



Sea - Seek

Ebook Sailing guide / Guide nautique

Bay of Bengal

Mer du Nord - Ten degrees channel (India)

August 2024

Bay of Bengal



Bay of Bengal

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Bay of Bengal

14°08.29 N
86°41.58 E


Mer du Nord - Ten degrees channel (India) - Bay of Bengal





Bay of Bengal

Ok

 The Bay of Bengal (largest bay in the world,) forms the northeastern part of the Indian Ocean. It is bordered mostly by the Eastern Coast of India, southern coast of Bangladesh and Sri Lanka to the west and Burma (Myanmar) and the Andaman and Nicobar Islands (part of India) to the east.

On the East, a line running from Cape Negrais in Burma through the larger islands of the Andaman group, in such a way that all the narrow waters between the islands lie to the Eastward of the line and are excluded from the Bay of Bengal, as far as a point in Little Andaman Island and thence along the Southwest limit of the Burma Sea [A line running from Oedjong Raja in Sumatra to Poeloe Bras (Breuëh) and on through the Western Islands of the Nicobar Group to Sandy Point in Little Andaman Island, in such a way that all the narrow waters appertain to the Burma Sea]. On the South. Adam's Bridge (between India and Ceylon [Sri Lanka]) and from the Southern extreme of Dondra Head (South point of Ceylon) to the North point of Poeloe Bras.

The islands in the bay are very numerous, including the Andaman, Nicobar and Mergui groups. The group of islands, Cheduba and others, in the north-east, off the Burmese coast, are remarkable for a chain of mud volcanoes, which are occasionally active. Great Andaman is the main archipelago or island group of the Andaman Islands, whereas Ritchie's Archipelago consists of smaller islands. Only 37 of the 572 islands and islets of the Andaman and Nicobar Islands are inhabited, or 6.5%.

Major Bangladesh ports on the bay include Chittagong and Mongla. Major Indian ports on the bay include Krishnapatnam, Chennai (formerly Madras), Vishakhapatnam, Kolkata (formerly Calcutta), and Pondicherry. Yangon, the

largest city and former capital of Myanmar is also an important port in the bay. Kolkata and Chennai are the biggest ports in the world.

Climate:

The monsoon currents regulate the climate of the Bay of Bengal and the regions around it.

During the months of January to October, the current flows towards the north in a clockwise circulation pattern and is called the East Indian Current.

The Bay of Bengal monsoon moves in a northwest direction hitting the Andaman and Nicobar Islands at the end of May and then the North Eastern Coast of India by the end of June.

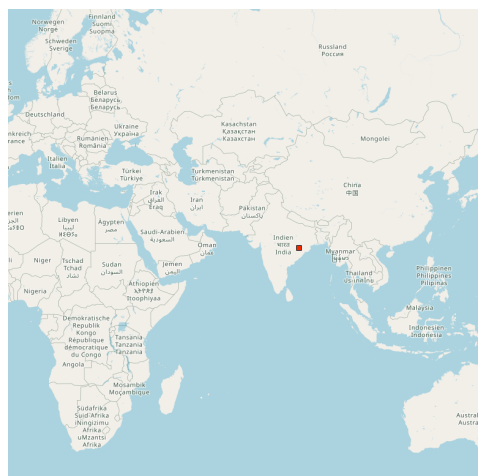
Throughout the remaining part of the year, a counter-clockwise current flows towards the southwest direction, and is called the East Indian Winter Jet.

During the months of September and December the weather is very active. The monsoon season often brings in severe cyclones, which affect Eastern India as well as parts of other countries. The 1971 Orissa cyclone is one of the worst.

1 - Hasnabad

20°44.02 N
83°42.63 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal



2 - East Coast of India


15°16.91 N
83°17.35 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India





East Coast of India dhamra

 India, or the Republic of India, is a country in South Asia. Bounded by the Indian Ocean on the south and the Bay of Bengal on the south-east, it shares land borders with China, Nepal, and Bhutan to the north-east; and Burma and Bangladesh to the east.

In the Indian Ocean, India is in the vicinity of Sri Lanka and the Maldives; in addition, India's Andaman and Nicobar Islands share a maritime border with Thailand and Indonesia.

This sector describes the E coast of India, from Point Calimere to Balisahi Point, and includes the Coromandel Coast and the Orissa coast within its limits; Chennai (Madras) and Vishakhapatnam are the main harbors.

The E coast of India, from Point Calimere N to Cocanada, is about 500 miles long and is known as the Coromandel Coast.

That part of the coast between Cocanada and Balisahi Point, about 364 miles NE, is known as the Orissa Coast.

The low sandy coast fronting the W side of the Bay of Bengal is exposed to a very heavy surf. As a result, there is little or no shelter provided for vessels other than small craft.

The harbors at Chennai and Vishakhapatnam are the only large ports providing shelter and berthing facilities for all classes of vessels.

The coast S of Chennai appears to have been encroached upon by the sea to a

considerable extent.

Between Pondicherry and Chennai, scattered hills rise to heights of 46 to 198m, at distances of 2 to 16 miles inland. Similar hills lie in the vicinity of Nellore, and as far N as the Gundlakamma River.

Between Godavari Point and Shortt Island, about 360 miles NE, the coast is low and barren in places and relatively high and densely wooded in other places. With the exception of Cocanada and False Bays, there are no indentations of any appreciable size.

The depth curves generally parallel the coast with the 200m curves lying about 15 to 25 miles offshore between Godavari Point and the mouth of the Devi River.

Winds?Weather

Changes in the monsoons are usually accompanied by bad weather. Cyclonic storms, although rare, sometimes occur near the middle of November or the beginning of April. The rainy season commences toward the end of June and ends in the latter part of November.

Tides?Currents

The direct effect of the Northeast Monsoon and the Southwest Monsoon winds on the surface waters of the Bay of Bengal is the development of seasonal currents in opposite directions.

Along the E coast of India, on the W side of the bay, it is not unusual to experience currents setting with velocities of 2 to 3 knots. From February through May, a strong current sets to the N, and from September through December, a similar current setting to the S may be experienced. A survey party found currents with velocities of 1 to 2 knots outside the 45m curve, less current between the 35 and 18m curves, and little or no current inside the latter curve. Close to the shore, the current was occasionally reversed.

When the current was setting to the N in the offing, a set out of Palk Strait was usually found, and presumably the reverse takes place when the current sets to the S. Tidal currents are experienced close offshore and they vary the strength of the current in the neighborhood of Middle Banks in Palk Strait.

chittagong port anchorage area

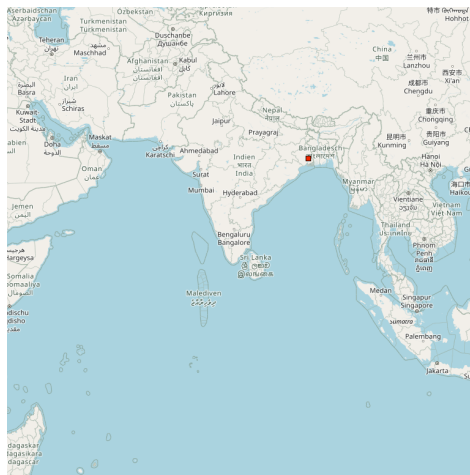
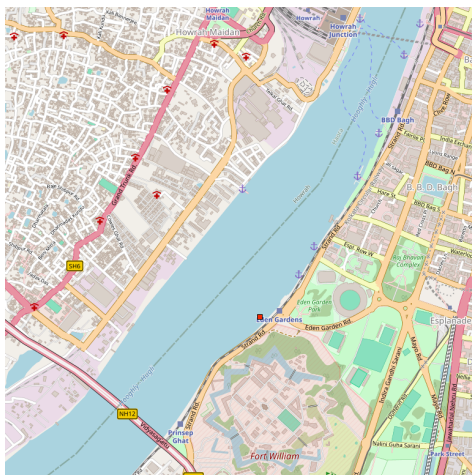
 Hello


2.1 - Calcutta port (W Nengal-NE India)

22°33.81 N
88°20.22 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India





 The Port of Calcutta (Kolkata) is a riverine port in the city of Kolkata, India. It is the oldest operating port in India, having originally been constructed by the British East India Company.

The port of Calcutta extends from Budge Budge, about 21 miles above Hugli Point, to Konnagar, about 21 miles farther upriver, the limits being marked by boundary pillars.

The port is about 83 miles above the entrance of the Hugli River, and about 128 miles from Eastern Channel Light Vessel, near The Sandheads.

The Howrah Bridge, about 15 miles above the downriver boundary of the port, crosses the river above Howrah Railway

Terminus and is a steel cantilever structure, with tower on either side of the river which rises to a height of 91m. Several ferries ply across the river. The bridge marks the upper limit of navigation for ocean-going vessels.

Modern well-equipped berthing facilities are provided for all classes of vessels alongside and at the mooring buoys in the river.

Calcutta, the second largest commercial port in India, is also the site of the largest city.

Tides?Currents

Tides in the Hugli River at Calcutta are semidiurnal.

When regular, the flood runs 5 hours and the ebb runs 7 hours. During the Northeast Monsoon, the velocity of the current is 3 to 3.5 knots at springs and 1.5 to 2 knots at neaps. Between March and July, the velocity of the flood is increased and reaches a maximum velocity of 4 to 7 knots at springs.

During the freshets, July to October, the flood is weak and of short duration and

at neaps may be nearly imperceptible; the ebb during freshets has a maximum velocity of 7 knots at springs. Anchors are then quickly buried by the silt, so that sometimes it is necessary to slip the cable and leave the anchor to be picked up by the Port Commissioners. The tidal currents set fair up and down Calcutta Reach.

Depths?Limitations

Mooring berths in the river have sufficient depths to accommodate any vessel that can enter the river. Depths at the moorings range from 5.5 to 15.2m, but vary according to their location in the river.

Kidderpore Docks comprise No. 1 Dock, No. 2 Docks, and a turning basin. The lock entrance from the river is 176.8m long and 24.4m wide. Vessels up to a maximum length of 157m and a beam of 21.3m can enter Kidderpore Docks. No. 1 Dock has

11 berths; No. 2 Dock has eight berths for general cargo and six coal berths. A depth of 9.1m exists alongside the berths in both docks.

Nataji Subhas Docks (King George Dock) lock entrance is 213.4m long and 27.4m wide. Vessels up to 172m may enter the dock. Seven berths, with a depth of 10m alongside, are available for ocean-going vessels. The other berthing facilities within the dock are for the sole use of lighters. In 1985, there were two container berths and cranes in Nataji Subhas Docks.

Garden Reach Jetties consist of five jetties for ocean-going vessels. Vessels, with lengths from 137 to 172m can be accommodated alongside.

Vessels berthed at Garden Reach Jetties are limited to a draft of 5.5m during bore periods.

Calcutta Jetties, which lie below Howrah Bridge, consist of nine jetties, but only five are available to ocean-going vessels.

The petroleum facilities at Buj-Buj (Budge Budge) consist of eight pontoon jetties. Vessels, with a maximum draft of 9.1m, can be accommodated alongside these berths.

Vessels mooring in the river are required to moor head stern, with two lower and stern cables shackled to the permanent moorings which are laid parallel with the banks.

Regulations

Port Regulations are supplied to vessels on arrival by the harbor master.

Rules regulating the handling of explosives are issued by the port authorities.

Masters of vessels with explosives on board are required to give an advance notice of arrival of 72 hours.

Contact Information

The port can be contacted, as follows:

1. VHF: VHF channel 16
2. Telephone: 91-33-22303451
3. Facsimile: 91-33-22204901
4. E-mail: portofcalcutta@portofcalcutta.com



Calcutta waterfront

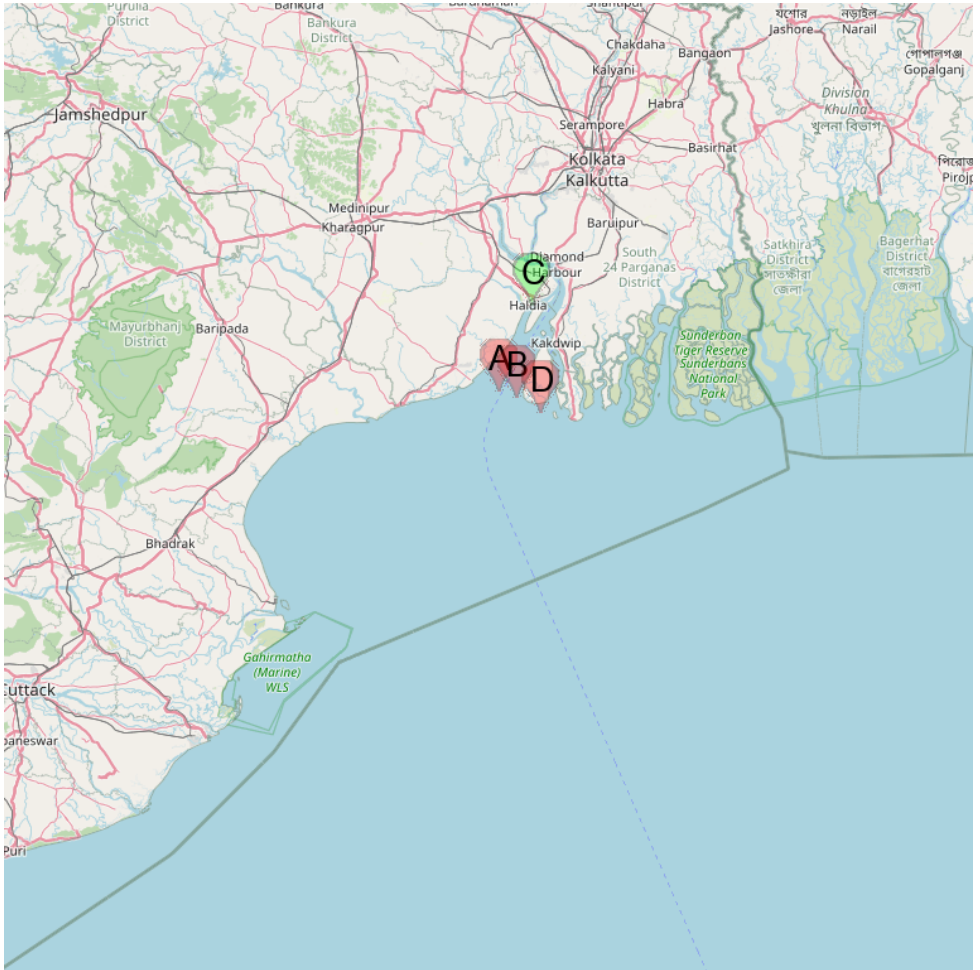


Calcutta quay

2.2 - Hugli (Hooghly) River (NE India)

21°48.90 N
87°58.21 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Hugli (Hooghly) River (NE India)

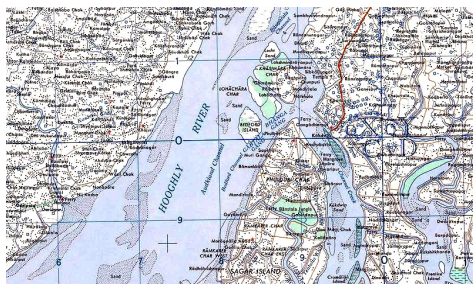


A Hugli River Entrance (W Bengal-India)

B Sagar road (Hugli river-India)

C Haldia port (W Bengal-NE India)

D Sagar island (W Bengal-India)



Hugli (Hooghly) River (NE India)

Tides

Tides in the Hugli River are semi-diurnal.

Tidal semaphores have been established at the following places to indicate the rise of the tide in the Hugli River:

1. About 0.5 mile SSW of Sagar Island Light. Tidal information is also broadcast on VHF channel 16.

- 2.

At Gangra, on the W bank about 7.5 miles NW of the N point of Sagar Island. Tidal information is also broadcast on VHF channel 16.

3. At Balari, on the W bank about 12 miles NE of the tidal semaphore at Gangra.

4. On Hugli Point, about 12 miles upriver from the semaphore at Balari. Tidal information is also broadcast on VHF channel 13.

5. At Moyapur, about 17 miles downriver from Kidderpore Docks. Tidal information is also broadcast on VHF channel 13.

6. At Akra, about 6.5 miles downriver from Kidderpore Docks. Tidal information is also broadcast on VHF channel 13.

7. At Rajabagan, about 3 miles downriver from Kidderpore Docks.

At the moment of HW, a ball is hoisted to its upper position; as the tide begins to fall, the ball is lowered to the lower position until the tide has fallen by 1m, when the ball is hauled down. At LW, the ball is hoisted to the lower position; as the tide begins to rise, the ball is hoisted to the upper until the tide has risen by 1m, when the ball is hauled down.

Night semaphores are situated at Sagar, Gangra, Balari, Hugli Point, and Moyapur.

Each semaphore can display two flashing lights, an upper light showing a 2-second flash every 8 seconds and a lower light showing one flash every second.

One fixed red light is displayed if the semaphore is not working.

The strength of the tidal current varies in different parts of the Hugli River at different times of the year; its velocity is least during the Northeast Monsoon from November to February, when it is 3 to 3.5 knots at springs and 1.5 to 2 knots at neaps.

During the latter part of the dry season, the Southwest Monsoon blowing in the

direction of the flood current increases its velocity so that it flows up the river at 4 to 6 knots during spring tides.

The descent of the freshets, from July to October, causes the ebb current to predominate and it reaches a maximum velocity of 7 knots during spring tides; at this time the flood current is imperceptible, except in the estuary.

There are three distinct periods in the year, lasting approximately 4 months each. During the cold season, the flood current has a slight preponderance over that of the ebb, because of its shorter period of flow.

The flood current, during the second half of the dry season, is made considerably stronger than the ebb by the Southwest Monsoon. During the rainy season, the flood current is overpowered by the descent of freshets and the ebb current predominates accordingly.

The great body of the tidal current flows in the direction of the channels at velocities of 2 to 3 knots at springs and 1 knot to 1.5 knots at neaps.

At LW during spring tides, the flow of the flood current is checked by the shallow and restricted bed of the river and by the seaward flow of water from the upper reaches. These conditions can lead to the creation of a tidal bore.

Bores in the Hugli River occur only with a greater than average spring tide, and usually when the seaward flow is augmented by freshets. Extreme tidal bores are most prevalent in March and September and reach heights of 2.4 to 6.1m.

During the Northeast Monsoon, from November to February, freshets do not occur and for this reason, bores are a rarity.

When they do occur during this particular season, it is likely to be at night. They are dangerous because they are unexpected. It is advisable to anticipate their occurrence during this season whenever greater than average spring tides are predicted.

With the Southwest Monsoon, the occurrence of freshets during greater than average spring tides will always cause bores, those preceding the daylight HW being higher than those at night.

The first appearance of the bore is on Diamond Sand), on the W side of the river abreast Diamond Harbor, where the ascending wave runs on as a breaking roller. It is not of much consequence until it enters the contracted reaches above Hugli Point, when, besides swamping boats, it affects vessels at anchor by causing them to run upstream, especially if there is a strong S breeze. The bore reaches a maximum at Chinsura, about 26 miles above Kidderpore Docks, and disappears about 14 miles farther up the river above Naya Serai.

Vessels at moorings surge and roll during the passage of the bore as there is a

sudden lift of 1.2 to 1.8m; when bores are expected, springs must be put on the flood moorings close down to the buoys to relieve the jerk on the cable and bits. Vessels at anchor have been known to break their anchor chains during extreme tidal bores.

Depths? Limitations

Bars, bends, and bores, known as the three Bs, constitute the main dangers to shipping in the Hugli River. Numerous bars, with continuous fluctuating depths over them, encumber the winding channel of the river.

The river is high from June to October and during this period, vessels drawing up to 8.5m can reach Calcutta at HWS.

Vessels drawing up to 7.9m can reach the port at HWN. From October to June, the river is low and the maximum permissible draft is 7.3m. Maximum drafts may vary from year to year according to the season, but vessels drawing up to 8.8m have ascended the river to Calcutta; special arrangements have to be made and the date selected by the Port Pilotage Office.

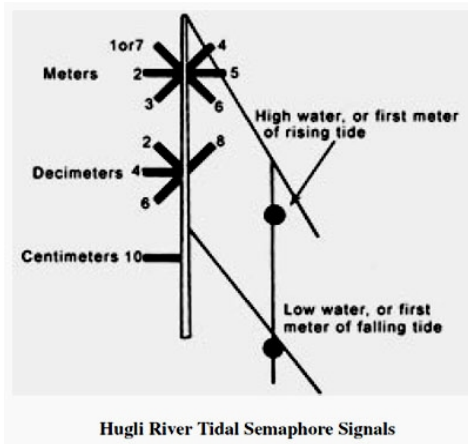
Vessels proceeding to Calcutta should arrive at the pilot station with drafts as close to an even keel as possible.

In some parts of the river, the changes in depths and the directions of the channels are very rapid and no attempt will be made to describe them or the navigational aids which mark them.

Although the charts may currently be correct, they can not be relied on to give an accurate presentation of the depths and dangers which may be encountered because of these rapid changes.

Signals

Signal stations are situated near the lighthouse on Sagar Island, on the E bank at Diamond Harbor, and at Hugli Point, about 6 miles above Diamond Harbor. Diamond Harbor Signal Station is connected by telegraph, and the other stations are connected by telephone with Calcutta.



Hugli (Hooghly) River (NE India)

The semaphores have three arms, the upper arm indicates meters, the middle arm decimeters, and the lower arm centimeters, as depicted in the diagram above.

 India's

Hugli River (sometimes spelled "Hooghly") is a Ganges River distributary, one of the many branches of the river that are collectively known as the "Mouths of the Ganges".

Vessels entering the Hugli River approach Eastern

Channel Light Vessel, which is moored about 46.5 miles SSE of Sagar Island Light.

During the Southwest Monsoon, it is best to make the coast near Puri or between Pundi and Ganjam, where higher land backs the coast. When the weather is very hazy, the land is obscured until a very near approach is made. It is advisable to determine a vessel's position before proceeding N of Puri.

Soundings provide a guide when approaching this coast; the 183m curve lies about 21 miles SE of Pundi, 23 miles SE of Ganjam, and 15 miles S of Puri. At night, vessels should make Kalingapatam Light, Gopalpur Light, or Puri Light. Depths of 36.6m lie about 4 miles off Kalingapatam, 3.5 miles off Ganjam, and 13 miles S of Puri; continuous soundings should be taken when approaching the coast.

At night or in bad weather, a vessel should proceed along the coast in depths of about 36.6m. During the day, in clear weather, the Jagannath Pagodas at Puri and the black pagoda at Konarak should be sighted when passing. When about 10 miles beyond the black pagoda at Konarak, course should be shaped for Eastern Channel Light Vessel. Care should be given to the soundings when passing False Point, as the depths decrease gradually toward the shoal ground around it. At night, vessels should keep in depths of not less than 26m or even 37m when the wind is SE.

In September, toward the end of the Southwest Monsoon, the current sets strongly to the SW, and if a vessel's position is fixed, landfall should not be made so far to the S.

During the Northeast Monsoon, if a vessel is on the E side of the Bay of Bengal,

course should be shaped directly for Eastern Channel Light Vessel.

Depths?Limitations

A bank, located in position 20°44'N, 87°35'E and extending off the coast between False Point and Palmyras Point, is an excellent guide when approaching the entrance of the Hugli River. The bottom, when in depths of 36.6 to 42.1m, consists of reddish-colored shell and sand and gravel; in deeper water to the E or seaward, the bottom consists of sand and mud with shining specks, or olive-colored mud with broken shells. The E edge of the ridge is rather steep, with depths seaward of it ranging from 51 to 55m.

The 35m curve follows the NE curve of the coast and lies about 24 miles E of False Point Light and 25 miles E of Palmyras Shoals.

Pilotage

Pilotage is compulsory N of latitude 21°39'N for all vessels of over 200 nrt. Pilots are available 24 hours.

A Vessel Traffic Management System (VTMS) is in operation to improve the safety of vessels entering Calcutta and Haldia.

Three radar surveillance stations located at Sagar Island, Frasergunj, and Haldia will allow vessels to enter the navigation channel safely on the Hugli Delta between Talent Wreck Light Vessel (21°17.0'N., 88°11.5'E.) and the pilot boarding ground. The VTMS guidance is provided by the Hugli River Pilots. The VTMS can be contacted on VHF channel 68, call sign ?VTMS Control.?

When anchoring, vessels should stem the tide before letting go an anchor, because the current sets strongly at the Sandheads.

Navigation:

Navigation on the Hugli River is reported to be difficult.

The 39-mile stretch from Hugli Point to Calcutta is the most treacherous. In 1984, it was reported that the channel buoys were not well maintained, many were either unlit or missing. It was reported (1976) that night navigation above Hugli Point was prohibited.

The navigable channel in the river is subject to annual variations; these are caused by the scour of the freshets and the flood current, as the season is wet or dry, respectively. The channel through the estuary is subject to such changes as occur in all wide, sandy, tidal estuaries.

