



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 3 — CHART INFORMATION

SECTOR 3

WEST COAST OF INDIA—CAPE RAMA TO CAPE COMORIN

Plan.—This sector describes the W coast of India from Cape Rama to Cape Comorin. The arrangement of the sector is from N to S.

General Remarks

3.1 The Western Ghats continue parallel to the coast at distances of 5 to 25 miles inland. These mountains have general heights of 750 to 900m, and attain heights of 1,800m. Palghat Gap, a striking feature on this coast, lies between the parallels of 10°52'N and 10°35'N. This break in the Western Ghats is about 16 miles wide; its S side is formed by Kollengode Bluff, which lies about 48 miles NE of Cochin at the NW end of the Anamalai Mountains. North of Palghat Gap, gentle slopes and gradually widening valleys succeed the forest-clad uplands, until near the coast, where the low tablelands shelve into rice plains and backwaters fringed with coconut palms. South of the gap is an extensive hill area, which includes some mountains, almost detached and precipitous on their W sides, which are connected with lower hills diminishing in height towards the coast. The coastal belt, extending about 10 miles inland, is flat and covered with an almost unbroken belt of coconut and areca palms; high white sand dunes and areas of red sand along the coast form good landmarks. Tortuous rivers flowing into lagoons and backwaters are connected in places by canals and, between **Alleppey** (9°29'N., 76°19'E.) and Ponnani, 85 miles NNW, form a continuous line of smooth water.

Cape Rama to Karwar Bay

3.2 Cape Rama (15°05'N., 73°55'E.) projects 1 mile W from Rama False Bluff, which rises abruptly E of the tableland of Cape Rama to a height of about 200m. The land then rises gradually E in a succession of hills for a distance of 4 miles and terminates in East Peak, 448m high. Kankon Peak (Kanakona Peak), 646m high, about 9 miles ESE of Cape Rama, is the W summit of a range of hills extending E, and is separated from East Peak by a gap.

Cape Rama is prominent and has a fort on it, but during the thick weather of the Southwest Monsoon, no part of this coast is visible for more than 4 or 5 miles. Good radar returns have been reported from Cape Rama at 16 miles. Pandigat Point (Paidegal Point), about 5.5 miles SE of Cape Rama, is a steep projecting headland rising to an height of 192m; a village is situated on its N side. Kankon Islet, fringed by a reef, lies about 2 miles farther SE.

3.3 Karwar (14°49'N., 74°07'E.) ([World Port Index No. 48990](#)) is a lighterage port on the SE side of Karwar Bay.

Depths—Limitations.—Ore carriers, with a maximum size of 35,000 dwt, call at Karwar. The offshore loading of iron ore is carried out by the use of ore barges and ship's gear. The average loading is reported to be about 4,500 grt per day for

35,000 dwt carriers, and it takes more than a week to fully load such a carrier. The port is closed from May 16 to September 15 during the Southwest Monsoon. In Baitkal Cove is a 355m long all-weather quay containing two general cargo berths. Berth No. 1 is 122m long and Berth No. 2 is 172m long; the depth alongside both berths is 7m.

A channel, 110m wide and dredged to depths of from 9.1 to 10.6m, leads to the wharf; the channel is marked by ranges.

Aspect.—**Loliem Point** (Lolien Point) (14°55'N., 74°03'E.), in the N approach to Karwar, attains an elevation of 175m about 0.2 mile inland, and is steep, rocky, and well-wooded. Loliem Rocks, awash at LW springs, lie about 1 mile S of Loliem Point; a rock, with less than 1.8m over it, lies about 0.2 mile N of the rock. Black Rock (Kumbae), 19m high and fringed with rocks, lies about 1.8 miles SE of Loliem Point. Kangiguda Island, 51m high, lies about 4 miles SE of Loliem Point and about 0.2 mile offshore.

Oyster Rocks (14°49'N., 74°04'E.) consist of a prominent group of islands and rocks. Devgad Island, 44m high to the tops of the trees, is the largest and highest island; it is bold, rocky, and steep-to on its W side.

Oyster Rocks Light is shown from a white, round, masonry structure, with red bands and a red cupola, on the summit of Devgad Island.

Pilotage.—Pilotage is compulsory and available 24 hours. Pilots are contacted on VHF channels 16, 10, and 12.

3.4 Karwar Bay is entered between **Badchidhar Point** (14°48'N., 74°06'E.), the NW extremity of Karwar Head, and the entrance to the Sadashivgarh River, about 2.5 miles NE. Karwar Head, with an elevation of 207m, is covered with dense jungle. The Sadashivgarh River entrance, leading to Kalinadi Creek, is much encumbered by sandbanks and the channels are subject to frequent change.

Directions.—Vessels approaching or entering Karwar Bay, either by day or night, should have no difficulty after having made Oyster Rocks Light.

The SW extremity of Kurmagad Island, bearing 131° in range with Guddehalli, leads SW of Loliem Rock.

Approaching from N, pass on either side of Sunghiri Island according to draft.

At night, steer for Port Karwar Light, bearing 124°, if proceeding to the inner anchorage.

The E end of Mogueraguda Island in range with the W end of Anjadip Island bearing 154.5°, leads clear of the dangers E of Oyster Rocks.

If approaching from S, pass between Oyster Rocks and Karwar Head. The summits of Kurmagad Island and Ramnathguda in range, bearing 036°, lead clear of the dangers E of Oyster Rocks; a white framework tower stands on the summit of the island.

Mandal Island, 26m high, lies about 0.2 mile SW of Devgad Island; a 5.2m patch lies about 183m E of the island.

Karkal Island, 30.5m high and covered with jungle, lies close E of Devgad Island. East Island, a bare rock, lies about 0.3 mile farther E. A 0.6m patch lies between Karkal and East Islands.

A rock, which dries 1.2m, lies about 183m E of East Island; the sea breaks over this rock at HW. A detached shoal, with a depth of 2.1m lies about 137m SE of this rock.

Parker Rock, with a least depth of 5.2m, rock, sand, and shell, lies about 2.5 miles NW of Devgad Island. A detached 10.7m patch lies about 183m E of the rock.

Anjadip Island (Angediva Island) (14°45'N., 74°07'E.), in the S approach to Karwar, lies about 3 miles S of Karwar Head. A flagstaff lies at an elevation of 89m near the NW end of the island, with a church about 183m ENE of it. A shoal patch, with a least depth of 1.8m, lies about 0.2 mile SE of the SE extremity of the island. Round Island, 26m high and fringed by reef, lies about 0.7 mile ENE of the same extremity. Guddehalli (Godhulli Peak), 550m high and conspicuous, lies about 3.5 miles NE of Anjadip Island, and with the adjacent summit, appears from the S as a saddle-back hill.

3.5 Golikodlu Peak, a sharp peak 547m high, lies about 3 miles E of Guddehalli. Mogeraguda Island, 56m high, rocky, and covered with jungle, lies about 0.5 mile SE of Karwar Head. A 4.3m patch lies about 0.3 mile SSW of the island. Gudsar Sunv, with a least depth of 2.4m, lies about 0.5 mile WNW of Mogeraguda Island. The channel between Mogeraguda Island and Karwar Head is free from dangers, with a least charted depth of 7.6m in the fairway. Kurmagad Island, encircled by fortifications, and with its summit rising to a height of 75m to the tops of the trees, lies about 2.5 miles N of Karwar Head. The island is surrounded by foul water, but there is a safe channel, with charted depths of about 7m, between Kurmagad Island and Sunghiri Island, 53m high, about 0.2 mile SW. Leading lights are shown from two framework towers; the rear, painted red, is on Kurmagad Island and the front, painted white, is on Sunghiri Island. Baitkal Cove lies in the SE part of Karwar Bay. Bing Bay lies between Arge Cape and Bing Point, 2.5 miles NW. In 1986, construction of a major naval base started, which included shipbuilding and repairs facilities in the bay.

Anchorage.—During the Southwest Monsoon, anchorage can be obtained NE of Karkal Island, in 11m, mud, with Oyster Island Light bearing 248°, distant about 0.8 mile, and with East Island bearing 186°.

Anchorage can be taken off the NE side of Anjadip Island, in 9.1m, mud and sand. The island forms a good breakwater and vessels have ridden out the Southwest Monsoon here. A strong current sets SE during this season. Anchorage, sheltered from NW winds, can be obtained by small vessels with local knowledge, in about 6m, in Binge Bay, ENE of Anjadip Island.

Anchorage can also be obtained off the N side of Karwar Head, in a depth of about 7.3m, about 0.3 mile offshore, moored bow and stern, facing the WNW swell. Vessels moored here will be sufficiently sheltered from the Southwest Monsoon to work cargo.

Vessels can anchor closer in with Port Karwar Light bearing 104°, about 0.3 mile, in 5.5m. Wharves in Baitkal Cove can accommodate small vessels in depths up to 2.4m. Anchorage

may also be taken, in a depth of 8m, about 1 mile N of Bachidhar Point.

Caution.—A submarine pipeline is laid from a position ashore between Biuge and Baitkal Points, in a SW direction for about 0.5 mile, then for 1.5 miles in a WSW direction. Vessels are advised to avoid anchoring in the vicinity.

Belekeri Bay to Honavar

3.6 Belekeri Bay (14°42'N., 74°15'E.) lies between Kwada Point and Kusuldiva Gudda, about 6.5 miles SE. Belekeri is a small ore landing port on the S side of the entrance to Belekeri Creek. It has ore loading facilities of 3,000 tons per day. Cargo is handled by lighters between the pier at Belekeri and the anchorage. Pilotage is available on application to the Port Officer at Karwar.

Depths—Limitations.—Belekeri Bay has depths of less than 5m. Foul ground extends about 0.7 mile W of **Belekeri Point** (14°42'N., 74°15'E.), a low, flat, and rocky point at the head of the bay. Several small islets lie close N and about 0.2 mile WSW of the point.

