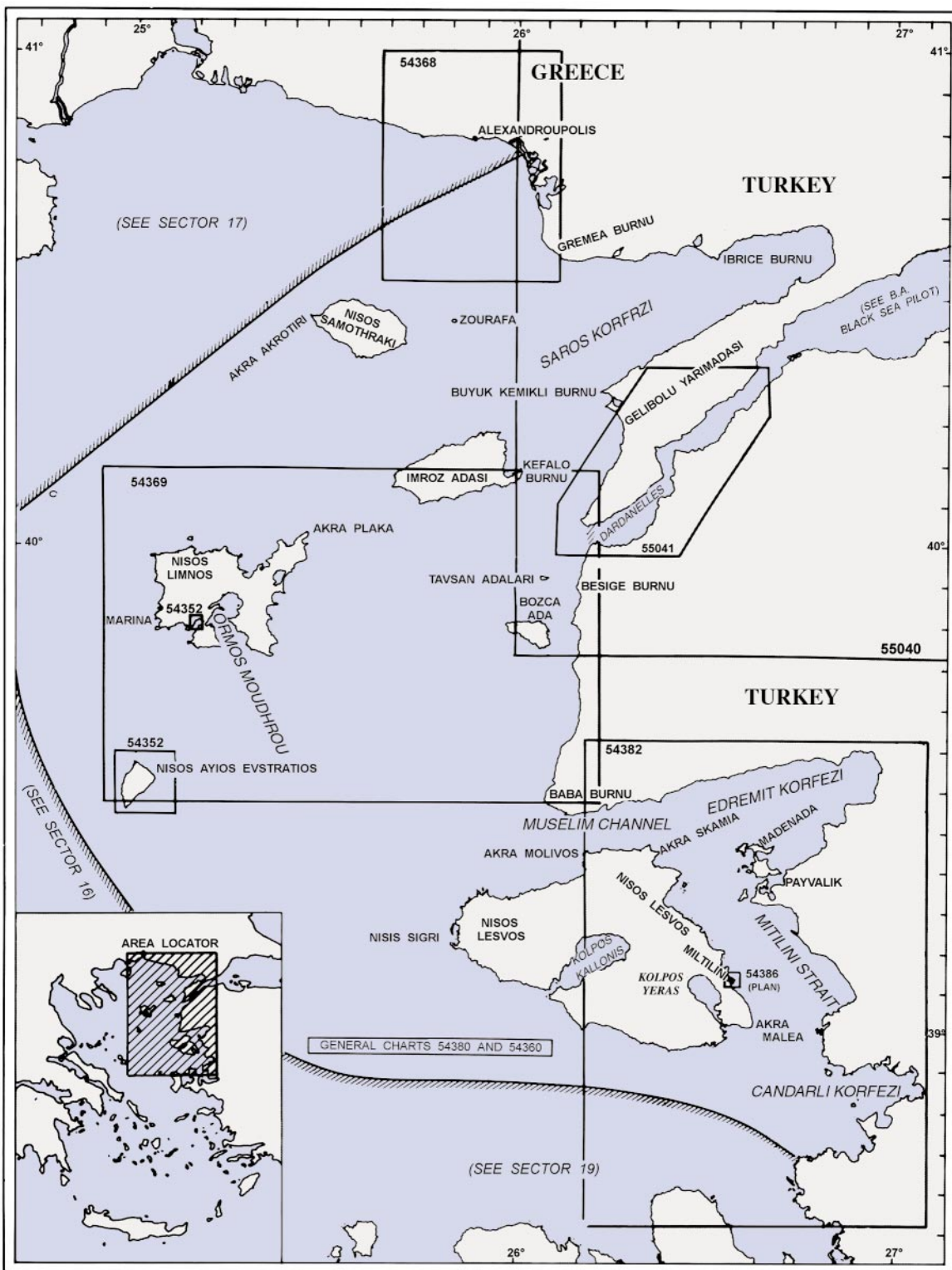
Several wrecks lie within the approaches to the port and may best be seen on the chart.

Several submarine cables lie across Izmir Limani and may best be seen on the chart.

A ferry runs between the N and S shores of the middle harbor.

It has been reported (1997) that depths in the approaches to Izmir may be as much as 3.1m shallower than charted.





Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

**SECTOR 20 — CHART INFORMATION**



## SECTOR 20

### THE DARDANELLES APPROACH AND THE ADJACENT COAST AND ISLANDS

**Plan.**—This sector describes the Turkish coast in the NE part of the Aegean Sea, from Izmir Korfezi to Alexandroupolis. It also includes the off-lying islands in the approach to the Dardanelles. The general descriptive sequence is from S to N.

#### Nisos Lesvos

**20.1 Nisos Lesvos** (39°15'N., 26°15'E.), lying close off the Turkish coast, is mountainous throughout with some well-wooded hills. Prominent peaks include Oros Ordhimnos, 512m high, which stands near the W end of the island; Oros Olimbos, 968m high, which stands in the SE part; and Oros Lebetimnos, 968m high, which stands in the N part. A prominent monastery is reported to stand on the summit of Oros Ordhimnos.

This island lies on the N side of the approach to Candarli Korfezi and in the SW approach to Edremit Korfezi. It is separated from the mainland to the E by Mitilini Strait and the mainland to the N by Muselim Channel.

**Akra Saratsina** (39°11'N., 25°50'E.), the W extremity of Nisos Lesvos, is formed by a steep cliffy projection, 53m high, and marked by a light. This point is conspicuous from the S because of its abrupt termination, but from the W, it blends with the high land and is not easily distinguished. It has been undermined by the sea in places and the debris of fallen cliffs lies at its NW extremity.

**20.2 Nisis Megalonisi** (39°13'N., 25°50'E.), an islet, is 62m high and its W side is formed by prominent white cliffs. A light is shown from a prominent tower, 15m high, standing on the W side of this islet.

Nisis Sedhousa, 43m high, is a small islet, lying 0.9 mile SW of Nisis Megalonisi, which is surrounded by a shallow bank and numerous rocks.

Ormos Sigrí indents the coast between Akra Saratsina and a point, 2.5 miles N, and is protected from the W by Nisis Megalonisi and Nisis Sedhousa. A narrow channel leads into this bay and passes to the N of Nisis Megalonisi. The main entrance channel passes to the S of this islet and may be approached on either side of Nisis Sedhousa. The village of Sigrí stands on the E side of the bay and is fronted by a small fishing harbor. Anchorage with local knowledge is available within the bay, in a depth of 20m, about 0.3 mile WNW of a ruined fort which stands at the W end of the village.

Akra Kopanos, located 8 miles SW of Akra Saratsina, is a prominent cliffy point fringed by a reef and an above-water rock. The coast between is formed mostly by beaches backed by high land.

Skala Eresou, a landing place, lies 5.7 miles SE of Akra Saratsina and can easily be distinguished by a fine beach with a small islet lying off its E end. A prominent valley, with a few houses, backs the beach. During strong N or NE winds, vessels can obtain good temporary anchorage, in depths of 12 to 18m, off the landing place. A dangerous wreck is reported to lie about 0.3 mile W of the small islet.

**20.3 Kolpos Kallonis** (39°05'N., 26°05'E.), a landlocked gulf, indents the SW coast of Nisos Lesvos and is surrounded by hills which, in many places, are covered with olive groves. This gulf affords good shelter, but is subject to heavy squalls from the high land.

The entrance lies between Akra Vromousa (Kalloni) and Akra Makara, 0.5 mile NW. It is encumbered by a large shallow bank and Vrakhonisis Kalloni, an islet, which is surrounded by rocks and marked by a light. Lowestoft Hill stands 1 mile ENE of Akra Vromousa and is rounded and conspicuous. A passage, 200m wide, leads N of Vrakhonisis Kalloni and has a least depth of 6.7m in the fairway. The main entrance channel leads E of Vrakhonisis Kalloni. The fairway is only 64m wide at its narrowest part, but has a least depth of 17m. It is marked by buoys and beacons. The tidal currents in the narrows of the entrance generally set at rates of up to 1.5 knots, but the outgoing flow has been reported to set, occasionally, at rates of up to 4 knots. Local pilots can be provided if prior notification is given and will board about 0.3 mile SW of the entrance.

Skala Polikhnitou, standing on the SE side of the gulf, is the most important of several small towns and villages which are situated around the shores. Two prominent chimneys stand in the vicinity of this town. Large vessels may obtain good anchorage anywhere within Kolpos Kallonis, in depths of 7 to 18m, mud. Local knowledge is advised.

**20.4 Akra Ayios Fokas** (39°00'N., 26°10'E.), a prominent point, is located 6 miles SE of the entrance to Kolpos Kallonis. It is fronted by a reef which extends up to 0.5 mile seaward and should be given a wide berth. A prominent white house stands 0.5 mile N of the point.

**Plomari** (38°59'N., 26°22'E.), a small town, stands on the S coast of Nisos Lesvos and is fronted by a small fishing harbor, protected by two breakwaters. Several conspicuous buildings and structures are situated in the vicinity of the town. A prominent white school building stands 0.3 mile NE of the head of the S breakwater and is an excellent landmark from the E, but is not visible from the W.

**Nisis Profilaki** (38°58'N., 26°32'E.) lies 0.6 mile offshore and is marked by a light. This small islet is the SE and outer danger lying off the SE coast of Nisos Lesvos.

**20.5 Kolpos Yeras** (39°01'N., 26°33'E.), a large landlocked basin, indents the SE part of Nisos Lesvos. It is surrounded by hills covered with olive trees and backed by mountains. The outer approach to the basin is located NE of Nisis Profilaki and lies between Akra Valvi and Akra Malea (Agrilia), 3 miles NE. The entrance to the somewhat tortuous channel, which leads NW into the basin, lies between Akra Kavourolimni, located 0.8 mile N of Akra Valvi, and Akra Exo, 0.7 mile NE. The small town of Perama stands on the W side of the channel, 3 miles NW of Akra Kavourolimni. The fairway of the S part of the channel leading as far as the town has depths of more than

10m. The N part of the channel has a least width of 250m and depths of over 5m, but the fairway with a least depth of 8.8m is only about 90m wide at its narrowest part. Several above-water rocks lie in the entrance channel. Pilots are not available, but in good weather and during daylight, the fairway marks are easily identified and vessels should have little difficulty reaching the town. Local knowledge is required to proceed N of the town. Vessels should not enter or leave at night, or in thick weather.

Vessels with local knowledge can obtain anchorage in any part of Kolpos Yeras, in depths of 13 to 18m, mud.

**Akra Malea** (Agrilia) (39°01'N., 26°36'E.), the SE extremity of Nisos Lesvos, is fronted by a spit, with an above-water rock, and marked by a light.

**Akra Kastro** (39°07'N., 26°34'E.) is the E extremity of a small peninsula which fronts the town of Mitilini. A light is shown from a prominent structure, 21m high, standing on this point. A conspicuous fort stands close W of the light. Several radio masts stand close to the shore in the vicinity of an airport 3.5 miles SSE of the light.

**20.6 Mitilini** (39°06'N., 26°34'E.) (World Port Index No. 42760), a small port, consists of two harbors, protected by breakwaters, lying on the N and S sides of the small peninsula of which Akra Kastro is the E extremity. Notio Limin, the S harbor, consists of outer and inner basins.

**Depths—Limitations.**—Vorio Limin, the N harbor, is protected from the NE by a breakwater formed by partly submerged boulders. It is shallow and used primarily by fishing vessels.

The inner basin of Notio Limin has general depths of 5 to 8m and depths of up to 5.9m alongside the quays. It is used mostly by local small craft. The outer basin has 600m of total berthing space which includes a main quay, 270m long, with a depth of 8m alongside. Bulk and general cargo vessels of up to 160m in length and 7.5m draft can be accommodated.

A power station, situated 1 mile NW of the town, is fronted by an offshore oil berth which consists of several mooring buoys. The berth is connected to the shore by submarine pipelines which are marked at their seaward ends by lighted buoys.

**Aspect.**—A cemetery chapel and a cathedral, both conspicuous, stand 1.1 miles SW and 0.5 mile WSW, respectively, of Akra Kastro Light. A conspicuous monument, 15m high, stands close N of the root of the S breakwater at Notio Limin; a prominent church is situated close W of the inner basin.

**Pilotage.**—Pilotage is not compulsory and official pilots are unavailable. The harbor can be contacted on VHF channel 12 or 19 and with advance notice marine officers with local knowledge will assist vessels to enter and berth. Vessels should send an ETA at least 24 hours in advance.

**Anchorage.**—Vessels may obtain anchorage off the S harbor, in a depth of 18m, sand and weed, about 0.2 mile ENE of the head of the breakwater or farther out if necessary.

**20.7 Akra Skamnia** (Korakas) (39°23'N., 26°20'E.), the NE extremity of Nisos Lesvos, is marked by a light. The coast between Mitilini and this point should be given a wide berth as numerous rocks and small islets lie close offshore and additional shoaling has been reported along the coastal bank.

Ormos Makris Yialos, a large bay, is entered 7.5 miles SE of Akra Skamnia and has depths suitable for anchoring off its

head. Nisis Prassologos, consisting of two small islets and a reef, lies 0.6 mile offshore in the S part of the bay.

**Nisis Panayia** (39°19'N., 26°27'E.) is the NE and outer islet of Nisoi Tokmakia, a group of islets and rocks, which encumber the N part of Ormos Makris Yialos. A light is shown from a framework tower, 23m high, standing on the E extremity of this islet.

A radiobeacon is reported to be situated 0.8 mile inland from the S shore of the bay, 5 miles S of Nisis Panayia.

**Akra Molivos** (39°22'N., 26°10'E.) is a cliffy and irregular headland. A light is shown from a structure standing on a promontory 1 mile NE of the W extremity of this headland. A small boat harbor, protected by a curved breakwater, lies on the SE side the headland. During E winds, vessels can anchor, in depths of 18 to 37m, within the roadstead lying off the village of Mithimna which stands at the head of a small bay on the S side of Akra Molivos. The depths here increase rapidly to seaward and during the summer, the wind generally blows from the N and E, causing a swell in this roadstead.

**Nisis Petra** (39°20'N., 26°09'E.), an islet, lies about 0.5 mile offshore, 2.5 miles SW of Akra Molivos. A rock, with a least depth of 3.5m, lies about 0.2 mile N of the N extremity of this islet.

**Nisis Gavadhas** (39°18'N., 26°02'E.), a rocky islet, lies about 0.8 mile offshore, 6 miles WSW of Nisis Petra. This islet is marked by a light and depths of less than 10m lie within 0.3 mile of its shores.

**Akra Fournia** (Ordhimnos) (39°18'N., 25°55'E.), located 5 miles W of Nisis Gavadhas, is the NW extremity of the cliffy NW coast of Nisos Lesvos.

## Candarli Korfezi

**20.8 Candarli Korfezi** (38°52'N., 26°55'E.), lying immediately NE of Izmir Korfezi, is entered between Aslan Burnu and Kemikli Burun, 12 miles NNE. The irregular shores of this gulf are indented by several bays which are separated from each other by bold headlands. In some places, the shores are low and marshy.

In Candarli Korfezi, the N winds are strong at times during the summer, but when they are not blowing strongly, land and sea breezes prevail. Strong N winds are often preceded by the formation of clouds on the summit of Kara Dag. Winds from N and NE are frequent during the winter.