Vessels take advantage of the rise in tide and cross the shallowest bars at HW; this results in bunching of vessels. A vessel inbound can generally go up the river with the tide without any stops, but sometimes it might take about 24 hours with

an anchorage stop along the way. An outbound vessel cannot cover the total distance of the river during the same high tide; the transit down the river is made in stages. According to the speed and type of vessel, sailing down the river takes about 36 to 48 hours, with stops at Ulubaria (abreast of Achipur Point), Diamond Harbor or Kulpi Roads, and Sagar Roads Anchorage.

Sharp bends in the river upstream of Diamond Harbor limit the length of a vessel to 189m at Buj-Buj and 172m at Calcutta.

During times of predicted tidal bores, the overall length of vessels will be regulated by the harbor master.

The navigable channels of the Hugli River, leading to Calcutta N of the parallel of latitude 21°01'N, are under the jurisdiction of the Port Commissioners of Calcutta. Vessels proceeding against the current should slow down or stop if it appears that other vessels will be met with at difficult parts of the river, or on bars where the deep-water channels are narrow. The usual rule of the road is adhered to in the river and estuary. A prolonged blast of the whistle, quickly followed by three short blasts, is an optional signal that the vessel making the signal is obliged to stop and cannot get out of the way.

Signal	Tidal Rise
Upper light green	1.0m and 4.0m
Both lights green	1.2m and 4.2m
Green over red	1.4m and 4.4m
Green over white	1.6m and 4.6m
Lower light green	1.8m and 4.8m
Upper light red	2.0m and 5.0m
Red over green	2.2m and 5.2m
Both lights red	2.4m and 5.4m
Red over white	2.6m and 5.6m
Lower light red	2.8m and 5.8m
Upper light white	3.0m and 6.0m
White over green	3.2m and 6.2m
White over red	3.4m and 6.4m
Both lights white	3.6m and 6.6m

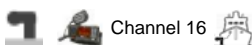
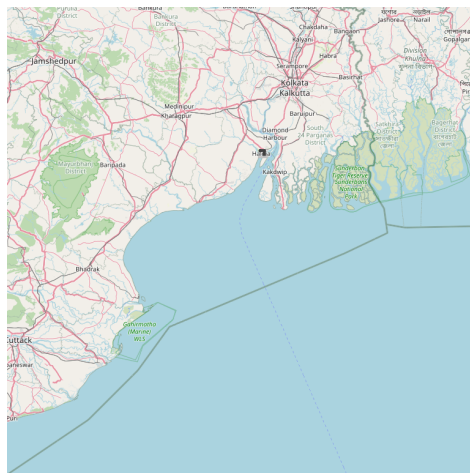
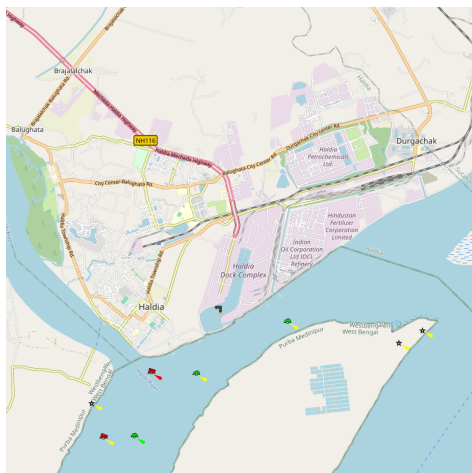
Hugli (Hooghly) River (NE India)

Rise of the tide


2.2.1 - Haldia port (W Bengal-NE India)

22°01.63 N
88°04.93 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Hugli (Hooghly) River (NE India)



Md najim

 Haldia is a city and a major seaport and industrial belt located approximately 50 kilometres southwest of Calcutta near the mouth of the Hooghly River, one of the distributaries of the Ganges. It is in the Indian state of West Bengal. Haldia is being developed as a major trade port for Calcutta (Kolkata), intended mainly for bulk cargoes.

The port can be contacted, as follows:

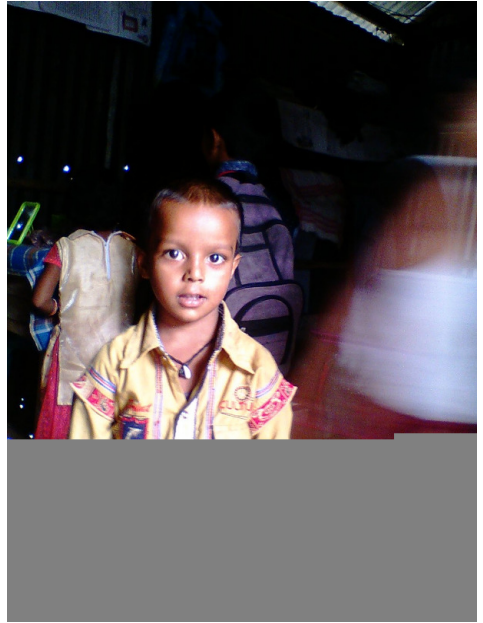
1. VHF: VHF channel 16
2. Telephone: 91-3224-252104
3. Facsimile: 91-3224-252251
4. E-mail: haldia@hub.nic.in

Anchorage can be taken in mid-channel, in a depth of 11m, abreast of the port area over a bottom of medium to hard mud and sand, good holding ground.

The maximum rate of the current in the river is about 5 knots, both on the flood and the ebb.



robiul



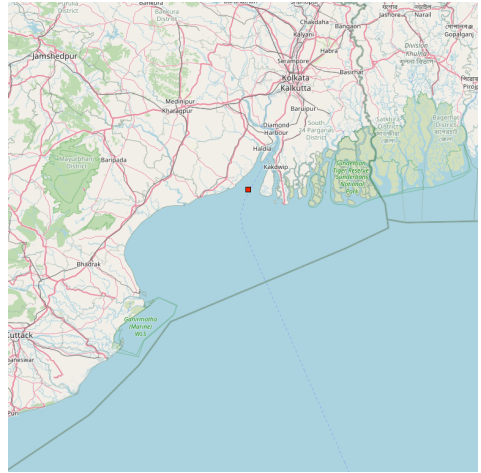
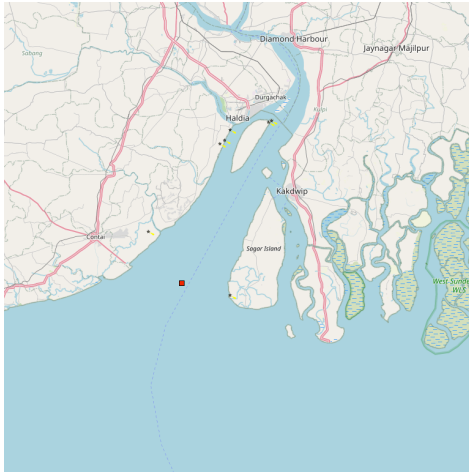
bdiut




2.2.2 - Hugli River Entrance (W Bengal-India)

21°40.93 N
87°56.28 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Hugli (Hooghly) River (NE India)



 Eastern Channel Light Vessel, which is frequently moved, marks the entrance of Eastern Channel, the main fairway leading to the Hugli River. Eastern Channel is available for use both by day and night and leads into Gaspar Channel, which in turn leads into Sagar Roads.

Caution is necessary, as several dangerous wrecks, best seen on chart, have been reported in the immediate vicinity of Eastern Channel Light Vessel.

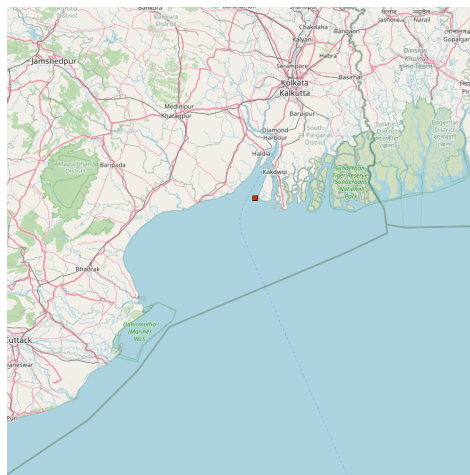
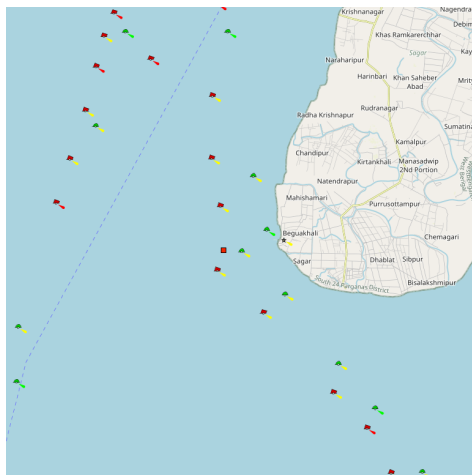
Western Channel leads into Beaumont's Gut and then into Sagar Roads. Western Channel Station Buoy, conical, black and white stripes, with black framework topmark, is moored 19 miles S of the S end of Eastern Sea Reef.

2.2.3 - Sagar road (Hugli river-India)


21°39.17 N
88°00.77 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Hugli (Hooghly) River (NE India)





haldia to sagar roads

 Sagar Roads, the navigable entrance at the mouth of the Hugli River, lies about 2 miles W of the SW extremity of Sagar Island.

The navigable entrance channel leading to Sagar Roads is subject to change in position and direction to accompany the change in depths, which occur from time to time. Local knowledge and assistance is essential to safe navigation.

Wind and Weather

* September: after break up of the Southwest Monsoon, there is an East wind, light and variable with showers of rain.

West current depending on force and duration of E winds; weather generally clear.

* October: E wind or calm, variable force. The weather is stormy, sultry at times.

West and SW current; generally a gale or cyclonic storm.

* November, December, January: N wind in morning and evening with fresh force in morning and evening, calm midday. Fine weather with cool mornings and evenings.

Cessation of the strong tides of the Hugli River; fogs in January in morning.

* February: the wind is variable, S at night; NW sometimes with a light force. The weather is warm toward end of month.

Thick fogs in morning; floods strong in the Hugli River toward end of month.

* March, April, May: The wind is variable, until end of March; W and SW in April and May with a light force at first and sometimes strong at end. Weather: Northwester, with rain, thunder, and lightning, frequent; hazy.

Flood tide occasionally accompanied by bore; sometimes a gale or cyclonic storm

in April or May.

* June: Southwest wind, strong at first. Northwesters decreasing in force; heavy thunderstorms.

In June, the ?chota bursat? or small rain, generally lasts two weeks.

* July: Southwest and W wind, strong and gales frequent and squally heavy rains. Freshets in the river, much swell in Eastern Channel.

* August: Southwest and W wind; W during day, hauling to S toward evening of lighter force. Squally, heavy rains or generally clear.

Strong W current at the Sandheads.

Tides?Currents

Seaward of the Sundarbans, there are strong rotatory currents. During the rising tide, the tidal current commences by setting W and gradually turns through N to NE.

During the falling tide, it commences by setting E and gradually turns through S to SW.

At the Sandheads there is a strong W current in August; during September, after the cessation of the Southwest Monsoon, the W current depends on the force and duration of the E winds; in October, there is a W and SW current. During cyclonic weather, a strong W set of 2 to 5 knots is experienced.

During W gales, an E set of 1 to 2 knots develops.

Tides at the Sandheads and in Sagar Roads are semidiurnal.

Sagar Tidal Semaphore, displaying day and night signals, lies about 0.5 mile SSW of Sagar Island Light. Dublat Mark lies on Sidney Point, the SE extremity of Sagar Island.

In Eastern Channel, the tidal currents set, when not influenced by the wind here after:

* First quarter: flood bearing is 270°-032° and ebb bearing: 045°-112°.

* Second quarter: flood bearing: 310°; ebb bearing: 160°.

* Third quarter: flood bearing: 000°; ebb bearing: 180°.

* Fourth quarter: flood bearing: 022°; ebb bearing: 220°-240°.

The maximum velocities range from 2 to 3 knots at springs, and 1 to 1.5 knots during neaps, following the direction of the channel.

Depths?Limitations

Eastern Sea Reef (21°14'N., 88°03'E.), with depths of 0.6 to 4.9m, has its S extremity about 29 miles S of Sagar Island Light. This reef extends S from Lower Long Sand, a drying shoal with its N end about 4.5 miles SSW of Sagar Island Light. A shoal, with depths of 0.6 to 4.9m, extends about 26 miles SSE from New

Island (21°33'N., 88°11'E.). During the Southwest Monsoon, the sea breaks heavily over the S end of this shoal.

Middle Ground, with depths of 1.2 to 5.5m, lies between Western Sea Reef and Eastern Sea Reef. Depths over this shoal range from a drying patch on its N end to a depth of 5.2m over its S end. This shoal breaks heavily during the Southwest Monsoon.

Lower Gasper Light Vessel (21°21.9'N., 88°09.6'E.) has a red hull with one mast surmounted by a topmark.

A similar breaking shoal, with depths of 0.6 to 5.5m, lies between Eastern Sea Reef and the previously-described shoal which extends SSE from New Island.

Eastern Channel, with Gasper Channel, its N extension, lies between Eastern Sea Reef and the shoal to the E which extends about 26 miles SSE from New Island. Sagar Roads is entered N of this latter channel. Both Gasper Channel and Sagar Roads are marked by lighted buoys. A number of dangerous wrecks, marked by buoys, are encountered at the junction of the two fairways.

Western Channel lies between Western Sea Reef and Eastern Sea Reef, and leads into Beaumont's Gut, which leads into Sagar Roads.

Upper Long Sand (21°34'N., 87°57'E.), a drying bank about 5 miles long, lies with its upper end about 5.3 miles SW of Sagar Island Light. A narrow shoal, with depths of 1.8 to 4.6m, extends 10.5 miles S from Upper Long Sand and then curves NE to join the upper part of Eastern Sea Reef.

Mizen Sand, a small drying bank, lies about 2.3 miles N of Upper Long Sand; Tigris Sand lies about 1 mile farther N.

Lighted Buoy LWA is moored close off the NE end of Mizen Sand. Lighted Buoy AD is moored close off the E side of Tigris Sand, 2 miles NNW of Lighted Buoy LWA.

Auckland Bar (21°45'N., 87°59'E.) has depths of over 4.6m.

A passage from Auckland Bar to Haldia Port is made through Jellingham Channel, marked by lighted buoys.

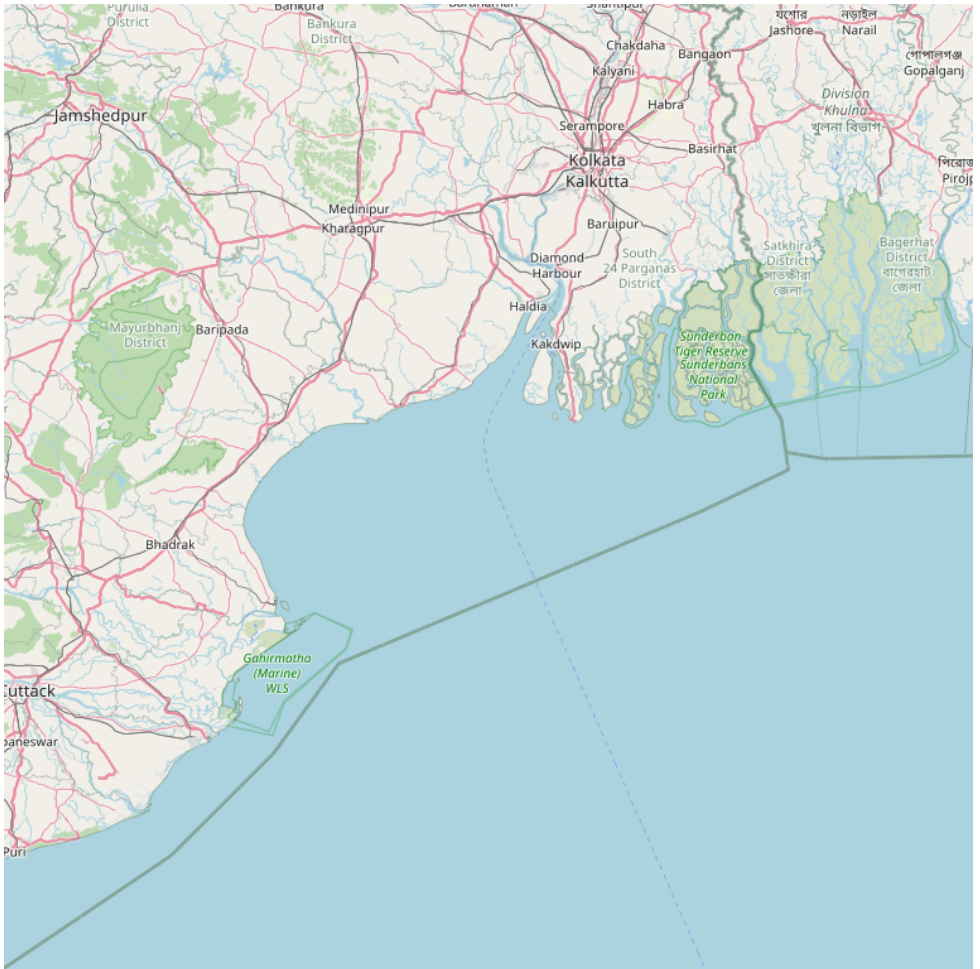
In 1986, it was reported that sand banks and islands SW of Aguimari Char (22°00'N., 88°08'E.) were to have been washed away to form a crossing to run from Jellingham Channel to Rangafala Channel, lying E of Aguimari Char. This connecting channel will allow an alternate route to Kulpi Roads and Calcutta, a detour from Haldia Channel. In 1988, Rangafala Channel was marked by lighted buoys. In 1989, it was reported that vessels make passage through Rangafala Crossing SSW of Aguimari into Rangafala Channel.

Middleton Bar (21°36'N., 88°03'E.), which dries 1.2m near its S end, lies centered about 3.3 miles S of Sagar Island Light, on the W side of Gaspar Channel. North of Middleton Bar a narrow shoal, with depths of less than 3m, extends about 4 miles N to join the drying coastal flat about 2 miles N of Sagar Island Light. A drying bank lies on this shoal about 1.5 miles WSW of the same lighthouse.


2.2.4 - Sagar island (W Bengal-India)

21°35.50 N
88°07.27 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Hugli (Hooghly) River (NE India) - Sagar island (W Bengal-India)



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 Sagar Island lies on the E side of the Hugli River entrance and is flanked on its E side by the Baratala River, and on its W side by Bedford Channel.

The main fairway leading into the Hugli River passes close off the SW extremity of this island. Although well-populated and heavily cultivated, the island has few distinguishing features.

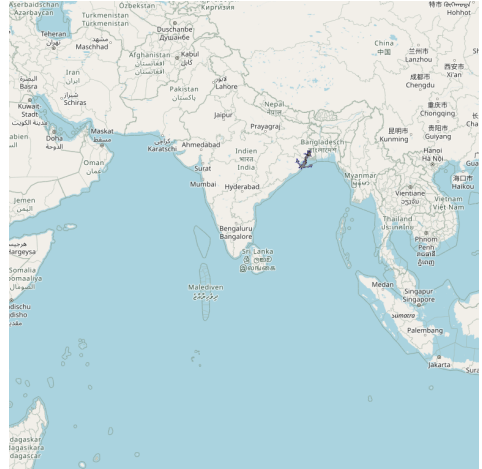
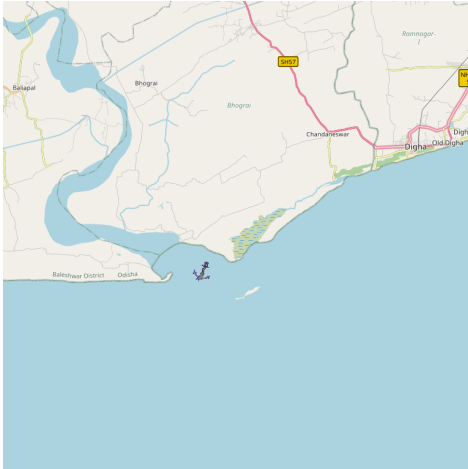
The island is large with an area of around 300 km². This island is a famous Hindu


pilgrim place. Every year on the day of Makar Sankranti (mid of January), hundreds of thousands of Hindus gather to take a holy dip at the confluence of river Ganges and Bay of Bengal and offer puja in the Kapil Muni Temple.

2.3 - Subarnareka River (N Orissa-NE India)

21°33.41 N
87°23.19 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Subarnarekha River (also called Swarnarekha River) flows through the Indian states of Jharkhand, West Bengal and Orissa.

As per tradition, gold was mined near the origin of the river at a village named Piska near Ranchi. This is why it was named Subarnarekha, meaning ?streak of gold?.

Subarnarekha River is reported to have moderate depths within its entrance and is navigable by native craft for about 16 miles of its distance. The former port of Subarnarekha lies at the mouth of the river, but is available only to fishing boats.

A pagoda and a clump of trees lie near the mouth of the river on the W bank.

Anchorage can be taken off the mouth of the river, in depths of 8.2 to 9.1m, with the pagoda bearing 327°, distant 8 miles.



2.4 - Panchpara River (N Orissa-NE India)

21°30.67 N
87°07.49 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India

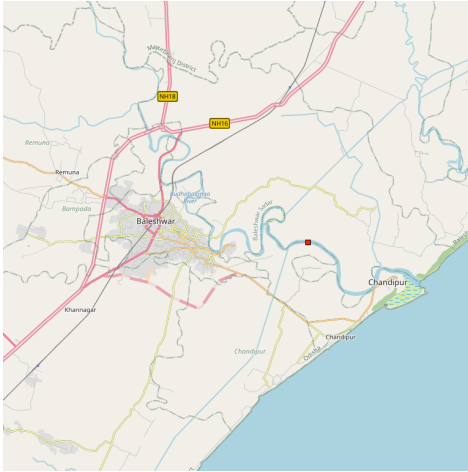



The Panchpara River discharges into the sea about 4.5 miles NE of the entrance of the Burhabalang River. The river is navigable only by small native craft capable of crossing the bar.

2.5 - Baleshwar (or Balasore) (N Orissa-NE India)

21°29.42 N
87°00.44 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Baleshwar lies on the S bank of the Burhabalang River, about 16 miles above its mouth. This town was formerly a port of some importance, but in recent years there has been no seaborne trade.

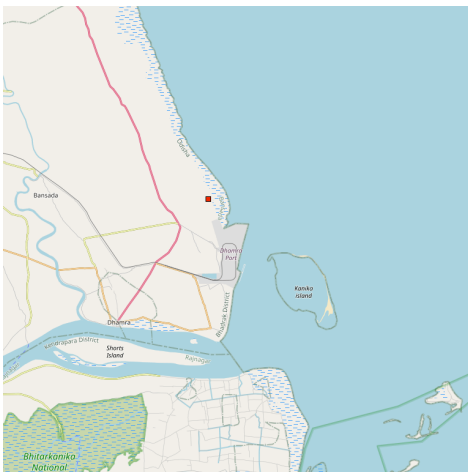
Cargo is transported by barges from the anchorage in Baleshwar Road.

It is best known for Chandipur beach. It is also the site of the Indian Ballistic Missile Defense Program's Integrated Test Range, located 18 km. south of Balasore. The Defence Research and Development Organisation developed many different missiles such as Nag, Brahmos, Agni missile among others here.

2.6 - Balisahi Point (Orissa-NE India)

20°51.61 N
86°57.07 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Balisahi Point is the extremity of the low land N of the entrance of the Dhamra

River.

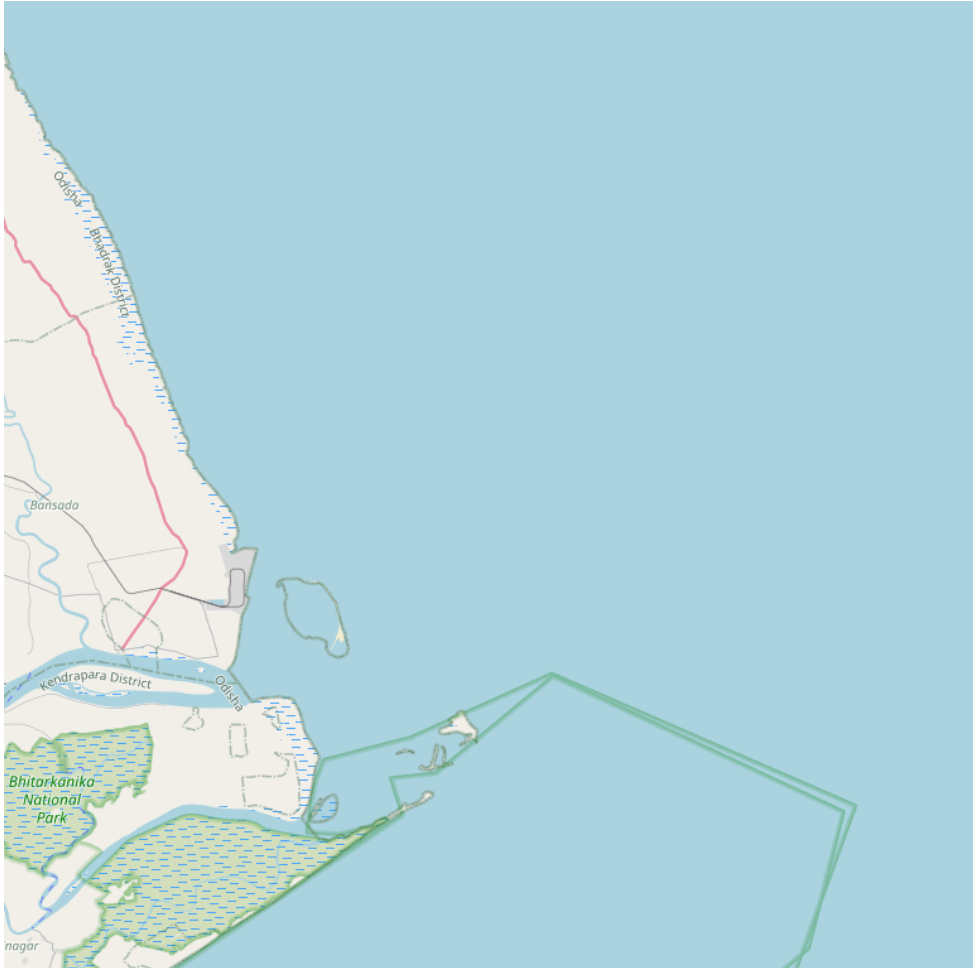
The coast between Balisahi Point and the entrance of the Hugli River, about 69 miles NE, is low, flat, and covered with scrub and mangroves along its S part. Southwest of Chandipur, the trees are higher than elsewhere. Northeast of Chandipur, the coast remains low and sandy, but the sandhills are more plentiful. There are no distinctive landmarks.