Aspect.—Kwada Guda, about 0.8 mile NW of Kwada Point, is the conspicuous summit of a steep, rocky headland, 216m high.

Arge Cape, about 3 miles WNW of Kwada Guda, has a summit close within the cape, 168m high. Arge Island, 52m high, lies about 0.2 mile S of the cape. Button Rock, small and black, lies about 1.5 miles SSW of Arge Cape. Kukra Islet, 55m high and wooded, is conspicuous about 1.3 miles W of Belekeri Point. A light is shown, from September to May, from a white tower with black bands on Kukra Islet. Belekeri Hill, 474m high and prominent from S and W, lies about 3.5 miles ENE of Kwada Point, at the SW end of a range which rises near the coast N of Belekeri Creek.

Daughish Peak, 610m high, about 3 miles farther NE, is the summit of the range. Aversa Hills, about 1.5 miles SE of Belekeri Hill, has two conspicuous peaks, the higher being 125m high. Kandani Halla, a low valley terminating in a creek ENE of Belekeri Point, extends NE for several miles and shows in striking contrast to the high land on either side. Tulsi Parwat, a conspicuous black peak 521m high, lies about 6.5 miles NE of Kusuldiva Gudda. Conical Hill, 374m high and cone-shaped, lies about 2 miles NW of Tulsi Parwat.

Kusuldiva Gudda (14°38'N., 74°16'E.) is a table-topped hill 46m high; cliffs extend about 1.8 miles SE to the N entrance of the Gangavali River. A rock, 3m high, lies about 0.5 mile N of Kusuldiva Gudda.

Anchorage.—Anchorage for medium-draft vessels can be obtained, in about 11m, with Kukra Island bearing 080°, distant 2.5 miles. Vessels with shallower draft can anchor, in about 8.2m, with Kukra Island on the same bearing, distant 1.5 miles.

3.7 The Gangavali River (Gangavali River) (14°36'N., 74°18'E.) is shallow, and the channel is rendered tortuous by sandbanks. Handegadda, 310m high, about 4.5 miles ENE of the river entrance, is a well-defined isolated summit. The coast from the Gangavali River to Gokarn, about 3.5 miles SSE, is a low, sandy beach fringed with coconut palms; a few miles

inland several hills rise to elevations of up to 140m. The town of Gokarn has several large temples.

The **Aghnashini River** (Tadri River) (14°31'N., 74°20'E.) is navigable for a short distance only, and local knowledge is necessary to cross the bar; it is subject to constant shifting and has a least depth of 2.4m. Tadri River Light is shown from mid-September to mid-June from a stone tower painted black and white at the NW entrance to the Aghnashini River. Rajaman Drug, a fort, lies at an elevation of 91m at the SE entrance point of the river.

Kudaini Hill rises to an elevation of 135m about 0.7 mile NW of Tadri River Light. A promontory, 66m high, lies about 1.3 miles W of Kudaini Hill.

Anchorage can be obtained, in 8m, mud, about 1.5 miles SW of the bar, with the range beacons lying well up on a hill about 0.5 mile NE of Rajaman Drug, bearing 070°.

The coast between the Aghnashini River and Kumta Point, about 6 miles SSE, is backed by several conspicuous landmarks.

Achuvi Moti Gudda, 835m high, is a prominent sugar-loaf summit, about 10.5 miles NE of the entrance to the Aghnashini River.

Parvat Gudi (Danson Peak) (14°32'N., 74°27'E.) is 581m high and conspicuous; Spike Hill, about 90m lower, lies about 0.8 mile NW. Kudi Gudda, 321m high, about 3.5 miles WNW of Parvat Gudi, is dome-shaped and prominent from W. Gudeangdi Temple, about 3 miles N of Kumta Point, is conspicuous from the N and lies on the summit of a 39m hill close to the coast.

Kumta Point (Kumpta Point) (14°25'N., 74°23'E.), marked by a light, shown from mid-September to mid-June, lies at the N entrance to a creek, with the town of Kumta about 1.5 miles E. Snail Rock, 7m high, lies about 1.8 miles NW of the point, and 0.8 mile offshore; it resembles a snail when seen from N. A rock, awash, lies 0.5 mile N of Snail Rock.

Anchorage.—Small vessels may anchor, with some shelter from NW winds, in a depth of 6.1m, S of Kumta Point.

Ravana Gundi, a rocky headland with 2 summits 103m and 120m high, lies about 3.5 miles S of Kumta Point. This headland appears saddle-shaped from the W, and shows up well at night. A 124m wedge-shaped reddish hill lies about 2.5 miles NNE of Ravana Gundi.

Basavrajdrug Island (Baswaraj Drug) (14°19'N., 74°24'E.) is 51m high and conspicuous. It is the site of an old fort, in ruins, and is covered with trees and bushwood.

Indravati Patch, about 0.6 mile W of Basavrajdrug Island, is a rocky shoal with a depth of 4.6m; a 5m patch lies midway between the rocky shoal and the island. Kalti Gudda, 675m high, about 9 miles ENE of Basavrajdrug Island, is the highest peak of a range extending ENE; it is a conspicuous landmark in clear weather.

3.8 Honavar (14°17'N., 74°27'E.) (**World Port Index No. 49020**) is an open roadstead port which enjoys some importance with a considerable export of iron ore, timber, tiles and betel nuts; local vessels call regularly. The town lies on the N side of the extensive estuary of the Sharavati River, about 0.8 mile E of the river entrance. The bar of the river is dangerous and constantly changing; the least depth over the bar was 1.8m

in 1974. At LW, there are heavy breakers, but at HW vessels of up to 3m draft can enter. There are no port operations during the summer months.

Aspect.—A conspicuous monument lies on a hill, 43m high, behind Honavar and about 1.5 miles NE of the river entrance. Honavar Light, shown about 0.7 mile SW of the monument, from mid-September to mid-June, is obscured by trees when bearing less than 035°.

Haravalli, a peak 532m high, about 7 miles E of Honavar, is isolated and easy to identify. A 126m hill, about 3.5 miles S of the monument, is also easy to identify.

Anchorage.—Good anchorage can be obtained, in 9m, sand and mud, with the conspicuous monument bearing 082°, about 3 miles. Small vessels may anchor, with shelter from NW winds, between Basavrajdrug Island and the coast E, in about 5m; local knowledge is necessary.

Honavar to Bhatkal

3.9 The coast between Honavar and the entrance to the Bhatkal River, is low and sandy with some rocky points. A ridge, reaching an elevation of about 150m, extends about 2 miles along the coast from a position about 3 miles S of Honavar. The ridge is covered with brushwood and contrasts strongly with the sandy shore; the cliffs, 46m high at its base are prominent. Murdeshvar, an islet 32m high, lies about 6.5 miles S of the above ridge. A rocky island, 9m high, lies about 0.8 mile SW of Murdeshvar at the W end of foul ground extending from the coast. Hawkins Reef, awash, lies with its SW extremity about 1 mile NW of Murdeshvar and about 1 mile offshore. Dart Rock, with a least depth of 2m, lies about 1.8 miles WSW of Murdeshvar. Kota Gudde, 430m high, is a conspicuous saddle-shaped summit about 3 miles NE of Murdeshvar. It is connected at lower levels with a long sharp ridge farther inland, which extends about 2 miles SE and is very noticeable from the S. Huddelgudda, 525m high, about 6 miles ESE of Kota Gudde, is easily identified by its long flat summit. Kerekund, a rocky islet 19m high, lies about 4 miles S of Murdeshvar and on the W edge of the coastal reef. A rock, 3m high, and a rock, 7m high, lie about 0.5 mile NNE and SE, respectively, of the islet. Between Kerekund and Bhatkal Fort, about 4.5 miles SE, the low and sandy coast is fringed by foul ground extending up to 1.8 miles offshore. Shirali (Hog Island), about 1 mile S of Kerekund, is a peaked island 109m high. Two rocks, each drying 1.2m, lie close W and 0.2 mile SE, respectively, of the island. When in the vicinity of this island do not enter into depths of less than 18m.

Netrani (Pigeon Island) (14°01'N., 74°20'E.), about 9 miles W of Shirali, is wooded and flat-topped with a conspicuous summit, 101m high. It is steep-to except for a rock, 16m high, off its S end, and a rocky shoal close E of the island.

Anchorage, with some shelter from NW winds, may be found, in 27m, mud, off the SE side of the island. Netrani has been reported to give good radar responses at 17 miles.

3.10 Bhatkal Fort (13°58'N., 74°32'E.), in ruins, lies on a rocky point, 46m high, at the entrance to the Bhatkal River. Bhatkal Light is shown from a square masonry tower with red bands on the fort, and is obscured by Shirali on bearings between 129° and 132°. The town of Bhatkal lies on the N bank

of the river, about 1.5 miles NE of the fort. The channel over the river bar is very narrow and dangerous for ship's boats.

Anchorage may be obtained, in 10m, with Bhatkal Light bearing 075°, distant 1 mile. Small vessels may anchor, in 7m, sand and shell, with Bhatkal Light bearing 014°, distant 0.3 mile.

Caution.—When approaching the port of Bhatkal, do not proceed into depths of less than 18.3m unless local knowledge is available. When approaching from the S, pass W of a 3m rocky shoal which lies about 1 mile SW of Bhatkal Light. Take care to avoid other rocky patches in the approach to Bhatkal, including two 5m patches and a 4m patch which lie about 1.3 miles WSW, 1 mile S, and 0.8 mile W, respectively, of Bhatkal Light. When approaching from the N, keep the summit of Shirali bearing not less than 006°, and alter course for the anchorage when Bhatkal Light bears 090°. The inner anchorage should be approached on a course of 087° from the outer anchorage, passing about 0.2 mile S of the previously-mentioned 4.3m patch.