**Aslan Burnu** (38°45'N., 26°44'E.), marked by a light, is the bold termination of high land which rises to a height of 380m about 3 miles SSE.

Ilica Burnu, marked by a light, is located 8.9 miles NE of Aslan Burnu and is the termination of a bold and cliffy tongue of land.

**20.9 Tavsan Adasi** (38°51'N., 26°53'E.), 41m high, lies 1.5 miles NNW of Ilica Burnu. A light is shown from a prominent structure, 6m high, standing on the summit of this islet. Pirasa Adasi, a small islet, 37m high, lies 0.8 mile NE of Tavsan Adasi and is marked by a light.

Ikiz Adalari, consisting of two rocky islets fronted by shoals, lies in the N part of the gulf, 1.6 miles NNE of Pirasa Adasi.

**Degirmenada Burnu** (38°55'N., 26°56'E.), located 4 miles E of Kemikli Burun, is the extremity of a tongue of land which

projects S from the N shore of the gulf. A conspicuous fort stands in the town of Candarli 0.6 mile NNW of this point. Vessels may obtain anchorage, in depths of 7 to 15m, mud, E of the tongue of land with good holding ground.

**Mardalik Adasi** (38°55'N., 26°49'E.) lies 1.5 miles W of Kemikli Burun and a conspicuous ruined tower stands on its SW side. This islet is 125m high and is the largest of a group of islets and rocks which front the NE entrance of the gulf.

**20.10 Nemrut** (38°46'N., 26°55'E.) (World Port Index No. 44752), a small port, lies at the head of Nemrut Limani, a bay, indenting the SE shore of the gulf 3 miles SSE of Ilica Burnu. It serves a refinery and several other industrial installations.

**Depths—Limitations.**—A small harbor basin fronts the Petkim Refinery and is protected by a breakwater. There is 338m of berthing space, used by general cargo vessels, with depths of 7 to 10m alongside; 338m of berthing space, used by tankers, with depths of 7 to 10m alongside; and 250m of berthing space, used by chemical vessels, with a depth of 6m alongside.

A naphtha berth, 90m long, fronts the W side of the breakwater and has a depth of 14m alongside. This berth was reported (1992) to be out of service.

An oil pier (Petrol Ofisi) projects WSW from the shore, 0.2 mile SE of the harbor. It has a T-head berth with a depth of 14m alongside.

An L-shaped jetty, with several mooring buoys, fronts the ammonia works (Ege Gubre) at the S side of the bay and a silver storage tank stands close S of its root. The berthing face is 125m long and has depths of 10 to 14m alongside.

Four scrap metal and steel product jetties extend from the S and W shores of the bay. Nemtas Jetty projects NNW and has a berth, 210m long, with depths of 7 to 21m alongside. Habas Jetty, 300m long, projects NNW and has two berths, each 200m long, with depths of 14 to 20m alongside. Limas Jetty (Metas) is L-shaped and has a berthing face, 154m long, with a depth of 12m alongside. Cukurova Jetty, which projects N and NNW, is quayed on both sides. It has four main berths, 185 to 215m long, with depths of up to 30m alongside.

**Pilotage.**—Pilotage is compulsory for vessels entering Nemrut Limani. Pilots, who come from Aliaga, can be contacted on VHF channel 16 and generally board about 0.5 mile W of the head of the breakwater.

Vessels should send their ETA 72 hours, 48 hours, and 24 hours in advance through the harbormaster at Aliaga; the ETA should be confirmed on VHF channel 16.

**Anchorage.**—Anchorage may be obtained in depths as convenient within the bay.

**20.11 Aliaga** (38°49'N., 26°57'E.) (World Port Index No. 44753), a small port, lies within Aliaga Limani, an inlet entered 3 miles E of Ilica Burnu.

**Aliaga Home Page**

<http://www.tupras.com.tr>

**Depths—Limitations.**—The S and E sides of the inlet are fringed by a shallow bank and depths of less than 5m extend up to 0.5 mile from the head.

A new VLCC oil wharf, with a berthing face of 480m, projects from the NW side of the inlet. It can accommodate tankers of up to 250,000 dwt, 340m in length, and 19.3m draft.

A refinery terminal, consisting of a T-shaped jetty, projects from the W side of the inlet and has four berths. It can accommodate tankers of up to 285m in length and 16m draft.

A cargo pier, 80m long, is situated at the SW side of the inlet and has a depth of 7m alongside. It can accommodate vessels of up to 90m in length and 6m draft.

An LPG platform, consisting of dolphins, lies in the middle of the S part of the inlet and is connected to the S shore by a submarine pipeline.

It is reported (1993) that a new cargo quay and jetty are under construction close S of the cargo pier.

**Aspect.**—A prominent refinery is situated at the SW head of the inlet and the town of Aliaga stands along the SE shore. A light is shown from the E entrance point.

**Pilotage.**—Pilotage is compulsory for all vessels entering the inlet. Pilots can be contacted by VHF and generally board 0.9 mile NW of Tash Burnu. Vessels should send an ETA 72 hours, 48 hours, and 24 hours in advance.

**Regulations.**—Vessels must receive permission prior to approaching within 800m of the W entrance point of the inlet and the facilities and berths situated along the W and S sides.

**Anchorage.**—Vessels waiting to berth may anchor outside the inlet and clear of the entrance, in depths of 30 to 50m. Small vessels may anchor, in depths of 9 to 22m, sand and mud, at the E side of the inlet with good holding ground.

## Mitilini Strait

**20.12 Mitilini Strait** (39°10'N., 26°40'E.) leads between the E coast of Nisos Lesvos and the Turkish mainland. The fairway has a least width of 3.5 miles and is deep and clear of dangers. From the S, this strait is entered between Akra Malea, the SE extremity of Nisos Lesvos, and Maltepe Burnu, 9.5 miles ESE.

**Maltepe Burnu** (38°57'N., 26°48'E.), located 3.2 miles NW of Kemikli Burun, is a bold headland. This point forms the W termination of Kara Dag which rises to a height of 765m about 2 miles WNW.

The N entrance of the strait lies between Akra Skamia, the NE extremity of Nisos Lesvos, and Maden Ada, the NW island of a group lying off the mainland, 11 miles E.

The W side of the strait has previously been described with Nisos Lesvos beginning in paragraph 20.1.

**Bademli Limani** (39°01'N., 26°48'E.), a narrow inlet, is entered 3.7 miles N of Maltepe Burnu. Baston Adalari, consisting of two islets, lies in the SW approaches. Garip Adasi, 24m high, lies 0.9 mile offshore and is the outer islet. White cliffs standing at the S end of these islets are reported to show up well against the reddish-brown cliffs of the mainland. Pisa Burnu, the N entrance point, is marked by a light and fronted by shoals which extend up to about 1.2 miles W. The entrance fairway is only about 100m wide and has a least depth of 6.1m. There are depths of 6 to 11m in the outer part of the inlet, but the inner part is shallow.

**Dikili** (39°04'N., 26°53'E.), a small harbor, lies at the head of a bay and is protected from the NW by a mole. A jetty, 100m long, projects W and NW from the shore fronting the town. It has berths, about 65m long, on both sides with depths of 6 to



10m alongside. This jetty is used by small craft, ferries, coasters, and small cargo vessels of up to 6,000 dwt. Vessels may anchor, in depths of 20 to 30m, at distances of 0.3 to 1 mile W of the harbor. Cruise vessels also land passengers here to visit the ruins of the ancient city of Pergamon. Pilotage is compulsory for foreign vessels. Vessels should send an ETA 24 hours in advance. The harbor can be contacted on VHF channel 16.

**Madrey Cay** (39°10'N., 26°46'E.) flows into the E side of the strait, 9 miles NNW of Bademli Limani. A light is shown from a structure standing in the vicinity of the mouth of this river. Kurbaga Burnu, located 3.5 miles NW of the river mouth, is a sandy tongue of land which projects NW from the shore. The coast between is fronted by a bank, with depths of less than 9m, which extends up to 0.8 mile seaward.

**Egribucak Burnu** (39°17'N., 26°37'E.) is the SW extremity of a hilly peninsula. This cape is precipitous with white cliffs and is the only one in this vicinity that presents such an appearance. Three conical hills stand between 2 and 3 miles E of the cape and are prominent from the S. The middle hill is 134m high. Canak Tepe, 124m high, stands 1.7 miles ENE of the cape and is surmounted by a prominent radio mast.

Ciplakada lies with its S end located 1.3 miles WNW of the cape. This islet is surrounded by shoals and is marked on its E side by a light.

Tatlisu Korfezi, a bay, lies SE of the cape and affords shelter from N and E winds. Vessels can anchor, in depths of 14 to 33m, mud.

**20.13 Ayvalik Limani** (39°19'N., 26°42'E.) (World Port Index No. 44730), a small landlocked bay, lies at the NE end of the strait and forms a natural harbor. It is approached from the W through Dalyan Bogazi, a narrow channel, which leads between the N end of a peninsula extending NE from Egribucak Burnu and Alibey Adasi, the largest of a group of small islands and islets fronting the NE entrance of the strait. The resort town of Alibey stands on the S side of the island at the NW side of the bay. It is fronted by a small harbor which has depths of 2 to 6m and is protected by a breakwater. This harbor is used by small craft and local ferries. The small town of Ayvalik is situated on the mainland at the SE side of the bay. It is fronted by a small craft harbor which is mostly used by yachts. A dredged fairway, 37m wide, leads through Dalyan Bogazi and has a least depth (1990) of 2.7m. Local knowledge is advised.

In the approach to Ayvalik Limani, vessels with local knowledge can obtain sheltered anchorage, in depths of 27 to 31m, mud, in the N half of the channel which separates Ciplakada from the mainland.

**Yumurta Adasi** (39°19'N., 26°31'E.), a small and cliffy islet, lies 4.8 miles NW of Egribucak Burnu and is fronted by rocks. This islet is marked by a light at its W end and is the W and outer islet lying off the NE entrance of the strait. Gunes Kayasi, a detached shoal, lies about 0.8 mile S of the light and has a least depth of 5.6m. The main fairway of the strait passes to the W of these dangers.

Gunes Adasi, 45m high, lies close NE of Yumurta Adasi. This islet is surrounded by foul ground and rocks and is marked by a light on its S side.

**Maden Ada** (39°23'N., 26°35'E.) is the NW islet of the group lying off the NE entrance of the strait. It is fronted by rocks in places and connected by a narrow causeway at the E

end to the NW part of Alibey Adasi. A hill, 85m high, stands near the middle of the islet and is surmounted by a prominent ruined windmill. Kucukmaden Adasi, a small islet, lies close off the SW side of Maden Adasi and is connected to it by a causeway.

## Edremit Korfezi

**20.14 Edremit Korfezi** (39°27'N., 26°40'E.), a large gulf, is entered between Maden Ada, which is considered to form the NE entrance point of Mitilini Strait, and Kadirga Burnu, 11 miles NW. The N shore of the gulf is closely backed by mountainous land. Several prominent towns, villages, and factory chimneys are situated on the mountain slopes. Kaz Dagi, 1,767m high, is a conspicuous summit which stands 9 miles N of the head of the gulf. The S shore is hilly with mountain ranges in the interior. The head of the gulf is low and several rivers flow into it.

**Kiz Adasi** (39°25'N., 26°42'E.), 33m high, lies 5.1 miles ENE of the NE extremity of Maden Ada. This islet is the N and outer danger in this vicinity. Alireis Shoal, with a least depth of 6.7m, lies about 1.2 miles NW of this islet.

**Boz Burun** (39°26'N., 26°48'E.) is located 5 miles ENE of Kiz Adasi and is fronted by a shoal. A light is shown from a framework tower, 10m high, standing on this point.

Vessels can obtain anchorage in any of the bays which indent the head of the gulf. A good berth, in depths of 13 to 31m, mud, lies about 0.8 mile SW of the village of Akcay which stands on the NE shore of the head.

## Muselim Channel

**20.15 Muselim Channel** (39°25'N., 26°10'E.) leads between the N side of Nisos Lesvos and the Turkish coast to the N. This passage is entered from the E between Akra Skamnia and Kadirga Burnu, 5.7 miles NNE. Its W entrance lies between Akra Fournia, the NW extremity of Nisos Lesvos, and Baba Burnu, 13 miles NE. The channel has a least width of 4.7 miles and several dangers lie in the middle. The S side of the passage has previously been described with Nisos Lesvos beginning in paragraph 20.1.

**Suruce Burnu** (Sivrice) (39°28'N., 26°15'E.) is the S extremity of a small promontory which is fronted by a reef, several rocks, and a dangerous wreck. A light is shown from a prominent structure, 12m high, standing on the point.

Suruce Limani, a small bay, lies on the W side of the point and affords shelter during N winds. An ancient mole, which appears as a reef, extends a short distance from the E shore of this bay.

**20.16 Muselim Rock** (39°25'N., 26°15'E.), a shallow rock, lies in mid-channel about 2.7 miles S of Suruce Burnu. Shoals with depths of 5.5 and 8.2m lie close NW and close SE, respectively, of this rock. These dangers may be passed on either side, but vessels, especially those with a deep-draft, are advised to use the fairway leading N of them.

A detached shoal, with a least depth of 10m, is reported (1967) to lie about 2.8 miles ESE of Muselim Rock.

**Caution.**—Landing on the N shore of Muselim Channel is prohibited.

## Off-lying Islands

### Nisos Ayios Evstratios

**20.17 Nisos Ayios Evstratios** (39°32'N., 25°02'E.) is a small island, fronted by rocks and shoals, which rises to a height of 298m at its SE side. Akra Triptiti, the S extremity of this island, is marked by a light. The settlement of Ayios Evstratios stands at the head of a small bay which indents the NW coast of the island, 4.5 miles N of the light. It is fronted by a small craft harbor protected by a breakwater.

**Nisis Ayioi Apostoli** (39°34'N., 25°01'E.), a small islet, lies close off Akra Kalamaki, the N extremity of the island, to which it is joined by a reef. A light is shown from a structure standing on the SE extremity of this islet.

Akra Thaskoloi, the E extremity of the island, is located 3 miles SE of Akra Kalamaki and is fronted by foul ground and rocks. A small islet lies 0.5 mile NNE of the point and is surrounded by a shoal bank. A dangerous wreck, the masts of which are visible, lies close off the E end of this islet.

### Nisos Limnos

**20.18 Nisos Limnos** (39°55'N., 25°15'E.) lies in the N part of the Aegean Sea 16 miles NNE of Nisos Ayios Evstratios. Although this irregular island has rugged hills, which appear barren, it does not have any great elevations. The island is nearly divided into two by Ormos Moudhrou and Ormos Pournais, two bays which, respectively, indent the S and N sides.

**Winds—Weather.**—Off the S coast of Nisos Limnos, E winds are the most frequent during the greater part of the year, but NE winds are also frequent in winter. From April to June, winds are variable.

**Tides—Currents.**—To the S of Ifaloi Keros, the current sets N at a rate of about 0.2 knot.

**Akra Plaka** (40°02'N., 25°27'E.), a steep headland with a level summit, forms the NE extremity of the island and is fronted by a reef. A light is shown from a prominent structure, 18m high, standing on this point. An isolated shoal, with a depth of 12.8m, lies about 2.5 miles N of the light.