The Orissa Coast terminates at the entrance of the Hugli River.

2.7 - Kanika sand (Orissa-NE India)


20°48.57 N
87°00.74 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Kanika sand (Orissa-NE India)



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21 14 N Long 087 30 E

 Kanika Sand, an extensive drying mud and sand flat, lies on the N side of the entrance channel about 0.8 to 5.5 miles W of Shortt Island. This flat has been reported extending to the SE.

The outer bar, which has a least depth of 1.5m, lies about 1.3 miles NNW of the middle of Shortt Island. The inner bar, S of Kanika Sand, has a least depth of

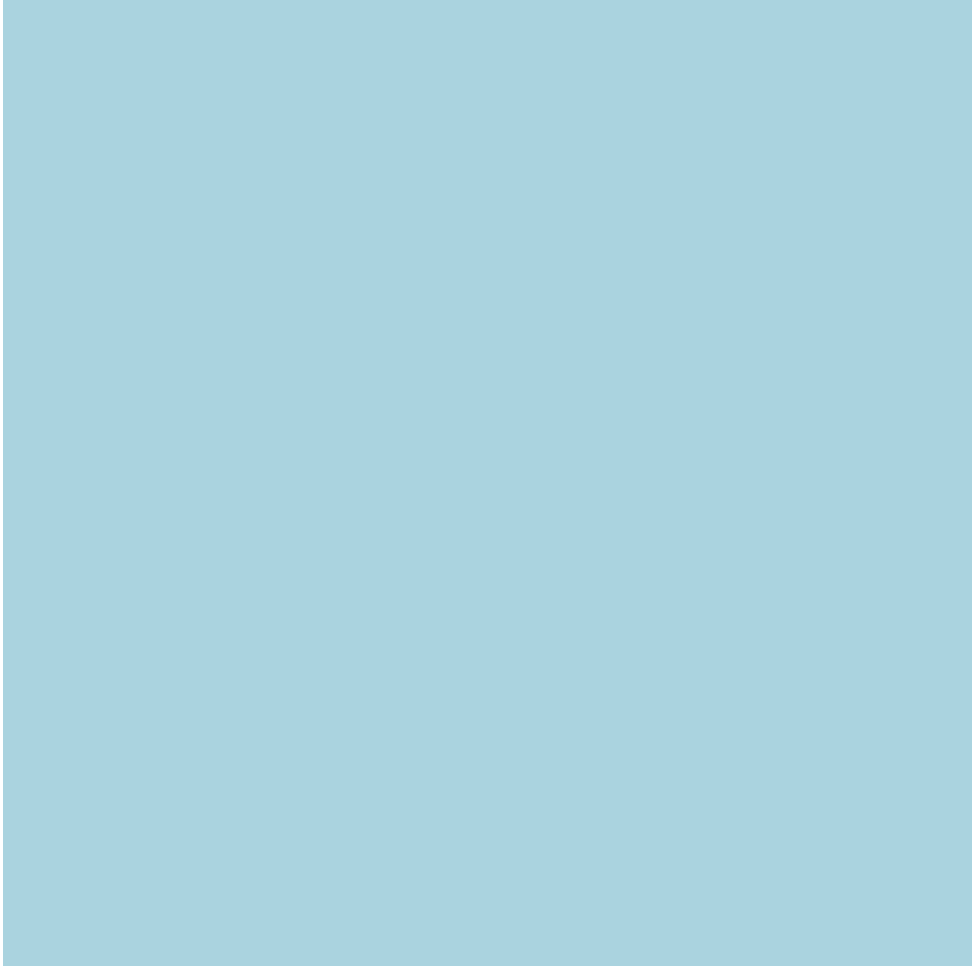
2.4m.

The outer bar maintains its position and depths, but the inner bar is subject to change.

2.8 - Shortt Island (Orissa-NE India)

20°46.45 N
87°04.01 E


Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Shortt Island (Orissa-NE India)



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21 14 N Long 087 30 E

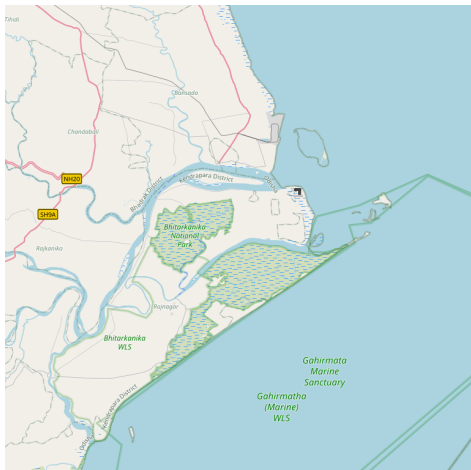
21 14 N Long 087 30 E


 Shortt Island, 3 m high, is the largest of four small islands which lie on a drying shoal about 3 miles N of Maipura Point. The configuration of the island is constantly changing due to the continuous action of the sea. A tower, 17.3m high, stands close off the E side of the island.

2.9 - Palmyras Point (Orissa-NE India)

20°45.87 N
86°59.36 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Palmyras Point, about 6 miles W of Shortt Island, is the N extremity of the low land which lies between the Maipura River and the Dhamra River. The point is difficult to distinguish because of the dense jungle growth which covers it. The low land on the N side of the Dhamra River presents a similar aspect as far N as Balisahi Point, about 4 miles distant.

Three beacons, each 24m high with a ball topmark, stand in the vicinity of the entrance of the Dhamra River. These aids are visible from seaward, but are not easy to identify outside the outer bar.

The entrance channel over the outer and inner bars is buoyed and the channels within the river are buoyed in places. These buoys are liable to be moved to conform to changes in the channels and are not to be relied upon.

The buoyed entrance channel passes about 0.8 mile N of Shortt Island, and then leads between the shoals extending from it and Kanika Sand. It then leads W between Kanika Sand and the N edge of the flats which extend E from Palmyras Point. This latter stretch leads to the entrance of the Dhamra River and passes N of the island lying in the middle of the river close within the entrance.

Pilotage is not compulsory, but advisable for strangers.

The jetty at Chandbali provides berths for three small vessels with a maximum draft of 3.7m. Passengers and cargo are usually embarked and discharged alongside the jetty.

Vessels with local knowledge can anchor in mid-channel off the town of

Chandbali, in depths of 8.2 to 12.2m.

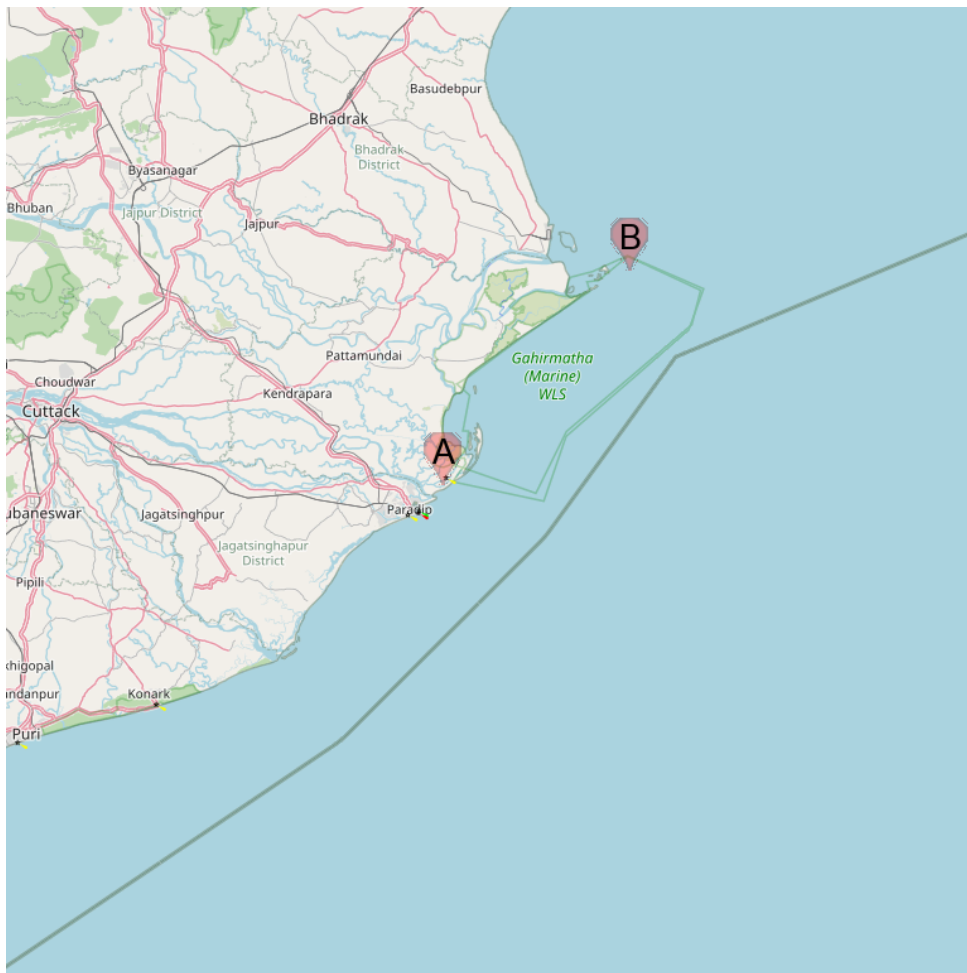
Weather signals are displayed at Chandbali; the Brief System is used.

2.10 - False Bay (Orissa-NE India)

20°33.19 N

86°56.01 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - False Bay (Orissa-NE India)



A False point (Orissa-NE India)

B Palmyras shoals (Orissa-NE India)

False Bay lies between Nurrea Banga Nassi and Maipura Point, about 20 miles NE, at the entrance of the Maipura River.

Depths in the bay decrease gradually toward the shore over a bottom of olive-green mud, in the S part, to a bottom of sand and mud, in the N part.

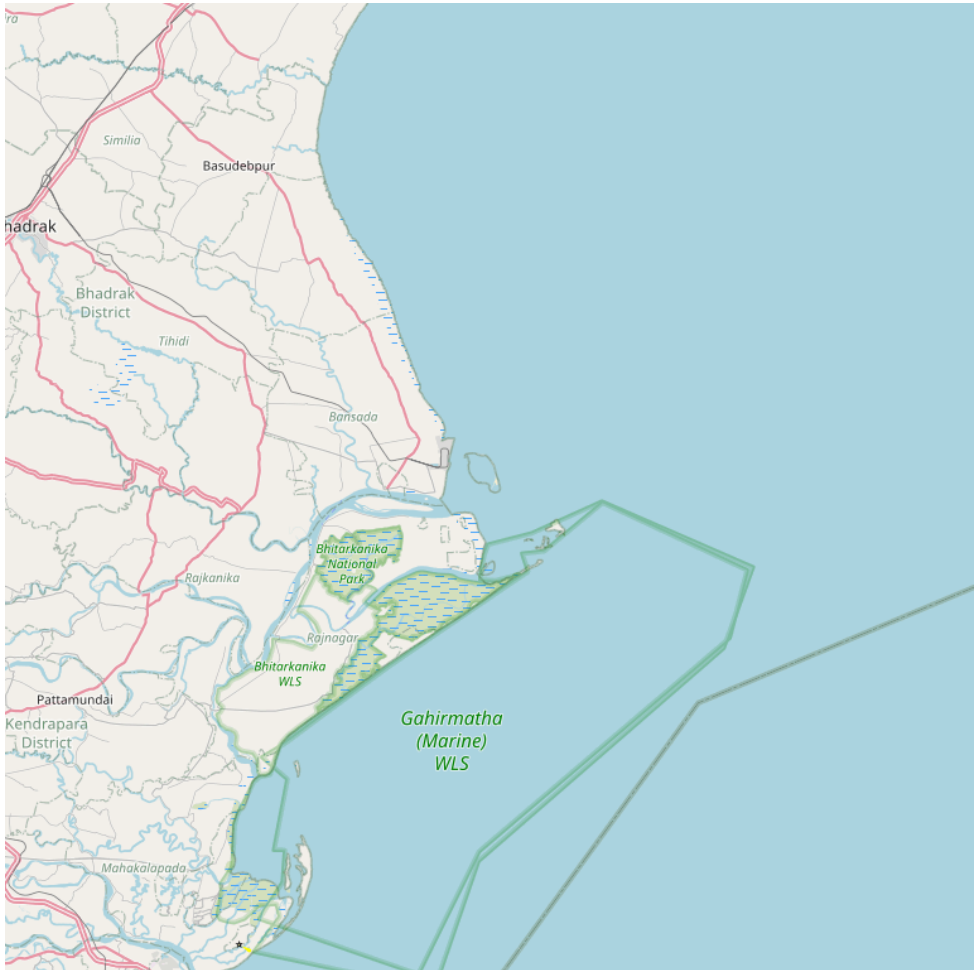
The shore on the W of the bay consists of moderately-high sand hills.

Caution.?The Gahiramatha Marine Wildlife Sanctuary, best seen on the chart, lies roughly between the 10m and 20m contours in False Bay. Fishing, trawling, or any other activity harmful to marine life within this area is prohibited.


2.10.1 - Palmyras shoals (Orissa-NE India)

20°45.32 N
87°08.29 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - False Bay (Orissa-NE India)
- Palmyras shoals (Orissa-NE India)



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 Palmyras Shoals, with depths of 2.3 to 10.1m, lie within a radius of 8 miles ENE through SE of the central part of Short Island.

Caution.?Care is necessary when approaching Palmyras Shoals from the E, because the depths decrease rapidly and soundings will give no warning of the proximity of these dangers.

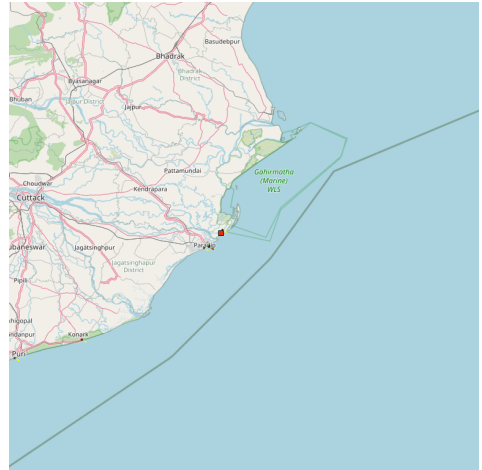
Tidal currents in the vicinity of Palmyras Shoals set at a rate of 2 knots at springs.

On the NE side of the shoals, the flood sets to the NW and the ebb to the SE. At the S end of these shoals the flood sets to the N and the ebb sets to the S. From the end of June to the end of November, there is little or no flood or W current off Palmyras Shoals, except at spring tides; a strong outset is experienced from the rivers during freshets.

2.10.2 - False point (Orissa-NE India)

20°19.05 N
86°44.05 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - False Bay (Orissa-NE India)





🇬🇧 About 2.5 miles NNE of the Lion's Rump, False Point lies between the two entrances of the Mahanadi River and has been reported to be a good radar target up to 17 miles.

The lighthouse on the point is shown from a white round masonry tower with red bands; the lighthouse is difficult to see if there is a heat haze because it has a light-colored top and there is no background, so care is necessary when navigating in the vicinity of False Point.

The point derives its name from the circumstance that vessels proceeding up the Bay of Bengal frequently mistook it for Point Palmyras, less than a degree farther north.

It is a low headland with a lighthouse located

2 km inland from the point.

During January through March, fog may occasionally obscure the light or cause it to show a deep red color. Frequent soundings should be taken and depths should not be shoaled to less than 20.1m.

During the Northeast Monsoon or with NE winds, the current in the vicinity of False Point generally sets to the W.

From the end of June to the end of November, there is little or no flood or W current off False Point, except at spring tides; a strong outset is experienced from the rivers during freshets.

Off False Bay the flood sets to the NW to N and the ebb sets SW, each at a velocity of about 1 knot. The velocity is greatly influenced by the prevailing winds. The tidal current, together with the coastal current during the Southwest Monsoon, sometimes attains a velocity of 4 knots.

A long tongue of land extends about 3.8 miles NE from False Point and almost meets and sometimes joins the S extremity of Nurra Baga Nassi, a low grass-covered narrow island about 5.8 miles long. A large stone building, with a banyan tree close by, stands on the W side of the island.

A drying shifting sand spit extends N and W from the N end of Nurra Baga

Nassi.

False Point Anchorage (20°28'N., 86°47'E.) lies in the bay W of the N part of Nurrea Banga Nassi.

The outer anchorage, about 1 mile N of the N extremity of Nurrea Banga Nassi, has a depth of about 7.9m. A depth of 10m exists about 1 mile farther NE. The holding ground is fairly good, but a heavy swell is experienced. Anchorage is not recommended.

Small vessels can anchor in a depression about 1.5 miles long which lies W of the N part of Nurrea Banga Nassi, but local knowledge is necessary. Anchorage within the bay is safe, but the depths are shallow because of silting.

Caution: With strong S winds, the flood sets toward the coast in the vicinity of Satbaia Sandhill about 15 miles N of the N end of Nurrea Banga Nassi. Vessels approaching from the N must guard against this current.

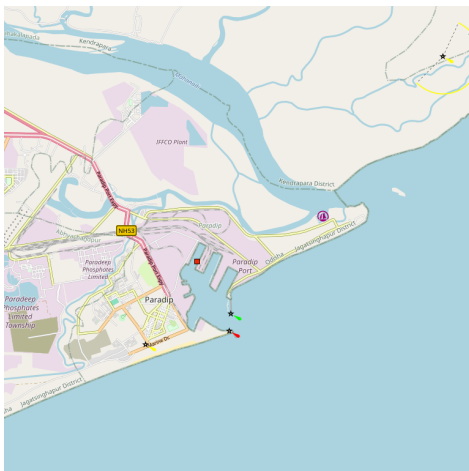
With a strong flood it is advisable to approach the anchorage on a S course. Such a current is noticeable by the rapid drift of the vessels to the N. Stemming the current by turning the vessel to port, to the E or NE, from a S course is advisable before anchoring.

Vessels attempting to turn to starboard, or to the SW and NW, have been swept rapidly to the W and have grounded on the shoals extending from Temple Point

2.11 - Paradip port (Orissa-NE India)

20°16.63 N
86°40.22 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



channel 6, 9, 12, 16



Paradip lies on the coast about 6.5 miles ENE of the entrance of the

Jatadharmhan River.

The port handles containers, general cargo, dry bulk cargo, and liquid bulk cargo.

Depth?Limitations

The port is approached through a channel with dredged depth of 12.8m. Vessels with a draft of 13m can utilize this port, which offers problem-free berthing year round. Berth information is given in the accompanying table.

LASH operations are normally carried out between the mother ship at the anchorage and the lighter berths at the S end of the general cargo wharf.

The port has a large turning basin 520m in diameter, with a dredged depth of 12.8m.

Aspect

Paradip Light is shown from a round concrete tower, 1.5 miles W of the entrance to the port. The entrance to the port is protected by a N and a S breakwater. A trestle pier projects from the S breakwater.

The channel leading into the inner harbor passes about midway between two breakwaters and then extends NW to the turning basin close SW of the T-head jetty on the E side of the harbor. The alignment of the main fairway is indicated by two pairs of range lights.

Pilotage

Pilotage is compulsory for all vessels greater than 200 gross tons and is available 24 hours. Pilots board 2 miles SE of the harbor entrance.

Departing vessels should request a pilot from Port Control on VHF channel 16 at least 2 hours prior to departure.

Regulations

Vessels should send their ETA 24 hours in advance.

The following information should be sent by radio when a vessel is within 40 to 60 miles to the port:

1. Vessel's name.
2. Last port of call.
3. ETA.
4. Gross tonnage.
5. Length overall.
6. Breadth.
7. Draft.
8. Deadweight tonnage.
9. Speed.
10. Dangerous cargo.

11. Type and quantity of cargo.
12. Name of agent and requirements.

Signals

Storm and weather signals are shown at Paradip; the General System is used.

Contact Information

Port Control can be contacted, as follows:

1. Call sign: Paradip Port
2. VHF: VHF channels 6, 9, 12, and 16
3. E-mail: pptinet@dte.vsnl.net.in

The harbormaster can be contacted, as follows:

1. Telephone: 91-6722-222012
2. Facsimile: 91-6722-223498
3. E-mail: harbourmaster_ppt@email.com

Caution

An SPM has been established about 10 miles SE of the entrance to the Jatadharmohan River. A submarine pipeline extends from the SPM to a point on the coast about 4.5 miles WSW of the entrance to Paradip Harbor.

Anchorage areas for VLCCs, each with a radius of 1.5 miles, are centered about 4.5 miles S and about 5.5 miles ENE of the SPM. Anchorage is prohibited within 2 miles of the SPM and within 1 mile of the submarine pipeline.

The low coast extends about 3 miles ENE and terminates at the Lion's Rump, on the S side of the entrance of the Mahanadi River.

A conspicuous white house and a water tower stand about 0.5 mile SW of the Lion's Rump.



Paradip lighthouse

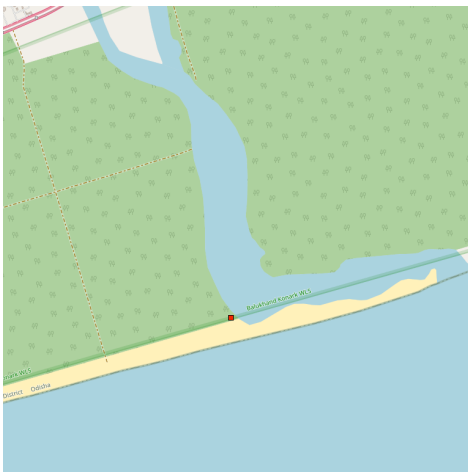


Paradip port

2.12 - Devi point (Orissa-NE India)

19°49.10 N
85°54.42 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



Devi point is nearer to the shakkar lake and it is at 1.5km. from Chikhaldara Busstation.

There are few steps leading to this point on the hill top, from

where tourists can view the originating point of the Chandrabhaga River.

Travellers can also see the ruins of the Amravati Fort from the top of the Devi Point.

Central Sand, a shoal with depths ranging from 0.4 to 9.1m, extends about 1.5 miles E through NE from Devi Point.

A detached 5.5m patch lies about 1.5 miles S of the same point. Central Sand is reported to have extended about 1 mile farther SE.

In fine weather, the sea does not always break over this shoal.

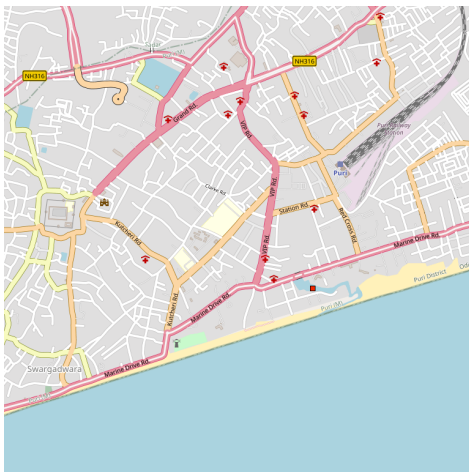
The Devi River, one of the largest branches of the Mahanadi River, flows into the sea N of Devi Point. This point can best be identified by Balijori Obelisk, which lies about 2.5 miles NNE of the point. Nulyasai Village is also conspicuous to approaching vessels in the vicinity of Devi Point. The river is frequented only by native craft.


Caution: A dangerous wreck is reported (2006) to lie about 11 miles offshore, about 18.5 miles ENE of Devi Point.