Bhatkal to Coondapoor

3.11 The coast between Bhatkal and Huddi Point, about 1.3 miles SE, consists of cliffs up to about 60m high. Huddi Point is a cliffy promontory, rising to a height of about 52m about 0.5 mile inland; a small rounded hill, 35m high, lies on the extremity of the point. The coast is then low and sandy to Coondapoor, about 20 miles SSE.

Baindur Head (13°52'N., 74°36'E.), about 6 miles SSE of Huddi Point, is 61m high and cliffy. It is conspicuous from seaward, being the W point of a table and extending some distance inland. Kodachadri, an impressive sugar-loaf peak 1,343m high, is isolated and conspicuous about 16 miles E of Baindur Head. When bearing more than 090°, it is obscured by Male Gudda, 900m high, about 9 miles W and prominent. Madalbare Gudda, 1,015m high, is prominent about 2 miles N of Male Gudda.

Yademale Gudda, 843m high, is prominent about 5.5 miles farther NNW. Two White Rocks (Double White Rocks), 5m high and close together, lie about 4 miles WNW of Baindur Head, and are very prominent when the sun shines on them. Single Rock, 3m high, lies about 2 miles N, and a rock awash lies about 0.8 mile SSE, respectively, of Two White Rocks.

Caution.—Although the area inside the above dangers has been examined and dangers found, it is possible that others may exist. It is recommended, therefore, that vessels should not attempt to pass inside them, and they should keep in depths of more than 20m between Hog Island and Coondapoor.

Nancowry Rock (13°48'N., 74°33'E.) consists of two rocky shoals; the W shoal has a depth of 3m. A rock, 3m high, lies between Nancowry Rock and the coast.

3.12 Coondapoor (Kundapur) (13°38'N., 74°41'E.) is an open roadstead off the common entrance of the Haladi River and the Chakranadi River. The coast N of the river entrance consists of low hills up to about 37m high. The coast S of the entrance is flat, sandy, and fringed with coconut trees up to 24m high. A wreck, best seen on the chart, lies almost 4 miles W of the harbor entrance. A shoal patch of 7.4m lies 2.1 miles W of Coondapoor Light.

Depths—Limitations.—Foul ground, with rocks above and below-water, extends for about 3.5 miles N of the entrance to Coondapoor to a distance of about 1.3 miles offshore. Pate Rock, which dries about 1m, lies at the SW edge of this foul area. A rock, 4m high, lies about 0.2 mile NE of Pate Rock. A 4.6m patch and a 4.9m patch lie about 0.3 mile SSE and SE, respectively, of Pate Rock. Gangoli Shoals, with a least depth of 5.2m, lie about 3.5 miles WNW of the port entrance. A 6m shoal lies about 2.8 miles WSW of the entrance. It is marked W by a red and white striped barrel buoy from October to May. A 6m depth and a 7m depth lie about 1 mile NW and 1.5 miles WNW of the 6m shoal. The bar across the entrance to Coondapoor had a least depth of 2.5, and is constantly changing. Steering for the entrance, bearing 055°, leads over the bar in the deepest water. A dangerous wreck lies 3.8 miles W of the harbor entrance. Another wreck lies about 1.5 miles S of the above wreck.

Aspect.—Coondapoor Light is shown from a steel mast, about 0.8 mile S of the entrance, from September 16 to May 15. It is difficult to distinguish from other white lights nearby. Tippu Sultan Gudda Light is shown from September 15 to May 15, about 1.5 miles NNW of the entrance. Two conspicuous objects are a white house is close NE and a gray chimney, 40m high, 1 mile E of the entrance.

Anchorage can be taken, in about 13.5m, with Coondapoor Light bearing 076°, distant about 3.5 miles, and about 1 mile WSW of the 6m patch.

Caution.—The bar across the entrance to Coondapoor is perpetually changing. Continuous surf breaks across the entrance with W winds, and it is advisable to enter only with the aid of local pilots.

Coondapoor to New Mangalore

3.13 The coast between Coondapoor and Malpe, about 17.5 miles S, is fringed by coconut trees and broken only by the mouth of the Sita Nadi River. Saint Mary Isles consist of Coconut Island, Middle Rock, Entrance Rock, and Darya Bahadurgarh Islands. Passage between the islands is obstructed by numerous rocks and should not be attempted except by small craft with local knowledge.

Coconut Island (13°23'N., 74°40'E.), about 2.5 miles NW of Malpe, is well-wooded, with trees about 26m high. Foul ground surrounds the island and extends about 0.8 mile WNW to a rock which dries 2m. A rock, 2m high, lies about 2 miles NW of the island and a chain of rocks, above and below-water, extend about 3.5 miles farther NNE. Middle Rock, 4m high, lies about 1 mile SSE of Coconut Island. Foul ground extends up to 0.2 mile W and NW of Middle Rock. Entrance Rock, 1.2m high, lies at the S end of a rocky ridge extending about 0.2 mile S of Middle Rock.

Darya Bahadurgarh Islands consist of three islands. North Island, 15m high at its SE end, is marked by Malpe Light, shown from a conspicuous square tower on the summit of the island. Darya Bahadurgarh Island, 16m high, lies about 183m SE of North Island.

South Island (13°20'N., 74°42'E.) lies about 0.2 mile SE of Darya Bahadurgarh Island and has a rock, with a least depth of 3.7m, about 0.2 mile SSE of it.

Anchorage can be obtained, in 9m, mud, about 1 mile WNW of the light structure on North Island. Small vessels can anchor in 6m, sand and mud, with the light structure bearing 185°, distant 0.5 mile. Small vessels can anchor, in 6.1m, mud and sand, about 0.5 mile E of the summit of South Island.

Malpe (13°21'N., 75°42'E.), a town of some importance to coastal vessels, lies on the N side of the entrance to the Udiyavara River. A white house is conspicuous on the N side of the entrance about 0.2 mile inland. Malpe has four small jetties, accomodating vessels up to 33m long with a draft up to 3.7m. The open roadstead W of Malpe is afforded some protection by the Saint Mary Isles. The coast between Malpe and New Mangalore, about 26 miles SSE, is straight and fringed with coconut trees. Black Rocks, 13m high and conspicuous, lie about 4 miles S of Malpe. Two rocks, 3m high, and two rocks, 5m high, lie about 0.5 mile NW and 0.2 mile WSW, respectively, of Black Rocks. Outer Rocks, 13m high and prominent, lie about 1 mile SW of Black Rocks.

Caution.—Vessels in the vicinity of Black Rocks and Outer Rocks should not enter depths of less than about 15m by day or 22m by night. The port is closed during the Southwest Monsoon due to heavy swells.

Kap Light (13°13'N., 74°44'E.), about 8 miles SSE of Malpe, is shown from a white tall masonry tower with black bands standing on a rock near a battery in ruins. Kap Rock, 13m high, is prominent about 1.5 miles NNW of the light. A rock, 1m high, with a drying rock close NE, lies about 1 mile SSW of Kap Rock.

Mulki Rocks, some of which are 13m high and of black basalt, lie about 4 miles WSW of Kap Light.

Caution.—Vessels in this vicinity at night should keep in depths of not less than 24m. A 4m depth lies about 3 miles SW of Kap Light. Kunjar Gudda, 105m high, is a prominent landmark about 4 miles NE of Kap Light. Valkunji (Buffalo's Hump), 1,041m high, a peak of the Western Ghats about 18 miles farther ENE, is well-defined and shaped like a buffalo's hump. The town of Mulki, with a church on high ground, lies about 8.5 miles SSE of Kap Light, and about 1 mile NE of the entrance to the Mulki River. A dangerous wreck lies approximately 1.5 miles W of the entrance to the Mulki River. Another dangerous wreck lies about 5 miles NW of the previously-mentioned wreck.

Suratkal Point Light (13°00'N., 74°47'E.), about 5 miles S of the entrance to the Mulki River, is shown from a 36m high white masonry tower with black bands standing on the point. An aero light is occasionally shown from a very tall tower at Mangalore Airfield, about 6 miles ESE of the point.

New Mangalore (12°55'N., 74°49'E.)

World Port Index No. 49032

3.14 The port of New Mangalore, a major all-weather port, is situated about 5 miles NNW of the old Mangalore port. The port is approached through a channel reported (2001) dredged to a depth of 14m, and well-marked by lighted buoys. The port consists of a turning basin, an oil jetty on the SW side of the lagoon and near the approach channel, and seven berths

contained in a basin extending N from the turning basin. The berths are used for general cargo, the export of iron and manganese ore, and the import of materials for a chemical and fertilizer factory.

Port Authority of New Mangalore

<http://www.newmangaloreport.com>

Depths—Limitations.—Ships with a draft of 9m can enter the port; the maximum permitted length is 183m. The turning area is 0.2 mile in diameter, with a dredged depth of 12m (1993).

Berth limitations are given in the accompanying table:

NEW MANGALORE PORT FACILITIES			
Berth	Length	Depth	Remarks
1	125m	6.5m	Fertilizer, ammonia.
2	198m	10.1m	General cargo.
3	198m	9.5m	Ore.
4	198m	9.5m	Coal, coke
5	198m	9.1m	Containers.
6	198m	7.6m	Containers.
7	198m	9.8m	Containers.
8	300m	12.5m	Iron ore. Vessels up to 60,000 dwt. Berth exposed to swell during the Southwest Monsoon.
9	300m	10.1m	Oil jetty. Tankers up to 30,000 dwt
10	320m	14.0m	Crude oil jetty

It has been reported (1995) that depths at the E end of Berth 1 are less than charted.

The port is approached by a channel almost 3 miles long and 240m wide; it is maintained by dredging to 12.5m and marked by lighted buoys in conformance with the [IALA Maritime Buoyage System \(Region A\)](#). Several shoal patches, with a least depth of 7.5m, lie close S of the channel, about 1.3 mile E of Fairway Lighted Buoy.