**Ifaloi Keros** (39°56'N., 25°34'E.), an extensive shoal area, lies between 6 and 10 miles E of the N part of the E side of the island. The shallowest part, which has a depth of 1.5m, is marked by a beacon. Numerous rocky patches are scattered on this shoal area and can usually be distinguished by the color of the bottom during the day. Vessels are advised to give this area a wide berth.

Akra Ayia Irini, the SE extremity of the island, is located 15.7 miles SSW of Akra Plaka and is formed by a low point. During W gales, vessels can obtain temporary anchorage within any of the three bays indenting the S part of the E coast to the N of this point.

**20.19 Ormos Moudhrou** (39°50'N., 25°15'E.), a large bay, indents the S side of the island. It is entered between Akra Velanidhia, fronted by a reef, and Akra Koumbi, 3.2 miles W. The latter point is formed by a round headland, 78m high. Nisis Koumbi, 61m high, lies close ESE of Akra Koumbi to which it is joined by a reef. A light is shown from a structure, 7m high, standing on the summit of this islet.

The bay provides excellent summer anchorage for large vessels, the bottom consisting of mud. It is also reported to be safe in winter. Limin Moudhrou, the inner part of the bay, may be entered via three channels. The middle channel is about 0.2 mile wide and has a least depth of 11.3m in the fairway. The small town of Moudhros stands on the E side of the inner part of the bay and has a prominent cathedral with two towers. It is fronted by a small craft harbor which is mostly used by fishing vessels and ferries.

Vessels can anchor, in depths of 11 to 18m, in most parts of Limin Moudhrou, clear of the dangers and shoals, with a bottom of sand and mud. This bay was the main British base and vessel assembly anchorage during the Gallipoli campaign in 1915.

**20.20 Akra Tigani** (39°40'N., 24°45'E.), the SW extremity of the island, is fronted by a small islet, a drying rock, and foul ground. It should be given a wide berth. A rugged and prominent hill, 162m high, stands 0.6 mile NE of the point. Nisidhes Dhiavates, consisting of two small islets, lies on a reef which fronts a point located 1.4 miles N of Akra Tigani.

**Mirina** (39°52'N., 25°03'E.) (World Port Index No. 42700), a small and prominent town, stands on the isthmus of a rocky promontory, 116m high, which separates two bays. A castle, from which a light is shown, is situated on the promontory. A shoal, with a least depth of 10m, lies about 1 mile WNW of the seaward extremity of the promontory.

A small quayed harbor, protected by a breakwater, lies at the NE head of the bay which is entered S of the promontory. It has depths of up to 5.2m alongside and is used primarily by small craft and ferries. A prominent church stands on the S entrance point of this bay. Vessels can anchor, in a depth of 18m, sand, about 0.2 mile off the head of the breakwater, but the holding ground is not good.

**Akra Mourtzeflos** (39°59'N., 25°02'E.), marked by a light, is the NW extremity of the island. This point is formed by a small conical peninsula which is connected to the island by a low isthmus. Several prominent yellow cliffs are located close S of the isthmus. Nisis Sideritis, an islet 142m high, lies about 1 mile offshore, 5 miles ENE of the light.

**Ormos Pournais** (39°59'N., 25°18'E.) indents the E part of the N side of the island and is entered between Akra Faraklon and Akra Sotiri, 6 miles E. This bay affords anchorage near its head, in depths of 14 to 29m.

## Coastal Features

**20.21 Baba Burnu** (39°29'N., 26°04'E.), the NW entrance of Muselim Channel, is a high and bold headland. From the N, this point appears to slope almost perpendicularly to the sea, but this appearance is lost when Lodos Burnu, located 3 miles ESE, becomes open. The latter point is not as high as Baba Burnu and has a more gradual slope. A light is shown from a prominent structure, 10m high, standing on Baba Burnu; a racon is located at the light.

**Bozca Ada** (39°50'N., 26°04'E.) lies 3 miles off the coast, 20 miles N of Baba Burnu. Goz Tepe, the summit of this island, is 190m high and stands at the E end of the N coast. The other hills on the island decrease gradually towards the W end from this conspicuous conical peak.

**Bati Burnu** (39°50'N., 25°58'E.) is the W extremity of the island. A light is shown from a prominent structure, 20m high, standing close SE of this point.

Simal Sigligi, an extensive rocky bank, extends up to 2.5 miles N of the N coast of the island and should be given a wide berth. Several small islets and rocks lie on the SE part of this bank.

The channel between Bozca Ada and the mainland coast is encumbered at its N end by several small islets, rocks, and banks. Esek Adalari, consisting of two small islets, lies 1.5 miles E of the NE extremity of Bozca Ada. A light is shown from the W and smaller islet. Small vessels with local knowledge frequent this channel.

**Winds—Weather.**—The most frequent winds in this channel are N and NE during both the winter and summer. The strongest winds are from the NE, although S gales can occur in winter.

**Tides—Currents.**—The current in this channel usually sets S at a rate of 1.5 to 2 knots. The current may cease for a time when S winds blow for an extended period of time.

**20.22 Bozcaada** (39°50'N., 26°04'E.), a small harbor, lies at the NE end of the island and is protected by breakwaters. A prominent white castle stands on a small promontory at the NW side of the harbor. The main pier is 50m long and has a depth of 5.5m alongside. It is used by small craft and ro-ro ferries. Vessels can anchor, in a depth of 16m, sand and weed, about 0.2 mile E of the head of the N breakwater.

**Tausan Adalari** (39°56'N., 26°04'E.), lying 3 miles off the mainland coast, is the largest of Karayer Adalari, a group of islets, rocks and shoals. This islet is 42m high and cliffy at its W end. A light is shown from the W end of the islet and a cairn is situated on the cliffs at the SE side. A wreck, with a least depth of 5.5m, lies about 1.6 miles NNW of the light and is the N and outer danger in this vicinity. Small vessels with local knowledge frequent the passage leading E of this group.

North of Tausan Adalari, the current sets WSW at a rate of 2.5 knots. Between Tausan Adalari and Bozca Ada, the current sets S at a rate of 1.5 to 2 knots.

**20.23 Besige Burnu** (39°55'N., 26°09'E.), marked by a light, is formed by a small round bluff surmounted by an old castle. This point is fringed by a narrow reef and several rocks and prominent cliffs extend to the N of it. Besige Limani, a small bay, is entered S of the point and provides a safe summer anchorage, but the holding ground in some places is poor. A recommended berth lies in a depth of 22m, mud, about 1.7 miles SSW of Besige Burnu and about 0.7 mile offshore. A small jetty fronts a cement factory which stands 0.5 mile NE of the S entrance point of the bay.

Uvecik Tepe (Besige Tepe), a conical mound, stands close E of the head of the bay and is conspicuous from seaward.

**Kumkale Burnu** (40°41'N., 26°12'E.), the SW entrance point of the Dardanelles, is located 6.5 miles NNE of Besige Burnu. This point is low and surmounted by a ruined fort. A light is shown from a tower, 4m high, standing on the W side of the fort.

**Caution.**—Landing on Turkish islands and islets along this stretch of coast is prohibited without special permission.

An area, within which navigation is prohibited, extends up to 0.4 mile NW of the shore in the vicinity of Kumkale Burnu and may best be seen on the chart.

## The Dardanelles

**20.24 The Dardanelles** (Canakkale Bogazi) (40°01'N., 26°12'E.) leads from the Aegean Sea to Marmara Denizi and the Black Sea. This passage is entered between Kumkale Burnu and Ilyasbaba Burnu (Mehmetcik), 2.5 miles NNW.

**Tides—Currents.**—In the entrance of The Dardanelles, the main current sets WSW at an average rate of 1.5 knots, but can reach a rate of 3 knots. The current is stronger along the S side and runs with considerable strength along the edge of the coastal bank extending from Yenisehir Burnu.

**Ilyasbaba Burnu** (Mehmetcik) (40°02'N., 26°11'E.), the NW entrance point, is located at the SW end of Gelibolu Yarimadasi, a large peninsula, which is 45 miles long and lies between The Dardanelles and Saros Korfezi. The point is formed by white steep cliffs. A light is shown from a prominent structure, 25m high, standing on the point; a racon is located at the light.

The British War Memorial (Gallipoli 1915), consisting of an obelisk, 21m high, stands 0.2 mile NE of the light and is very conspicuous. Alci Tepe stands 5 miles NE of the light. This isolated and conical peak is 218m high and prominent from seaward.

Off the W coast of Gelibolu Yarimadasi, the current usually sets NNW at a rate of 1.5 knots; however, the current is influenced by the prevailing wind.

**Caution.**—An IMO-adopted Traffic Separation Scheme (TSS), which may best be seen on the chart, has been established in the approaches to and within The Dardanelles. The seaward limit of this scheme lies about 10 miles WSW of Ilyasbaba Burnu and vessels proceeding E to the entrance of the passage must remain to the S of the separation zone.

It is reported (1994) that small vessels approaching the Dardanelles from the S and passing inside of Tausan Adalari (coastal route) may join the TSS near the entrance to the passage.

**Note.**—For a description of The Dardanelles (Canakkale Bogazi), see British Admiralty NP 24, Black Sea Pilot.

## Imroz Adasi

**20.25 Imroz Adasi** (Gokceada) (40°10'N., 25°50'E.) lies in the NW approach to The Dardanelles. The central part of this island is formed by a range of rocky domes and pinnacles, to the N and S of which lie fertile basins with hog-backed ridges. The N coast is dominated by the highest of these ridges which rises to a height of 450m. Ilyas Dag, 672m high, is the summit of the island and stands near the center. There is a striking contrast between the bare S slopes of the island and the rich verdure of the valleys in the interior.

In the vicinity of Imroz Adasi, winds from the NE are the most frequent. During the summer, winds are warm and dry, while in winter they are very cold. The onset of cold winds in winter often occurs on the passage of a cold front.

**Kefalo Burnu** (40°10'N., 26°01'E.), marked by a light, is the E extremity of the island. This point is formed by the seaward

extremity of a flat tongue of land, 30m high, which projects NE from the SE end of the island. A conspicuous windmill stands on a hill 2.7 miles SW of the light. A detached shoal, with a least depth of 7.9m, lies about 1.7 miles E of the light.

Kefalo Limani is entered between Kefalo Burnu and Cakilli Burnu, 2 miles WNW. The head of this bay is sandy and backed by low sandhills. The SE shore is partly formed by prominent and yellow cliffs. A conspicuous beacon stands on the W shore of the bay. Good anchorage can be obtained within the bay, in depths of 9 to 18m, sand, except during bad weather from the N. During S gales, the bay affords perfectly safe anchorage, but the usual precautions are necessary as the winds may suddenly shift to the NW. A good berth, in a depth of 13m, sand, lies NE of the conspicuous windmill and WNW of the light.

Aliki Burnu (Tuzla) is located 3.5 miles SW of Kefalo Burnu. The coast between should be given a wide berth as areas of foul ground and depths of less than 5m lie up to about 0.6 mile seaward of the shore. A conspicuous house stands 0.5 mile inland, 1.5 miles ENE of Aliki Burnu. A brackish lake lies close N of the point.

**20.26 Kaskaval Burnu** (40°15'N., 25°57'E.), the NE extremity of Imroz Adasi, is formed by a bold and cliffy headland, 106m high.

Kuzu Limani, a small harbor, lies within the bight entered SE of this point and is protected by breakwaters. A main quay, 100m long, has a depth of 9m alongside and is used by ferries.

The village of Kalekoy stands 2.1 miles W of Kaskaval Burnu and is fronted by a small craft harbor protected by a breakwater.

**Ince Burnu** (40°07'N., 25°40'E.) is the SW extremity of the island. Pirgoz Burnu, a cliffy projection, is located on the S side of the island, 4.5 miles ESE of the point. This projection is 17m high and is surmounted by a conspicuous chapel with the ruins of another chapel situated close by. A flagstaff stands near Pirgoz Burnu and a beacon is situated 0.5 mile E of it. A village is situated on the neck of land connecting the projection to the coast.

During good weather, convenient anchorage can be obtained, in depths of 9 to 18m, sand, good holding ground, about 0.4 mile off the head of a small bay lying E of Pirgoz Burnu.

**Caution.**—Submarine cables, which may best be seen on the chart, extend seaward from the SE end of Imroz Adasi.

## Nisos Samothraki

**20.27 Nisos Samothraki** (40°27'N., 25°35'E.) lies in the NE part of the Aegean Sea in the approach to Alexandroupolis. This island is composed of marble and is partly wooded. Oros Fengari, the summit of the island, is 1,611m high and stands near the center.

**Akra Akrotiri** (40°28'N., 25°27'E.), the W extremity of the island, is low. A light is shown from a framework tower, 12m high, standing close SE of the extremity of this point.

Kamariotissa, a small quayed harbor, lies at the SE head of Ormos Kamariotissa, a bay which indents the coast close E of the light. The harbor has depths of 2.2 to 7m alongside and is protected by breakwaters. It is mostly used by fishing vessels

and local ferries. Anchorage can be taken, in depths of 25 to 30m, about 200m WNW of the head of the breakwater.

Akra Pirgos is located 4.5 miles ENE of Akra Akrotiri and is surmounted by a conspicuous ruined medieval tower. Akra Pirgo Fonia is located 6 miles E of Akra Pirgos; a conspicuous chapel stands close W of it.

**20.28 Zourafa** (40°28'N., 25°50'E.), lying 6.3 miles E of the NE end of Nisos Samothraki, consists of a dangerous rocky ledge, about 30m long. The greater part of this ledge is awash, but in two places, about 15m apart, it is above water. The W and highest part rises 0.6m. A light is shown from a structure standing on the ledge. A shoal, with a least depth of 4m, lies close S of the light.

The current in the vicinity of Zourafa has been observed to set E at a rate of 2 knots.

**Caution.**—At night, or in thick weather, caution must be exercised when in the vicinity of Akra Akrotiri, because the proximity of the high land makes any judgement of distance doubtful.

## Coastal Features

**20.29 Kucukkemikli Burnu** (40°17'N., 26°14'E.), located 14.7 miles NNE of Ilyasbaba Burnu (Mehmetcik), is a steep and cliffy point which is fronted by a coastal bank. The Australian War Memorial monument stands near the coast 4 miles SSE of this point. It is 14m high and conspicuous. The New Zealand War Memorial monument stands on the summit of a hill 4 miles SE of the point. It is 24m high and is also conspicuous.

**Buyukkemikli Burnu** (40°19'N., 26°13'E.), fronted by a reef, is formed by a narrow point lying at the W end of a coastal ridge, 100m high. A light is shown from a structure, 10m high, standing on this point.

**Saros Korfezi** (40°30'N., 26°15'E.) lies on the NW side of Gelibolu Yarimadasi and is entered between Buyukkemikli Burnu and Grenea Burnu, 17 miles NNW. The land on both sides of this gulf is mountainous, but the shore at its head is low.

**Tides—Currents.**—The currents in this bay are irregular and appear to be influenced by the wind. After a fresh N wind has blown for several hours, a strong S set has been experienced, but as soon as the wind moderates, the current sets strongly in the opposite direction.

**20.30 Saros Adalari** (40°37'N., 26°44'E.), located at the head of the gulf, consists of a group of three islets. These islets lie on a bank, with depths of less than 20m, which extends from the N shore and are the only off-lying dangers within the gulf. Anchorage can be obtained, in depths of 18 to 27m, sand and mud, good holding ground, NE of the E islet of the group.