2.13 - Puri port (Orissa-NE India)

19°47.98 N
85°50.15 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Puri port is an open roadstead harbor and lies on a low sandy ridge on the coast where large buildings stretch about 3 miles fronting the sea.

Harbor entrance is restricted due to tide.

Puri Light is shown from a white pedestal on the wall of a two story building.

Storm signals are displayed at the flagstaff which lies 0.2 mile SW of the light

structure; the Brief System is used.

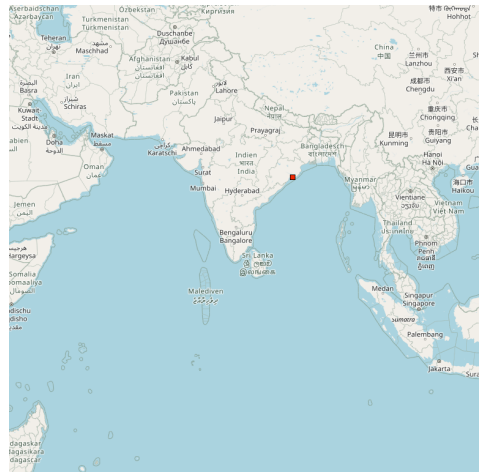
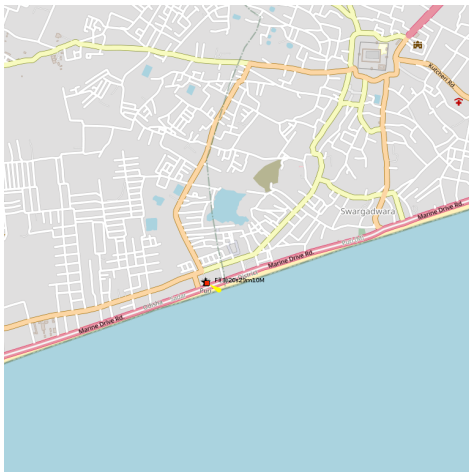
Puri Ports Ltd. develops captive deep-water port. We can have cargo handling capacity of 10 million tonne per annum when fully commissioned with the captive cargo consisting of imported timber, veneer, melamine & engineered wooden panel. The port will handle mixed cargo such as timber logs, heavy machineries, and container cargo like melamine, kraft paper, design paper and limestone.


Provisions are available.

2.14 - Puri lighthouse (Orissa-NE India)

19°47.38 N
85°48.38 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Puri is known internationally for Lord Jagannath temple and the annual Rath yatra. Puri is the Rail terminus providing direct trains to all major cities. The lighthouse is situated about 8 km west of Railway station. It is a 25 m high circular tower with black and white bands, 30 m height. Six detached 18.3m patches lie within 4.5 miles SE through 5.8 miles SSE of Puri Light.




2.15 - Paluru to Chilka mouth (Orissa-NE India)

19°39.01 N
85°17.59 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Paluru to Chilka mouth (Orissa-NE India)



163 

 A low beach of sand hills extends 32 miles NE from Paluru Bluff to Chilka Mouth, the entrance of Chilka Lake. There are few landmarks found along this part of the coast.

Mita Kua Bungalow, a small white house on a sand hill close to the coast about 20 miles ENE of Paluru Bluff, is the most conspicuous.

A beacon lies on the coast about 13 miles ENE of the above bluff. Sandari

Beacon lies about 5 miles ENE of Mita Kua Bungalow. Babeswal Temple, painted black, lies about 2.3 miles NE of Sandari Beacon and is sometimes visible among the trees.

Chilka Lake, large shallow expanse of water, is separated from the sea by a long, narrow sandy ridge. Only boats can be accommodated.

The coast between Chilka Mouth and Puri continues low and sandy.




Paluru to Chilka mouth (Orissa-NE India)
Chilka mouth

2.16 - Gopalpur port (Orissa-NE India)

19°18.07 N
84°57.99 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Gopalpur is a town near Berhampur, on the shore of the Bay of Bengal. It has an ancient commercial port, now lying in ruins.

Gopalpur-on-Sea is a famous sea beach and tourist attraction. This languorous beach with coconut groves, casuarinas and gentle sand dunes is deserted for miles.

A major landmark of Gopalpur-on-Sea is its lighthouse.

Gopalpur, a natural port of Orissa, is one of the ideally located and topographically suited deep sea ports on the East Coast of India. The mammoth task of developing Gopalpur has been awarded to Sara

International Ltd. and Orissa Stevedores Ltd. by the Government of Orissa. At the end of the development project 2010 the port would be capable of handling capesize vessels.

Winds constantly blow along the coast near Gopalpur in March and April; the Southwest Monsoon usually breaks about in the middle of June. Farther N the winds are only occasional.

The currents usually set with the prevailing wind. About the middle of January, the NE current begins and by the middle of February it sets steadily ENE with velocities of 0.5 knot close offshore, and increasing to 1.5 knots about 12 miles offshore. At the latter distance it sets NE.

The NE current continues to run until July and then sets SW, gradually strengthening to a rate of 2 knots and more.

Tel: 263499, 260099

Fax: (91) 6811-263383

During the windy months, April to July, it is recommended that anchorage be taken, in a depth of 16.5m, with ample chain veered. Two hard patches, one 0.8 mile SSE and the other 0.7 mile E of Gopalpur Light, should be avoided when anchoring.

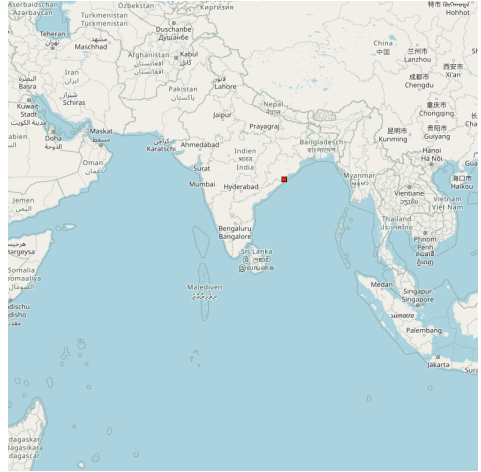
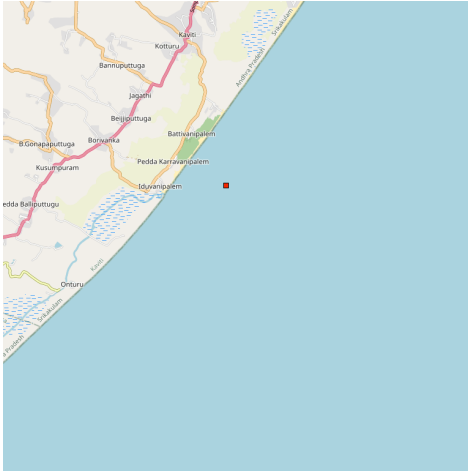
Caution.?Firing practice areas are located NE and SE of Gopalpur, as follows: a. 19°23'N, 85°23'E. b. 19°02'N, 85°25'E.




2.17 - Investigator Rock (Andhra Pradesh-NE India)

18°58.29 N
84°42.07 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India

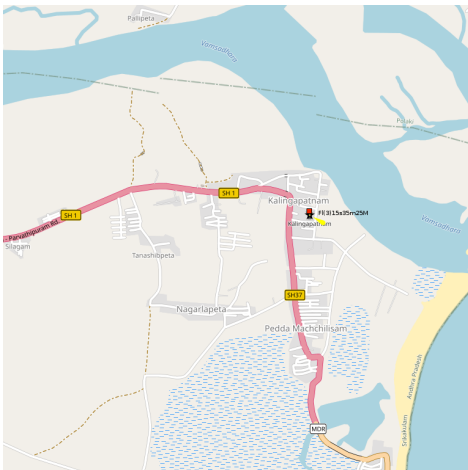



 Investigator Rock, with a least depth of 2.3m, lies about 8.5 miles NE of Baruva South Beacon. The water over the rock is not discolored and it is not marked by breakers. A shoal area, with a least depth of 9.3m, lies 2 miles SSW of Investigator Rock.

2.18 - Kalingapatnam lighthouse (Andra Pradesh-NE India)

18°20.44 N
84°07.30 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Kalingapatnam lies close S of the mouth of the Vamsadhara River and about 1.5 miles NNW of Sandy Point. There are no berthing facilities. Kalingapatnam is known in the history as the Capital of Gang Dynasty who ruled the region, spread over the entire coastal belt from Godavari to

Ganges (Hooghly) during 8th to 15th century. Kalingapatnam was a flourishing port and trade centre during the ancient times-Vessels from here sailed to Srilanka, Java, Sumatra and Singapore. In the later part of the 19th century the British introduced a regular steamer service between Rangoon and Kalingapatnam.

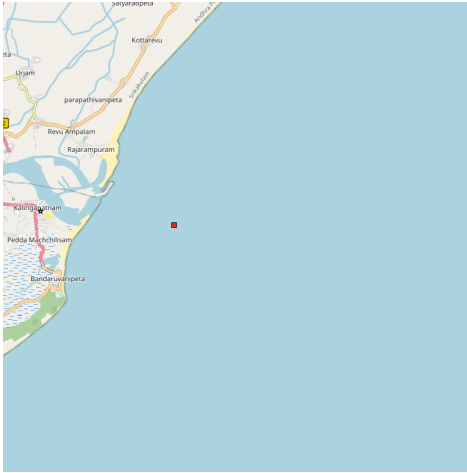
A lighthouse, 31m high Hexagonal Masonry Tower red and white, is located near Thansahebpeta village.




2.19 - Satara Reef (Andhra Pradesh-NE India)

18°20.20 N
84°09.56 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India




 Satara Reef, which extends about 0.8 mile NE from Sandy Point, has general depths of 9.1m and a least depth of 6.4m at its outer end. The reef is steep-to on its N and E sides.

2.20 - Sandy Point (Andhra Pradesh-NE India)

18°19.04 N
84°07.72 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India

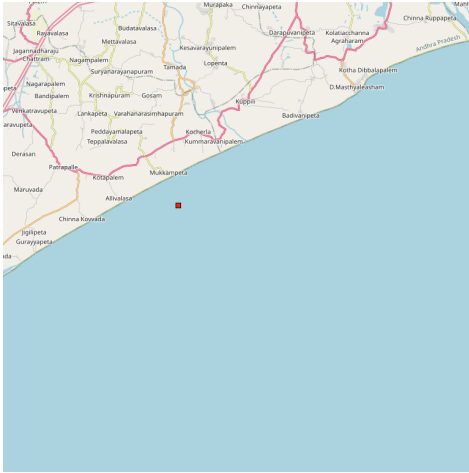



 Sandy Point lies about 3.5 mile E of Nanwell Point. An obstruction, with a least depth of 7.3m, was reported to lie about 1.5 miles NNE of Sandy Point.

2.21 - Agra Rock (Andhra Pradesh-NE India)

18°07.25 N
83°46.22 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India

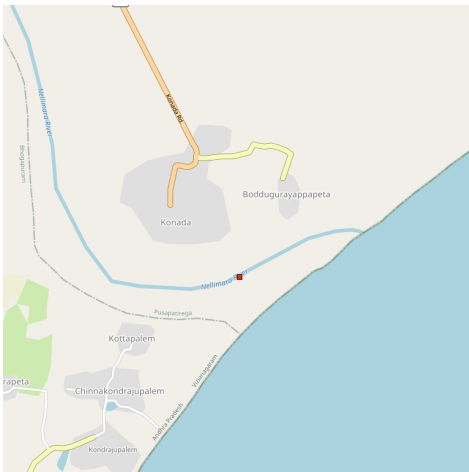



 Agra Rock, with a least depth of 5.5m, lies about 3.5 miles E of Ramachandrapur. The sea seldom breaks over this danger.

2.22 - Konada (Andhra Pradesh-NE India)

18°00.76 N
83°34.05 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



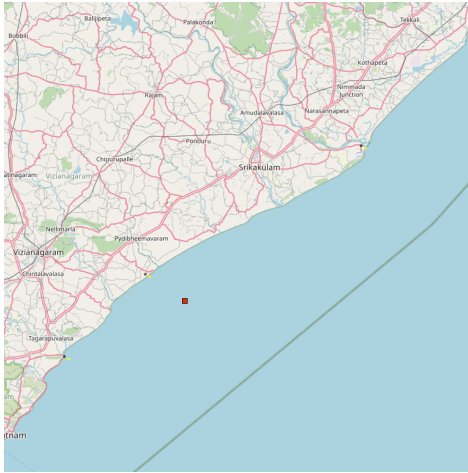
 Konada lies at the mouth of a small river. Several white buildings and some trees lie on the N side of the river.


The coast between Konada and Kalingapatam, about 37 miles ENE, consists of a sandy beach backed by low sandhills.

2.23 - Santhapalli rocks (Andhra Pradesh-NE India)

18°00.55 N
83°43.64 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Santapelli rocks, with a least depth of 1.5m and dangerous wrecks close E, lie between 5.5 and 6 miles SE of Santapilli Light. The sea breaks heavily over these dangers with a moderate swell, but not in good weather.

The channel between these rocks and the mainland is safe only during daylight. At night, vessels should keep in depths of over 35m when Santapilli Light bears between 322° and 290°.

The summit of an isolated bare red double-peaked hill, 117m high, about 2 miles N of Santapilli Light, in line bearing 304° with Kandivalasa Peak, leads N of Santapilli Rocks.

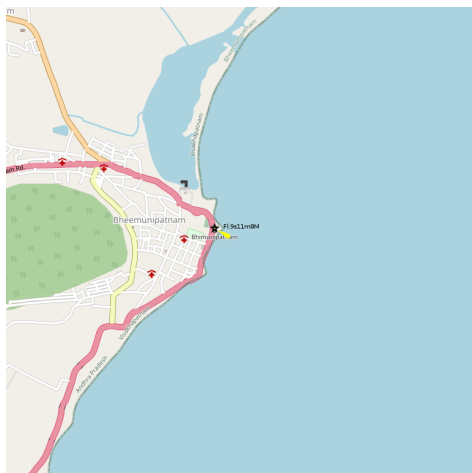
Santapilli Light in line bearing 322° with Kandivalasa Peak, leads S of these rocks.


2.24 - Bhimunipatnam (Andhra Pradesh-NE India)

17°53.62 N
83°27.22 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India





 Bhimuniapatnam lies on the S side of the mouth of the large and shallow Gostani River. Vessels anchor in the open roadstead off the town to work cargo. The town is built on the E slopes of a hill, 166m high, which is topped by some trees and a pyramidal obelisk. A white temple lies about midway up the E slope of the hill and shows up well when the sun shines on it. A tall factory chimney lies about 2.5 miles NNW of the town, and is a good mark.

In the approach to the roadstead, the depths shoal gradually from the 18m curve about 2 to 3 miles offshore to a depth of 11m at the anchorage 1 mile offshore.

Two wharves lie on the S shore of the river but are available only to lighters. Cargo is carried to these wharves from vessels at the anchorage.

Weather signals are displayed from a flagstaff close SW of the lighthouse; the General System is used.

Anchorage can be taken, in depths of 11 to 12.8m, sand and mud, with good holding ground, about 1 mile offshore abreast of the town. During the Southwest Monsoon, a vessel should anchor with the lighthouse bearing 264°; during the Northeast Monsoon, anchorage should be taken with the lighthouse bearing between 249° and 259°.

The coast between Bhimuniapatnam and Konada, about 10 miles to the NE, is sandy and broken about midway along its length by some low red cliffs which show up well when the sun shines on them.


2.25 - Vizag military harbour (Andhra Pradesh-NE India)

17°42.30 N
83°15.89 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India





 The city was so important during times of war that the Indian government decided to set up the Eastern Naval Command, overlooking the more populous Chennai and Kolkata, and developed Visakhapatnam during that period.

The establishment of the E.N.C. soon after the construction of the ship building yard firmly secured Visakhapatnam's place in the annals of the Indian Navy. Some of the defence related establishments are N.S.T.L. (Naval Science and Technology Laboratories), which is responsible for the development and testing of warship technology, equipment and weapons and Bharat Dynamics Ltd is coming up for manufacturing heavy and light weight torpedoes.

The navy also has a naval dockyard [started in 1949] in the city where recently India's first Nuclear Submarine was launched. The navy has plans to set up submarine base in the city at the alternate ENC base in Rambilli near Visakhapatnam.

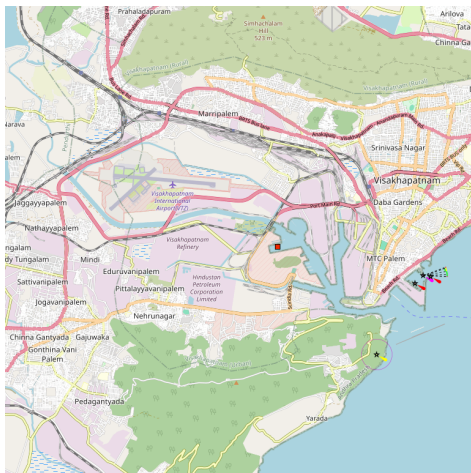
The Navy is also constructing a second base as the current base is overpopulated and not sufficient to meet the needs of the E.N.C. Despite its importance, the Naval establishment has become a hindrance for the development of Visakhapatnam. The harbour is not open to the general public for reasons of security, while in Mumbai and Kochi, the entire port along with Naval docks are opened for boating and tourism. Visakhapatnam is surrounded on three sides by the overlapping mountain ranges, and the southeastern city is safeguarded by the Bay of Bengal. Visakhapatnam is far away from any international border, both land and

sea, making it the choice for strategic placement of the headquarters of the eastern naval command.

2.26 - Kakinda

17°42.30 N
83°15.89 E

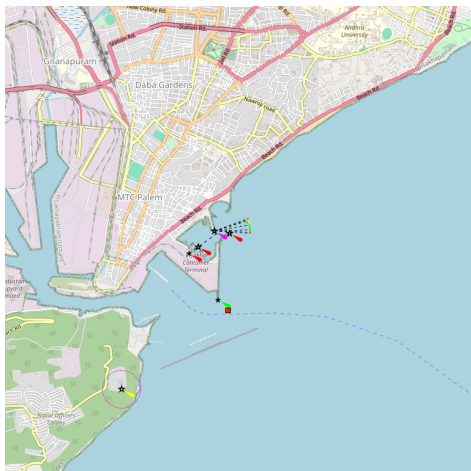
Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



2.27 - Visakhapatnam port (Andhra Pradesh-NE India)

17°41.21 N
83°18.46 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India




channel 12, 16





Visakhapatnam port (Andhra Pradesh-NE India)

 Vishakhapatnam, a port of growing importance and the fourth largest port in India, lies at the mouth of the Meghadri River, close NW of Dolphin's Nose.

Petroleum and iron ore products are the principal exports.

The only shipyard in India capable of building

ocean-going merchant vessels is in operation within the harbor area. Ample berthing facilities are available to accommodate all classes of vessels.

The Port has three harbours viz., outer harbour, inner harbour and the fishing harbour.

Vishakhapatnam Fishing Harbor is separated from Outer Harbor by Groyne No. 2 which connects to East Breakwater and it is entered between N end of the East Breakwater and North Breakwaters. A light shows at the end of the North Breakwater. Several jetties extend NE from Groyne No. 2 with a depth of 4.5m alongside the quayside.

Winds?Weather

Southwest winds prevail from March to August; NE winds prevail from October to December. During the day, the NE winds are fresh, but at night they are light and westerly. Heavy, windy, rain squalls occur during October and November, but most of the rainfall occurs from June through November.

A considerable swell is experienced almost all year in the vicinity of the port. Vessels have remained in the harbor with safety during cyclonic weather.

The climate is subtropical and varies from warm to hot, with high humidity throughout the year. Maximum temperatures occur in May, while minimum temperatures are usually recorded in December and January. Through May, June, and July, temperatures often exceed 38°C.

Tides?Currents

From about August to November, the current sets SW; from about the middle of December through June, it sets NE. Inside the 35m curve, the current is much weaker than farther offshore. Close offshore tidal currents will sometimes be experienced.

Depths?Limitations

In the seaward approach to the harbor, a depth of 18.2m exists about 0.4 mile E

of the head of South Breakwater.

The outer entrance channel between the outer breakwaters is 183m wide and maintained to a depth of 19m prior to the entrance and to a depth of 18m beginning just inside the breakwaters, as best seen on the chart. In 2007, it was reported that vessels up to 225m long, with a maximum beam of 32.5m and a maximum draft of 9.25m could be accommodated in the Inner Harbor and only daytime navigation was allowed.

The ore berth, in the outer harbor, is dredged to a depth of 17.5m on its NE side and 17.5m on its SE side, and can accommodate two bulk carriers of 150,000 dwt. It has been reported that draft on the SW side of the ore berth was restricted to 15.3m. The entrance to the inner harbor isn dredged to 18m.

A general cargo berth, 270m long, with a dredged depth of 15.2m alongside, can accommodate vessels up to 232m long and 14.5m draft, and is located SW of the ore berth; facilities at the berth include a conveyor system for the importation of coking coal. It has been reported (1996) that during the Northeast Monsoon, the berth may be subject to considerable swell and vessels may have to be moved.

A container berth located NE of the ore berths has a dredged depth of 11.0m alongside. The terminal is 449m long and can accommodate vessels with a maximum draft of 14.9m.

A turning circle, maintained to a depth of 19m, lies between the ore berth and the inner end of the outer entrance channel.

The entrance channel to the inner harbor is dredged to a depth of 10.7m.

A turning basin, dredged to 11.6m, lies at the N end of the entrance channel to the inner harbor. The three basins which project from the turning basin are all dredged to 10.7m.

East Quay Berths lie on the E side of Northern Arm. Berth Q1 to Berth Q5, with a total berthing length of 905m and alongside depths of 10.0m, can accommodate vessels with a maximum draft of 10.06m. Berth Q6 and Berth Q7, with a total berthing length of 350m and alongside depths of 10.4m, can accommodate vessels with a maximum draft of 10.21m.

West Quay Berths lie on the W side of Northern Arm. Berth J1 (Berth Q1), with a berthing length of 160m and an alongside depth of 9.5m, can accommodate vessels with a maximum draft of 10.06m. Berth Q2 and Berth Q3, with a berthing length of 428m and an alongside depth of 10.7m, can accommodate vessels with a maximum draft of 10.06m. Berth Q4 and Berth Q5, with a berthing length of 440m and an alongside depth of 10.7m, can accommodate vessels with a maximum draft of 10.21m.

East Quay No. 8, a new multi-purpose berth, can accommodate vessels up to 180m long, with a beam of 32m and a draft of 10m on a rising tide. Further details can be obtained from the port authority.

There is a shipbuilding yard SW of the inner harbor turning basin; a fitting-out wharf lies on the S side of the W arm.

On the N side of Western Arm are two oil berths, with a total berthing length of 365m and alongside depths of 9.8m, which are connected by pipeline to the oil refinery and can accommodate vessels with a maximum draft of 10.06m at Berth 1 and 9.75m at Berth 2. A fertilizer wharf close W of the oil berths, with a length of 167m and alongside depth of 10.7m, can accommodate vessels with a maximum length to 168m and maximum draft of 10.06m. Vessels whose length exceeds 171m or whose draft exceeds 9.1m, may only enter the harbor at HW between the hours of 0600 and 1800. Smaller vessels may enter at any time.

The mooring berths, which lie adjacent to the turning basin, have depths of 10.7m alongside the buoys. T.T. Up Jetty (M1 Berth), between the mooring buoys, lies close E of the turning basin. It is 213m long and can accommodate a maximum draft of 10.06m. A berth for discharging oil, with an alongside depth of 19m, is located close NW of South Breakwater. Tankers of 260m length and 14.3m draft can be accepted. A submarine oil pipeline is laid from the berth, W to a trestle bridge, and then leads to the coast.

A new offshore oil berth has been added to accommodate tankers up to 150,000 dwt, 280m in length, and with a draft of 17m.

Pilotage

Pilotage is compulsory for power-driven and ocean-going vessels over 100 grt who wish to enter, depart, or shift berth within the harbor area. Pilots board 1.3 miles SE of South Breakwater Light.

Regulations

Vessels should send their ETA 48 hours and 24 hours in advance. Vessels planning to enter the harbor on the same day of arrival should arrive off the entrance prior to 2100.

Local port regulations:

1. Only one vessel may enter or leave the harbor at a time.
2. Tugs are maintained to assist vessels, as necessary, in entering the harbor or shifting berths.
3. A pilot is required to be on board a vessel whenever a tug is employed.
4. Sailing vessels of 100 grt or greater shall not enter or leave the harbor unless towed by one or more tugs.

5. No ballast may be thrown or discharged overboard within the harbor limits.

Signals

Signal Station No. 1, with a flagstaff 26m high, lies midway on the East Breakwater about 1 mile E of Ross Hill.

Signal Station No. 2 (Dufferin Signal Station), with a flagstaff, lies on the W side of Ross Hill, close E of another flagstaff, 68m high.

Sand Hill Signal Station lies about 1.8 miles NNE of the Dolphin's Nose Light.

These stations communicate visually with vessels approaching or departing the harbor.