Aspect.—Fairway Lighted Buoy is moored about 3.5 miles W of the port and 0.4 mile W of the channel entrance. Lights, in range bearing 079°, at the E side of the port, mark the approach channel through the entrance.

A signal station and port radio station are situated on the N entrance point of the port. A white concrete tower lies close S of the S entrance point. Two towers, one of which is conspicuous, lie a short distance inland from the head of the harbor. There is a conspicuous water tower 0.5 mile E of Fairway Lighted Buoy and 0.2 mile S of the leading line.

Pilotage.—Pilotage is compulsory for vessels over 200 grt and is available 24 hours. Pilots embark in the vicinity of Fairway Lighted Buoy.

Vessels should send ETA messages at least 48 hours in advance and ETD messages at least 2 hours in advance.

Anchorage.—Anchorage is recommended N of Fairway Lighted Buoy, in depths from 12 to 13m. A spoil ground is established about 1 mile S of Fairway Lighted Buoy.

Mangalore (12°51'N., 74°50'E.)

World Port Index No. 49030

3.15 Mangalore Harbor lies in the backwater formed by the confluence of the Gurgur River and the Netravati River. The port is only of importance to coastal vessels, as it is fronted by a shallow bar between low sandy spits. The port is closed from June through August during the Southwest Monsoon, when the bar is impassable. A shoal, with a depth of 15m, lies 6.5 miles WNW of the entrance to Mangalore.

Aspect.—In the approach to Mangalore, the following peaks are conspicuous:

1. Kodinjakkal (Asses Ears), 346m high, about 18 miles NE of Mangalore.
2. Kuduremukha, a 1,890m peak of the Western Ghats, about 13 miles farther ENE.
3. Mudipina Padavu, 207m high, about 7 miles ESE of Mangalore.
4. Passodigumphe (Barn Hill), 324m high, a sloping mountain with a flattish summit, about 8.5 miles farther SSE. The town of Mangalore is almost entirely concealed from the offing, but the following landmarks are conspicuous:

1. Mangalore Light, a squat, white, masonry tower with black bands, attached to a house resembling a small chapel, about 0.5 mile ENE of the harbor entrance.
2. A 41m high dome, surmounted by the steeple of the Roman Catholic Cathedral, about 0.5 mile N of the light structure.
3. The 76m high square tower of Saint Aloysius College, about 1.3 miles NNE of the cathedral.
4. A conspicuous white cross about 3.5 miles N of the harbor entrance.
5. A group of white houses close S of the harbor entrance.

A radio tower, having an elevation of 153m, lies about 1 mile NNW of Saint Aloysius College.

Pilotage.—Pilotage is compulsory for all vessels over 100 grt. Pilots board deep draft vessels in position 12°55'N, 74°45'E. Vessels with a maximum draft of 10m are boarded in position 12°55'N, 74°46'E. Boarding areas are best seen on chart.

Vessels can communicate with a signal station close to Mangalore Light. There is also a Coast Radio Station at Mangalore.

Anchorage.—Anchorage may be obtained, in 9.1m, with Mangalore Light bearing between 050° and 100°, distant about 2 miles. Vessels should not approach the lighthouse closer than 1.5 miles, as the depths then decrease rapidly.

Caution.—It is preferable to arrive off Mangalore during the afternoon with the sun astern, or at night when the light can be seen. The landmarks are difficult to distinguish during the morning haze.

Dangerous wrecks lie about 1.8 and 2.5 miles WSW of Mangalore Light.

Mangalore to Mount Dill

3.16 The coast from Mangalore to Kotte Kunnu, about 55 miles SSE, presents a fringe of coconut palms broken here and there by the mouth of a river or a prominent headland. Manjeshwara, about 9 miles SSE of Mangalore, is a small customs port with minimum of trade. A radio tower lies near the coast about 5 miles NNW of Manjeshwara. Kumbla, a village with an old fort, lies about 15.5 miles SSE of Mangalore, at the mouth of the Shiriya River. The Chandragiri River enters the sea about 8 miles SSE of Kumbla, between the two hill forts of Kasaragod and Chandagiri, 53 and 45m high, respectively. The bar of the river dries and changes frequently; it can only be used by small craft at HW. Kasaragod Anchorage Light, primarily a mark for fishermen, is shown about 1 mile NNW of the river entrance.

Kasaragod (12°29'N., 75°00'E.), a large village, lies on the N side of the entrance to the Chandragiri River. A chimney, 41m high, is conspicuous in the village. Kasaragod Light, a white, octagonal, concrete tower with black bands lies N of the village. Storm signals are shown at Kasaragod; the [Brief System](#) is used.

Bekal, about 6 miles SSE of Kasaragod, a small open port for local craft, is formed by a rocky promontory; an old fort, with a tall central bastion, lies on the promontory. A group of rocks, 1m high, lies about 1.8 miles NW of the fort. Hosdrug Fort, 37m high, is conspicuous about 6 miles SSE of Bekal, and 0.8 mile inland. A bare hill, 179m high, lies 2.3 miles NE of the fort. Kavvayi Backwater, close within and parallel to the coast, extends from about 5 miles SSE of Hasdrug Fort to Mount Dill.

3.17 Mount Dill (Mount Delli) (12°02'N., 75°12'E.), 259m high, is the summit of a conspicuous headland separated from the low-lying mainland by a narrow creek. Kotte Kunnu, a bluff point 52m high, at the SW extremity of the headland, is joined to the more elevated land by a low neck; a fort lies on Kotte Kunnu. Mount Dill Light (Kotte Kunna Light) is shown from a white, triangular, stone tower with red bands on the bluff point.



Mount Dill Light

Madai Light is shown about 2.3 miles ENE of Kotte Kunnu. Good radar returns have been reported from Mount Dill at 26 miles.

Anchorage, with moderate shelter from NW winds, can be obtained, in 7m, mud, with the summit of Mount Dill bearing 330° , distant 2.5 miles. Small vessels may find shelter off the mouth of the creek, SE of Mount Dill, during the NW winds which prevail here from February to May, in depths of about 4m. A short confused sea and a slight S set will be found here.

A stranded wreck lies 2 miles NNW; a dangerous wreck lies 3 miles SSE from Mount Dill Light.

Mount Dill to Cannanore

3.18 The coast from Mount Dill to Cannanore, about 13 miles SE, is sandy and fringed with coconut palms. The Valappattanam River, marked on the N side of its entrance by a clump of casuarina trees, flows into the sea about 7 miles SE of Mount Dill. The bar at the entrance to the river has a least depth of 1.2m, and is subject to seasonal change. Passage over the bar should not be attempted without a local pilot; the services of an unlicensed pilot can be obtained from Azhikal by telegram. Azhikal Light is shown at the S side of the entrance. Storm signals are displayed near the light.

Azhikal ($11^\circ 55'N$., $75^\circ 24'E$.) ([World Port Index No. 49040](#)), with a thriving timber trade, lies on the S bank of the river, about 1 mile within the entrance. Boundary pillars, NW and SE of the river entrance, define the limits of the port.

Anchorage can be taken, in 8 to 9.1m, sand and mud, good holding ground, about 2 miles off the river.

Cannanore ($11^\circ 52'N$., $75^\circ 22'E$.)

[World Port Index No. 49050](#)

3.19 Cannanore, a military cantonment and open roadstead port, is in charge of the Port Conservator, subordinate to the Port Officer at Calicut. The port is closed to local sailing craft from the beginning of June to the end of August, but vessels may work cargo during the Southwest Monsoon when weather permits. Moplah Bay, the bight E of Cannanore, is shallow, but affords shelter to local craft.

Aspect.—The following are prominent or conspicuous in the approach to Cannanore:

1. The flagstaff on the N bastion of Fort St. Angelo, which lies on a low rocky point at the S end of the town.
2. A chimney, 42.5m high, about 0.8 mile NW of the fort.
3. North Point, a 16m high headland, about 4.3 miles NW of the fort.
4. Two boundary pillars about 1 mile WNW and 1.8 miles ESE of the fort.

Cannanore Light is shown from a white, concrete column with red bands 1 mile WNW of Fort St. Angelo.

A red conical buoy is moored about 0.5 mile SE of the fort from October to May and marks the approach to the inner anchorage for small craft. Signaling with shipping is conducted from the flagstaff on Fort St. Angelo. Port limits are defined by lines drawn in a 270° direction from the above-mentioned boundary pillars to depths of 16.5m.



Cannanore Light

Anchorage.—Anchorage can be obtained, in about 9m, mud, good holding ground, about 1.8 miles SW of the fort.

Caution.—A rifle range extends SSW of the flagstaff of Fort St. Angelo. Vessels anchoring W of the E limit of the firing range (a flagstaff bearing 022°) should remain at least 1.5 miles offshore. During firing practice, a red flag is displayed about 0.3 mile W of the fort.

Cannanore to Tellicherry

3.20 The coast between Cannanore and Tellicherry, about 9 miles SE, consists of alternate sandy beaches and cliffs, fringed with coconut trees. Rocks, above and below-water, fringe the coast. Dharmapattanam Island, about 7 miles SE of Cannanore, is encircled by two rivers. Green Island, 34m high and covered with tall trees, lies off the W extremity of Dharmapattanam Island. The ruins of a redoubt are conspicuous on the summit of a bare hill, 61m high, about 1.3 miles NE of Green Island.

Tellicherry ($11^\circ 45'N$., $75^\circ 29'E$.)

[World Port Index No. 49060](#)

3.21 Tellicherry, an open roadstead port, is open throughout the year. The port limits are defined by two lines extending SW into depths of 16.5m from the N boundary pillar on the rocky S extremity of Dharmapattanam Island, and the S boundary pillar on Punuli Point, about 4 miles SE.

Aspect.—An ancient fort stands in position $11^\circ 45'N$, $75^\circ 29'E$ on rising ground near the coast. Tellicherry Light is shown from the NW bastion of the fort.