Ece Limani indents the SE side of the gulf, 6 miles NE of Buyukkemikli Burnu. A small stream flows into the head of this small bay through a cultivated valley. Anchorage can be taken by vessels with local knowledge, in a depth of 15m, thick black mud, about 300m offshore, ENE of the W entrance point. The holding ground is good, but near the shore the bottom is foul, especially under the cliffs. A rocky spit, with a least depth

over its outer end of 7.3m, lies about 0.3 mile E of the W entrance point and extends from the E side of the bay.

Yildiz Koyu, entered 19 miles NE of Ece Limani, is a small bay which indents the narrowest part of Gelibolu Yarimadasi. Red cliffs are located close W of this bay and a town, with several windmills near it, stands on a hill 5 miles SW of it. Bakla Burnu, marked by a light, is located 3 miles NE of the bay. The coast between consists of irregular cliffs, broken near the middle by low marshy land.

**Ibrice Burnu** (40°36'N., 26°32'E.), the only salient point on the N side of the gulf, appears like an islet when approaching from the W and can be sometimes mistaken for the largest of the Saros Adalari.

**Caution.**—A restricted area containing unexploded ordnance lies 4.5 miles ENE of Ibrice Iskele.

**20.31 Grenea Burnu** (Boztepe Burnu) (40°36'N., 26°07'E.), the NW entrance point, is a rounded headland com-

posed of low yellow cliffs. The actual point is reported to be difficult at times to be distinguished from other yellow cliffs in the vicinity, but it can be identified by the sandy beaches on each side.

**Merik Nehri** (Potamos Evros) (40°44'N., 26°03'E.) flows into the sea 8 miles NNW of Grenea Burnu and 9.5 miles SE of Alexandroupolis, which is described in paragraph 17.23. This river is used by small craft with local knowledge and the boundary between Greece and Turkey lies in its vicinity.

**Caution.**—Landing is prohibited on the Turkish coast and off-lying islands and islets without prior permission.

A coastal bank, on which lie several dangerous wrecks, fronts the shore between Grenea Burnu (Boztepe Burnu) and the approaches to the port of Alexandroupolis. Numerous vessels have grounded on this bank and great care should be taken when navigating in the vicinity. Due allowance should be made for the current, which sometimes sets to the E, and a berth of at least 2.5 miles should be given to this entire stretch of coast.

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**Albanian**

ALBANIAN		English	ALBANIAN		English
	<b>F</b>			<b>P</b>	
Fan.....		Stream			
	<b>G</b>		Pellg .....		Bight, gulf
Gji.....		Bay	Perroj.....		Stream
Gjol.....		Lake, lagoon		<b>R</b>	
Gryk'.....		Ravine	Rere .....		Cove
Gur.....		Mountain	Rrug-e, -a .....		Road, way, street
	<b>K</b>			<b>S</b>	
Kenet'.....		Lagoon, lake	Shen, -e .....		Saint
Kep, kep'.....		Cape, point	Shkamb .....		Rock, cliff, crag
Koder.....		Mountain	Skele, skelja .....		Mole, pier, small port
	<b>L</b>		Skjep .....		Cape
Liqen .....		Lake	Suk .....		Mountain
Lum .....		River		<b>U</b>	
	<b>M</b>		Uj te.....		Water
Maj', maja.....		Mountain, ridge, slope			
Monastir .....		Monastery			

## Arabic

ARABIC	English	ARABIC	English
<b>A</b>			
Ab, abu .....	Father, chief	Birka, birkah .....	Pool, pond, small lake
Abar, Abyar .....	Wells	Boghaz .....	Entrance channel, strait
Abyadh, abyad .....	White	Borg, bordj, burj .....	Fort, tower, castle
Adel, aleb .....	Sloping hill	Bu .....	Chief
Aghbar .....	Gray	Buhaira, buheira .....	Lake
Aghbas .....	Dark (color)	Bussla .....	Compass
Ahmar .....	Red	Buz .....	Cape
Aich, aik .....	Hard bank	<b>D</b>	
Ain, oyun (pl.) .....	Spring, well, fountain	Dahr .....	Promontory
Akaba, acol .....	Wilderness	Daiyaq .....	Narrow
Akbar .....	Bigger, biggest, older (of two)	Dar .....	House, mansion, settlement Note: "Dar" is sometimes used to designate a promontory or hill where there is a settlement nearby
Akhal .....	Black	Darb, derb .....	Desert road or track
Akhdhar, akhdar .....	Green	Dohat, duhat .....	Bay, cove, port
Al .....	The	Duar .....	Encampment
Anak .....	Cliff	<b>E</b>	
Aqabar .....	Wilderness	Egeidet .....	Sand hill
Araja, arish .....	Sand dune	El .....	The
Ard .....	Land, earth, ground	Ezba .....	Village
Ard malaq .....	Open land	<b>F</b>	
Asfal, asafil .....	Lower	Fanar .....	Beacon, lighthouse
Asfar .....	Yellow	Faregh .....	Broad, level, wide
Asifah .....	Gale	Farsh .....	Plain (noun)
Asmar .....	Brown	Fasht .....	Rocky reef
Aswad .....	Black	Filuka, fulk .....	Small boat
Atiq .....	Old	<b>G</b>	
Auwil .....	First, beginning	Gara, garrat .....	Lake
Azim .....	Great	Garf .....	Cliff
Azraq .....	Blue	Gedid .....	New
<b>B</b>			
Bab .....	Strait, gate, door	Ghamiq .....	Deep
Bahr .....	Canal, sea, river, lake	Gharb, gharba, gharbi .....	West
Bahr shaban, .....	Deep water	Ghubbat, ghubbet .....	Gulf
Bahraya .....	Pool, pond, lake	Gisr, gusur (pl.) .....	Bank, embankment
Baida .....	Desert	Goz, gowaz (pl.) .....	High sand hill
Balad .....	Country, region, village, town	Gumruk .....	Customhouse
Balam .....	Boat	<b>H</b>	
Bandera .....	Flag	Hadd .....	Boundary, border, limit, sandspit
Bandar .....	Chief town of a province, coastal town with an anchorage off it, bight, open bay	Hagar, hajar .....	Stone, rubble
Barr .....	Headland, land, earth; ground	Haggag .....	Long projecting ridge
Basta .....	Tower	Hait, hitan (pl.) .....	Wall
Barbit, batbyt .....	Whirlpool	Hajari .....	Stony
Beida .....	White	Halat .....	Sandbank, islet
Beit .....	House	Hamra .....	Red
Beiyat .....	Shoal that dries	Haram, ahram (pl.) .....	Pyramid
Beni .....	Sons of; prefix to tribal names; it sometimes is used in connection with local names such as those of hills, promontories, etc	Hassar, hissar .....	Rock
Berriyah .....	Desert	Haswa .....	Gravel, small pebbles
Biar, bir .....	Well (noun)	Hisar .....	Fort, castle
Bilad .....	Country		
Birba, baraby .....	Ancient temple		

ARABIC	English	ARABIC	English
Hod .....	Pool, pond, small lake	Mahatta .....	Station
Hor .....	Bay, creek, channel	Mahgar .....	Stone quarry
<b>I</b>			
Ilwat, ilwet .....	Region	Majaz .....	Pass, marine channel
Iswid .....	Black	Mal, malih .....	Salt, brackish
Izbit, Izbet .....	Village	Manfad, manafid .....	Pass (defile)
<b>J</b>			
Jam, jamia .....	Mosque	Manzal .....	Settlement
Janub .....	South	Maqam .....	Tomb
Jebel, jabal, gebel, jibal .....	Mountain, hill	Marabut .....	Monument or tomb of a saint or prophet
Jezirat, jezira, jazirat .....	Island, peninsula	Marakat .....	Soft bottom shoal
Jisr, jusur (pl.) .....	Bridge	Marsa, marza, mers, mersa .....	Bay, cove, harbor, gulf
Jorf .....	Cliff	Masafa, masafah .....	Range
Junub .....	South	Masgid, masjid, masjid .....	Mosque
<b>K</b>			
Kabat .....	Rocky shoal, group of rocks	Masura .....	Water pipe, pipe
Kabir, kebir .....	Large	Maten .....	Plateau
Kad .....	Shoal, spit	Matla .....	East
Kafir, kufur (pl.), kefr .....	Village	Medina .....	City, town
Karm .....	Artificial mound	Merj .....	Meadow
Kasba .....	Citadel, fortified town	Mina .....	Port, harbor
Kasim .....	Political division, department, territory	Minar, manar .....	Minaret
Kassar .....	Rock	Minqar, Mengar .....	Nose, head, point
Katah, katat .....	Rocky shoal, group of rocks	Mirjan .....	Coral
Katib .....	Paint	Mirsa .....	Port
Kef, kaf .....	Mountain	Miyah .....	Water
Keruky .....	Sketch, plan	Muaskar .....	Camp, especially a military camp
Keshem .....	Water course	Muhassan .....	Fortified
Khadra .....	Green	Mukhaijan .....	Encampment
Khala .....	Country	Murgan .....	Coral
Khalig, khalij .....	Gulf, valley, water course	Mustanqa .....	Marsh
Khan .....	Inn, hotel, bazaar	<b>N</b>	
Khashm .....	Mouth, entrance	Nahiyah, nanahi (pl.) .....	District
Khijem .....	Encampment (tents)	Nahr, anhar (pl.) .....	River
Khirs .....	Barren land	Najwa .....	Shoal, spit
Khod .....	Shallow, ford	Nakhl, nakhil, nikhl .....	Palm tree, date grove
Khor .....	Creek, ravine, valley (usually dry), cove, bay, channel, river, river channel	Natur .....	Tower
Kibli .....	South	Nebi .....	Tomb of a saint or prophet
Kidwa .....	Small mound	<b>Q</b>	
Kinar .....	Boundary, border, limit	Qabr .....	Tomb
Kinisa, kinis .....	Church	Qadim, qadima .....	Old
Kinizat, kinizat .....	Sandbank	Qala .....	Prominent peak, fort
Kita .....	Rocky shoal, group of rocks	Qanaya .....	Rivulet
Kom .....	Mound	Qantara, qanatir (pl.) .....	Bridge
Kothon, liman .....	Port, anchorage	Qara .....	Small dark hill
Kubry, kabary (pl.) .....	Bridge	Qarn .....	Point
Kusbat .....	Citadel, fortified town	Qasr, qusur (pl.) .....	Port, large house
<b>L</b>			
Liman .....	Port or harbor	<b>R</b>	
<b>M</b>			
Ma .....	Water	Rais, reis .....	Captain of a vessel
Maghreb .....	West	Rais el marsa .....	Captain of the port
		Rakat .....	Shoal, hard bank (not dangerous)
		Raml .....	Sand
		Ramla .....	Sandy ground
		Ras, rus .....	Cape, point
		Rasif .....	Pier, quay
		Rif .....	Coast
		Rig .....	Shallow bank, flat



ARABIC	English	ARABIC	English
Rod .....	Small water course	Sidi .....	Tomb
Rud .....	River	Sifi .....	Low
<b>S</b>			
Sabakha .....	Salt marsh, bog	Sikha .....	Road
Safra .....	Yellow	Sirih .....	Tall, slim
Saghir, seghir .....	Small	<b>T</b>	
Sahil .....	Coast, shore, beach	Taht .....	Under, below, beneath
Sahra, sahary .....	Desert, plain	Tall, tell, tulul (pl.) .....	Hill
Sakh, sakhr .....	Rock	Tarf .....	Cape
Sanjaq .....	Flag	Tarsana .....	Arsenal
Saqya, saqiye, saqyat .....	Canal	Tawil .....	Long
Saraya .....	Palace	Tell .....	Hill
Sarwe .....	Cypress	Tiligraf .....	Telegraph
Sath .....	Plateau	Tira .....	Channel
Sauwana .....	Gravel mound	Turah .....	Canal, channel
Sawahil .....	Coast guard	Turiq .....	Road, highway
Sebkhat, sebkha, sabkhet .....	Salt lake	<b>U</b>	
Seil .....	Water course	Umm .....	Mother
Shab, shib .....	Rocky shoal, reef	Ust .....	Middle, center
Shakhis .....	Stake, pole	<b>W</b>	
Shamal .....	North	Wad, wadi, uad .....	Valley, water course, channel
Shard .....	Sirocco, simoon, hot wind	Wast .....	Middle, center
Shari .....	Street, boulevard, main road	Welled .....	A tribe of Arabs
Sharq .....	East	<b>Z</b>	
Sharqi, sharqiya .....	East (adj.)	Zarqa .....	Blue
Shatt .....	Coast, shore, river, river bank	Zawia, zawiya .....	Monastery, house
Shatt ramli .....	Sandbank	Zeitun .....	Olives
Sheikh .....	Chief, chieftain, elder		
Sherm .....	Cove, creek		
Shur .....	Low clay hill		

## Greek

GREEK	English	GREEK	English
<b>A</b>		<b>L</b>	
Ag-ios, ia, ion .....	Saint	Levk-os, i, on .....	White
Akra .....	Cape	Limin, Limani .....	Harbor
Akrotirion .....	Cape, promontory	Limni .....	Lake
Akti .....	Coast	<b>M</b>	
Aliki .....	Salt-pan	Mavr-os, i, o .....	Black
Angali .....	Cove	Megal-os, i, o .....	Big, great
An girovolion .....	Roadstead, anchorage	Meg-as, ali, a .....	Big, great
Ano, apano .....	Upper	Mikr-os, a, on .....	Small, little
Aspr-os, i, o .....	White	Monastirion .....	Monastery
Avath-is, is, es .....	Shoal, reef	Moni .....	Monastery
Av laki .....	Channel	<b>N</b>	
Avlax .....	Channel	Ne-os, a, on .....	New
Ay-ios, ia, ion .....	Saint	Nisi, Nisia .....	Island, islands
<b>D</b>		Nisis, Nisidhes .....	Islet, islets
Dag .....	Mountain	Nisos, Nisia .....	Island, islands
Dhiavlos .....	Strait	<b>O</b>	
Dhiorix .....	Canal	Ormos .....	Bay
<b>E</b>		Oros, Ori .....	Mountain, mountains
Epano .....	Upper	<b>P</b>	
<b>F</b>		Palai-os, a, on .....	Old
Faros .....	Lighthouse	Pali-os, a, o .....	Old
<b>H</b>		Pelagos .....	Sea
Hag-ios, ia, ion .....	par >Saint	Perama .....	Ferry
<b>I</b>		Petra .....	Rock, stone
Ifalos .....	Reef	Pirgos .....	Tower
<b>K</b>		Porthmos .....	Narrows of a strait
Kastron .....	Castle	Potamos, Potami .....	River
Kato .....	Lower	Pounda .....	Point
Kavos .....	Cape	<b>S</b>	
Kefali, K efala .....	Head	Skala .....	Small port, quay, rocky stairway
Khersonisos .....	Peninsula	Skopelos .....	Reef
Khora .....	Main town of an island	Stenon, Stena .....	Strait, pass
Kohrion, Khorio .....	Village	Stil i .....	Beacon, pillar
Kolpos .....	Gulf	<b>V</b>	
Korfi .....	Mountain, peak	Vouno .....	Hill, mountain
		Vrakhos .....	Rock
		<b>X</b>	
		Xera .....	Reef
		<b>Y</b>	
		Yefira .....	Bridge