The following signals are displayed for the use of entering and departing vessels: These stations communicate visually with vessels approaching or departing the harbor.

The following signals are displayed for the use of entering and departing vessels:

1. Signal Station No. 1, upon sighting a vessel approaching the port, displays the International Code Flag P until the pilot answers by the entering signal
 2. Vessels entering the harbor must display International Code Pennant 4 and enter only after Signal Station No. 1 has repeated the signal hoist. A green metal pennant with a white circle hoisted at Signal Station No. 1 and Signal Station No. 2 indicates the channel is clear for shipping.
 3. A vessel waiting to enter the harbor should, if International Code Pennant 1 is displayed at Signal Station No.1, keep well clear of the entrance to allow the departing vessel plenty of room.
 4. Vessels about to leave should display International Code Pennant 1 and proceed only after Signal Station No. 2 has repeated the signal hoist.
 5. A vessel entering or departing at night and requiring a pilot displays a white light over a red light where it can best be seen by the signal stations.
- Storm and weather signals are displayed; the General System is used.

Contact Information

The port can be contacted, as follows:

1. Call sign: Vizag Port or Vizag Control
2. VHF: channels 12 and 16
3. Tel: 91-891-2564841
4. Fax: 91-891-2565023
5. Mail: info@vizagport.com

Anchorage

Vessels awaiting to enter the harbor should anchor, in a depth of 22m, about 1.5

miles E of Dolphin's Nose Light.

Because of the currents and shoaling on the N side of the entrance channel, vessels should not approach inshore of the anchorage without a pilot.

Vessels anchoring in the roadstead must leave sufficient room for vessels entering or departing. Anchors should be buoyed.

Anchorage is prohibited in an area at the inner end of the entrance channel, as shown on the chart.

An Examination Anchorage Area is enclosed by a line as shown on the chart.

Anchorage for petroleum tankers are situated 1.5 and 3 miles SE of Dolphin's Nose Light. A gas and explosives anchorage lies 3.5 miles SSE of the light.

It has been reported (1996) that during the Northeast Monsoon, vessels at anchor lie to the current, bow NE, regardless of wind and swell.

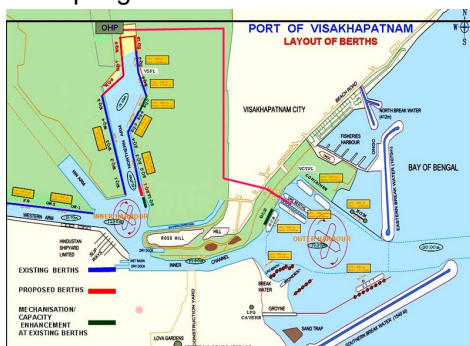
Directions

Vessels approaching the harbor should pass through a position about 7 miles bearing 135° from Sand Hill Light, then steer 315° until a depth of 18.3m is sounded.

Course should then be altered to bring the lighted entrance beacons in line bearing 280°, which lead through the entrance channel between the breakwater heads and into the harbor. The alignment of the various channel reaches leading into the inner harbor are well defined by lighted range beacons.

The coast between Vishakhapatnam and Bhimunipatnam, about 16 miles NNE, continues hilly.

Caution. There have been a number of pirate attacks on merchant vessels in this area. Mariners are advised to keep a sharp lookout, especially at night, for pirates attempting to board their vessel.

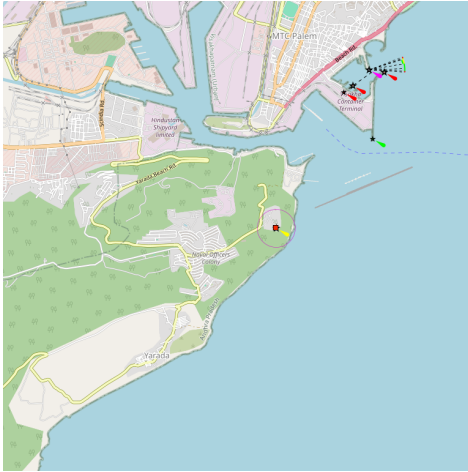



Visakhapatnam port (Andhra Pradesh-NE India)

2.28 - Dolphin's Nose (Andhra Pradesh-NE India)

17°40.58 N
83°17.55 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Dolphin's Nose, a bluff headland 163m high, is conspicuous when viewed from the NE or SW. A lighthouse with a racon, two radio masts, and a flagstaff stand on Dolphin's Nose.

Dolphin's Nose has been reported to be a good radar target up to 17 miles.

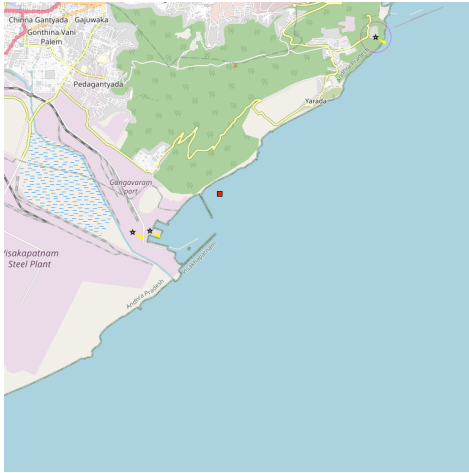
Caution: A wreck lies about 3 miles E of Dolphin's Nose.


Submarine Exercise Areas lie centered 20 miles SSE and E of Dolphin's Nose. A good lookout should be maintained when transiting these areas.



2.29 - Pigeon Island Gangavaram (Andhra Pradesh-NE India) 17°38.06 N 83°14.94 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Pigeon Islet, 21m high and rocky, lies in a small bay 5 miles NE of Kutu Konda.




2.30 - Gangavaram port (Andhra Pradesh-NE India)

17°37.49 N
83°14.50 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India





 Gangavaram Port is located at Visakhapatnam, the industrial nerve center of Andhra Pradesh.

The coast here forms a bay between Yarada Hill at north and Mukkoma Hill at south. A creek in between these two hills forms Balacheruvu Lagoon, where the natural port of Gangavaram has been developed.

Gangavaram Port is India's deepest port. It has a depth of 21m. Gangavaram Port provides efficient cargo handling services for a variety of bulk and break bulk cargo groups including Coal, Iron Ore, Fertilizer, Limestone, Bauxite, Raw Sugar, Project Cargo, Alumina, Steel products etc.

The Port, its related facilities and material handling system are among the most advanced in Asia and meet the highest standards in terms of pollution prevention and safety.

Berthing Facilities (5 Berths: Iron Ore 1; Coal 1; Multipurpose 3)

Depth in harbor 19.5m below CD

Mechanized Coal and Iron Ore discharge and loading systems for vessels upto 200,000 DWT

Mechanized Wagon Loading and Wagon Tipping System

New generation Mobile Harbor Cranes for other bulk and break bulk cargoes

Iron ore stackyard and coal stackyard with storage capacity of more than 1 MMT and 2 MMT respectively

Covered transit storage for bulk and break cargoes

Tel: +91 404 4349999

Fax: +91 404 4349990

Mail: port@gangavaram.com




2.31 - Pudimadaka lighthouse (Andhra Pradesh-NE India)

17°29.29 N
83°00.26 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Pudimadaka Village lies on the shore of a bight about 4 miles NE of Rambilli Beacon. A red stone temple, with three towers, lies in the village.

The light was commissioned on 21st January 1971 and renovated in 1991. The lighthouse was on a masonry tower of 26 meters height. It has a visible range of 27 Nautical miles.

Pillar Rock, 9.1m high, lies about 0.3 mile SSE of Pudimadaka Village. This rock and some dark cliffs on the coast show up prominently against the white sandy beaches. A ledge of rocks lies between Pillar Rock and the coast, and serves as a breakwater during the Southwest Monsoon.

The coast between Pudimadaka Village and the Dolphin's Nose, about 20 miles

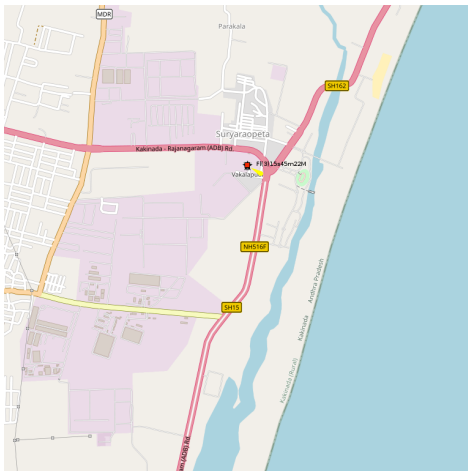
NE, is rocky and backed by a hilly plain. Conspicuous sandy patches mark the SW sides of some of these hills.




2.32 - Vakalapudi Lighthouse (Andhra Pradesh-NE India)

17°00.87 N
82°16.96 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Vakalapudi Lighthouse is situated about 10 Km north east from Kakinada

(Cocanada) town.

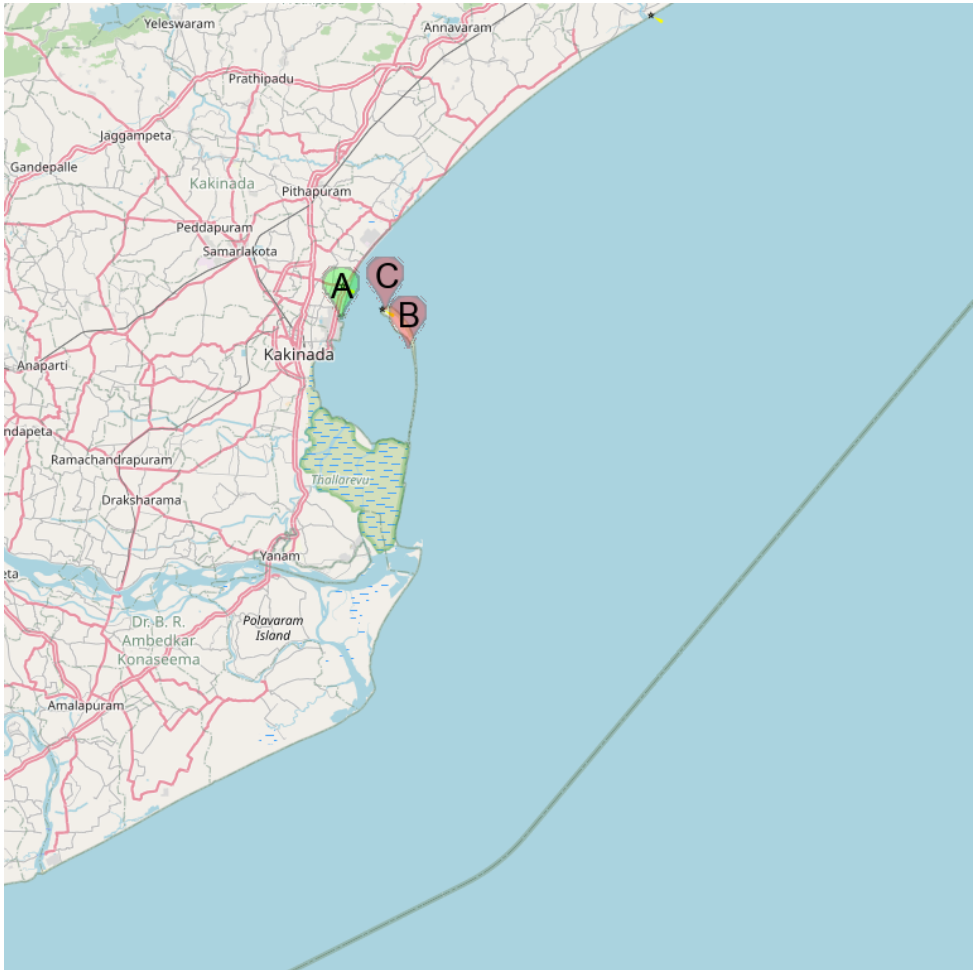
It is a tower 23 m high circular masonry tower red and white bands.

The coast, up to 10 miles NE of Vakalapudi, is low and marked by numerous villages and coconut trees. Low sand hills then appear and continue as far as Pentakota, about 16 miles farther NE.




2.33 - Kakinada (Cocanada) bay (Andhra Pradesh-E India) 16°55.20 N 83°18.33 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Kakinada (Cocanada) bay (Andhra Pradesh-E India)



A Kakinada fishing harbour (Andhra Pradesh-E India) **B** Hope Island (Andhra Pradesh-E India)

C Godavari point (Andhra Pradesh-E India)

 Cocanada Bay (Kakinada Bay), a shallow body of water filled with extensive drying mud flats at its head, is entered between Godavari Point and the coast about 2.8 miles WNW.

For many years the bay has been silting up because of the discharge from the Godavari River, about 8 miles S of the entrance, but is the safest natural harbor on the E coast of the Indian subcontinent.

The town and port of Cocanada lie on the W side of the bay, about 2 miles within the entrance of the Cocanada River.

The low bay shores are subject to periodic inundations during cyclonic storms.

North of Cocanada, the land appears bold, with high land extending NE. South of the port, the low sandy coast is marked by some sand hills and trees.

In Cocanada Bay, the flood current sets SW and the ebb current sets NE. These tidal currents are strong at springs, especially from October to February, and must be taken into consideration when approaching in this vicinity.

Tidal current effects are noticeable nearly 0.5 mile off Godavari Point. The current follows the contour of the land, with the flood current having a maximum velocity of 0.5 knot and the ebb current having maximum velocities of 1.5 to 2 knots.

In Cocanada Bay, the flood current sets SW and the ebb current sets NE. These tidal currents are strong at springs, especially from October to February, and must be taken into consideration when approaching in this vicinity.

Tides at Cocanada are semi-diurnal.

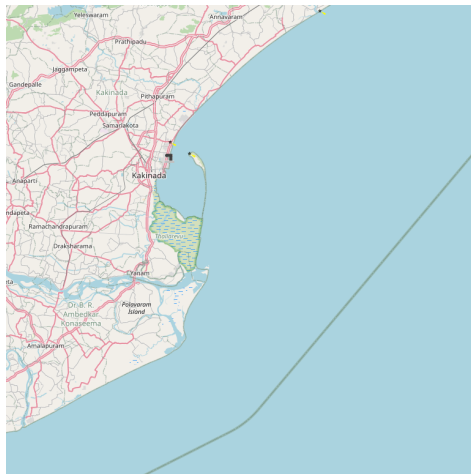
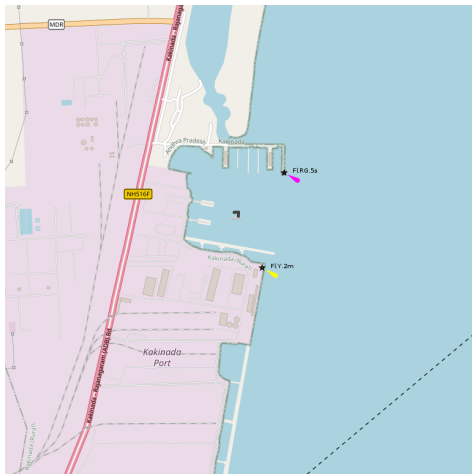
The coastal waters in the approach to Cocanada Bay have shoaled considerably more than shown on the chart. Depths are reported to be 2.7m less than charted. Depths S of a line drawn between Godavari Point and Vakalapudi Light to the NW shoal gradually to a depth of less than 1.8m about 4 miles to the S. Depths N and E of this line range from 7.3 to 11m, about on the meridian of Godavari Point. Depths in the dredged buoyed channel leading to the barge facilities on the banks of the Cocanada River average about 2.1m. Depths alongside the lighter wharves range from 1.2 to 2.1m.


2.33.1 - Kakinada fishing harbour (Andhra Pradesh-EIndia)

16°58.77 N
82°16.91 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Kakinada (Cocanada) bay (Andhra Pradesh-E India)





 The port of Cocanada comprises a partly-exposed anchorage located about 3 to 4 miles NNE of the entrance of the Cocanada River and is suitable for ocean-going vessels; cargo is transported by lighters between the anchorage and the wharves on the river bank abreast of the town.

Tidal current effects are noticeable nearly 0.5 mile off Godavari Point. The current follows the contour of the land, with the flood current having a maximum velocity of 0.5 knot and the ebb current having maximum velocities of 1.5 to 2 knots.

Depths in the dredged buoyed channel leading to the barge facilities on the banks of the Cocanada River average about 2.1m. Depths alongside the lighter wharves range from 1.2 to 2.1m.

Deep Water Port is 610m long, with an alongside depth of 10m. It consists of two multi-purpose berths and one liquid cargo berth. Vessels up to 190m long, with a maximum beam of 32.4m and a maximum draft of 11.5m at HW, can be accommodated.

Lighterage Area M1, which has been designated for lighterage operations, has a radius of 1 mile centered on a position about 7.5 miles ESE of Goadaverri Point, as seen on the chart.

A designated anchorage for vessel awaiting lightering operations lies about 3 miles NW of Lightering Area M1 and is also best seen on the chart.

In the approach to the port, the disused lighthouse on Hope Island, Godavari

Point Light, and Vakalapudi Light are conspicuous landmarks.

Pilotage is compulsory for all vessels using Deep Water Port. The vessel's agent makes the request for pilotage 72 hours prior to arrival. The pilot station can be contacted on VHF channel 14 or 16.

Pilotage is not required for vessels calling at the Anchorage Port.

Regulations

Vessels using the Anchorage Port should advise their agent of their ETA. Vessels should also obtain bearing position from the harbormaster to ensure safe anchorage in the Anchorage Port.

Signals

A signal station is located at Vakalapudi Light.

Vessels can communicate with the station by Morse code.

Contact Information

The port can be contacted, as follows:

1. VHF: channels 12, 14, and 16
2. Tel: 91-884-2365089 or 91-884-2365889
3. Fax: 91-884-2385402
4. Mail: mailkkd@kakinadaseaports.in

Anchorage

Anchorage in the bay, E of Vakalapudi Light, is subject to considerable ground swell from the SE, even when there is no wind. Anchorage may be obtained 2.25 miles ESE of Vakalapudi Light, in a depth of about 9m. Safe anchorage may also be obtained, in a depth of about 6m, about 3.25 miles SE of Vakalapudi Light. There is very little tidal current at these anchorages.

Caution

Vessels are advised not to anchor between 1 mile and 1.8 miles N and NW of Godavari Point Light, because of the numerous wrecks which lie in this area. Some of these wrecks are dangerous to surface navigation.

There is a foul patch about 0.4 mile NNW of the point, with dangerous wrecks within 0.5 mile N of the foul patch. Other foul areas, best seen on the chart, lie NNE and NE of Godavari Light.

Extensive developments, including the construction of wharves and breakwaters and the establishment of dredged areas and dumping grounds, have taken place in Cocanada Bay.

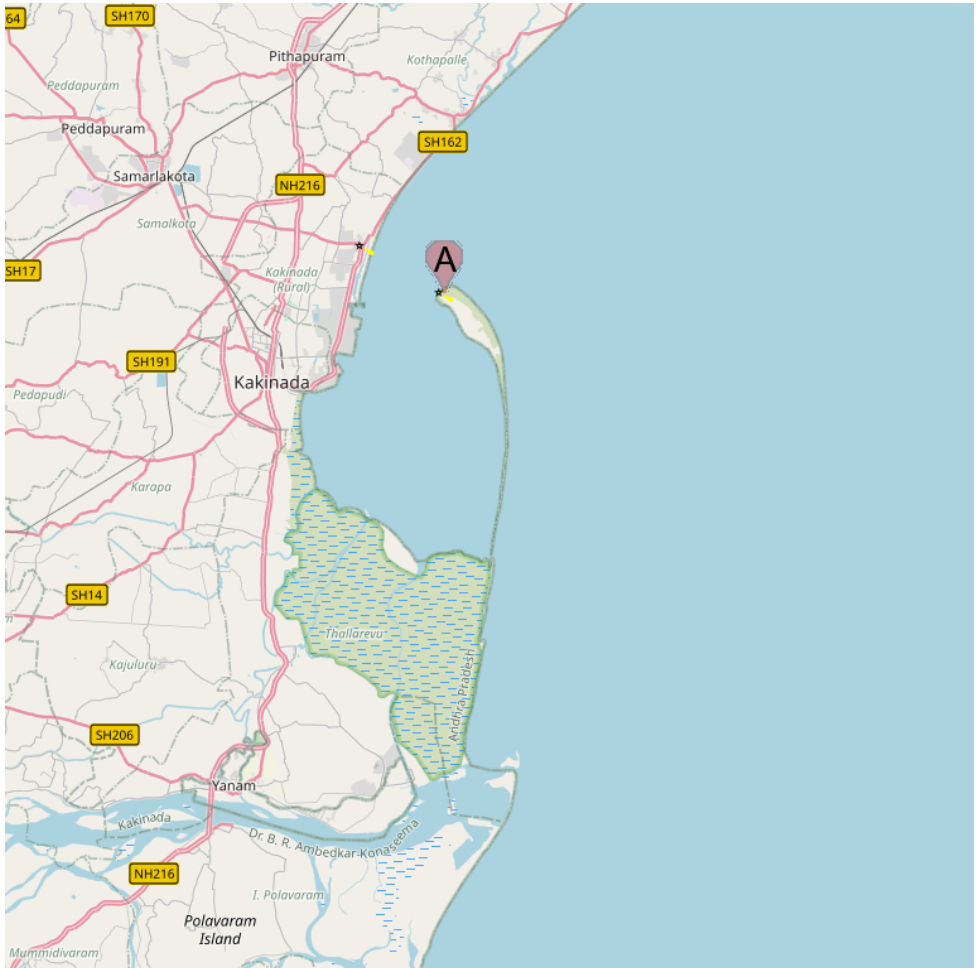
Depths may also be less than charted.

2.33.2 - Hope Island (Andhra Pradesh-E India)


16°57.01 N

82°21.26 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Kakinada (Cocanada) bay (Andhra Pradesh-E India) - Hope Island (Andhra Pradesh-E India)



A Godavari point (Andhra Pradesh-E India)

 Hope Island (16 km long sand spit from the sand carried by the waters of Godavari delta), one of a chain of similar islands which form part of the delta of the Godavari River, is low, swampy, and covered with jungle.

The area between Kakinada coast and Hope Island is known as Kakinada Bay. The water spread of the bay is about 100 km²

Hope Island protects the city of Kakinada from the strong cyclone/tidal waves/tsunamis

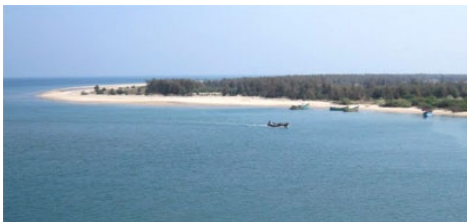
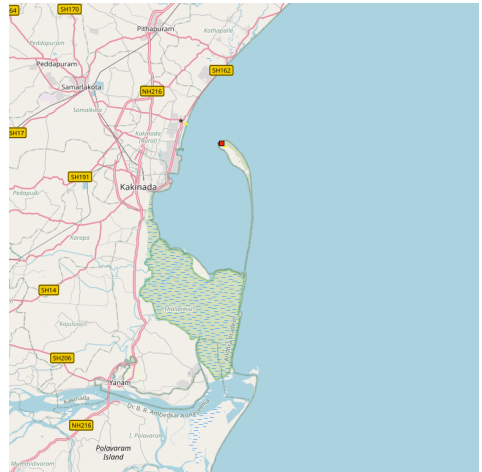
coming from the Bay of Bengal. Hope Island acts as a sort of natural break water and provides tranquility to the ships anchored in Kakinada bay which makes Kakinada port one of the safest natural ports in the Eastern Coast of India.


A black and white banded, disused lighthouse stands on Hope Island.

2.33.2.1 - Godavari point (Andhra Pradesh-E India)

16°59.39 N
82°19.74 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Kakinada (Cocanada) bay (Andhra Pradesh-E India) - Hope Island (Andhra Pradesh-E India)



 Godavari Point is the N extremity of a low sandy spit and narrow sand bank, which forms a part of the coast N of Hope Island.

The coast between the mouth of the Gautami Godavari and Godavari Point, about 24 miles to

the N, is very low and intersected by many small outlets.

The "Godavari point" overlooks the entry point into the Bay of Kakinada and the Kakinada harbor.

Sacramento Shoal lies off the mouth of the Gautami Godavari.

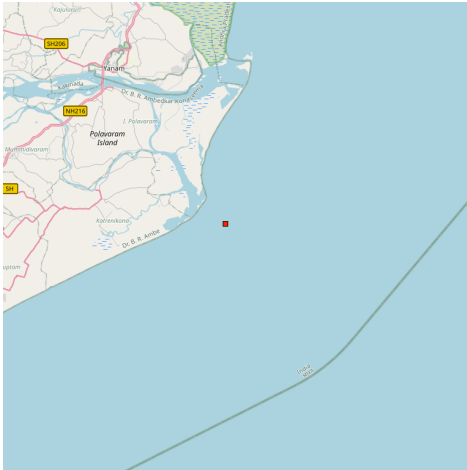
Tides


The current between Godavari Point and Bimlipatam lies farther offshore than off Sacramento Shoal, but its velocity is less. Inshore of this current, slack water is usually found. Tidal currents will sometimes be experienced close offshore.