Bilikulu, a natural breakwater of basalt, 6m high, lies parallel to the coast, about 0.5 mile SW of the fort. Two similar but shorter ridges lie between Bilikulu and the shore. These ridges, together with numerous detached rocks above and below-water, between Bilikulu and the shore, give sufficient shelter to the landing at Tellicherry at LW during NW winds to enable vessels to communicate with the port when all others are closed.

Inland, several peaks of the Kundah Mountains are conspicuous:

1. Perali Mala (Perly Hill), 488m high, about 13.5 miles NE of Tellicherry.

2. Periya Peak (Periah Peak), 1,157m high, about 18 miles ENE of Tellicherry.

3. Nattavaram (Naduvaram Peak), 1,387m high, about 17.5 miles E of Tellicherry.

Conspicuous objects in the approach are the Club House, about 1 mile NNW of the fort, and the port flagstaff, about 0.3 mile SE of the fort. The hills near Tellicherry are thickly covered with coconut palms and other trees.

Shorukulu, a natural breakwater of basalt, 3.7m high, lies parallel to the coast, about 0.8 mile NW of Bilikulu. Naku-diankulu (Nukudiankulu), about 0.5 mile NW of Shorukulu, is a pinnacle rock drying 0.9m. Talayi Rock, a pinnacle rock with a depth of 1.5m, lies nearly 0.7 mile SE of **Nilot Point** (11°44'N., 75°30'E.). A black spherical buoy, removed between May and October, is moored on the S side of the rock.

Signals.—Communication with shipping is maintained from the port flagstaff by flags of the International Code and by Morse Code from the Port and Customs Office, about 0.3 mile SE of the fort.

Anchorage.—Anchorage for large vessels in unsettled weather is well offshore, in a depth of 12m, but in good weather a vessel can anchor, in 9.1m, soft mud, SW of the fort, about 1.5 miles from Bilikulu. Cargo is worked at the anchorage by lighters. A T-headed pier near the Port Office, used mainly by lighters, is 171m long, with depths of 1.8 to 3m alongside.

Tellicherry to Calicut

3.22 The Kundah Mountains lie only about 10 miles from the coast between Tellicherry and Calicut.

Mahe (11°42'N., 75°32'E.) ([World Port Index No. 49070](#)) is a small settlement on the S side of the entrance to the Mahe River. A light is shown on the S side of the river entrance. Some old forts and houses lie on the detached hills behind Mahe. Rocks extend offshore from both sides of the river entrance into depths of 3.7m.

Anchorage can be obtained, in 9.1m, mud, about 2.5 miles WSW of the light structure. Chombaku, an islet, 4m high, lies about 2.5 miles SSE of Mahe, and about 0.5 mile offshore; several rocks lie near the islet.

Badagara (11°36'N., 75°35'E.) is an important town on the coast, about 7 miles SSE of Mahe. The coast in the vicinity is low, sandy, and fringed by coconut trees.

A flagstaff, 26m high, is conspicuous on the coast W of the town. A casuarana tree, 64m high, is conspicuous above the dense coconut plantations on a small hill close S of the town.

A flat-topped hill, 114m high, is conspicuous about 3 miles ENE of Badagara. A 101m hill and a 104m hill rise about 1 mile NNW and SSW, respectively, of the flat-topped hill. Farther inland, Nattavaram 1,388m high and Banasuram (Buffalos Hump), 2,060m high, about 20 miles WNW of Badagara, are conspicuous.

A conspicuous round red hill, 55m high, lies about 3 miles SSE of Badagara, on the S bank of the Murat River, about 1 mile within the entrance.

Anchorage can be taken, in 9.1m, mud, about 2 miles WSW of the flagstaff.

Kadalar Point (11°28'N., 75°38'E.), low but prominent, is covered with palm trees, over which will be seen a large round tree. Hills gradually rise NE of the point; the nearest summit is 78m high, about 1.3 miles NE of the point.



Kadalar Point Light

The coastal reef extends about 1.5 miles W and 1.3 miles S from the point. Trikodi Reef, with a least depth of 1.5m and Kadalar Reef, with a least depth of 3.4m, are the W and SW ends, respectively, of the coastal reef.

3.23 Sacrifice Rock (11°30'N., 75°32'E.), 18m high and conspicuous, lies about 6.5 miles WNW of Kadalar Point. It consists of granite and, having a white appearance, can be seen 10 miles in clear weather. The passage between this rock and the coast is free of dangers, but vessels using it should keep near the rock, and not proceed into depths of less than 13m. Vessels passing W of this rock at night should not proceed into depths of less than 27m which are found about 2.5 miles W of the rock. A shoal, swept to a depth of 2.7m, lies almost 1 mile offshore W of Tikkotti village.

The coast between Kadalar Point and Calicut, about 14.5 miles SSE, is generally low, sandy, and fringed with palms. Red laterite hills back the coast.

Quilandi, a large village, lies about 3.8 miles ESE of Kadalar Point. A water tower is conspicuous on the coast, close S of the village. The conspicuous summit of Palkunnu, 297m high, rises about 7.5 miles ESE of the village. A large black rock, with a tree on it, lies on the coast about 2.8 miles SSE of Quilandi.

Elattur Cape (11°19'N., 75°44'E.), about 4 miles farther SSE, is low and rocky, with coconut palms close inland. The mouth of the Elattur River, a shallow and rocky river, lies about 1.3 miles N of the cape.

Vavul Mala (Camels Hump) (11°25'N., 76°08'E.), 2,338m high, about 23 miles ENE of Calicut, is the highest and most conspicuous peak of the Kundah Mountains. It is visible far to seaward in clear weather. The Kundah Mountains end rather abruptly S of Vavul Mala.

Calicut (11°15'N., 75°46'E.)

World Port Index No. 49100

3.24 The port of Calicut, also known as Kozhikode, is an open roadstead of considerable commercial importance. Cargo is worked at the anchorage by lighters. The port is unusable from the beginning of June to the end of August.

Depths—Limitations.—Reliance Shoal, with a least depth of 8.6m, extends about 2.5 miles NNW from a position 3.5 miles W of Calicut Light; the shoal is rocky, but the bottom near it is soft mud.

Anchorage Reef, with a least depth of 3.7m, lies about 1.3 miles WSW of Calicut Light. A lighted buoy, painted in black and white stripes, is moored W of the reef; it is in position from October to May.

Calicut Reefs, a group of rocky shoals with a least depth of 4.1m, extend about 1.5 miles N from a position 2.5 miles SSW of Calicut Light.

Coote Reef, with a least depth of 0.9m and over which the sea generally breaks, lies about 1.5 miles S of Calicut Light. A black and white striped can buoy is moored about 0.3 mile W of the reef. Gilham Rock, about 0.3 mile farther S, has a depth of less than 1.8m.

Aspect.—Calicut Light is shown from a white masonry tower near the Port Office at the N end of town. West Hill, 49m high, with the houses on it showing among the trees, lies about 2 miles N of Calicut Light and forms a good landmark in the morning when approaching Calicut. The dome of the Roman Catholic Cathedral, 45m high, is conspicuous 0.5 mile SE of the lighthouse. A rocky islet, 2m high, lies on the coastal reef about 3 miles N of Calicut Light.

Two white boundary markers, marking the N and S limits of the port, lie on the coast about 4 miles N and 5 miles S, respectively, of Calicut Light.

Signals.—The signal station, close N of Calicut Light, communicates with shipping by flags of the International Code or by Morse Code. Landing conditions are indicated by the following flags of the International Code:

1. K—Surf is impassable.
2. M—Communication with the shore is dangerous.
3. N—Boats can leave the harbor.
4. F—Boats can enter the harbor.

Anchorage.—Anchorage may be obtained with Calicut Light bearing 078°, at a distance according to the vessel's draft. Vessels should not anchor S of this bearing as the bottom is foul and rocky. The lighted buoy, moored W of Anchorage Reef, marks the S and E limits of the anchorage for vessels of moderate size.

Bey pore (11°10'N., 75°48'E.)

World Port Index No. 49110

3.25 The port of Bey pore (Beipur), an open roadstead, lies off the entrance of the Bey pore River and is considered a wharf of the port of Calicut.

Depths—Limitations.—Black Rocks, 1.2m high, lie towards the SE end of a reef about 0.8 mile S of the entrance to the Bey pore River. A rock, with a depth of 1.5m, lies about 0.5

mile SSW of Black Rocks. The bar of the Bey pore River had a depth of 3.5m between the breakwaters in 1990.

Aspect.—Kota Kunnu, a 60m hill, about 3 miles SE of the entrance to the Bey pore River, is a good landmark for vessels approaching Bey pore. Olavattur Kunnu, 245m high, about 8 miles E of Bey pore, lies among isolated hills in the vicinity. Urakuth Mala (Dolphins Head), a hill 477m high, about 13 miles ESE of the river entrance, is conspicuous.

New Bey pore Light is shown from an octagonal masonry tower, with red and white bands, on the SE side of the entrance to the Bey pore River.

Other landmarks are a flagstaff, 25m high, on the SE entrance point of the river; a conspicuous chimney, 58m high, about 1.5 miles NE of the flagstaff; and several chimneys of a tile works, across the river and about 0.2 mile N of the tall chimney.

Pilotage.—Pilotage is not compulsory; however, pilots are available for entering the river.

Anchorage.—Anchorage may be obtained, in 7m, about 1.5 miles WSW of the flagstaff; moderate-sized vessels usually anchor, in 8.5m, about 0.5 mile farther WSW. Large vessels anchor farther out.

Caution.—Vessels in the vicinity of Bey pore at night should not enter depths of less than 14.6m.

Bey pore to Cochin

3.26 The coast between Bey pore and Ponnani, about 24 miles SSE, is low, sandy, fringed with palms, and backed by red laterite hills. A light is shown at Tanur, an important fishing village, about 11.5 miles SSE of Bey pore. A tableland, covered with palms, lies about 1 mile NE of the village. A tableland, about 90m high, with a few scattered trees, lies about 9 miles N of Ponnani.