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**Hebrew**

HEBREW	English	HEBREW	English
<b>A</b>			
Agam .....	Lake	<b>M</b>	
<b>B</b>		Ma'arava .....	West
Be'er .....	Well	Ma'gana .....	Anchorage
Bet .....	House	Ma'yanot .....	Springs (of water)
Bizza .....	Marsh	Mezah .....	Jetty, mole
<b>D</b>		Mezuda .....	Fort
Daram .....	South	Mifraz .....	Bay
Daram-ma'arava .....	South-west	Migdal .....	Tower
Daram-mizrah .....	South-east	Migdallor .....	Lighthouse
<b>E</b>		Misgad .....	Mosque
Even .....	Stone	Mizrah .....	East
'Ez .....	Tree	<b>N</b>	
<b>G</b>		Nahal .....	River, stream, watercourse
Gadol .....	Great	Namal .....	Harbour, port
Giv'at .....	Hill	<b>Q</b>	
<b>H</b>		Qatan .....	Small
Har .....	Mountain	<b>R</b>	
Hazaz .....	Gravel	Rosh .....	Cape, headland
Hof .....	Coast	<b>Y</b>	
Hol .....	Sand	Ya'ar .....	Forest
Hursha .....	Wood (trees)	Yam .....	Sea
<b>I</b>		<b>Z</b>	
I .....	Island	Zafon .....	North
Ir .....	Town, city	Zafon-ma'arava .....	Northwest
<b>K</b>		Zafon-mizrah .....	Northeast
Kefar .....	Village	Zuq .....	Cliff
Kenesiyya .....	Church		

## Turkish

TURKISH	English	TURKISH	English
<b>A</b>		Kapi.....	Gate, pass
Ada.....	Island	Kara.....	Black
Adacik.....	Islet	Kaya.....	Rock
Adalar.....	Islands	Kayalik.....	Rocky
Agac.....	Tree	Kible.....	South
Agiz.....	Mouth	Kilavuz.....	Pilot
Ak.....	White	Kilise.....	Church
Alamet.....	Beacon	Kirmizi.....	Red
<b>B</b>		Korfez.....	Bay
Balcik.....	Clay	Koy.....	Bight, cove
Batakhk.....	Marsh	Koy.....	Village
Bati.....	West	Kucuk.....	Small
Beyaz.....	White	Kule.....	Tower
Bogaz.....	Channel, estuary, strait	Kum.....	Sand
Buk.....	Bay, creek	<b>L</b>	
Burun, Burnu.....	Point, cape, headland, promontory	Liman, Liami.....	Harbor bay, port
Buyuk.....	Great	Liman reisi.....	Harbor master
<b>C</b>		Lodos.....	Southwest wind
Camur.....	Mud	<b>M</b>	
Cay.....	River, stream	Mendirek.....	Mole
Cenub.....	South	Mercan.....	Coral
Ciftlik.....	Farm	Minare.....	Minaret
Corak.....	Marsh	<b>N</b>	
<b>D</b>		Nehir.....	River
Dag.....	Mountain	Nisan.....	Beacon
Demiryeri.....	Anchorage	<b>O</b>	
Deniz.....	Sea	Orman.....	Forest
Dere.....	Valley, stream	Ova.....	Plain
Derin.....	Deep	<b>P</b>	
Dokuntu.....	Reef	Poyraz.....	Northeast
<b>E</b>		Pusula.....	Compass
Eski.....	Old	<b>R</b>	
<b>F</b>		Ruzgar.....	Wind
Fener.....	Light	<b>S</b>	
<b>G</b>		Samandira.....	Buoy
Garb.....	West	Sancak.....	Flag, district
Gok.....	Blue	Saray.....	Palace
Gol.....	Lake	Sari.....	Yellow
Gumruk.....	Customhouse	Sark.....	East
<b>I</b>		Sarki.....	Eastern
Irmak.....	River	Sarp.....	Steep
Iskele.....	Landing place	Sehir.....	City, town
<b>K</b>		Set.....	Mole
Kaba kum.....	Gravel	Siguk.....	Shoal
Kale, Kalessi.....	Castle	Simal.....	North
		Siyah.....	Black

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TURKISH	English	TURKISH	English
Su.....	Water		
<b>T</b>		<b>V</b>	
Tabya .....	Battery	Vilayet .....	Province
Taslik .....	Stony ground		
Tepe .....	Hill	<b>Y</b>	
Topuk.....	Bar of a river	Yar .....	Bluff, cliff, hill
Tuzla.....	Salt-pan	Yarimada .....	Peninsula
<b>U</b>		Yeni .....	New
Uzun .....	Long	Yol .....	Channel, route

## Yugoslavian

YUGOSLAVIAN	English	YUGOSLAVIAN	English
<b>B</b>			
Beli, bela, belo.....	White	Ostrvo, ostrvi.....	Island, islands
Bijeli, bijela, bijelo.....	White	Otocic, otocici.....	Islet, islets
Brdo.....	Mountain	Otok, otoci.....	Island, islands
<b>C</b>			
Crni, crna, crno.....	Black	<b>P</b>	
Crveni, crvena, crveno.....	Red	Pesak.....	Sand
<b>D</b>			
Desno.....	Right	Plicak.....	Shoal
Donji, donja, donjo.....	Lower	Plicina.....	Shoal
Draga.....	Cove	Plutaca.....	Buoy
<b>G</b>			
Gat, gata.....	Mole, pier	Poluotok.....	Peninsula
Gospa.....	Our Lady	Polutocic.....	Small peninsula
Greben, grebeni.....	Rock, reef, rocks, reefs	Pristaniste.....	Landing place, berth
<b>H</b>			
Hrid, hridi, hridine....	Above-water rock, above-water rocks	Prolaz.....	Passage
<b>J</b>			
Jezero.....	Lake	<b>R</b>	
Jug.....	South	Rat.....	Point, cape
<b>K</b>			
Kamen.....	Stone, rock	Reka.....	River
Kanal.....	Channel	Rijeka.....	River
Kriz, kriza.....	Cross, of the cross	Rt.....	Point, cape
Kula.....	Tower	<b>S</b>	
<b>L</b>			
Lijevo.....	Left	Sidriste.....	Anchorage, roadstead
Luka.....	Port, harbor, bay	Stari, stara, staro.....	Old
<b>M</b>			
Mali, mala, malo.....	Small	Sv.....	Saint
Mlin.....	Mill	Sveti, sveta, sveto.....	Saint
More.....	Sea	Svetionik.....	Lighthouse
Motka.....	Beacon	Svjetlo.....	Light
Mulj.....	Mud	<b>T</b>	
<b>N</b>			
Novi, nova, novo.....	New	Tanki, tanka, tanko.....	Slender
<b>O</b>			
Obala.....	Quay, shore	Tesnac.....	Strait, narrows
<b>P</b>			
<b>R</b>			
<b>S</b>			
<b>T</b>			
<b>U</b>			
<b>V</b>			
<b>Y</b>			
<b>Z</b>			



## How to use the Index—Gazetteer

Geographic names of navigational features are generally those used by the nation having sovereignty and are listed alphabetically. Diacritical marks, such as accents, cedillas, and circumflexes, which are related to specific letters in certain foreign languages, are not used in the interest of typographical simplicity.

Geographic names or their spellings do not necessarily reflect recognition of the political status of an area by the United States Government. Positions are approximate and are intended merely as locators to facilitate reference to the charts.

**To use as a Gazetteer** note the position and Sector number of the feature and refer to the Chart Information diagram for the Sector. Plot the approximate position of the feature on this diagram and note the approximate chart number.

**To use as an Index** of features described in the text note the paragraph number at the right. To locate this feature on the best scale chart use the Gazetteer procedure above.

## Index—Gazetteer

	Position			Sec. Para.		Position			Sec. Para.
<b>A</b>									
ABU KAMMASH INDUST. COMP.	33	04 N	11 49 E	1.2	AKRA DHOUKATON	38	34 N	20 33 E	8.8
ABU QIR	31	20 N	30 04 E	2.12	AKRA DHRAPANON	37	42 N	26 22 E	18.23
ACRE	32	55 N	35 04 E	3.9	AKRA DHEPANON	38	20 N	21 52 E	7.18
AGATHONISIS	37	28 N	26 58 E	18.27	AKRA ELEVThERA	40	32 N	23 55 E	17.12
AGIA TRIAS	37	58 N	23 24 E	13.21	AKRA EPANOMI	40	22 N	22 53 E	17.3
AGRILIA	39	01 N	26 36 E	20.5	AKRA FANARI	40	57 N	25 08 E	17.22
AIYION	38	15 N	22 05 E	7.18	AKRA FASSA	37	58 N	24 42 E	14.35
AK BURUN	38	16 N	26 14 E	19.8, 19.15	AKRA FILIPPOS	37	03 N	24 38 E	14.8
AKBUK LIMANI	37	21 N	27 21 E	18.26	AKRA FISKARDHO	38	28 N	20 35 E	8.5
AKINCI BURNU	36	19 N	35 47 E	5.3	AKRA FONIAS	37	41 N	24 04 E	15.2
AKKO	32	55 N	35 04 E	3.9	AKRA FOURNIA	39	18 N	25 55 E	20.7
AKRA AIMILIANOS	37	17 N	23 12 E	12.23	AKRA GATOS	37	43 N	27 04 E	19.2
AKRA AKRATHOS	40	08 N	24 24 E	17.11	AKRA GOUROUNI	39	13 N	23 37 E	16.11
AKRA AKRITAS	36	43 N	21 52 E	7.3	AKRA ILIAS	37	16 N	26 34 E	18.21
AKRA AKROTIRI	36	21 N	25 21 E	14.13	AKRA IRIA	37	28 N	23 00 E	12.21
AKRA AKROTIRI	36	41 N	24 19 E	14.3	AKRA KAFIREAS	38	10 N	24 35 E	14.37, 16.2
AKRA AKROTIRI	40	28 N	25 27 E	20.27	AKRA KAKOKEFALI	38	29 N	23 36 E	15.17
AKRA AMMODHIS	40	46 N	24 38 E	17.18	AKRA KALOTERI	36	48 N	25 45 E	14.18
AKRA ANAPOMERA	38	36 N	26 00 E	19.10	AKRA KAMILAFKA	38	40 N	21 55 E	8.13
AKRA ANDIRRION	38	20 N	21 46 E	7.16	AKRA KANAKIA	37	53 N	23 24 E	13.20
AKRA ANGALISTROS	37	39 N	24 06 E	15.2	AKRA KAPELLO	36	08 N	23 03 E	12.10
AKRA ARAPIS	40	27 N	24 00 E	17.11	AKRA KAPRI	38	07 N	20 49 E	8.5
AKRA ARAXOS	38	13 N	21 22 E	7.11	AKRA KARAVOLAS	35	56 N	27 43 E	6.5
AKRA ARILLA	39	43 N	19 39 E	8.24	AKRA KARTSINO	38	58 N	24 29 E	16.8
AKRA ARKODHA	40	20 N	23 47 E	17.10	AKRA KASSANDRAS	39	57 N	23 21 E	17.2
AKRA ARMENISTIS	36	09 N	27 41 E	6.5	AKRA KASTELLOS	35	24 N	27 08 E	6.11
AKRA ARMENISTIS	37	29 N	25 18 E	14.31	AKRA KASTRO	39	07 N	26 34 E	20.5
AKRA ARTERMISION	39	02 N	23 19 E	16.5	AKRA KATAFILI	37	40 N	23 56 E	13.11
AKRA ASPROKAVOS	39	22 N	20 07 E	8.24	AKRA KATAKOLOU	37	38 N	21 19 E	7.8
AKRA ATHERIDHA	40	22 N	22 40 E	17.2	AKRA KAVOULIA	39	06 N	23 03 E	16.18
AKRA AVLIS	38	25 N	23 38 E	15.12	AKRA KAVOURI	37	49 N	23 46 E	13.12
AKRA AYIA AIKATERINI	39	49 N	19 51 E	8.25	AKRA KEFALAS	34	56 N	24 55 E	6.22
AKRA AYIA ELENI	38	20 N	26 10 E	19.13	AKRA KEFALOS	37	29 N	24 26 E	14.11
AKRA AYIA MARIA	36	28 N	22 56 E	12.8	AKRA KEKHRIES	37	52 N	23 00 E	13.9
AKRA AYIA MARINA	38	12 N	24 05 E	15.8	AKRA KEOS	37	57 N	23 36 E	13.16
AKRA AYIOI THEODHOROI	37	55 N	23 08 E	13.30	AKRA KHERSONISOS	35	20 N	25 23 E	6.36
AKRA AYIOS DHIMITRIOS	37	18 N	24 22 E	14.10	AKRA KHONDROS	37	32 N	22 49 E	12.21
AKRA AYIOS DHOMENIKOS	37	41 N	26 35 E	19.1	AKRA KHONDROS KAVOS	35	26 N	24 42 E	6.32
AKRA AYIOS FOKAS	36	51 N	27 21 E	18.11	AKRA KIKLOPS	37	07 N	24 25 E	14.9
AKRA AYIOS FOKAS	39	00 N	26 10 E	20.4	AKRA KINOSOURA	37	57 N	23 35 E	13.17
AKRA AYIOS IOANNIS	35	20 N	25 46 E	6.36	AKRA KIOURTO	39	07 N	23 48 E	16.12
AKRA AYIOS IOANNIS	38	19 N	20 47 E	8.6	AKRA KITRIES	36	55 N	22 08 E	7.2
AKRA AYIOS KOSMAS	37	46 N	25 00 E	14.35	AKRA KONKHI	37	52 N	23 27 E	13.17
AKRA AYIOS NIKOLAOS	38	02 N	23 29 E	13.24	AKRA KOPRIA	36	16 N	27 48 E	6.7
AKRA AYIOS SOSTIS	38	59 N	22 57 E	15.23	AKRA KORAKAS	37	09 N	25 14 E	14.21
AKRA AYIOS STEFANOS	39	46 N	19 57 E	8.28	AKRA KORAKAS	37	21 N	23 04 E	12.23
AKRA AYIOS VASILIOS	38	53 N	23 27 E	16.5	AKRA KORAX	36	46 N	25 48 E	14.19
AKRA AYIOS YEORYIOS	38	32 N	25 37 E	19.14	AKRA KOULENDI	36	34 N	22 56 E	12.8
AKRA AYIOU ANDREOU	38	18 N	20 43 E	8.7	AKRA KOUROUSMILOU	40	56 N	25 16 E	17.22
AKRA BOUMBORAS	40	37 N	24 47 E	17.17	AKRA KRATZI	37	38 N	25 16 E	14.21
AKRA DAMOUKHARI	39	24 N	23 11 E	17.1	AKRA KRIKELLOS	36	40 N	26 58 E	18.11
AKRA DHAFNOUDHI	38	34 N	20 33 E	8.8	AKRA LAKIDHA	36	46 N	24 24 E	14.4
AKRA DHAFNOUDHI	38	34 N	20 33 E	8.8	AKRA LANGADHIA	36	55 N	25 57 E	14.19
AKRA DHERMATAS	39	48 N	22 51 E	17.1	AKRA LENDOS	35	18 N	23 31 E	6.25
AKRA DHIA	35	25 N	25 02 E	6.33	AKRA LEVKIMMIS	39	28 N	20 04 E	8.26
AKRA DHIKHALIA	38	17 N	20 41 E	8.5	AKRA LIKI	35	26 N	27 10 E	6.12
					AKRA LIKOPORIA	38	08 N	22 29 E	7.18