2.34 - Sacramento Shoal (Andhra Pradesh-E India)

16°33.94 N
82°20.36 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Sacramento Shoal, hard shifting sand, lies off the entrance to the Guatami Godavari and extends about 4 miles SE and 3.5 miles E from Sacramento Light. Depths over this breaking shoal range from 2.7 to 5.5m. This shoal is subject to frequent changes in position and depth.

Tides

The current from January through April sets steadily to the NE along the coast between Machilipatnam and Godavari Point.

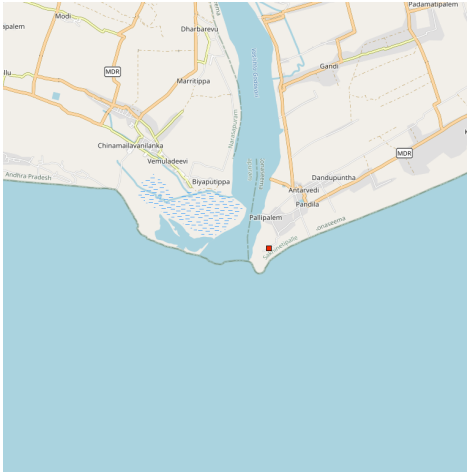
In the vicinity of Sacramento Shoal a rate of 4 knots is usually experienced about 5 miles offshore. The current in the bay to the W of Narasapur Point is weak and variable.


2.35 - Narasapur Point (Andhra Pradesh-E India)

16°19.02 N
81°43.50 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India





 Narasapur Point, low and wooded, lies on the E side of the mouth of the Vasishta Godavari, which is the southernmost branch of the Godavari River. An obelisk, 24.4m high, lies about 1 mile N of the point. During January and February, the current sets W at a maximum rate of 2 knots off the coast between Narasapur Point and the mouth of the Vanteyam Godavari.




2.36 - Machilipatnam Lighthouse (Andhra Pradesh-E India)

16°09.22 N
81°10.78 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India





 New Machilipatnam Light is shown from a white, round, concrete tower with black bands, 3.8 miles NNE of the mouth of Machilipatnam Creek.

The great tsunami of 26 December 2004 swept

away hundreds of people on the beach and reached the base of the lighthouse, but the tower was not damaged. The original light was on a flagstaff; this

lighthouse replaced a much shorter tower built in 1930. Located behind Manginapudi

Beach, about 15 km northeast of Machilipatnam.




2.37 - Machilipatnam port (Andhra Pradesh-E India)

16°08.69 N
81°11.22 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India



 Machilipatnam (Masulipatam), the only port of the Krishna District, lies about 5

miles within the mouth of the creek of the same name about 11 miles N of Divi Point.

Vessels anchor in the roadstead to handle all cargo to and from native lighters.

Tel: +91 884 2363825 or +91 884 2376129

Fax: +91 884 2367055

Mail: mdincap@gmail.com

The gates of the tidal lock have been closed and the wharves are not used. The old wharves are partially destroyed and are used by fishing vessels. A new wharf, 60m long, lies E of the old wharves and is also used by fishing vessels.

Groynes are under development to protect the entrance to the creek and to increase depths at the entrance.

Depths in the approach to the port range from 11m, about 5.3 mile E of the entrance of the creek, to a depth of 1.8m about 1 mile offshore. The mouth of the creek is blocked by sand banks and can only be navigated at HW by vessels with a draft of less than 1.5m.




2.38 - Divi point (Andhra Pradesh-E India)

15°58.32 N
81°08.22 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India





 Divi Point is the SE extremity and False Divi Point is the SW extremity of the delta.

Ocean-going local craft use the river for about 6 months of the year.

Krishna Old Light, a white masonry tower, 44m high, lies about 9.5 miles ENE of False Divi Point.

Another old lighthouse, a similar structure, 15m high, lies 2.3 miles NW of Divi Point and is maintained as a landmark.



2.39 - Coromandel coast (E India)

11°51.03 N

79°13.92 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)






Coromandel coast (E India)

Northern cirar coast

thelangana

india

 The Coromandel Coast is the name given to the southeastern coast of the Indian Subcontinent between Cape Comorin and False Divi Point.

It may also include the southeastern coast of the island of Sri Lanka.

The coast is generally low, and punctuated by the deltas of several large rivers, including the Kaveri (Cauvery), Palar, Penner, and Krishna, which rise in the highlands of the Western Ghats and flow across the Deccan Plateau to drain into the Bay of Bengal.

The alluvial plains created by these rivers are fertile and favour agriculture. The coast is also known for its ports and harbours, Pulicat, Chennai (Madras), Sadras, Pondicherry, Karaikal, Cuddalore, Tranquebar, Nagore, and Nagapattinam, which take advantage of their close proximity with regions rich in natural and mineral resources (like the Chhattisgarh belt and the mines of Golconda and Kolar) and/or good transport infrastructure. The Coromandel Coast falls in the rain shadow of the Western Ghats, and receives a good deal less rainfall during the summer southwest monsoon,

which contributes heavily to rainfall in the rest of India. The region averages 800 mm/year, most of which falls between October and December.

The topography of the Bay of Bengal, and the staggered weather pattern prevalent during the season favours northeast monsoon, which has a tendency to cause cyclones and hurricanes

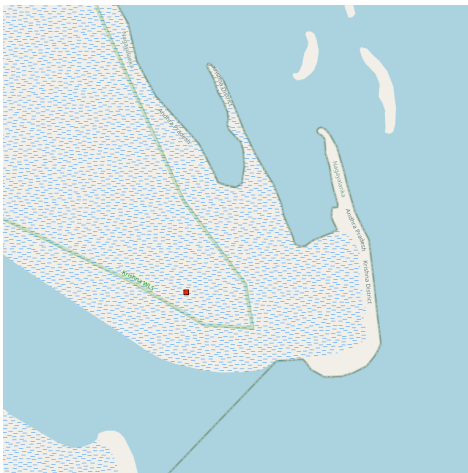
rather than a steady precipitation. As a result, the coast is hit by


inclement weather almost every year between October to January. The high variability of rainfall patterns are also responsible for water scarcity and famine in most areas not served by the great rivers. For example, the city of Chennai is one of the driest cities in the country in terms of potable water availability, despite high percentage of moisture in the air, due to the unpredictable, seasonal nature of the monsoon. The Coromandel Coast is home to the East Deccan dry evergreen forests ecoregion, which runs in a narrow strip along the coast. The Coromandel coast is also home to extensive mangrove forests along the low-lying coast and river deltas, and several important wetlands, notably Kaveli Lake and Pulicat Lake, that provide habitat to thousands of migrating and resident birds.

2.39.1 - Nagayalanka Lighthouse (Andra Pradesh-E India)

15°46.37 N
81°00.24 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



 Nagayalanka Lighthouse, 15 m high, lies 2.3 miles NW of Divi Point and is maintained as a landmark.

The station is situated near the mouths of Krishna river. There is a masonry retaining wall, which serves as jetty. A cement concrete path way for 500 m from the Lighthouse station to the jetty has been provided. Krishna river is navigable upto Vijayawada and is in use by local crafts.

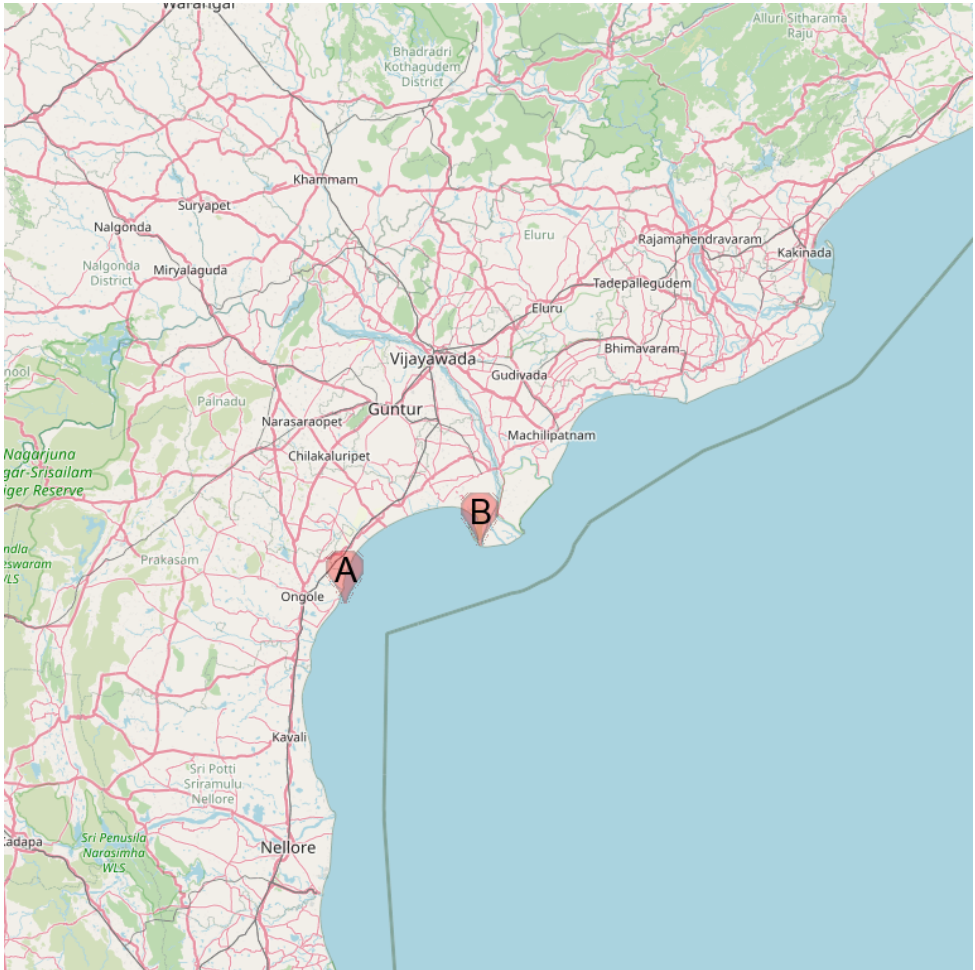


Nagayalanka Lighthouse from the river

2.39.2 - Nizampatam Bay (Andhra Pradesh-E India)


15°39.82 N
80°28.92 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Nizampatam Bay (Andhra Pradesh-E India)



A Mutapolli Bank (E India)

B False Divi Point (E India)

 Nizampatam Bay lies between Kottapatam and False Divi Point, about 41 miles ENE, and recedes about 14 miles to the N. Except for the shoals in the vicinity of Mutapolli Bank, the bay is free from dangers and its shores may be approached with safety to a depth of 9.1m.

A backwater is formed 4 to 6 miles NNE of Kottapatam by the confluence of the Mudigorda Yeru River and the Gundlakamma River. During fine weather, the latter river is available to small boats.

A beacon lies about 0.5 mile within the Mudigorda Yeru River.

From the mouth of the Gundlakamma River, the bay shore curves NE for about 35 miles to the entrance of a creek leading to the town of Nizampatam. Dindi House, a large building with a big high tree close E of it, lies on the N entrance point of the creek.

A light is shown from a white tower, 30m high, with red bands.

Between Dindi House and False Divi Point, almost 13 miles to the SE, the coast remains low and sandy.

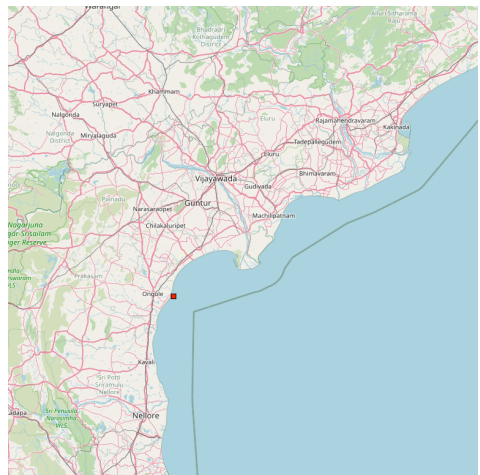
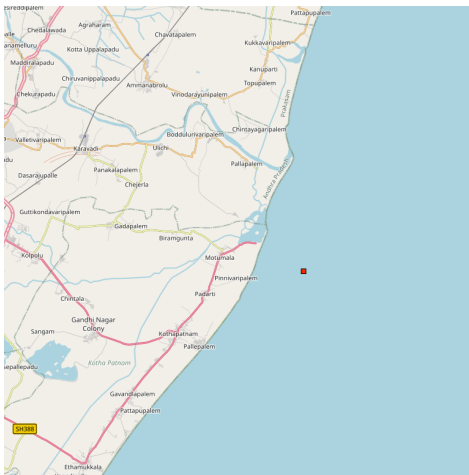
A beacon lies on the NW entrance point of a boat creek about 5 miles E of Dindi House.


In Nizampatam Bay, weak tidal currents are experienced inshore only at spring tides.

2.39.2.1 - Mutapolli Bank (E India)

15°28.77 N
80°14.19 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Nizampatam Bay (Andhra Pradesh-E India)



 Mutapolli Bank, with depths of 6.4 to 11m, lies centered about 11 miles E of Kottapatnam. Overfalls usually mark this bank.

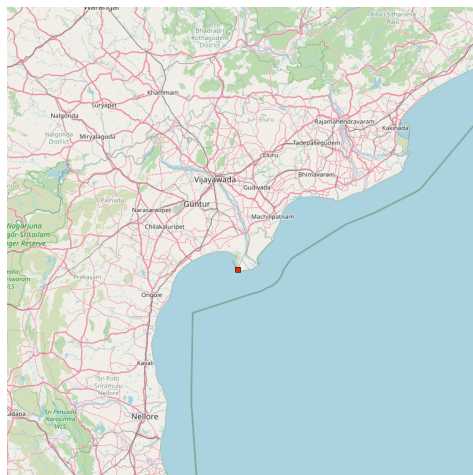
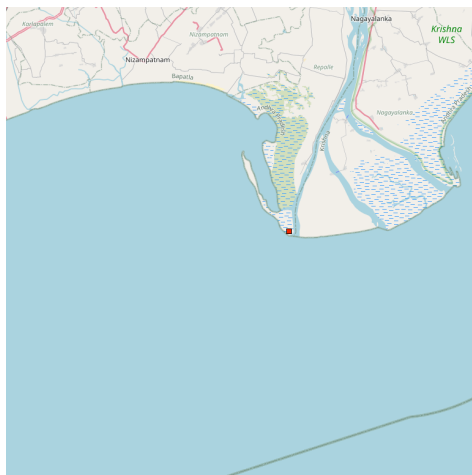
Two detached shoals, with depths of 10 to 11m, lie within 5.8 miles SW and three detached shoals, with depths of 9.1 to 11m, lie within 11.3 miles NE of this bank.


2.39.2.2 - False Divi Point (E India)

15°43.12 N
80°49.53 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Nizampatam Bay (Andhra Pradesh-E India)





 False Divi Point is a low headland located at the northern end of the Coromandel Coast, in the state of Andhra Pradesh.

It is located at the apex of the Krishna River delta and covered by small mangroves. The area is low, swampy and dominated by mangroves.

A bank, which dries in patches, extends about 1 mile S and about 3 miles W of False Divi Point.

Caution:

A bank, which dries in patches, extends about 1 mile S and about 3 miles W of False Divi Point.

The current off False Divi Point sets parallel to the coast with the prevailing monsoon, having its greatest velocity near the 185m curve about 8 miles offshore.

During March, the current off Divi Point has been found to set E at a rate of 1.5 knots.

A submarine cable and pipeline area has been established between the Godavari River entrance and False Divi Point. The limits of this area, known as the Ravva Oilfield Development Area, may best be seen on the chart. Anchoring and fishing are prohibited.

The Krishna River rises in Bombay State and flows E across the peninsula of India, into the Bay of Bengal by several branches, the mouth of one being near False Divi Point.

The enormous amount of silt carried by the river has formed a wide alluvial delta which extends seaward between the towns of Nizampatam and Machilipatnam. Divi Point is the SE extremity and False Divi Point is the SW extremity of the

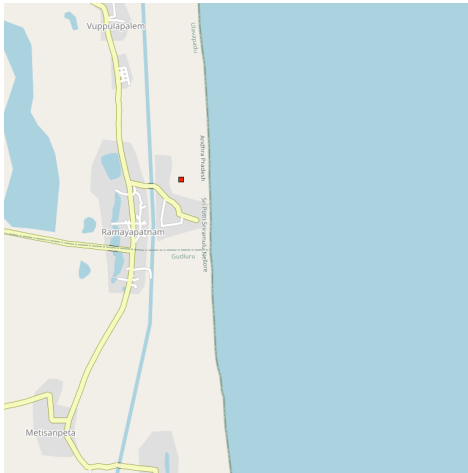
delta.


Ocean-going local craft use the river for about 6 months of the year.

2.39.3 - Ramaypatnam Lighthouse (Andra Pradesh-E India)

15°02.97 N
80°02.87 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



 Ramaypatnam Light, from which a radiobeacon transmits, is shown from a hexagonal concrete tower lying on the coast 0.8 mile NE of the church at Ramaypatnam, built in 1870, that served as a land mark for the benefit of ships cruising off the Ramaypatnam coast.

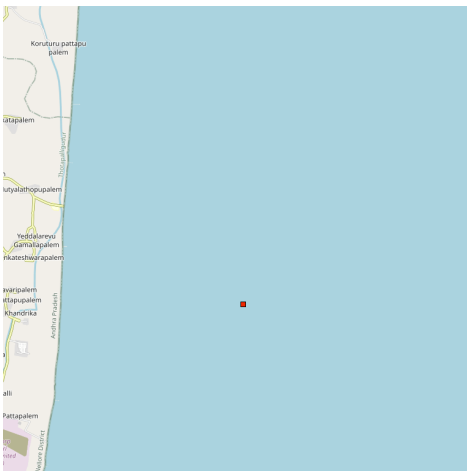
The Lighthouse Tower was built in 1982 and the PRB-21 equipment supplied by M/s Asia Navigation Aids, New Delhi was installed on it. The lighthouse was commissioned in to service on 26th June 1982. The sealed beam lamps were replaced by Auto Head lights with 12 V 100 W halogen lamps in February 1996.




2.39.4 - Shallinger Shoal (Andra Pradesh-E India)

14°23.76 N
80°13.42 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)

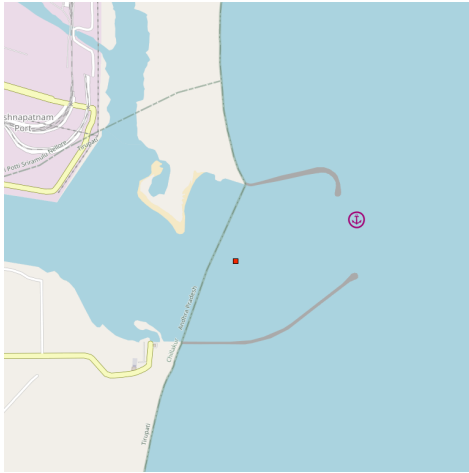



 Shallinger Shoal, a spit with depths of 3.2 to 4.6m, extends about 2.5 miles NE from the coast, 7.5 miles N of the mouth of the Upputeru River. A detached 5.5m patch lies 1.5 miles S of the NE extremity of Shallinger Shoal.

2.39.5 - Krishnapatnam port (Andra Pradesh-E India)

14°14.80 N
80°08.37 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



 Krishnapatnam or Kistnapatam is a port town in Muthukur mandal of Nellore district in Andhra Pradesh.

Krishnapatnam is a major port and market center. It is situated at a distance of 24 km from Nellore City in Nellore District, the southernmost coastal district in the state of Andhra Pradesh, 200 kilometer north of Chennai. It has handled 30 million tonne of

cargo in its first 12 months of operations. 10 deep water berths are operational at the port now, (for coal, iron ore and general cargo) and 2 breakwaters. It will soon have additional 35 berths, with facilities to handle containers etc.

Krishnapatnam is one of the very few ports in the world which can handle giant ships with load capacities of 1,50,000 tonnes. It has become one of the deepest port of India with 18 meters of draft.

Depths? Limitations

There are four berths with maximum depths of 15m alongside. Two berths handle coal, one handles iron ore and one handles general cargo. The port plans on eventually expanding to 17 more berths in two phases.

Pilotage

Pilotage is compulsory. Pilots board vessels with drafts less than 10m at Pilot Boarding Station A, in position 14°14.5'N, 80°12.5'E. Pilots board vessels with a draft of 10m or greater at Pilot Boarding Station B, in position 14°14.9'N, 80°15.3'E.

Regulations

Vessels should report their ETA to Port Operations 7 days, 5 days, 48 hours, and 24 hours, in advance.

The ETA message should contain the following information:

1. Draft forward and aft.
2. ETA at the pilot boarding station.

Signals

Storm signals are shown; the Brief System is used.

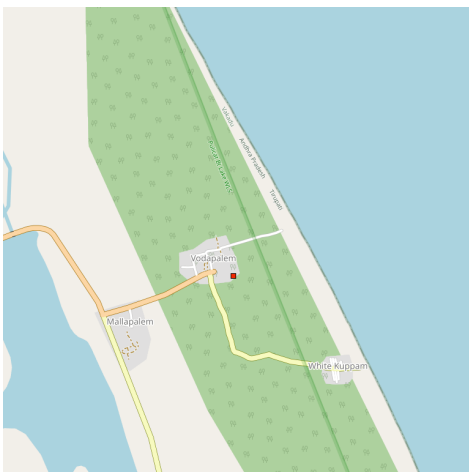
Casuarina plantations line the coast up to 3 miles N of the mouth of the Upputeru River, then abruptly changes to sand hills for 5 miles and becomes low and sandy as far N as the Penner River, about 13 miles farther N.




2.39.6 - Armagon light (Andra Pradesh-E India)

13°53.66 N
80°12.32 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)





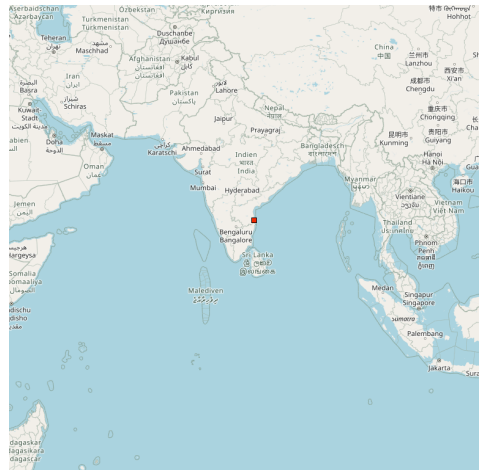
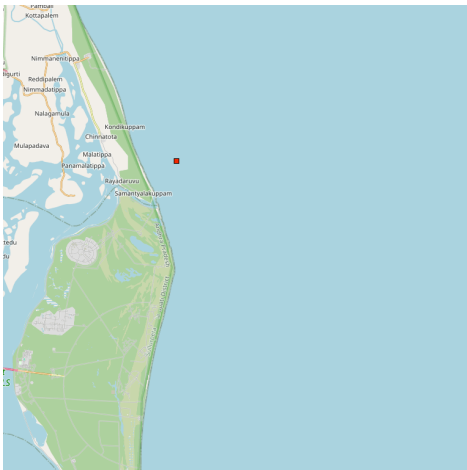
 Armagon Light is shown from a white round concrete tower with red bands, about 30m high, lying near the coast 7 miles NNW of Point Pudi.




2.39.7 - Armagon shoal (E India)

13°50.27 N
80°15.22 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



 Armagon Shoal, with depths ranging from 3 to 9.1m, extends about 15 miles N from a position 1.5 miles NE of Point Pudi.

A narrow, detached shoal, about 2.5 miles long, with depths of 10 to 11m, lies close N of the N end of Armagon Shoal. The sea sometimes breaks over the shallowest part of Armagon Shoal. A shoal, with a least depth of 4.9m, lies about 2.3 miles offshore abreast of Tummalapenta.

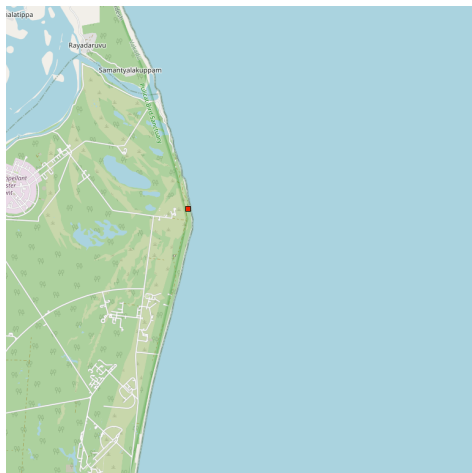
The depths are very irregular in the vicinity of this shoal and up to 7 miles N of it.

In the approach to Blackwood Harbor, the current along this part of the coast, which includes Armagon Shoal, usually sets with the prevailing wind, but at times reverses itself.