Ponnani (10°47'N., 75°55'E.), a busy seaport for local craft, lies on the S side of the entrance to the Ponnani River. The port is closed during the Southwest Monsoon, and is in charge of a Port Conservator responsible to the Port Officer at Calicut. The extensive backwater of the Ponnani River forms a wide gap in the line of palms when viewed from WSW. The entrance of the river is wooded and prominent from the S. Ponnani Light is shown from a white, round, concrete tower with black bands, 0.8 mile S of the river entrance. The bar of the Ponnani River has a depth of not more than 2.1m, but small vessels with local knowledge can enter it at HW. There are some unlicensed pilots available.

The town of **Chetwai** (Chetwayi) (10°32'N., 76°03'E.) lies about 1.5 miles within the entrance to a backwater. The existence of the boundary pillars N and S of the backwater entrance is doubtful. Chetwai Light is shown from a 30m high circular concrete tower, lying 1.5 miles N of the boundary pillar.

Anchorage can be taken by small vessels, in 11m, mud, off the entrance to the backwater; local knowledge is necessary.

A range of hills, over 305m high in its highest part, lies about 18 miles ENE of Chetwai. It lies between the Western Ghats and the coast, and terminates abruptly toward the S. The NW summit of this range gives good radar response.

The Periyar River (Pallipur River), about 22 miles SSE of Chetwai, is generally easy to identify from the W due to the

gap in the fringing palms. Periyar River Light is shown from a white, square, concrete tower with black bands, situated 1.3 miles N of the river entrance.

In 1951, it was reported that the depth contours between the Periyar River and Narakal, about 8.5 miles SSE, had extended considerably seaward, and the coast had extended similarly up to 0.5 mile in places.

Cochin (9°58'N., 76°14'E.)

World Port Index No. 49130

3.27 The port of Cochin is a fine natural harbor formed by the estuary of the Periyar River and its backwater. The inner harbor is able to shelter a large number of vessels with drafts up to 9.1m at all seasons. It is the main deep water harbor S of Bombay and a base for the Indian Navy. In 1986, considerable development in Cochin Harbor had taken place, which included the construction of an oil terminal and other berths, widening and dredging of the channels, the establishment of new leading lights, and the introduction of the [IALA Maritime Buoyage System \(Region A\)](#) in the main entrance.

The N and S limits of the Port of Cochin extend 7.5 miles in a 270° direction from a position on the coast 5 miles SSE and 2 miles NNW of Cochin Light. The port area includes the harbor and backwater, with the creeks and channels connecting with them and their shores, whether of the mainland or of islands, as may lie within 46m of the spring tide HW mark.

The great estuary, or backwater, on which Cochin lies, extends for about 50 miles NNW to Ponnani, and about 30 miles S to Alleppey. Its width varies from 8 miles to a few hundred meters, and its channels connect with other inland waters. It has a least depth of 1.8m and is affected by tidal influence. Several rivers flow into the backwater making it brackish. During the Southwest Monsoon, which brings heavy rain to the seaward side of the Western Ghats, the watershed drainage of these rivers increases greatly and, entering the sea through numerous openings into the backwater, probably causes the constant shifting of the soft mudbanks off this part of the coast.

Port Authority of Cochin

<http://www.cochinport.com>

Winds—Weather.—Cochin is outside the cyclone area, but during the Southwest Monsoon, short gusts of wind 50 to 55 knots are sometimes experienced.

Tides—Currents.—The tidal rise at Cochin is 0.9m at MHHW, and 0.8m at MLHW. Salinity within the harbor has values between 1000 and 1020, according to tidal and seasonal factors.

The maximum velocity of the ebb current at springs, throughout the year, is from 2 to 3 knots, and at neaps from 0.8 knot to 1.3 knots. The velocity of the flood current at springs, throughout the year, varies 1.5 to 2 knots and at neaps from about 0.8 knot to 1.3 knots. Both currents run for a considerable time after the predicted times of HW and LW, from 1 to 2 hours on the flood, and from 2 to 3 hours on the ebb, according to the season.

After heavy inland rains the ebb current may run continuously for many days, while the flood current enters the harbor under the surface ebb. On very rare occasions, and after high inland floods, the tidal current in the harbor may have a velocity of 5 knots or more.

In January and February, the effect of the ebb current is not noticeable W of the outer channel buoys, and no appreciable current is experienced off the coast in the vicinity of Cochin. Under monsoon conditions, strong eddies and crosscurrents were experienced in the harbor entrance between Vypin Island and Cochin, and also off the NW point of Willingdon Island.

On the ebb current, between the harbor entrance and the NW end of Willingdon Island, there is a strong set across the channel from the N part of the harbor; the limits of this current are marked by tide rips which cause a vessel to sheer.

Depths—Limitations.—The approaches to Cochin are clear of outlying shoals or banks, except for the shoal water of the bar, through which the deep approach channel has been dredged.

Mattancheri Channel, 183m wide, and Ernakulam Channel are maintained by dredging to a project depth of 9m, with the W portion of Ernakulam dredged to 12.8m in 1996; local authorities should be consulted for prevailing depths in the channels and alongside berths.

A shoal area N of the dredged channel includes a spoil ground which is awash in places. South of the dredged channel a shoal, with a depth of less than 1.8m, and on which the sea breaks, extends about 0.9 mile W from the coast.

Vessels, once E of Fairway Lighted Buoy, must not attempt to enter or leave the approach channel without a pilot on board. In 1985, less water than charted was found to exist outside the dredged channel on both sides. Another spoil ground lies about 2.5 miles SW of Outer Signal Station. A dangerous wreck and a small foul area lie near the N limit of the dredged channel, 1 mile E of Fairway Lighted Buoy.

Within the harbor entrance the dredged channel is about 0.2 mile wide; its N limit is marked by two lighted buoys. An anchorage for sailing vessels is situated N of the fairway, close within the harbor entrance.

The dredged channel then divides into Mattancheri Channel and Ernakulam Channel leading W and E, respectively, of Willingdon Island. A road bridge, with a lifting span, connects the SW end of Willingdon Island with the mainland W, and a road and rail bridge, with a navigable opening marked by lighted dolphins, connects the E side of the island with the main-land E.

Mattancheri Wharf, on the W side of the latter island, has four berths, Q1 to Q4, with charted depths of 8 to 9m alongside; vessels up to 172m in length can be berthed at the wharf. There are mooring berths on the E and W sides of the channel.

The repair dock at the shipyard along Mattancherry Channel can accommodate a ship of 100,000 dwt.

A number of Indian Naval vessels are situated at Vendurutti (Venduruthy Island) on the E side of Willingdon Island. In this area there are several flagstuffs; a radio station, with several masts, is situated 183m NNW of the W end of the road and rail bridge.

On the W side of Willingdon Island are several deepwater berths. An oil berth, consisting of a T-head with dolphins, is

0.2 mile SE of the NW point of the island; a coal berth is 0.1 mile further SE.

Ernakulam Channel has two tanker berths on its E side, with depths of 9.1m alongside. The N berth can accommodate tankers up to 213.4m in length. An island tanker berth, flanked by mooring dolphins, is situated on the NE side of Ernakulam Channel opposite Berth Q7 and Berth Q8. A tanker of 115,000 dwt, partially loaded to a draft of 10.7m, can be accommodated.

Ernakulam Wharf, on the N side of Willingdon Island, can accommodate vessels up to 172m in length and 9.1m in draft. There are five berths, Q5 to Q9. Berth Q9 is a container terminal with a berthing length of 244m, capable of accommodating vessels with a draft up to 9.2m. Berth Q10, SE of Berth Q9, is a fertilizer berth; it is 217m long, 15m wide and lies 35m offshore to which it is connected by an approach bridge. This berth can accommodate vessels with draft up to 9.2m.

Approximately 0.8 mile SE of Ernakulam Wharf is Naval Jetty. Caution is necessary when berthing alongside Naval Jetty, on the W side of the channel, as the ebb current sets strongly off the pier and the flood current strongly onto it. The bar at the entrance to the harbor is dangerous for ship's boats when the ebb tide is setting strongly against the sea breezes, resulting in a short choppy sea.

A T-headed jetty, 350m long, is at Vendurutti, about 0.5 mile SE of Naval Jetty; an extensive area off the jetty is maintained at a depth of 8m.

There are numerous mooring buoys on the E side of the channel S of the tanker berths.

Tankers in ballast are subject to draft restrictions. Tankers less than 152.4m in length must have a minimum draft forward of 4.3m (plus or minus 0.6m and trimmed by the stern) and 4.9m aft. Minimum drafts for tankers of 152m and over are 4.9m (plus or minus 0.6m) forward and 6.1m aft. Additionally, tankers over 213m in length are subject to a maximum draft of 8.5m.

Aspect.—The coast in the vicinity of Cochin is low, sandy, and thickly fringed by palms. The highest of the Western Ghats are about 50 miles inland, but they can be distinguished only when the weather is clear. Haze settles over the land after sunrise, and the coast remains indistinct until midday, and even objects otherwise conspicuous are difficult to discern.

Kollengode Bluff (Kollangod Bluff), about 48 miles NE of Cochin, lies at the NW end of the Anamali Mountains, which form part of the Western Ghats. The bluff is conspicuous during the Northeast Monsoon, and forms the S part of Palghat Gap which is 1,220m lower than the mountains flanking it and through which the winds blow fiercely between November and February.

A buoy, painted in red and white stripes, is moored 32 miles WNW of the entrance to Cochin Harbor.

Cochin Light is shown from a concrete tower with red and white bands; a racon transmits 1.8 miles NNW of the harbor entrance. A tower, 22m high, and a water tower, 13.4m high, are conspicuous about 0.8 mile S and 1 mile S, respectively, of Builders Point.