	Position			Sec. Para		Position			Sec. Para		
	°	'	"			°	'	"			
AKRA LITHADHA	38	49 N	22	50 E	15.20	AKRA TRIPITI	35	36 N	24	07 E	6.28
AKRA LITHARI	38	46 N	24	41 E	16.8	AKRA TRIPITI	37	50 N	21	06 E	7.11
AKRA LIVADHA	37	37 N	25	15 E	14.33	AKRA VAMVAKAS	38	34 N	26	08 E	19.11
AKRA MAKRIIS	40	51 N	25	44 E	17.22	AKRA VARDHIA	38	13 N	21	23 E	7.13
AKRA MALEA	39	01 N	26	36 E	20.5	AKRA VASILINA	38	52 N	22	51 E	15.23
AKRA MALEAS	36	26 N	23	12 E	12.15	AKRA VAYIA	36	15 N	28	10 E	6.4
AKRA MANDHILI	37	57 N	24	31 E	15.6	AKRA VELANI	37	59 N	24	02 E	15.5
AKRA MARATHONOS	38	07 N	24	03 E	15.8	AKRA VELOSTASI	37	22 N	24	53 E	14.28
AKRA MARATHOS	37	03 N	21	34 E	7.8	AKRA VIOLA	38	05 N	24	12 E	15.7
AKRA MASTIKHO	38	09 N	26	01 E	19.9	AKRA VOUDHI	36	23 N	28	15 E	6.4
AKRA MAVROS	35	17 N	26	14 E	6.40	AKRA XILIS	36	39 N	22	49 E	12.7
AKRA MEGALO KARAMBOURNOU	40	30 N	22	49 E	17.3	AKRA YARDHARIS	40	31 N	22	45 E	17.2
AKRA MELANGAVI	38	02 N	22	51 E	7.22	AKRA YERMANOS	37	20 N	26	45 E	18.21
AKRA MELANIOS	38	33 N	25	50 E	19.10	AKRA YEROGOMBOS	38	11 N	20	21 E	8.4
AKRA MELISSA	35	06 N	24	34 E	6.19	AKRA ZONARI	36	27 N	28	13 E	6.7
AKRA MESTA	38	15 N	25	52 E	19.9	AKROTIRI HARBOR	34	34 N	33	02 E	4.4
AKRA METOKHION	37	24 N	23	25 E	12.30	AKROTIRI PENINSULA	34	34 N	32	59 E	4.4
AKRA MIKRO KARAMBOURNOU	40	12 N	23	19 E	17.4	AL 'ARISH	31	08 N	33	48 E	2.23
AKRA MILIANOS	37	17 N	23	12 E	12.23	AL BU'AYRAT	31	24 N	15	44 E	1.14
AKRA MILON	36	27 N	28	13 E	6.7	AL HANIYAH	32	51 N	21	31 E	1.24
AKRA MITIKAS	39	00 N	20	43 E	8.21	AL ISKANDARIYAH	31	10 N	29	50 E	2.11
AKRA MOLIVOS	39	22 N	26	10 E	20.7	AL LADHIQIYAH	35	32 N	35	47 E	3.24
AKRA MORNOS	38	22 N	21	52 E	7.19	AL MINA	34	27 N	35	48 E	3.18
AKRA MOUNDA	38	04 N	20	47 E	8.2	AL QALB	32	30 N	14	34 E	1.11
AKRA MOUROS	35	11 N	24	04 E	6.17	ALACATI LIMANI	38	14 N	26	23 E	19.8
AKRA MOURTZEFLOS	39	59 N	25	02 E	20.20	ALANYA	36	32 N	32	00 E	5.20
AKRA MOUZAKI	37	21 N	23	17 E	12.30	ALEXANDRIA	31	10 N	29	50 E	2.11
AKRA NESTOS	40	46 N	24	48 E	17.18	ALEXANDROUPOLIS	40	50 N	25	53 E	17.23
AKRA NISAKI	36	58 N	23	00 E	12.16	ALIAGA	38	49 N	26	57 E	20.11
AKRA OKHTHONIA	38	32 N	24	14 E	16.2	ALLOBI BURNU	36	33 N	28	01 E	5.34
AKRA OKTONIA	38	32 N	24	14 E	16.2	ALONNISOS	39	13 N	23	55 E	16.14
AKRA OXIA	38	17 N	21	06 E	7.15	ANAMUR BURNU	36	01 N	32	48 E	5.18
AKRA PAKHIS	40	48 N	24	39 E	17.16	ANDIKERIA	36	51 N	25	41 E	14.25
AKRA PALIOURION	39	55 N	23	45 E	17.2	ANDIKIRA	38	22 N	22	38 E	7.21
AKRA PAPAS	37	31 N	25	58 E	18.23	ANDRIJA	43	02 N	15	45 E	10.13
AKRA PAPPAS	38	13 N	21	22 E	7.11	ANTAKYA KORFEZI	36	00 N	35	51 E	5.2
AKRA PELEKOUDA	36	46 N	24	31 E	14.4	ANTALYA	36	53 N	30	42 E	5.22
AKRA PERAM	38	27 N	23	36 E	15.12	ANTALYA KORFEZI	36	30 N	31	00 E	5.19
AKRA PETRITIS	37	56 N	23	24 E	13.14, 13.20	APOLLONIA	32	54 N	21	58 E	1.25
						AR RAS AL ABYAD	33	09 N	35	10 E	3.11
AKRA PINNES	40	47 N	24	19 E	17.10	ARABS GULF	31	00 N	29	00 E	2.8
AKRA PLAKA	35	12 N	26	19 E	6.43	ARGOLIKOS KOLPOS	37	15 N	23	00 E	12.18
AKRA PLAKA	40	02 N	25	27 E	20.18	ARGOSTOLION	38	11 N	20	31 E	8.3
AKRA POULARI	36	35 N	26	29 E	18.3	ARSLAN BURNU	37	49 N	27	14 E	19.4
AKRA POURIA	38	55 N	24	35 E	16.8	AS SIDR	30	38 N	18	22 E	1.15
AKRA PRASON	37	47 N	27	04 E	19.2	ASEN	37	12 N	27	32 E	18.25
AKRA PRASONISI	35	52 N	27	45 E	6.2	ASHDOD	31	49 N	34	39 E	3.4
AKRA PSALIS	36	39 N	24	19 E	14.2	ASHQELON	31	40 N	34	33 E	3.3
AKRA PSAROMITA	38	19 N	22	11 E	7.19	ASIN KORFEZI	37	12 N	27	32 E	18.25
AKRA PSAROMITA	39	47 N	19	57 E	8.28	ASLAN BURNU	38	45 N	26	44 E	20.8
AKRA PSEVDHOKAVOS	39	57 N	24	00 E	17.9	ASPROPIRGOS OIL TERMINAL	38	02 N	23	36 E	13.27
AKRA SAKOULI	36	49 N	21	42 E	7.6	ASTIPALAI	36	32 N	26	21 E	18.4
AKRA SAMBATEKI	37	11 N	22	55 E	12.16	AT TAMAH	31	04 N	17	24 E	1.14
AKRA SARATSINA	39	11 N	25	50 E	20.1	ATLIT	32	42 N	34	56 E	3.8
AKRA SIDHERO	39	38 N	19	56 E	8.26	AV BURNU	36	36 N	30	35 E	5.23
AKRA SIDHEROS	35	19 N	26	19 E	6.9, 6.41	AYASKAHVESI	36	30 N	34	10 E	5.14
						AYIA PELAYIAS	36	19 N	22	59 E	12.11
AKRA SIPIAS	39	11 N	23	21 E	16.10	AYIAS GALINIS	35	06 N	24	41 E	6.20
AKRA SKAMNIA	39	23 N	26	20 E	20.7	AYIOI THEODHOROI OIL TERM.	37	55 N	23	05 E	13.30
AKRA SKILLAION	37	26 N	23	31 E	12.31	AYIOS NIKOLAOS	35	12 N	25	43 E	6.38
AKRA SKILLAION	37	26 N	23	32 E	13.2	AYVALIK LIMANI	39	19 N	26	42 E	20.13
AKRA SOULINA	40	06 N	23	26 E	17.7	AZ ZUWAYTINAH	30	51 N	20	03 E	1.20
AKRA SOUNION	37	39 N	24	02 E	13.10						
AKRA SPIRI	37	48 N	23	10 E	13.8						
AKRA STAVROS	37	12 N	25	32 E	14.23						
AKRA STAVROS	39	02 N	23	04 E	15.24						
AKRA STILI	36	40 N	24	31 E	14.2	BABA BURNU	36	51 N	30	45 E	5.21
AKRA TAINARON	36	23 N	22	29 E	7.2, 12.3	BABA BURNU	39	29 N	26	04 E	20.21
						BADEMLI LIMANI	39	01 N	26	48 E	20.12
AKRA TAMELOS	37	31 N	24	17 E	14.12	BAIE SAINT GEORGES	33	55 N	35	34 E	3.16
AKRA TELION	39	08 N	23	50 E	16.14	BAKAR	45	18 N	14	32 E	11.41
AKRA THEMISTOKLEOUS	37	57 N	23	37 E	13.15	BANGHAZI	32	07 N	20	03 E	1.22
AKRA THEOFILOS	35	53 N	25	16 E	6.22	BANGHAZI PETROLEUM TERM.	32	11 N	20	05.1 E	1.23
AKRA TIGANI	39	40 N	24	45 E	20.20	BANIYAS	35	11 N	35	57 E	3.22
AKRA TIKHOS	37	58 N	23	25 E	13.21	BAR	42	05 N	19	05 E	9.14
AKRA TIROU	37	15 N	22	53 E	12.18	BASCANSKA DRAGA	44	58 N	14	45 E	11.30
AKRA TOUZOULA	35	28 N	23	33 E	6.25	BATI BURNU	38	18 N	26	14 E	19.17
AKRA TRAKHILAS	35	02 N	26	14 E	6.24, 6.43	BATI BURNU	39	50 N	25	58 E	20.21
						BAY OF ANTIOCH	36	00 N	35	51 E	5.2
AKRA TRAKHILOS	36	08 N	23	00 E	12.10	BAY OF SALLUM	31	33 N	25	10 E	2.2
AKRA TRIKKERI	39	06 N	23	03 E	16.18	BAYRUT	33	54 N	35	31 E	3.15
AKRA TRIMESON	37	31 N	24	53 E	14.27	BAYTAK ADASI	37	41 N	27	01 E	19.3

**B**



	Position			Sec. Para		Position			Sec. Para
	°	'	"			°	'	"	
GJIRI VLORES	40	24 N	19 26 E	9.4					
GLARONISIA	37	05 N	26 53 E	18.17					
GOKCEADA	40	10 N	25 50 E	20.25					
GOKKAYA LIMANI	36	12 N	29 55 E	5.25					
GOKOVA ISKELESI	37	03 N	28 19 E	18.15					
GOKOVA KORFEZI	36	55 N	27 45 E	18.14					
GRADAC	43	06 N	17 21 E	10.23					
GREMEA BURNU	40	36 N	26 07 E	20.31					
GULBAHCE KORFEZI	38	26 N	26 39 E	19.23					
GULF OF BOMBA	32	38 N	23 07 E	1.29					
GULF OF SOLLUM	31	35 N	25 20 E	2.2					
GULLUK KORFEZI	37	15 N	27 20 E	18.25					
GYTHION	36	45 N	22 34 E	12.6					
<b>H</b>									
HADERA	32	28 N	34 53 E	3.7					
HAIFA	32	49 N	35 00 E	3.10					
HAR KARMEL	32	50 N	34 58 E	3.8					
HEFA	32	49 N	35 00 E	3.10					
HERCEGNOVI	42	27 N	18 32 E	9.21					
HERCULES PORT	37	58 N	23 36 E	13.18					
HISARONU KORFEZI	36	42 N	27 50 E	18.10					
HISARONU LIMANI	36	47 N	28 06 E	18.10					
HOMS POWER STATION	32	38 N	14 20 E	1.11					
HRID GALIOLA	44	44 N	14 11 E	11.35					
HRID GRUJICA	44	25 N	14 34 E	11.23					
HRID MULO	43	31 N	15 55 E	11.2					
HRID POD MRCARU	42	47 N	16 47 E	10.8					
HRIDI GREBENI	42	35 N	18 13 E	9.28					
HRIDI LUKAVCI	43	05 N	16 35 E	10.17					
HUSEYIN	36	58 N	27 16 E	18.13					
HVARSKI KANAL	43	15 N	16 32 E	10.22					
<b>I</b>									
IBRICE BURNU	40	36 N	26 32 E	20.30					
IDHRA	37	21 N	23 28 E	12.28					
IERAPETRA	35	00 N	25 44 E	6.23					
IFALOI KEROS	39	56 N	25 34 E	20.18					
IFALOS KOLOMBOS	36	31 N	25 28 E	14.14					
IFALOS OREON	38	57 N	23 03 E	15.24					
IFALOS SERPA	39	46 N	19 58 E	8.28					
IFALOS SPITFAIAR	35	19 N	26 15 E	6.40					
ILBIZ BURNU	36	33 N	29 01 E	5.27					
ILDIR KORFEZI	38	24 N	26 23 E	19.18					
ILIODHROMIAS	39	08 N	23 49 E	16.14					
ILYASBABA BURNU	40	02 N	26 11 E	20.24					
IMROZ ADASI	40	10 N	25 50 E	20.25					
INCE BURNU	36	39 N	27 41 E	18.10					
INCE BURNU	37	08 N	27 15 E	18.24					
INCE BURNU	40	07 N	25 40 E	20.26					
INCEGOL BURNU	37	14 N	27 30 E	18.26					
INCEKUM BURNU	36	14 N	33 57 E	5.15					
IRAKLION	35	21 N	25 09 E	6.35					
ISDEMIR	36	44 N	36 11 E	5.7					
ISHULLI I SAZAN	40	30 N	19 17 E	9.3					
ISHULLI I SAZANIT	40	30 N	19 17 E	9.3					
ISKENDERUN	36	36 N	36 10 E	5.5					
ISKENDERUN KORFEZI	36	19 N	35 47 E	5.4					
ISOLA CHERSA	32	51 N	22 30 E	1.26					
ITEA	38	26 N	22 25 E	7.20					
ITHAKI	38	22 N	20 43 E	8.6					
IZMIR	38	26 N	27 08 E	5.29, 19.25					
IZMIR KORFEZI	38	33 N	26 45 E	19.19					
<b>J</b>									
JABAL AL MUDAWWAR	30	50 N	17 43 E	1.14					
JABLAH	35	22 N	35 55 E	3.23					
JABLANAC	44	42 N	14 54 E	11.31					
JANZUR	32	50 N	13 04 E	1.5					
JAZIRAT ARWAD	34	51 N	35 51 E	3.20					
JAZIRAT KARISSAH	32	51 N	22 30 E	1.26					
JAZIRAT RAMKIN	34	30 N	35 45 E	3.18					
JUN MAR JURJUS	33	55 N	35 34 E	3.16					
<b>K</b>									
KADAR	44	07 N	15 13 E	11.10					
KALIMNOS	36	57 N	26 59 E	18.16					
KALOYERI SIGLERI	38	20 N	26 16 E	19.17					
KAMILONISI	35	52 N	26 14 E	18.2					
KANAL MALOG STONA	42	55 N	17 35 E	10.19					
KANAL NOVE POVLJANE	44	19 N	15 05 E	11.17					
KANAL VELA VRATA	45	08 N	14 15 E	11.38					
KARA ADA	36	58 N	27 30 E	18.14					
KARA BURNU	36	39 N	31 40 E	5.21					
KARA BURUM	38	40 N	26 22 E	19.18					
KARAAGAC KORFEZI	36	50 N	28 27 E	5.31					
KARAAGAC LIMANI	36	50 N	28 27 E	5.31					
KARABURUN	36	33 N	28 01 E	5.34					
KARATAS BURNU	36	32 N	35 20 E	5.11					
KARAVOSTASI	35	08 N	32 49 E	4.20					
KARAVOSTASI	36	37 N	24 57 E	14.16					
KARDAK ADALARI	37	03 N	27 09 E	18.24					
KARDELJEVO	43	03 N	17 26 E	10.18					
KASONISIA	35	27 N	26 53 E	6.14					
KASSAB BAY	35	56 N	35 55 E	5.2					
KASTELLION	35	30 N	23 40 E	6.27					
KASTELLORIZON	36	09 N	29 37 E	5.26					
KATAKOLON	37	39 N	21 19 E	7.9					
KAVALA	40	56 N	24 24 E	17.21					
KAVO MIKRON TALIANE	37	58 N	27 15 E	19.6					
KEFALO BURNU	40	10 N	26 01 E	20.25					
KEKOVA ADASI	36	11 N	29 53 E	5.25					
KEP I GALLOVECIT	40	26 N	19 20 E	9.2					
KEP I GJUHEZES	40	25 N	19 18 E	9.2					
KEP I KARLOVECIT	40	26 N	19 20 E	9.2					
KEP I KEFALI	39	55 N	19 55 E	8.32, 9.2					
KEP I LAGIT	41	09 N	19 26 E	9.7					
KEP I PALIT	41	25 N	19 23 E	9.10					
KEP I RODONIT	41	35 N	19 27 E	9.10					
KEP I SEMANIT	40	48 N	19 22 E	9.7					
KEP I STILIT	39	41 N	19 59 E	8.30					
KEP I STILO	39	41 N	19 59 E	8.30					
KEP I TRELIMES	40	30 N	19 25 E	9.6					
KEP I TREPORTEVE	40	30 N	19 25 E	9.6					
KEP I TURRES	41	09 N	19 26 E	9.7					
KEPHALA	34	56 N	24 55 E	6.22					
KEPI I QEFALIT	39	55 N	19 55 E	8.32, 9.2					
KERKIRA	39	37 N	19 56 E	8.27					
KERME KORFEZI	36	55 N	27 45 E	18.14					
KHALIJ ABU HASHA' IFAH	31	16 N	27 35 E	2.6					
KHALIJ ABU QIR	31	20 N	30 10 E	2.13					
KHALIJ AL 'ARAB	31	00 N	29 00 E	2.8					
KHALIJ AL HIKMAH	31	09 N	28 00 E	2.7					
KHALIJ AS SALLUM	31	35 N	25 20 E	2.2					
KHALIJ AT TINAH	31	10 N	32 40 E	2.23					
KHALIJ SURT	32	00 N	18 00 E	1.12					
KHALKIS BRIDGE	38	28 N	23 35 E	15.16					
KHASHM ARITU	30	26 N	19 38 E	1.17					
KHERSONISOS AKROTIRI	35	33 N	24 08 E	6.29					
KHERSONISOS METHANON	37	36 N	23 22 E	13.4					
KHERSONISOS PALAIOKHORA	35	14 N	23 41 E	6.17					
KHIOS	38	22 N	26 08 E	19.12					
KHIOS STRAIT	38	25 N	26 15 E	19.15					
KIATON	38	01 N	22 45 E	7.18					
KINAION	38	49 N	22 50 E	15.20					
KIZ ADASI	39	25 N	26 42 E	20.14					
KIZIL BURNU	36	04 N	33 05 E	5.18					
KOCA BURNU	36	36 N	30 35 E	5.23					
KOILAS	37	25 N	23 07 E	12.22					
KOLOCEPSKI KANAL	42	42 N	17 58 E	10.4					
KOLPOS AIDHIPSOU	38	52 N	23 01 E	15.19					
KOLPOS ARGOSTOLIOU	38	09 N	20 28 E	8.2					
KOLPOS ATALANDIS	38	40 N	23 08 E	15.19					
KOLPOS AYIOU OROUS	40	12 N	24 00 E	17.9					
KOLPOS ELEVSINOS	38	01 N	23 31 E	13.23					
KOLPOS EPIDHAVROU	37	35 N	23 17 E	13.7					
KOLPOS IDHRAS	37	22 N	23 25 E	12.26					
KOLPOS IERISSOU	40	28 N	23 56 E	17.12					
KOLPOS IRAKLIU	35	22 N	25 05 E	6.34					
KOLPOS KALLONIS	39	05 N	26 05 E	20.3					
KOLPOS KASSANDRAS	39	56 N	23 50 E	17.7					
KOLPOS KASTELLORIZON	36	07 N	29 37 E	5.26					
KOLPOS KAVALAS	40	52 N	24 30 E	17.19					