2.39.8 - Point Pudi (Andhra Pradesh-E India)


13°46.96 N
80°15.08 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



coringa

koringa

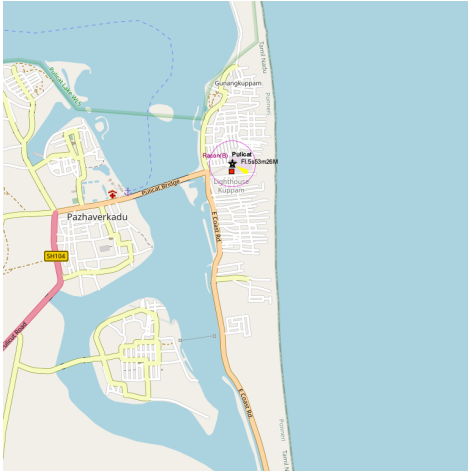
 Point Pudi, a low sandy point, is marked by clumps of palm trees. Armagon Shoal extends N from Point Pudi.


2.39.9 - Pulicat lighthouse (Tamil Nadu-E India)

13°25.24 N
80°19.56 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)





 The Lighthouse station is separated from Pulicat town by a sea water channel. The town of Pulicat lies on an island at the S end of Pulicat Lake and is visible from the offing. A tall conspicuous monument lies close N of the lighthouse near the beach.

The lighthouse at this site is meant to warn against the existence of a shoal about 4 NM from the shore. The shoal extends more than 9 NM toward south. The LH expert Mr Alan D Stevenson on his visit to this lighthouse in 1926 observed the light to be extremely low powered for the purpose of marking such danger. Besides he also mentioned about frequent Malarial attacks infesting the station.

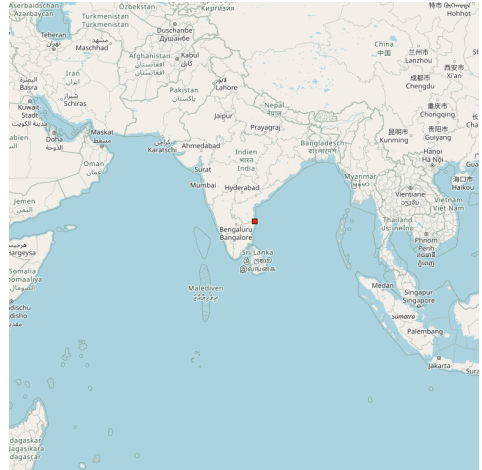
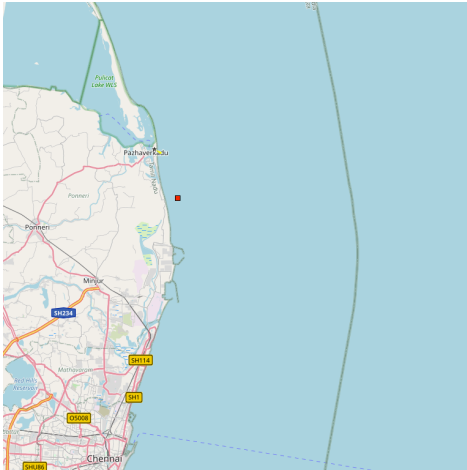
The coast between Pulicat and Point Pudi, about 22 miles NNW, is marked by casuarina plantations for about 11 miles N of Pulicat Lake. A conspicuous clump of coconut trees, 24m high, lies on a sand hill about 1 mile S of Point Pudi.




2.39.10 - Pulicat Shoals (E India)

13°22.05 N
80°21.15 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



 Pulicat Shoals, a chain of hard, sandy patches with depths ranging from 4.3 to 9.1m, extends about 7.5 miles NNE from the N end of Ennur Shoal.

Several detached patches, with depths of 8.2 to 11m, lie within 3.8 miles N and NNW of the N end of Pulicat Shoals.

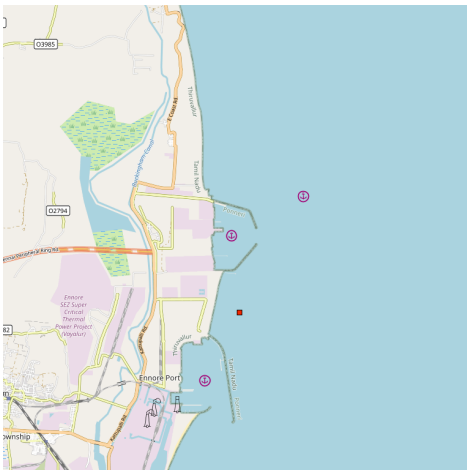
These shoals were reported to be extending to the E.

In the vicinity of Pulicat Shoals, the current is weak and sets parallel to the coast.

2.39.11 - Ennur shoal (E India)

13°17.05 N
80°21.26 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



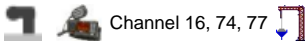
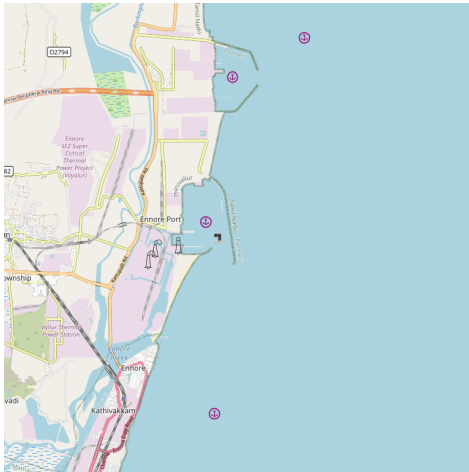
 Ennur Shoal, with depths of 0.9 to 8.5m, extends 2.5 miles NE from a position

on the coast about 10.5 miles NNE of Chennai Harbor. The coast between Chennai and Ennur, about 9.5 miles NNE, is bordered by plantations of casuarina and palm trees.


2.39.12 - Ennore port (E India)

13°15.67 N
80°20.89 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



Channel 16, 74, 77

 Ennore Port, about 24 km north of Chennai Port, is the first port in India which is a public company.

Ennore Port lies on the northeastern corner of the state of Tamil Nadu on a flat coastal plain known as the Eastern Coastal Plains, on the Coromandel coast.

Depths? Limitations

The port has two breakwaters; North Breakwater is 3,080m long while South Breakwater is 1,080m long. The entrance channel, about 3,750m long and 250m wide, is dredged to a depth of 16m. The harbor basin is dredged to a depth of 15m and consists of two 280m long coal berths.

One berth can accommodate vessels up to 65,000 dwt; the other berth can accommodate vessels up to 77,000 dwt.

Pilotage

Pilotage is compulsory. The pilot boards about 0.1 mile S of Fairway Lighted Buoy (13°12.9'N., 80°22.4'E.).

Regulations

Vessels should report their ETA to Ennore Port Control 48 hours, 24 hours, and 3 hours in advance. Any changes of more than 2 hours should be immediately

reported.

Vessels should also contact Ennore Port Control 3 hours prior to entering or leaving the harbor.

The ETA message should contain the following information:

1. Vessel's name, call sign, grt, nrt, dwt, loa, and beam.
2. Draft forward and aft.
3. Cargo grade and quantity on board.
4. ETA at Fairway Lighted Buoy (in local time).
5. Local agent.

Contact Information

Tel: 91 44 2521666

Fax: 91-44-25251665

Mail: marine@ennoreportltd.com



brajendra251518@gmail.com

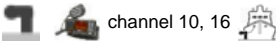


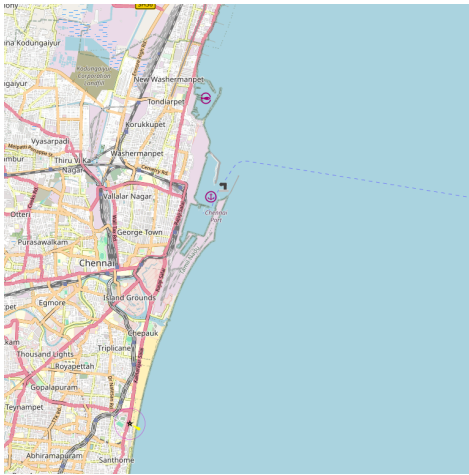
2.39.13 - Chennai (Madras) port (E India)


13°06.26 N

80°18.35 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)





 Chennai Port, formerly known as Madras Port, is the second largest port of India, behind the Mumbai Port, and the largest port in the Bay of Bengal and the principal harbor of Coromandel coast.

It is an artificial and all-weather port with wet docks that front s the center of the city. It was

a major travel port before becoming a major container port.

The port with 3 docks, 24 berths and draft ranging from 12 to 16.5 m has become a hub port for containers, cars and project cargo in the east coast of India.

Weather

Cyclones at Chennai usually commence with the wind between NNW and NNE, the wind direction changing to the E or W according to whether the port is in the right-hand or left-hand semicircle of the storm. The Chennai coast is normally frequented by cyclones during May, October, and November.

Rainfall is almost entirely confined to the period from No Winds?Weather.?Cyclones at Chennai usually commence with the wind between NNW and NNE, the wind direction changing to the E or W according to whether the port is in the right-hand or left-hand semicircle of the storm. The Chennai coast is normally frequented by cyclones during May, October, and November. Rainfall is almost entirely confined to the period from November to January during

the Northeast Monsoon. In April and May, there are occasional squalls from the NW, usually in the early part of the night.

Weather reports are broadcast by the radio station at Chennai.

The climate of Chennai is considered quite hot. Even in the cooler months of December and January, the mean temperature is about 25°C.

Tides

The tides at Chennai are semidiurnal and subject to a diurnal inequality which may advance or retard the times of HW and LW; this inequality may increase or diminish the rise by as much as 0.3m.

Depths? Limitations

The approach channel, marked by the IALA Maritime Buoyage System (Region A), is dredged and maintained at a depth of 19.2m. Vessels are to keep at least 0.5 mile off the channel entry unless a pilot is on board.

The harbor entrance is maintained to a depth of 18.6m, and there is a swinging basin, 0.3 mile in diameter, lying immediately inside the harbor entrance with a maintained depth of 18m. In 1986, it was reported the port could accommodate vessels up to 274m length, with a draft of 16.2m.

Bharathi Dock, the N part of the harbor, is protected by the North Breakwater and East Breakwater; a light stands near the head of East Breakwater. Dock 1 and Dock 3, on the E side of Bharathi Dock, are oil berths. Dock 2, located in the NW corner of the dock, is an iron ore berth.

A fully mechanized container terminal, with alongside charted depths of 11.5 to 12.5m, is located on the W side of Bharathi Dock close NW of North Pier.

The S part of the harbor, forming the Inner Harbor is protected by East Quay. The entrance lies between North Pier and a spur projecting from East Quay; it is 122m wide with a depth of 9.4m and marked by lighted beacons at each side of the entrance.

The protecting breakwater N of the spur is known as the sheltering arm; a light stands at the head of the arm. Dr. Ambedkar Dock (Inner Harbor) contains 12 berths alongside the quays and one fixed mooring.

It has been reported (2006) that the alongside depths are being increased to 15m.

Jawahar Dock, entered along the mid-section of South Quay of the inner harbor, has an overall length of 655m. The S end of the dock is used by LASH barges. It has been reported (2006) that the depth in the dock has been increased to 11.5m.

Chennai Fishing Harbor is located 1 mile N of Bharathi Dock and is sheltered by

two extensive breakwaters which provides berths for up to 500 fishing vessels. Depths off the harbor shoal gradually from the 20m curve, about 1.5 to 2 miles offshore, to a depth of 11m less than 0.3 mile E of the breakwaters.

The surf N and S of the harbor generally breaks about 122m from the beach in fine weather and about 183m in squally weather. During gales from the E, breakers were observed about 244m offshore; with an offshore wind, the surf is often very high and in the form of a heavy roller. During normal weather the surf wave is about 0.9 to 1.8m high, and during a gale from 3 to 3.7m high.

Pilotage

Pilotage is compulsory for vessels over 200 grt.

Signals

The Port Signal Station is located on the Harbor Office on the seaward end of the Transit Shed and Passenger Terminal on North Pier. International Code of Signals Flags and Morse code are employed.

Contact Information

The port can be contacted, as follows:

1. Call sign: Port Control
2. VHF channels 10 and 16
3. Tel: 91-44-25360833
4. Fax: 91-44-25384012
5. Mail: dc@chennaiport.gov.in

Anchorage

Chennai Roadstead is open to all except offshore winds. There is usually a swell from seaward which causes vessels to labor or roll considerably.

Vessels which are not awaiting berth on arrival are not to anchor N of latitude 13°06'N, and within Pilot Boarding Area No. 1 or Pilot Boarding Area No. 2, without prior approval from Port Control.

A dangerous wreck, with masts exposed, lies about 0.8 mile SE of the harbor entrance. It is marked by a lighted buoy lying 0.2 mile E.

An Examination Anchorage area is shown on the chart.

Caution. Vessels are advised to be on the lookout for pirates attempting to board at night.

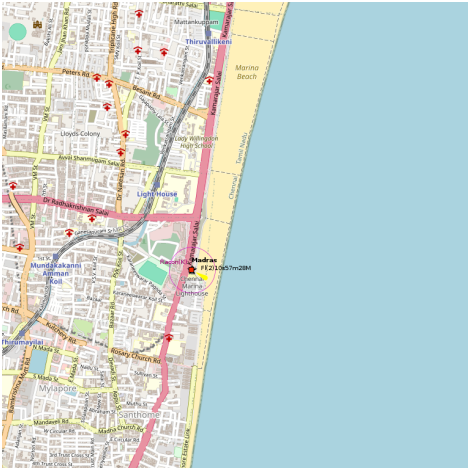
The roadstead fronting the harbor area is subject to a heavy surf.




2.39.14 - Chennai lighthouse (E India)

13°02.38 N
80°16.76 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



 The Madras Light House is a lighthouse facing the Bay of Bengal. It is a famous landmark on the Marina Beach in Chennai. The lighthouse was opened in January 1977. It is one of the few lighthouses in the world and the only one in India with an elevator.

The currents N of Chennai vary considerably in velocity and direction and sometimes set toward the land. Great caution is necessary.




2.39.15 - Mahabalipuram lighthouse (E India)

12°36.96 N
80°11.58 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



 Mahabalipuram is about 35 km from Chennai. Mahabalipuram also known as Mamallapuram was an important port built by Pallavas during the Seventh Century for the maritime trade with the countries of South East Asia and Mediterranean. In the ancient times the log fire on one of the high rocks used to serve as beacon for the vessels approaching t Mahabalipuram port during the night. A dressed stone masonry circular tower 26m in height was built on a nearby rock

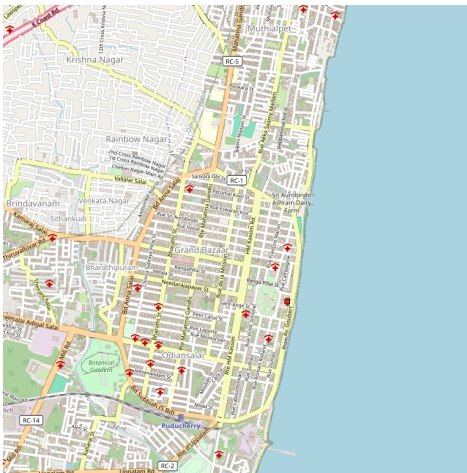
in 1900. The PV source was replaced by incandescent electric lamp in 1994.




2.39.16 - Pondicherry lighthouse (E India)

11°55.97 N
79°50.13 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



 Pondicherry Light, with a racon, is shown from a white tower with black bands. A ruined iron pier projects E about 0.2 mile from the shore, 1 mile NNE of the light.

The following landmarks are conspicuous from the offing: 1. A red chimney, 56m high, about 1 mile WNW of the light.

2. Two square towers and cupola of the cathedral about 1 mile NNE.

3. The port flagstaff about 0.5 mile NNE of the light.

4. A conspicuous TV tower lying 0.4 mile WSW of the port flagstaff.

Pondicherry has been reported to be a good radar target up to 18 miles.

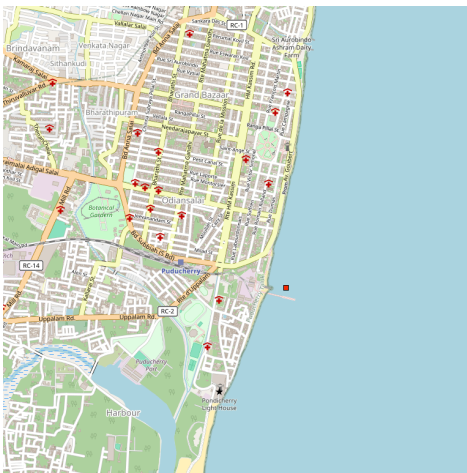
Pondicherry Hills, which lie 3 to 5 miles NW and N of the town, have been reported to be good radar targets up to 24 miles.



2.39.17 - Pondicherry port (E India)

11°55.39 N
79°50.13 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



Deep water Port at Puducherry

Puducherry, (formerly known as Pondicherry), ranked as India's best small state, fast emerging as an industrial and technology destination, is an ideal location for developing a Deep water Port. Upon completion of the development, the port will handle containers, cars, general cargo, edible oil and passenger.

Salient Features:

Design ship size: Container vessels (7000 TEU) with a draft of 14.2 mts and length of 300 mts

Dredge channel: Length

- 2.5 Kms | Depth - 16.4 mts | Width - 210 mts Volume of capital dredging - 16.3 million cubic meters Dredged material will be used for land reclamation and beach formation.

Breakwaters: Northern

& southern breakwaters totaling 3 Kms in length, oriented to avoid wave penetration and sediment intake & designed for 100 year return period storm.

Liquid cargo terminal: Ships pumps will be used for unloading.

Port infrastructure equipment: 2 Tugs, pilot and survey boats, navigation buoys and lights, port VTS system.

Buildings: Port

administration building, accommodation block & gate house plus individual administration blocks and offices in each terminal.

Container terminal equipment:

10 quay side post panamax ship to shore container cranes.

3 quay side feeder ship to shore container cranes.

52 rubber tyred gantries 1 over 5.

78 tractor trailer units.

11 empty container handlers.

2 rail mounted gantries.

Quay level: +4.5 m CD


Depth at quay: -15.5 m CD

Land reclamation: Raising and filling of sea 1200m long and 200m to sea from present shoreline and area on south and north in the basin & treatment of soft marine clays.

Modal split of traffic: Trans-shipment 20%, Rail 10%, Road 70% for containers. General cargo terminal equipment Ships? gear will be utilized.

Utilities: Government is committed to provide adequate power and water.

State-of-the-art waste water and solid waste disposal facilities will be provided.

 Pondicherry (Pondicherri), the capital and seat of government of the Union Territory of Pondicherry, lies about 13 miles N of Cuddalore. All cargo is handled by lighters at the anchorage off the town.

Puducherry currently

has a small shallow water port used for the import & export of general cargo. Ships anchor offshore and cargo is transferred to a small shallow draft quay by means of barges.

Winds?Weather

During the Northeast Monsoon, which usually prevails from October through January, rough seas are raised, hampering cargo operations. During the rest of the year the prevailing wind is from the W in the morning; a choppy sea is raised by the SE wind in the afternoon.

Depths?Limitations

Depths surrounding the port range from the 20m curve, which lies about 2.5 miles E of the port, to about the 5m curve, which lies about 0.3 mile from the shore.

The new pier is located about 0.7 mile S of Pondicherry Light. The pier is about 287m long and 15.2m wide across the outer face. Cargo is handled by lighters between the anchorage and this pier. About 50 small lighters, with a capacity of 2.5 tons each, are available for cargo handling.

Aspect

The low sandy shore S of the town is marked by trees. The land, from 3 to 5 miles NW and N of the town, is 45 to 73m high and helps to identify the locality.

The Government of India has developed a National Maritime Development programme with a vision to make India a leading player by the year 2025.

Pilotage

Pilotage is not available.

Regulations

Local quarantine and port regulations are in force in Pondicherry. A copy of these regulations can be obtained from the local port authorities.

Signals

A signal station lies at the inner end of the new pier at the S end of the town. Vessels can communicate with the station by using the International Code of Signals by day and Morse code at night.

Storm and weather signals are displayed from the signal station; the General System is used.

Contact Information

The port can be contacted, as follows:

VHF channels 12 and 16

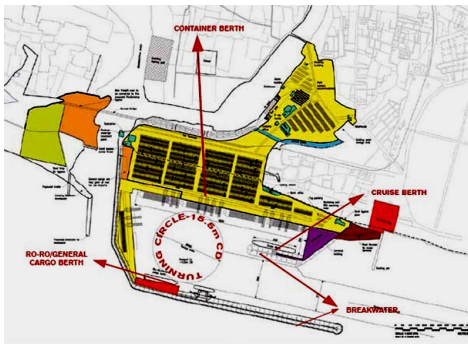
Tel: 91-413-2337114

Mail: port@pon.nic.in

Anchorage

During good weather, anchorage can be taken, in depths of 9.1 to 11m, about 0.8 mile off the coast at Pondicherry. From October to December, when bad weather may be expected, it is advisable to anchor about 1 mile farther offshore, using a good scope of chain. The holding ground is not very good.

Anchorage can also be taken, in depths of 9.1 to 11m, about 0.5 mile E of the head of the new pier. At this anchorage the powerhouse chimney and Rodiar Chimney are in line, bearing 276.5°.



Port Development:

*The Port facilities will be commissioned by 2012.
The following will be the port facilities upon completion of development by 2017.*

Container terminal - 1670 m long with annual throughput capacity of 2.25 million TEU

General cargo / ro-ro berth - 300 m long with annual throughput capacity of 180000 cars

Edible oil berth - One liquid cargo terminal handling 200,000 tonnes per annum

Cruise terminal - 300 m long with annual throughput capacity of 23350 passengers

*Sand bypassing and beach nourishment -
Bypass the sand from south of the port to the beach of Puducherry*

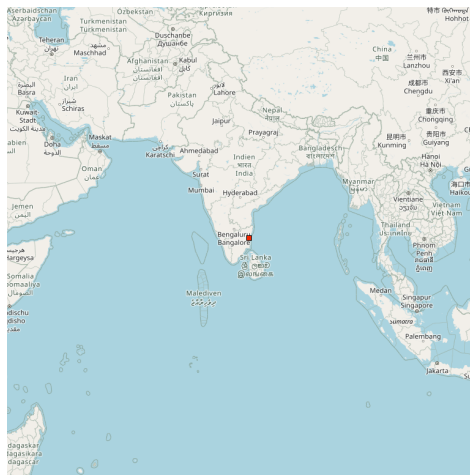
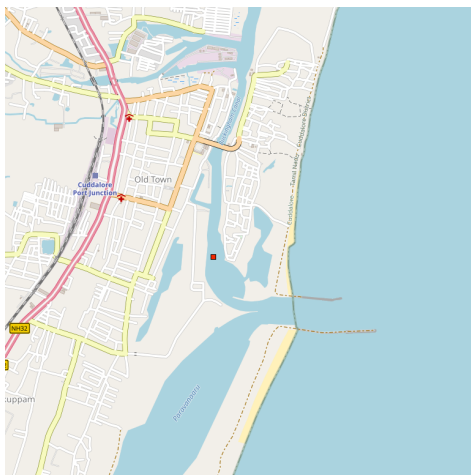
2.39.18 - Cuddalore port (Tamil Nadu-E India)


11°42.62 N
79°46.52 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



channel 11, 16



 Cuddalore is a fast growing industrial city and headquarter of Cuddalore district in the Tamil Nadu state of southern India. Located 25 kilometres south of Pondicherry on the coast of Bay of Bengal, Cuddalore has a large number of industries which employ a great deal of the city's population.

The Cuddalore Port area comprises the open anchorage off the town and the backwater formed by the confluence of the estuaries of the Gadilam River and the Uppanar River, both of which are subject to heavy flooding in the rainy season.

The old town, which shows up well from the N, especially the buildings to the E, lies on the Uppanar Backwater; the new town lies on the Gadilam River, about 1 mile N of the old town.

Depths off the port shoal gradually from the 20m curve about 3.5 miles E of the port, to the 5m curve about 0.3 to 0.5 mile offshore.

An unmarked shifting boat channel crosses the bar at the entrance of the Uppanar River, about 0.8 mile S of the light. This channel has a least depth of 1.2m.

Vessels should send their ETA 24 hours in advance.

A signal station, by which vessels can communicate by Morse code, lies close S of the lighthouse. Storm signals are displayed in accordance with the Indian Extended System.