A wooden pile beacon lies 1.3 miles SSW of Cochin Light; a concrete pile beacon, 9.1m high, lies 1.5 miles WSW of the light.



Cochin Light

A white house is conspicuous at the village of Kandakadavu, about 7 miles S of the entrance to the port of Cochin. The dredged entrance channel, Mattancheri Channel, and Ernakulam Channel are marked by lighted buoys. The harbor office, which is conspicuous, lies on the NW end of Willingdon Island. Range lights, situated N and NE of Willingdon Island, lead through the harbor entrance and through the center of Ernakulam Channel abreast the tanker berths.

Pilotage.—Pilotage is compulsory for all merchant vessels of over 100 grt and is advisable for smaller vessels. Deep-draft vessels are advised to wait for the pilot 0.5 mile W of Fairway Lighted Buoy. Government pilots board vessels about 1 mile NNW of Fairway Lighted Buoy. The pilot vessel has a red hull with a white house.

Vessels should send ETA messages 48 hours in advance either directly to Cochin Port Radio or through the agent. In addition, amendments to the ETA should be made at least 12 hours in advance. Vessels should contact port control 30 minutes prior to arrival for pilotage and berthing instructions.

Vessels may anchor in this vicinity, clear of the axis of the channel, good holding ground, mud. Vessels can enter or leave the harbor day or night at almost any state of the tide, except for crude oil tankers which may only enter by day. A vessel, equipped with radio, is stationed near the seaward end of the approach channel; it will transmit and receive messages concerning pilotage only. A vessel awaiting a pilot should, if anchoring, lie about 1 to 2 miles NNW of Fairway Lighted Buoy.

Signals.—The Signal Station is situated at the 37.5m flagstaff close N of Fort Cochin. This flagstaff lies on a conspicuous tower, painted white on its seaward side. The station communicates by flags and Morse Code as necessary. Storm signals are displayed; the [General System](#) is used. See Pub. 160, Sailing Directions (Planning Guide) South Atlantic Ocean and Indian Ocean for further information.

The following flags of the International Code should be displayed by vessels entering or leaving Cochin (meaning of hoist follows flags):

1. F—Am about to enter harbor and berth in Mattancheri Channel.

2. F and First Substitute—Am about to enter harbor and berth in Ernakulam Channel.
3. N—Am leaving a berth in Mattancheri Channel.
4. N over First Substitute—Am leaving a berth in Ernakulam Channel.

An oil tanker should display a red ball below these flags.

A vessel must not enter harbor until the signal has been repeated by the Signal Station. Signals for vessels leaving the harbor will also be repeated by the Signal Station.

A vessel shifting berth within Cochin Harbor must display a black ball or shape at least 0.6m in diameter at half mast and shall proceed at not more than half speed.

The following flag signals may also be displayed:

1. EM—Vessel shifting from Ernakulam Channel to Mattancheri Channel.
2. ME—Vessel shifting from Mattancheri Channel to Ernakulam Channel.
3. DN—Port's dredge proceeding to sea.
4. DF—Port's dredge entering harbor.

A vessel on fire and requiring assistance should continuously:

1. Sound on it whistle or siren the letter "F" in Morse Code together with rapid and continuous ringing of the ship's bell.
2. Hoist, by day, appropriate International Code Flag Signal (CB6, IT, etc.).
3. Telephone Port Fire Station, the Port's Fire Float, or Harbormaster.

A vessel requiring assistance in an emergency (moorings carrying away, oil leakage, urgent medical and police assistance, etc.) may sound at frequent intervals:

1. A succession of blasts on its whistle or siren to attract attention.
2. Sound V (3 short and 1 long blast) to mean "I require assistance."
3. Sound W (1 short and 2 long blasts) to mean "I require medical assistance."
4. Hoist V or W of the International Code of Signals.

Regulations.—Immobilization of main engines is not permitted without written consent by the Port Authority. Discharge of oily water or other rubbish is forbidden.

When plague is prevalent in Northern India, vessels must obtain pratique before communicating with the shore.

Two Submarine Exercise Areas are centered 27 miles WSW and 36 miles SW of the entrance to Cochin Harbor. These areas may best be seen on the chart.

Anchorage.—Anchorage is available off the port of Cochin, in 14.5m, with Cochin Light bearing 075°, 4.5 miles. During the Southwest Monsoon, the best anchorage, with good communication with Cochin, is about 2 miles NNW of Fairway Lighted Buoy.

Directions.—Vessels approaching Cochin should keep in depths of not less than 11m and W of Fairway Lighted Buoy. When in this position, hoist the signal for a pilot and await the pilot's arrival. The outer channel was dredged to 12.8m in 1986; the inner stretch of the channel to was dredged 11.9m in 1986.

Alleppey (9°29'N., 76°19'E.)

World Port Index No. 49140

3.28 The port of Alleppey lies about 29 miles S of Cochin; the coast between the ports is low, sandy, thickly fringed with palms, and densely populated. The port is an open roadstead under the superintendence of the Senior Port Conservator. Trade is carried on throughout the year in this vicinity due to the peculiar softness of the mudbank off it.

Tides—Currents.—The current at the anchorage sets S with a velocity up to 2 knots. From October to February, a N set, usually weak, is sometimes experienced.

Depths—Limitations.—There is a 387m long pier, with a depth of 1.8m at its head. The pier has been reported to give good radar returns at 10 miles.

Aspect.—Alleppey Light is shown from a white, round, masonry tower, about 0.3 mile E of the root of Alleppey Pier. As the town of Alleppey is difficult to distinguish from seaward, it is advisable to make a landfall while it is still dark to ensure identifying the lighthouse.

Manakkodam Light, a white square tower with red bands, lies 15.5 miles N of Alleppey Light.

A tall radio mast lies about 4 miles N of Alleppey Light.



Alleppey Light

Pilotage.—Pilotage is not available in this port.

Signals.—A signal station and flagstaff, the latter 37m high and prominent, is situated W of Alleppey Light. Day and night communication is carried out by flashing light mounted on a pillar at an elevation of 16m and by flags of the International Code.

Anchorage.—During the Northeast Monsoon, vessels of moderate size can obtain anchorage, in about 8m, with Alleppey Light bearing 077°, distant 2 miles, but sounding is essential as the mudbank shifts frequently so that the charted depths are unreliable. During the Southwest Monsoon, the best anchorage is farther offshore, in about 9.1m, with Alleppey Light bearing 056°, but this anchorage depends upon the position of the mudbank which cannot be determined until after the monsoon.

Caution.—The mudbank off Alleppey is so stirred up by the swell as to break up the force of the waves, and cause a large area of smooth water, on the outer part of which vessels anchor.

The mud is dark green, fine and oily to the touch. The smoothness of the water is probably caused by the oil which the mud has been found to contain. In calm weather this bank is not perceptible. This mudbank shifts position from year to year, and is sometimes found up to 11 miles S of Alleppey. It is subject to mud volcanoes, which bubble up, bringing dead fish, roots, and trunks of trees to the surface. The mudbank develops toward the end of June after the backwater has become swollen by the rains. The cause of this mudbank is said to be the greater elevation, about 1m, of the water level in the vast backwater over that of the sea. The hydraulic pressure forces out mud and vegetable matter through the several outlets during the Southwest Monsoon, and forms mudbanks along the beaches and in the shallow waters offshore. Evidence has been found of a subterranean connection, through mud, between the backwater and the sea. There is said to be a swell, during the Southwest Monsoon, to N of a position 2 miles N of Alleppey, but to the S the swell is quite deadened by this shifting mud bank.

Alleppey to Quilon

3.29 The coast from Alleppey to Quilon, about 40 miles SSE, is sandy, and in general, fringed with palms. From Alleppey to Pirakkad (Porakad), about 9 miles SSE, the coast is more thickly fringed by palms. A mud bank off Pirakkad was reported in to be extending seawards.

There is anchorage off **Kottapalli** (South Vazhapuram) (9°19'N., 76°23'E.), but local knowledge is necessary. This anchorage is sometimes used as a port when Alleppey is closed during the Southwest Monsoon or when its mudbank has moved elsewhere.

A light is shown near **Padiyamkara Tekku** (Pathiyankara) (9°14'N., 76°25'E.) during the Southwest Monsoon. The position of the light is dependent on the movement of the Alleppey mudbank.

At **Kovilhottam** (Koilthottam) (8°59'N., 76°32'E.), there is a water tower; a light is shown from a white, square, masonry tower with two black bands, close NW of the water tower.

Foul ground extends up to about 2 miles offshore from a position on the coast about 1 mile S of Kovilhottam to Tangasseri Point, about 6 miles farther SSE. Vessels approaching this part of the coast at night should not proceed into depths of less than about 27m.

Nindakara (8°56'N., 76°33'E.), about 3 miles S of Kovilhottam, is an open roadstead port at the entrance to Ashtamudi Backwaters. At the entrance, two breakwaters shelter a shallow basin, with jetties on its N side where barges load ilmenite sand. The entrance can be identified from seaward by a break in the palms fringing the shore, and by a bridge, which is prominent, spanning the outlet.

The port is seasonal, operating from mid-November to mid-April.

Storm signals are displayed; the **Brief System** is used.

Anchorage, for large vessels working cargo, can be obtained, in about 12.8m, WSW of the entrance. Care must be taken to avoid a 4.4m shoal about 1.8 miles SW of the seaward end of the N breakwater. In good weather, anchorage may be taken, in

about 9.1m, about 0.8 mile off the water tower at Kovilhottam. Anchorage can be taken about 1.3 miles W of Padiyamkara Tekku Light, in a depth of 8m.

Quilon (8°53'N., 76°35'E.)