	Position			Sec. Para		Position			Sec. Para		
	°	'	"			°	'	"			
NISIDHES PAXIMADHIA	35	00 N	24	35 E	6.19	NISIS PRASOUDHA	38	40 N	24	15 E	16.4
NISIDHES PENDANISIA	37	49 N	23	16 E	13.8	NISIS PRASOUDHI	39	30 N	20	09 E	8.30
NISIDHES PORTES	37	06 N	25	06 E	14.20	NISIS PRASOURA	36	59 N	25	38 E	14.25
NISIDHES PRASONISIA	37	23 N	25	18 E	14.31	NISIS PROFILAKI	38	58 N	26	32 E	20.4
NISIDHES SOFRANA	36	05 N	26	24 E	18.2	NISIS PSEIMOS	36	56 N	27	08 E	18.13
NISIDHES STILIARIA	40	27 N	24	00 E	17.11	NISIS PSITTALIA	37	56 N	23	35 E	13.13
NISIDHES YIANISADHES	35	20 N	26	10 E	6.40	NISIS REPI	39	09 N	23	32 E	16.10
NISIS AGRIA GRAMVOUSA	35	39 N	23	35 E	6.26	NISIS REVITHOUSA	37	58 N	23	24 E	13.21
NISIS AKRADHIA	36	47 N	24	24 E	14.4	NISIS RINIA	37	25 N	25	14 E	14.30
NISIS ALIMNIA	36	16 N	27	42 E	6.6	NISIS RO	36	09 N	29	30 E	5.27
NISIS AMMOULIANI	40	20 N	23	54 E	17.10	NISIS SAFONIDHI	36	53 N	26	55 E	18.17
NISIS ANDIPSARA	38	11 N	26	30 E	19.14	NISIS SALAMINA	37	56 N	23	30 E	13.16
NISIS ANGISTRI	37	42 N	23	21 E	13.5	NISIS SARAKI	37	14 N	26	42 E	18.20
NISIS ANIDHRO	37	24 N	26	30 E	18.21	NISIS SARIA	35	52 N	27	13 E	6.13
NISIS ANIDHROS	36	38 N	25	41 E	14.18	NISIS SERFOPOULA	37	15 N	24	36 E	14.9
NISIS ARKHANGELOS	37	12 N	26	46 E	18.18	NISIS SIRINA	36	21 N	26	41 E	18.1
NISIS ARKOI	37	23 N	26	44 E	18.20	NISIS SKANTZOURA	39	05 N	24	06 E	16.15
NISIS ASPRO	36	23 N	25	21 E	14.14	NISIS SKIROPOULA	38	50 N	24	21 E	16.6
NISIS ASPRO	37	23 N	25	00 E	14.28	NISIS SPETSPOULA	37	32 N	22	49 E	12.25
NISIS ASTAKIDHA	35	53 N	26	50 E	18.1	NISIS STAVROS	37	15 N	23	27 E	12.29
NISIS ATOKOS	38	29 N	20	49 E	8.7	NISIS STRONGILI	36	07 N	29	38 E	5.26
NISIS AVGO	35	36 N	25	35 E	6.36	NISIS STRONGILO	36	57 N	24	58 E	14.20
NISIS AVGO	36	06 N	23	00 E	12.12	NISIS STROVILLO	38	33 N	26	10 E	19.11
NISIS AYIA KIRIAKI	37	09 N	26	53 E	18.18	NISIS TELENTHOS	37	00 N	26	54 E	18.17
NISIS AYIOI APOSTOLI	39	34 N	25	01 E	20.17	NISIS THASOPOULA	40	50 N	24	42 E	17.18
NISIS AYIOS SOSTIS	38	19 N	21	22 E	7.16	NISIS THIRASIA	36	26 N	25	20 E	14.14
NISIS AYIOS YEORYIOS	36	45 N	24	34 E	14.5	NISIS TOLO	37	30 N	22	52 E	12.21
NISIS AYIOS YEORYIOS	37	29 N	23	55 E	13.1	NISIS TRIKERI	37	16 N	23	17 E	12.27
NISIS DASA	39	07 N	23	38 E	16.12	NISIS TRIPTI	37	13 N	26	49 E	18.18
NISIS DHENOUSA	37	07 N	25	49 E	14.25	NISIS VELOPOULA	36	55 N	23	28 E	12.17
NISIS DHIAPOROS	40	13 N	23	47 E	17.10	NISIS VIDHON	39	39 N	19	55 E	8.26
NISIS DHIDHIMI	37	26 N	24	58 E	14.28	NISIS YIAROS	37	37 N	24	37 E	14.27
NISIS DHILOS	37	23 N	25	16 E	14.30	NISIS YIOURA	39	23 N	24	10 E	16.16
NISIS DHISVATON	37	40 N	24	58 E	14.34	NISOI DHIAPORIOI	37	49 N	23	16 E	13.8
NISIS DHOKOS	37	20 N	23	20 E	12.28	NISOI DHRAGONERA	38	28 N	21	02 E	8.12
NISIS DHRAGONISI	37	27 N	25	29 E	14.33	NISOI EKHINADHES	38	22 N	21	02 E	8.11
NISIS DIA	35	27 N	25	13 E	6.33	NISOI LIMNIA	37	03 N	27	09 E	18.24
NISIS ELAFONISI	35	16 N	23	32 E	6.16	NISOI OINOUSAI	38	31 N	26	15 E	19.16
NISIS ELASA	35	17 N	26	20 E	6.42	NISOI PETALIOI	38	00 N	24	15 E	15.7
NISIS FALKONERA	36	50 N	23	53 E	12.17	NISOI STROFADHES	37	15 N	21	00 E	7.8
NISIS FARMAKONISI	37	17 N	27	07 E	18.25	NISOI VORIOI SPORADHES	39	10 N	24	00 E	16.1
NISIS FLEVES	37	46 N	23	46 E	13.11	NISOS AIYINA	37	43 N	23	30 E	13.6
NISIS FORMIKOULA	38	34 N	20	52 E	8.13	NISOS AMORGOS	36	50 N	25	55 E	14.18
NISIS GAIDHAROS	36	29 N	27	18 E	18.6	NISOS ANAFI	36	22 N	25	47 E	14.15
NISIS GAIDHAROS	37	26 N	24	58 E	14.28	NISOS ANDIKITHIRA	35	52 N	23	18 E	12.13
NISIS GAIDHAROS	37	28 N	26	58 E	18.27	NISOS ANDIMILOI	36	48 N	24	14 E	14.3
NISIS GAIDHOURONISO	37	39 N	23	57 E	13.10	NISOS ANDIPAROS	37	00 N	25	03 E	14.20
NISIS GAVADHAS	39	18 N	26	02 E	20.7	NISOS ANDIPAXOI	39	09 N	20	14 E	8.23
NISIS GAVDHOPOULA	34	56 N	24	00 E	6.18	NISOS ANDROS	37	50 N	24	50 E	14.34
NISIS GAVDHOS	34	50 N	24	05 E	6.18	NISOS ARKOUDHIYOU	38	33 N	20	43 E	8.7
NISIS GRAMVOUSA	35	37 N	23	35 E	6.26	NISOS ASTIPALAI	36	36 N	26	25 E	18.3
NISIS KALOLIMNOS	37	04 N	27	05 E	18.17	NISOS AYIOS EVSTRATIOS	39	32 N	25	02 E	20.17
NISIS KARPAHTOS	35	37 N	27	08 E	6.10	NISOS ELAFONISOS	36	29 N	22	58 E	12.8
NISIS KAVANAS	40	37 N	23	48 E	17.15	NISOS ERIKOUSA	39	53 N	19	35 E	8.25
NISIS KHRISI	34	52 N	25	42 E	6.23	NISOS EVVOIA	38	30 N	24	00 E	15.1
NISIS KHTAPODHIA	37	25 N	25	35 E	14.33	NISOS FOLEGANDROS	36	38 N	24	54 E	14.16
NISIS KOUFONISION	34	56 N	26	09 E	6.24	NISOS IDHRA	37	20 N	23	28 E	12.27
NISIS KOUNIDHA	35	08 N	25	49 E	6.38	NISOS IKARIA	37	36 N	26	10 E	18.23
NISIS LEVITHA	37	00 N	26	28 E	18.5	NISOS IOS	36	44 N	25	20 E	14.17
NISIS MAKRA	36	16 N	25	53 E	14.15	NISOS IRAKLIA	36	50 N	25	27 E	14.26
NISIS MAKRONISOS	37	58 N	23	25 E	13.21	NISOS ITHAKI	38	26 N	20	40 E	8.6
NISIS MEGALONISI	39	13 N	25	50 E	20.2	NISOS KALAMOS	38	38 N	20	55 E	8.13
NISIS MIKROS AVELOI	36	50 N	25	24 E	14.26	NISOS KALIMNOS	37	00 N	27	00 E	18.16
NISIS MIRMINGAS	37	12 N	25	04 E	14.30	NISOS KAROS	36	54 N	25	39 E	14.25
NISIS MONI	37	41 N	23	26 E	13.4	NISOS KASOS	35	24 N	26	58 E	6.13
NISIS NATA	37	22 N	25	03 E	14.30	NISOS KASTOS	38	34 N	20	54 E	8.13
NISIS NERA	36	55 N	26	56 E	18.17	NISOS KEA	37	38 N	24	20 E	14.12
NISIS NIKOURIA	36	53 N	25	55 E	14.19	NISOS KEFALLINIA	38	10 N	20	35 E	8.2
NISIS OVO	35	36 N	25	35 E	6.36	NISOS KERRIRA	39	30 N	19	54 E	8.24
NISIS PAKHIA	36	16 N	25	50 E	14.15	NISOS KHALKI	36	13 N	27	34 E	6.6
NISIS PANAYIA	39	19 N	26	27 E	20.7	NISOS KHIOS	38	20 N	26	00 E	19.9
NISIS PARAPOLA	36	55 N	23	28 E	12.17	NISOS KIMOLOS	36	47 N	24	34 E	14.6
NISIS PATROKLOU	37	39 N	23	57 E	13.10	NISOS KITHIRA	36	15 N	23	00 E	12.10
NISIS PAXIMADHA	35	23 N	26	11 E	6.40	NISOS KITHNOS	37	24 N	24	25 E	14.10
NISIS PAXIMADHI	36	38 N	24	19 E	14.2	NISOS KOS	36	50 N	27	10 E	18.11
NISIS PEXLAGOS	39	20 N	24	05 E	16.16	NISOS LEROS	37	10 N	26	50 E	18.18
NISIS PERISTERA	39	11 N	23	58 E	16.15	NISOS LESVOS	39	15 N	26	15 E	20.1
NISIS PERISTERAI	39	48 N	19	58 E	8.31	NISOS LEVKAS	38	42 N	20	39 E	8.8
NISIS PETRA	39	20 N	26	09 E	20.7	NISOS LIMNOS	39	55 N	25	15 E	20.18
NISIS PIPERI	37	18 N	24	32 E	14.9	NISOS LIPSOI	37	18 N	26	45 E	18.20
NISIS PLATIA	37	30 N	22	55 E	12.21	NISOS MATHRAKI	39	46 N	19	31 E	8.25
NISIS PORI	35	58 N	23	15 E	12.12	NISOS MEGANISI	38	04 N	20	47 E	8.9