World Port Index No. 49160

3.30 The port of Quilon is a roadstead lying in the bight close SE of Tangasseri Point. The port, in charge of a Conservator, is closed during the Southwest Monsoon from May 15 to September 14. The N and S limits of the port are defined by lines extending in a 247° direction from two boundary pillars. The N pillar and the S pillar lie about 0.7 mile E and 3 miles ESE, respectively, of Tangasseri Point. The W limit is defined by a line extending 180° from the point.

Depths—Limitations.—Tangasseri Reef, consisting of foul ground and shoal water, extends about 1.5 miles W and 1 mile SW of Tangasseri Point. Pallikall Shoal, with a depth of 2m, lies about 0.7 mile ESE of Tangasseri Point, near the SE end of the coastal reef. A black buoy and a red conical buoy are moored about 1 mile and 1.3 miles SE, respectively, of Tangasseri Point.

There is a least depth of 8.9m in the fairway of the channel between the buoys and a depth of 8.6m about 0.2 mile SSE of the black buoy. The red conical buoy marks the NW end of a group of dangers, with a least depth of 6.4m, extending ESE.

Gamaria Rock, with a depth of 7m and marked close N by a black and white conical buoy, lies about 1.3 miles ESE of Tangasseri Point. The above buoys are in position from October to May. There is heavy surf along the steep beach fronting the bight and landing is dangerous except in native boats.

Aspect.—**Tangasseri Point Light** (8°53'N., 76°43'E.) is shown from a concrete tower, 41m high, painted in black and white diagonal stripes, on the point. The point has been reported to be a good radar target at 17 miles.

The coast from close E of Tangasseri Point to about 3 miles NNW of it is rocky with groves of palms growing close to the HW line.

Signals.—Signals for vessels at anchor are displayed from the flagstaff near the light.

Anchorage.—Anchorage off Quilon is exposed to winds from the NW through W to SE, and is little frequented during the Southwest Monsoon, when communication with the shore is only practicable by signal. During the Southwest Monsoon vessels should anchor in not less than 15m with Tangasseri Point bearing about 000°, distant over 1 mile.

Between October and May, vessels can anchor in the inner anchorage, between Gamaria Rock and Pallikall Shoal, in about 9.1m, sand, with the red chimney of the tile works bearing 040°, and Tangasseri Light bearing 299°. A large vessel may find a position about 0.3 mile farther SW more comfortable.

Directions.—Vessels approaching Quilon from the N should not approach Tangasseri Point in depths of less than 20m to avoid the foul ground W and SW of the point. When the tile work's prominent red 35m high chimney bears 044°, steer for it on that bearing, which leads between Gamaria Rock and Pallikall Shoal.

Quilon to Kolachel

3.31 The coast between Quilon and Trivandrum, about 31 miles SE, is sandy and fringed with palms. About 5 miles SE of Quilon a gap in the fringe of palms fronts a large backwater.

Anjengo (8°40'N., 76°46'E.), formerly of importance but now a fishing village, is seldom visited as its anchorage is exposed to the surf at all times. It is not easy to identify, even from a short distance, as the fort and other buildings are low and screened by trees. A light shows at a height of 38m from a circular concrete tower at Anjengo. A church with a white face is visible on the coast NW of the fort; there is a bungalow on a hill about 2 miles N. A red tableland, about 4 miles N of Anjengo, may be of assistance in identifying it.

Anchorage may be taken, in a depth of 21m, sand and shell, about 1 mile offshore abreast Anjengo. The bottom is foul and rocky in depths of less than about 18.3m.

The coast between Anjengo and Trivandrum is safe to approach, and the country inland is hilly and undulating. Patches of red tableland, when seen from beyond about 7 miles, appear as red cliffs above the palms fringing the coast.

Agastya Malai (8°37'N., 77°15'E.), 1,869m high and the highest peak of the Western Ghats, lies about 20 miles ENE of Trivandrum. Lower hills lie between the Ghats and the coast. Mukkunni Malai, 252m high, with a round, gradually sloping summit, about 4 miles ESE of Trivandrum, can be seen from a good distance to the S and also from the roadstead at Anjengo.

3.32 Trivandrum (8°29'N., 76°57'E.) ([World Port Index No. 49170](#)), a large city, lies about 1 mile from the coast. The ruins of a pier, extending to the LW line, are prominent on the coast S of the city; a flagstaff, 29m high, lies near the root of the pier; and a church, about 0.5 mile NE of the pier, is easily identified. A palace, consisting of a white rectangular building with a dull red roof, lies on the coast about 1.3 miles NW of the ruined pier; a white house is conspicuous close NW. Trivandrum Observatory, with two white domes, 61m high, lies on a hill 2 miles N of the city. A radio mast, marked by an obstruction light, is situated about 5 miles NNW of the ruined pier. Good radar returns have been reported from Trivandrum at 12 miles.

Anchorage can be obtained, in a depth of 18.3m, with the flagstaff near the ruined pier bearing 077°, about 0.4 mile. The coast between Trivandrum and Kolachel, about 26 miles SE, is sandy and fringed with coconut trees; it is safe to approach except near Enciam Islet.

Kovalam Point (Covelong Point) (8°23'N., 76°58'E.) is a bluff point with a conspicuous red-roofed building on it. Good radar returns have been reported from the point at 19 miles. Vilinjam Light is shown from a white round masonry tower, 36m high, about 0.7 mile SE of the conspicuous building. Vilinjam Point lies about 0.5 mile farther SE.

At Vilinjam, 3 miles NW of Karichal, there is a modern (1980) fishing harbor. The harbor is protected by two breakwaters. A fish factory, lying close to the shore, is conspicuous. Many small fishing craft may be encountered up to 9 miles SW of Vilinjam. A light is shown from a round, white, masonry tower with red bands, 36m high, on a bluff 0.5 mile SE of Kovalam Point.

Anchorage can be taken, in a depth of about 15m, 0.5 mile S of the ice factory.

Enciam Islet (8°13'N., 77°11'E.), with a conspicuous church on it, lies about 0.3 mile offshore. Rocks, above and below-water, extend about 0.5 mile SW and NE of the islet. A large conspicuous building, light gray with three towers at its N end, has been reported to lie near the coast about 3 miles NW of Enciam Islet.

Caution.—Vessels, when in the vicinity of Enciam Islet at night, should not approach into depths of less than 35m, which are encountered barely 2 miles seaward of the rocks in the vicinity.

Kolachel (8°10'N., 77°15'E.)

[World Port Index No. 49180](#)

3.33 Kolachel is an open roadstead with anchorage in about 13m in the lee of four small islets. The port is important for the export of ilmenite sand. Vessels of 10,000 15,000 grt have called here. Landing during good weather is fairly easy as the rocks off the village form a practical breakwater to the heavy surf on the coast.

Depths—Limitations.—The depths shoal gradually from 21m in the outer anchorage to 10m about 0.2 mile offshore in the area E of the town.

Several rocks, above and below-water, extend up to about 0.3 mile S and SW of Kolachel. Kurusukul, 6m high and surmounted by a white shrine carrying a black cross, lies about 183m S of Kolachel Light. Ahnakal, 3m high, lies close SSE of Kurusukul, with a rock awash close SE of it.

Pulleri, 1m high, the SE danger in the approach to Kolachel, lies about 0.3 mile SSE of Kurusukul. Patna Rock and Constance Rock, with depths of 2m, lie about 183m W and 0.5 mile WNW, respectively, of Pulleri.

Aspect.—The 209m summit of the Aunipauri Hills, about 4.5 miles N of Kolachel, is a good landmark in making the port.

On closer approach, the following conspicuous objects can be identified:

1. Kolachel Light, shown from a white platform on a mound close to the foreshore SW of the town.
2. The flagstaff close to the light.
3. The Roman Catholic church about 46m NNW of the light structure.
4. A low warehouse about 0.25 mile E of the light structure.
5. A small house with tiled roof, about 90m farther ESE.
6. A white cross close SE of the house.
7. A white pillar with black bands, from which a light is periodically shown, close ESE of the white cross.

Signals.—Storm signals, using the [Brief System](#), are displayed from a flagstaff 0.4 mile E of Kolachel Light.

Anchorage.—Anchorage can be obtained, in a depth of 21m, with the flagstaff bearing 060°, 1.3 miles. Small vessels can obtain anchorage, in about 13m, sand, with the flagstaff bearing 327°, 0.7 mile. Mooring buoys are moored about 0.3 mile SE of Kolachel Light.

Kolachel to Cape Comorin

3.34 Muttam Point (Muttum Point) (8°07'N., 77°19'E.), 35m high and with steep red cliffs, lies about 5.5 miles SE of Kolachel. The village of Muttamtura lies on the point. A light is shown on the point. A group of palmyra trees on high red ground, about 1 mile N of the light structure, forms a good landmark which can usually be seen above mist which may obscure the lighthouse. Muttam Point has been reported to give a good radar response at 18 miles.

Vessels in the vicinity of Muttam Point, at night, should not approach into depths of less than 45m due to the dangers W and SW of the point.

Crocodile Rock, a dangerous sunken rock about 3 miles SW of Muttam Point Light, is the outermost danger; the sea does

not break over it in calm weather. Adunda Rock, 5m high, lies about 1.3 miles SW of the point. It is difficult to identify from seaward, and foul ground extends about 0.2 mile NNW from it. Kota Rock, 6m high and steep-to on its W side, lies about 1.3 miles WNW of Adunda Rock. Vessels should not pass inside of Adunda and Kota Rocks.

The coast extends about 14 miles ESE from Muttam Point to **Cape Comorin** (8°05'N., 77°35'E.). A heavy surf prevails along this coast and ship's boats should not attempt to land; the local inhabitants use only catamarans.

Wedge Bank, with a least depth of 55m, lies about 25 miles SW of Cape Comorin.

Kanyakumari Port (8°05'N., 77°32'E.) is a minor port used primarily for ferry traffic. Depths in the boat basin and alongside the pier are 2.3m or less.