	Position				Sec. Para		Position				Sec. Para
	°	'	°	'			°	'	°	'	
NISOS MEYISTI	36	09 N	29	35 E	5.0, 5.26	ORMOS KAPARI	37	23 N	23	15 E	12.30
NISOS MILOS	36	41 N	24	27 E	14.2	ORMOS KAPSALIOU	36	08 N	23	00 E	12.10
NISOS NAXOS	37	05 N	25	29 E	14.23	ORMOS KARISTOU	37	59 N	24	26 E	15.6
NISOS NISIROS	36	35 N	27	10 E	18.7	ORMOS KATAPOLA	36	50 N	25	52 E	14.18
NISOS OTHONOI	39	51 N	19	24 E	8.25	ORMOS KERATSINIOU	37	57 N	23	34 E	13.17
NISOS PAROS	37	03 N	25	11 E	14.20	ORMOS KIMIS	38	37 N	24	09 E	16.3
NISOS PATMOS	37	20 N	26	33 E	18.21	ORMOS KOLOKITHIAS	36	36 N	22	30 E	12.5
NISOS PAXOI	39	12 N	20	11 E	8.22	ORMOS KOPRAINIS	39	01 N	21	06 E	8.19
NISOS PIPERI	39	21 N	24	19 E	16.16	ORMOS KORINTHOU	38	00 N	22	52 E	7.22
NISOS POLIAIGOS	36	46 N	24	39 E	14.6	ORMOS LAKKI	37	07 N	26	50 E	18.19
NISOS POROS	37	31 N	23	29 E	13.2	ORMOS LARMES	38	34 N	23	17 E	15.18
NISOS PSARA	38	35 N	25	35 E	19.14	ORMOS LEVKANDI	38	25 N	23	40 E	15.10
NISOS PSATHOURA	39	30 N	24	10 E	16.17	ORMOS LIMNIS	38	46 N	23	19 E	15.19
NISOS RODHOS	36	10 N	27	55 E	6.1	ORMOS LOUTRAKIOU	38	54 N	21	04 E	8.20
NISOS SALAMIS	37	56 N	23	30 E	13.16	ORMOS LOUTRO	35	12 N	24	05 E	6.17
NISOS SAMOS	37	45 N	26	50 E	19.1	ORMOS LOUTRON	37	26 N	24	26 E	14.11
NISOS SAMOTHRAKI	39	46 N	19	31 E	8.25	ORMOS MAKRIS YIALOS	35	02 N	25	59 E	6.24
NISOS SAMOTHRAKI	40	27 N	25	35 E	20.27	ORMOS MALTEZANA	36	34 N	26	23 E	18.4
NISOS SERIFOS	37	10 N	24	29 E	14.9	ORMOS MARKOPOULOU	37	53 N	24	02 E	15.5
NISOS SIFNOS	36	58 N	24	42 E	14.7	ORMOS MEGALO VATHI	38	25 N	23	36 E	15.12
NISOS SIKINOS	36	41 N	25	07 E	14.17	ORMOS MESSARA	35	00 N	24	42 E	6.20
NISOS SIMI	36	35 N	27	50 E	18.8	ORMOS MESTA	38	18 N	26	56 E	19.9
NISOS SIROS	37	26 N	24	54 E	14.27	ORMOS MILOU	36	43 N	24	26 E	14.3
NISOS SIVOTA	39	24 N	20	13 E	8.21	ORMOS MOUDHROU	39	50 N	25	15 E	20.19
NISOS SKHINOUSA	36	52 N	25	31 E	14.26	ORMOS NAOUSIS	37	08 N	25	14 E	14.21
NISOS SKIATHOS	39	11 N	23	28 E	16.9	ORMOS NAVARINOU	36	54 N	21	40 E	7.7
NISOS SKIROS	38	53 N	24	30 E	16.6	ORMOS NAVPLION	37	33 N	22	46 E	12.19
NISOS SKOPELOS	39	09 N	23	40 E	16.11	ORMOS NAXOU	37	06 N	25	21 E	14.24
NISOS SKORPIOS	38	42 N	20	44 E	8.10	ORMOS OROPOU	38	20 N	23	48 E	15.10
NISOS SPETSAI	37	16 N	23	08 E	12.25	ORMOS PALAIROU	38	46 N	20	51 E	8.14
NISOS SPETSES	37	16 N	23	08 E	12.25	ORMOS PARGAS	39	17 N	20	24 E	8.21
NISOS THASOS	40	40 N	24	40 E	17.16	ORMOS PAROIKIAS	37	05 N	25	08 E	14.22
NISOS THIRA	36	24 N	25	24 E	14.13	ORMOS PARTHENI	37	11 N	26	47 E	18.18
NISOS TILOS	36	27 N	27	21 E	18.6	ORMOS PIGADHIA	35	31 N	27	14 E	6.12
NISOS TINOS	37	36 N	25	09 E	14.33	ORMOS PLATIYIALI	38	28 N	21	06 E	8.12
NISOS TRAGOUSA	36	13 N	27	42 E	6.6	ORMOS POURNIAS	39	59 N	25	18 E	20.20
NISOS VARDHIANOI	38	08 N	20	26 E	8.2	ORMOS PTELEOU	39	01 N	22	59 E	16.18
NISOS YIALI	36	40 N	27	07 E	18.7	ORMOS RAFINAS	38	01 N	24	01 E	15.5
NISOS ZAKINTHOS	37	46 N	20	47 E	7.10	ORMOS RAFTIS	37	53 N	24	02 E	15.5
NOSKO ZDRILO	44	15 N	15	31 E	11.18	ORMOS SALAMINOS	37	57 N	23	25 E	13.20
NOTION STENON KERKIRAS	39	21 N	20	12 E	8.29	ORMOS SALAORAS	39	01 N	20	48 E	8.19
NOTIOS EVVOIKOS KOLPOS	38	20 N	23	55 E	15.9	ORMOS SAMIS	38	16 N	20	39 E	8.5
NOTIOS LIMIN	38	27 N	23	35 E	15.14	ORMOS SAYIADHAS	39	37 N	20	10 E	8.30
NOVI VINODOLSKI	45	08 N	14	47 E	11.32	ORMOS SIMIS	36	37 N	27	50 E	18.8
NOVIGRADSKO MORE	44	12 N	15	32 E	11.19	ORMOS SITIAS	35	13 N	26	08 E	6.39
						ORMOS SKIATHOU	39	10 N	23	30 E	16.9
						ORMOS SKOPELOU	39	08 N	23	44 E	16.11
						ORMOS SKOUTARI	36	39 N	22	31 E	12.5
						ORMOS SKROPONERIOU	38	30 N	23	21 E	15.18
						ORMOS SOUDHAS	35	29 N	24	11 E	6.30
						ORMOS SOURPIS	39	10 N	22	51 E	16.20
						ORMOS STAVROS	40	40 N	23	42 E	17.15
						ORMOS THORIKOU	37	44 N	24	04 E	15.3
						ORMOS TRIO	37	00 N	25	14 E	14.21
						ORMOS TRIS BOUKES	38	46 N	24	35 E	16.6
						ORMOS VASILIKIS	38	36 N	20	36 E	8.9
						ORMOS VATHI	37	45 N	26	58 E	19.2
						ORMOS VIATIKA	36	30 N	23	02 E	12.9
						ORMOS VISTONIAS	40	58 N	25	05 E	17.22
						ORMOS VLIKHO	38	42 N	20	43 E	8.10
						ORMOS VOLISSOS	38	28 N	25	55 E	19.10
						ORMOS VOLOU	39	19 N	22	59 E	16.21
						ORMOS VONITSIS	39	01 N	20	58 E	8.20
						ORMOS VOUDHIA	36	45 N	24	32 E	14.2
						ORMOS VOURKOS	38	40 N	20	58 E	8.13
						OROS POROS	38	39 N	20	43 E	8.9
						OTOC JAKLIAN	42	45 N	17	48 E	10.3
						OTOC OLIPA	42	46 N	17	47 E	10.3
						OTOCI CAVTATSKI GREBENI	42	34 N	18	12 E	9.26
						OTOCIC ARKANDEL	43	28 N	16	02 E	10.32
						OTOCIC BIJELAC	42	46 N	16	45 E	10.8
						OTOCIC BLITVENICA	43	37 N	15	35 E	11.7
						OTOCIC DAKSA	42	40 N	18	04 E	9.29
						OTOCIC DOLFIN	44	41 N	14	41 E	11.25
						OTOCIC GLAVAT	42	46 N	17	09 E	10.8
						OTOCIC HRBOSNJAK	43	39 N	15	44 E	11.7
						OTOCIC JABUKA	43	06 N	15	28 E	10.12
						OTOCIC KOSARA	43	53 N	15	24 E	11.11
						OTOCIC LIRICA	42	53 N	17	26 E	10.6
						OTOCIC LUKOMJAK	43	35 N	15	52 E	11.4
						OTOCIC MURVICA	43	28 N	16	04 E	10.26
						OTOCIC ORUDA	44	33 N	14	35 E	11.27
<b>O</b>											
OLIPSKI KANAL	44	22 N	14	44 E	11.24						
OMISALJ OIL TERMINAL	45	13 N	14	33 E	11.42						
ORDHIMNOS	39	18 N	25	55 E	20.7						
ORMOS ALINDHAS	37	10 N	26	51 E	18.18						
ORMOS ALIVERIOU	38	23 N	24	02 E	15.9						
ORMOS ALMIROU	35	23 N	24	20 E	6.31						
ORMOS AMALIAPOLEOS	39	10 N	22	54 E	16.20						
ORMOS AMBELLKION	37	57 N	23	33 E	13.18						
ORMOS AMFILOKHAS	38	54 N	21	09 E	8.20						
ORMOS APOKROUSIS	37	25 N	24	24 E	14.11						
ORMOS ARGANO	37	01 N	26	57 E	18.17						
ORMOS ASTAKOU	38	31 N	21	05 E	8.12						
ORMOS AVLAKI	37	47 N	24	05 E	15.4						
ORMOS AYIAS ANNAS	37	25 N	25	25 E	14.32						
ORMOS AYIOU NIKOLAOU	37	40 N	24	19 E	14.12						
ORMOS AYIOU NIKOLAOU	37	45 N	24	04 E	15.4						
ORMOS AYIOU YEORYIOU	37	58 N	23	26 E	13.22						
ORMOS DHREPANOU	38	46 N	20	44 E	8.14						
ORMOS ELEVETHERON	40	50 N	24	19 E	17.19						
ORMOS ENNIA	37	37 N	24	05 E	15.4						
ORMOS ENNIA	37	47 15.4									
ORMOS FRIKES	38	28 N	20	41 E	8.7						
ORMOS GAVRIOU	37	52 N	24	44 E	14.36						
ORMOS GOUVION	39	39 N	19	51 E	8.28						
ORMOS GRANDES	35	14 N	26	17 E	6.42						
ORMOS IERAKOS	36	47 N	23	06 E	12.16						
ORMOS IGOUMENITSIS	39	30 N	20	14 E	8.29						
ORMOS IOU	36	43 N	25	16 E	14.18						
ORMOS IPSOU	39	42 N	19	51 E	8.28						
ORMOS KALAMAKI	37	53 N	23	00 E	13.9						
ORMOS KALAMITSAS	38	49 N	24	32 E	16.7						
ORMOS KALON LIMENON	34	56 N	24	49 E	6.21						







	Position			Sec. Para		Position			Sec. Para
	°	'	°			°	'	°	
<b>V</b>									
VASILIKOS	34	43 N	33	19 E	4.6				
VELEBITSKI KANAL	45	00 N	14	50 E	11.15				
VENEDIK KAYALARI	38	37 N	26	45 E	19.20				
VINGLOSTASI	37	22 N	24	53 E	14.28				
VINODOLSKI KANAL	45	11 N	14	40 E	11.33				
VLORES	40	28 N	19	30 E	9.5				
VOLOS	39	22 N	22	57 E	16.22				
VORIAI EKHNADHES	38	28 N	21	02 E	8.12				
VORIOS EVVOIKOS KOLPOS	38	45 N	23	15 E	15.17				
VOXITOS ORE TERMINAL	38	02 N	23	30 E	13.24				
VRAKHOI KALOYEROI	38	10 N	25	18 E	14.38				
VRAKHOI KTENIA	36	38 N	24	35 E	14.2				
VRAKHONISIDHES DHRAGONERES	36	13 N	23	06 E	12.11				
VRAKHONISIS KANDHELIOUSA	36	30 N	26	58 E	18.2				
VRAKHONISIS STRONGILI	36	07 N	29	38 E	5.26				
VRAKHOS MERMINGAS	37	12 N	25	04 E	14.30				
VRAKHOS PAXIMADHA	36	01 N	28	05 E	6.3				
VRGADSKI KANAL	43	50 N	15	33 E	11.8				
VRH UCKA	45	17 N	14	12 E	11.37				
<b>X</b>									
XEROS	35	08 N	32	50 E	4.19				
<b>Y</b>									
YAKACIK	36	46 N	36	11 E	5.6				
YALI BURNU	36	14 N	29	21 E	5.27				
YARDIMCI BURNU	36	13 N	30	24 E	5.19				
YARDIMCI BURNU	36	13 N	30	25 E	5.23				
YEDI BURNU BASI	36	24 N	29	07 E	5.27				
YERANOS	37	20 N	26	45 E	18.21				
YESILOVA KORFEZI	36	38 N	28	00 E	18.9				
YITHION	36	45 N	22	34 E	12.6				
YUMURTA ADASI	39	19 N	26	31 E	20.13				
YUMURTALIK LIMANI	36	45 N	35	43 E	5.10				
YUMURTALIK OIL TERMINAL	36	45 N	35	44 E	5.10				
<b>Z</b>									
ZALIV KLEK NEUM	42	56 N	17	35 E	10.20				
ZALIV RASA	44	59 N	14	05 E	11.44				
ZALIV TRASTE	42	22 N	18	41 E	9.19				
ZANTE	37	47 N	20	54 E	7.10				
ZANZUR	32	50 N	13	04 E	1.5				
ZAWIA OIL TERMINAL	32	48 N	12	43 E	1.4				
ZELENKA	42	27 N	18	35 E	9.21				
ZIRJANSKI KANAL	43	40 N	15	41 E	11.7				
ZLARINSKI KANAL	43	41 N	15	49 E	11.5				
ZOURAFA	40	28 N	25	50 E	20.28				
ZUPSKI ZALIV	42	36 N	18	12 E	9.27				
ZUWARAH MARINA	32	56 N	12	07 E	1.3				