When surf conditions require the closing of the channel across the bar, flag K of the International Code of Signals is displayed. Flag M indicates a strong ebb current; flag S indicates a strong flood current. The port can be contacted weekdays only, from 0900-1300 and from 1400-1800, as follows:

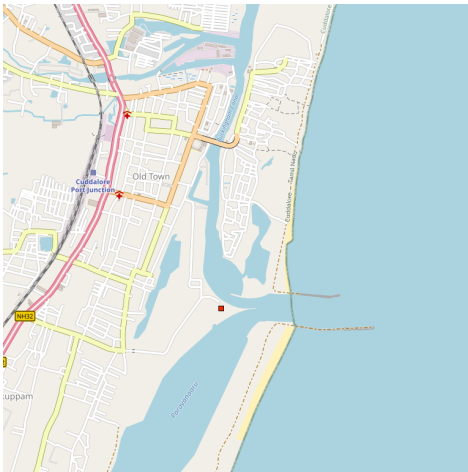
Call sign: Cuddalore Port Radio
VHF: VHF channels 11 and 16
Tel: 91-4142-238025
Fax: 91-4142-238026
Mail: cuddaloreport@gmail.com Anchorage




2.39.19 - Cuddalore Lighthouse (Tamil Nadu-E India)

11°42.39 N
79°46.56 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



 Cuddalore Light is exhibited from a white round concrete tower 0.2 mile W of the mouth of the Uppanar River.

A white flagstaff, 31m high and conspicuous, stands 0.6 mile NNE of the lighthouse.

Cuddalore Light has been reported to be a good radar target up to 21 miles.

A dangerous wreck with its mast visible is located about 1.2 miles ENE of

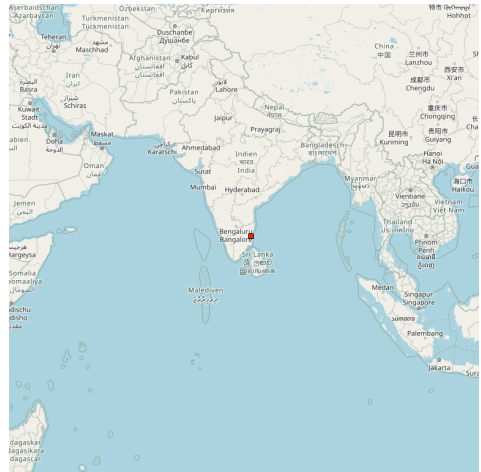
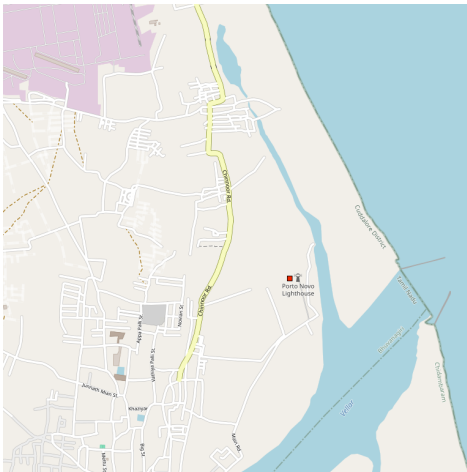
Cuddalore Light.




2.39.20 - Porto Novo Lighthouse (Tamil Nadu-E India)

11°30.25 N
79°46.19 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



 The town of Porto Novo lies on the N bank of the Vellar River about 1 mile within the mouth. it's an isolated fishing hamlet.

A white flagstaff on the N bank of the river entrance and the two white boundary markers, one N and one S of the town, are conspicuous landmarks.

A light is shown from a white tower with red bands, 30m high, 0.8 mile N of the flagstaff.

The coast between Porto Novo and Cuddalore, about 13 miles to the N, is low and marked by scattered trees. From the offing, the few sand hills which are visible appear as islets.

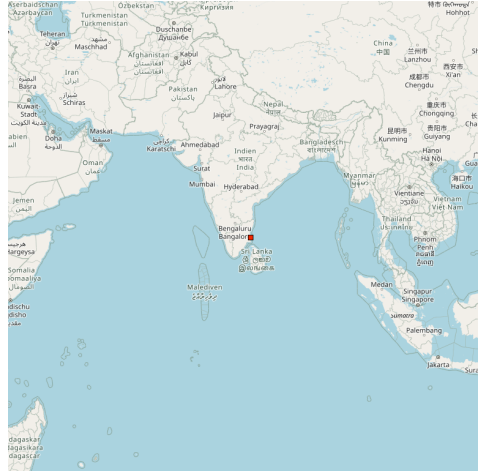
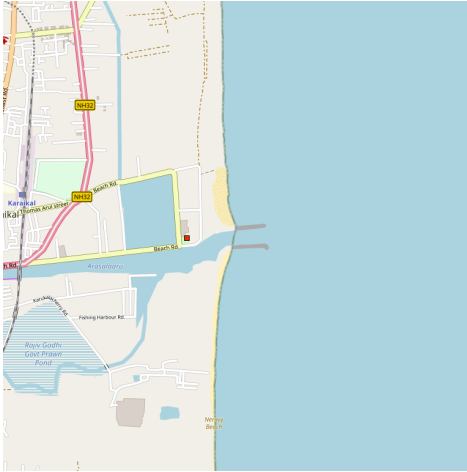



2.39.21 - Karaikal lighthouse (Tamil Nadu-E India)

10°54.84 N
79°51.03 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)







 Karaikal Light, a white circular concrete tower, 18m in height, stands on the N bank of the Arasalar River.

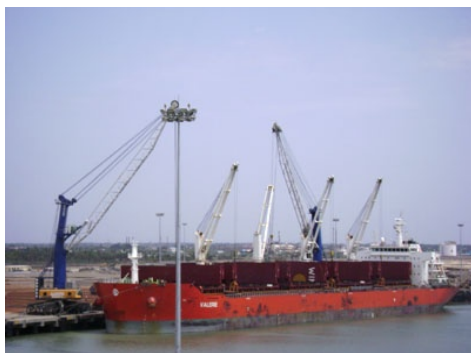
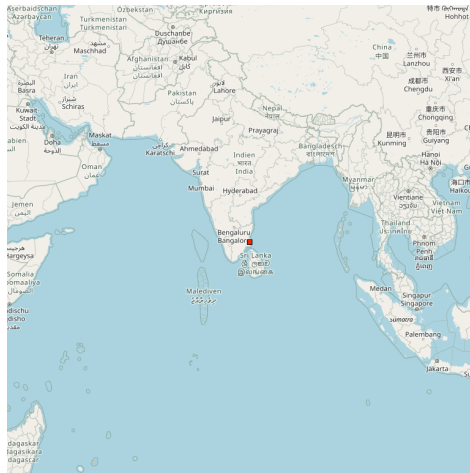
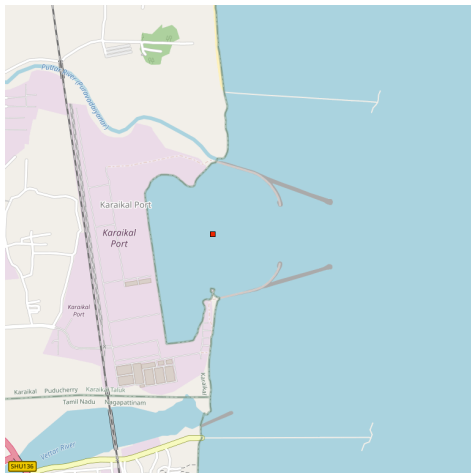



2.39.22 - Karaikal Port (Tamil Nadu-E India)

10°50.34 N
79°51.13 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)

 channel 16, 67, 71 



 Karaikal Port is a coastal lagoon type harbor located about about 200 miles S of Chennai (Madras) and about 9 miles S of the inland city of Karaikal. The port is privately operated by Karaikal Port Private Limited (KPPL) and is located between the Pravadayananar River and the Vettar River.

Karaikal Port is a new harbor facility opened

in 2009 to handle Panamax vessels up to 75,000 dwt, with a maximum length of 225m and a maximum draft of 13.0m. The port primarily handles cement, coal, rice, maize, and machinery.

Winds?Weather

The area has a monsoon climate comprised of a wet and dry season. During the summer wet season, generally from June into October, the predominant winds are from the SW at force 6 to 7. Most of the annual rainfall of nearly 1,270mm during this time, continuing into December. During the winter dry season, the predominant winds are from the NE at force 4 to 5.

Tides?Currents

The tides within the port area are semidiurnal, rising about 0.65m at MHWS, and 0.47m at MHWN, and about 0.2m at MLWN and 0.03m at MLWS.

Depths?Limitations

The approach channel is dredged to a depth of 14.5m. A turning circle, with radius 190m, is located in the center of the harbor.

There are two berths, each 230m in length and dredged to a depth of 14.5m alongside.

Aspect

The harbor protected by two breakwaters, with their seaward extents marked by lighted beacons.

About 0.5 mile N of the N breakwater is the Chemplast Pipeline, extending about 1,300m ESE from the coastline. About 0.6 mile S of the S breakwater, a jetty extends about 1,200m E from the coast.

Pilotage

Pilotage is compulsory for all vessels and requests should be made through the ships agents at least 3 hours prior to arrival. It should be noted that berthing at the Sanmar Marine Terminal takes place only during daylight hours and vessels heading to this terminal should contact Sanmar Port Control on VHF Channel 16 at least 3 hours prior to arrival.

Communications between the vessel and the Pilot is carried out on VHF channel 71. Pilot boards in position 10°50.2'N, 79°57'E, or 3 miles ENE of the jetty for vessels bound for Sanmar Marine Terminal.

Regulations

Vessels should send their ETA to Karaikal Port Control starting 7 days, 5 days, 4 days, 3 days, 2 days, 24 hours, and 12 hours prior arrival.

Contact Information

The port can be contacted, as follows:

VHF: VHF channels 16 and 71

Tel: 91-4365-256600 or 91-9790-960448 (mobile)

Fax: 91-4365-256603

Mail: enquiries@karaikalport.com

Sanmar Marine Terminal can be contacted, as follows:

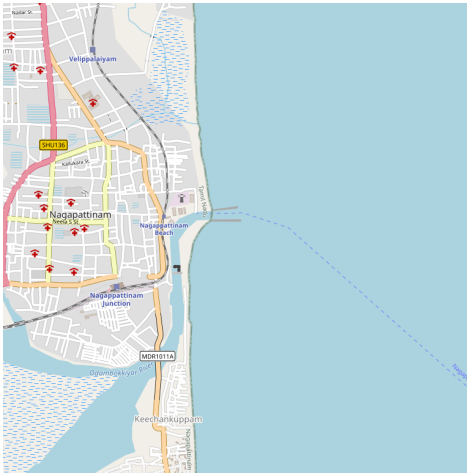
VHF: VHF channels 16 and 67


Tel: 91-4368-292846

Fax: 91-4365-256473

Caution. The port remains under construction so it would not be unusual to see dredging and other heavy equipment within the harbor area. It has been reported that Phase 2 will add five berths with expected completion in 2012; Phase 3 will add nine more berths by 2015.

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)



 Nagapattinam (Negapatnam), the principal port of the Thanjavur District, lies at the mouth of the Uppanar River.

Vessels anchor in the roadstead off the port to work cargo. All cargo is handled at the anchorage by lighters. About 114 of these lighters are available, each with a capacity of 40 tons.

These lighters unload and load at the river's quays at HW.

Winds?Weather

During the Northeast Monsoon, the predominant wind is from the NE at a force of 6 to 7. The port is closed to shipping at this time. During the Southwest Monsoon, the wind is W at a force 6.

Tides?Currents

In general, the currents off Nagapattinam set with the wind and vary with its direction and force.

The tides off the port are semidiurnal.

Depths?Limitations

The 10m curve lies about 2 miles off the port; the depths shoal gradually toward the shore.

There is a least depth of 1.2m over the bar which crosses the mouth of the Uppanar River. The river channel leading to the river quays has a dredged depth of 2.4m. Cargo lighters must have a draft of less than 1.2m to cross the bar and enter the river.

The sea breaks over the bar in nearly all weathers and crossing can be

dangerous for boats unless carefully handled. Boats are not permitted to cross the bar after dark.

Aspect

A minaret at Nagore, 46m high, about 3.3 miles N of Nagapattinam, can be seen before the adjacent coast becomes visible. Upon closer approach, Nagapattinam Light, the tall church spire to the NW and two chimneys at the railway workshop to the SW, are conspicuous from the offing.

Nagapattinam has been reported to be a good radar target up to 17 miles.

Regulations

Vessels should send their ETA to their local agent 48 hours in advance.

Signals

A signal station which vessels at anchor can communicate with using the International Code of Signals by day, and the Morse Code by night, is located 0.1 mile NNE of the old lighthouse. Flags of the International Code of Signals are displayed from the station to assist vessels in anchoring on the most suitable bearing from the lighthouse; Flag K indicates a bearing of 260°, with each subsequent letter indicating a 5° increase to Flag Q, which indicates a bearing of 290°.

Storm signals are displayed from the lighthouse in accordance with the Indian Extended System.

Contact Information

The port can be contacted, as follows:

1. Call sign: Nagapattinam Port Radio
2. VHF: VHF channels 11, 13, 14, and 16
3. Telephone: 91-4365-22255 or 91-4365-22363
4. Telegraph: PORT OFFICE NAGAPATTINAM

Anchorage

The anchorage off Nagapattinam is open to all but W winds; the holding ground of mud and sand is good.

Vessels usually anchor according to drafts and the state of the weather, with the lighthouse bearing between 290° and 260°.

Vessels of moderate draft can take good anchorage, in a depth of 7.8m, about 1.3 miles E of the lighthouse. In heavy weather, a short broken sea is encountered; during the Northeast Monsoon it is inadvisable to anchor in depths of less than 9.1m.

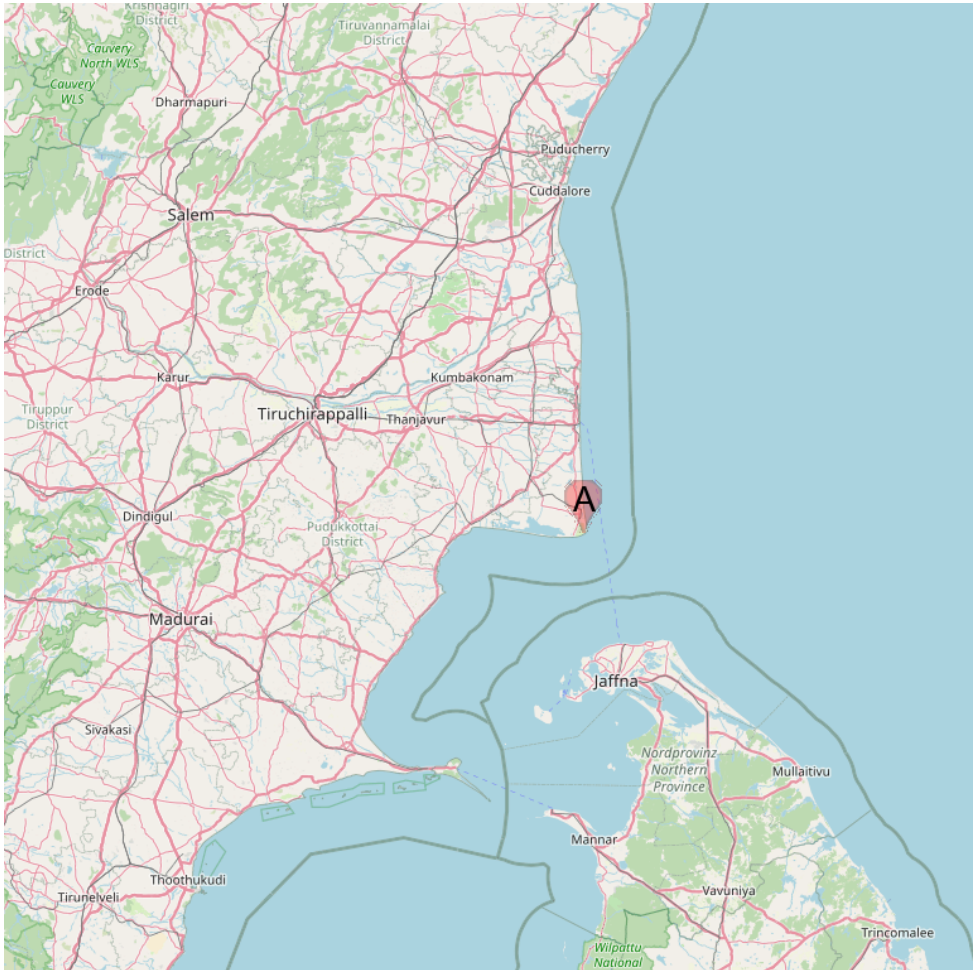


Nagapattinam lighthouse

2.39.24 - Palk Strait North side (E India)

10°12.57 N
79°36.93 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Palk Strait North side (E India)



A Calimere Point (E India)



Palk Strait North side (E India)

the narrow line between India and Srilanka is known as Palk Strait

West side of india



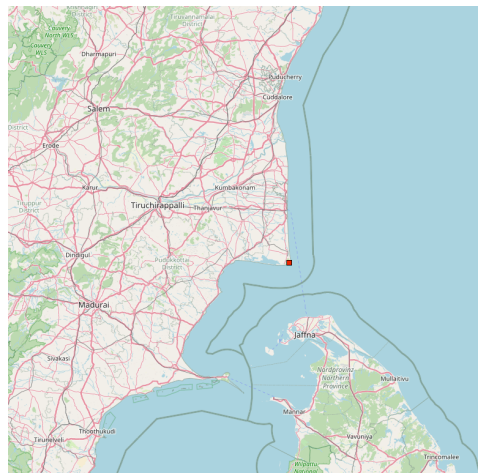
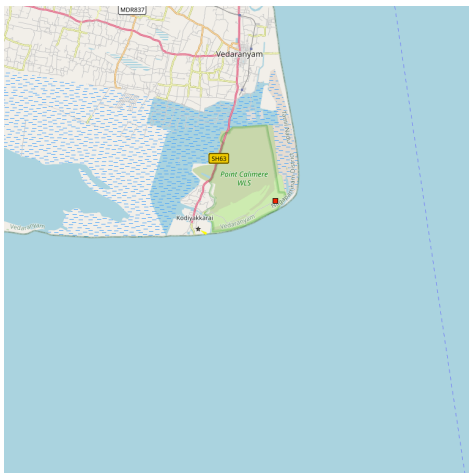
The N shore of Palk Strait consists of the low-lying coast between Point Calimere and a low point, about 39 miles WSW, which projects from the coast close S of the entrance to the Vellar River.

Between Point Calimere and Atirampattinam, about 29 miles W, the coast consists of mud flats, covered with mangrove bushes, and flooded during heavy rains and high spring tides.


2.39.24.1 - Calimere Point (E India)

10°17.60 N
79°52.16 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Palk Strait North side (E India)





 Point Calimere is the southernmost extremity of the Coromandel Coast and the NW entrance point of Palk Strait.

The following conspicuous objects lie in the vicinity of the point:

- * 1. Point Calimere Light, that is shown from a concrete tower, 18.2m high, close within the point; a racon transmits from the tower. A drying sand bank, inside of which local craft find shelter in bad weather, extends about 1.5 miles NE of the point.

- * 2. Kodyakkarai Bungalows, about 3 miles WSW of the point.

- * 3. Two dark-colored pagodas about 5 miles N of the point and 1 mile inland.

These

pagodas are shaped like oblong haystacks and are in range 270°.

Depths? Limitations

Between Point Calimere and Madras, there are no charted or known dangers seaward of the 35m curve.

The 120m curve lies about 2 to 16 miles offshore, lying at its greatest distance off the E of Point Calimere.

An 8.7m detached shoal lies about 7.5 miles ENE of Point Calimere. A drying sand bank extends about 2 miles NE of the same point. During bad weather small craft shelter inside this bank.

Nagapattinam Shoal, about 5 miles long and composed of hard sand and stones, lies parallel to the coast about 4 to 5 miles offshore. The N end of this shoal lies about 6.8 miles SE of Nagapattinam Light. Depths over this shoal range from 6.1 to 8.5m.

Several 18.3m patches lie outside the 18m curve, about 12.5 to 17.5 miles NE of Pondicherry Light.

The coast between Point Calimere and Nagapattinam, about 28 miles to the N, is low and fringed by trees. Sand ridges, 3 to 10m high, also fringe the coast.

The E coast of India, from Point Calimere N to Cocanada, is about 500 miles long and is known as the Coromandel Coast. That part of the coast between Cocanada and Balisahi Point, about 364 miles NE, is known as the Orissa Coast.

The low sandy coast fronting the W side of the Bay of Bengal is exposed to a very heavy surf. As a result, there is little or no shelter provided for vessels other than small craft. The harbors at Chennai and Vishakhapatnam are the only large ports providing shelter and berthing facilities for all classes of vessels.

The coast S of Chennai appears to have been encroached upon by the sea to a considerable extent.

Between Pondicherry and Chennai, scattered hills rise to heights of 46 to 198m, at distances of 2 to 16 miles inland.

Similar hills lie in the vicinity of Nellore, and as far N as the Gundlakamma River. Between Godavari Point and Shortt Island, about 360 miles NE, the coast is low and barren in places and relatively high and densely wooded in other places. With the exception of Cocanada and False Bays, there are no indentations of any appreciable size.

The depth curves generally parallel the coast with the 200m curves lying about 15 to 25 miles offshore between Godavari Point and the mouth of the Devi River.

Winds?Weather

Changes in the monsoons are usually accompanied by bad weather. Cyclonic storms, although rare, sometimes occur near the middle of November or the beginning of April.

The rainy season commences toward the end of June and ends in the latter part of November.

Tides?Currents

The direct effect of the Northeast Monsoon and the Southwest Monsoon winds on the surface waters of the Bay of Bengal is the development of seasonal currents in opposite directions.

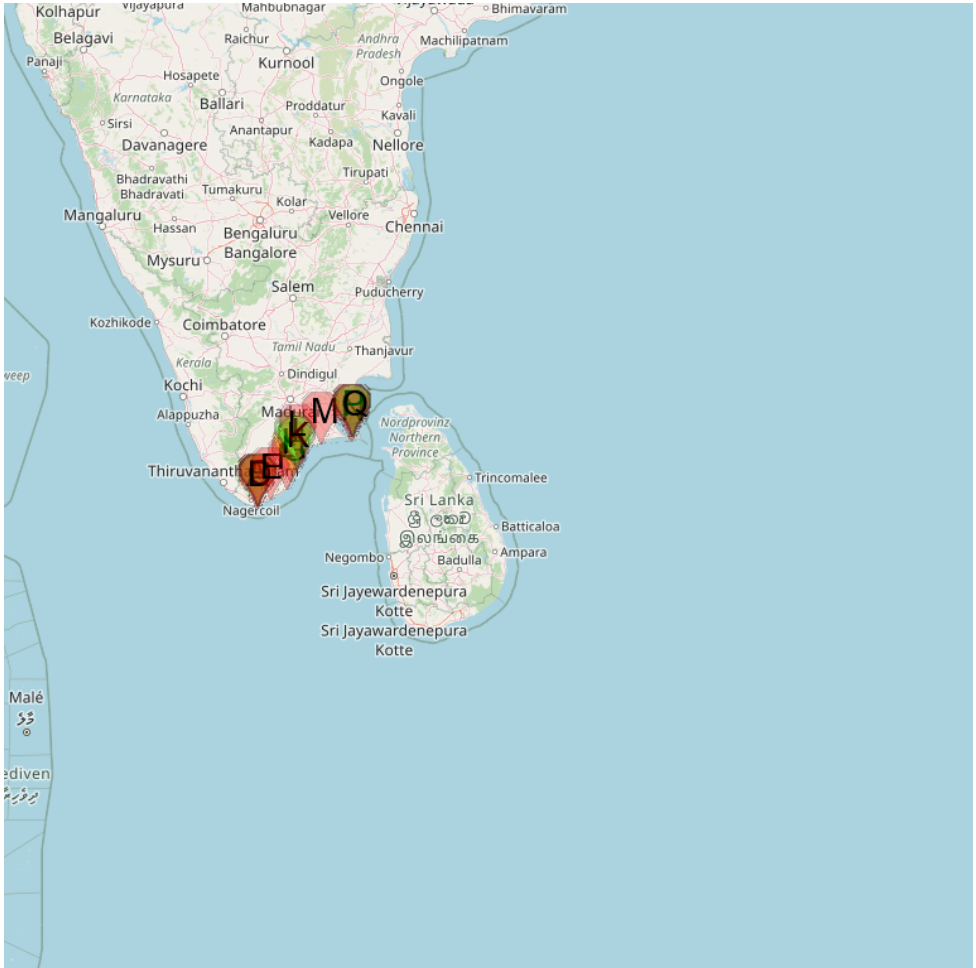
Along the E coast of India, on the W side of the bay, it is not unusual to experience currents setting with velocities of 2 to 3 knots. From February through May, a strong current sets to the N, and from September through December, a similar current setting to the S may be experienced. A survey party found currents with velocities of 1 to 2 knots outside the 45m curve, less current between the 35 and 18m curves, and little or no current inside the latter curve. Close to the shore, the current was occasionally reversed.

When the current was setting to the N in the offing, a set out of Palk Strait was usually found, and presumably the reverse takes place when the current sets to the S. Tidal currents are experienced close offshore and they vary the strength of the current in the neighborhood of Middle Banks in Palk Strait.

2.39.25 - Gulf of Mannar (SE India)

8°26.63 N
78°45.43 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Gulf of Mannar (SE India)




- | | |
|--|---|
| A Comorin Cape (S India) | B Comorin Lighthouse (S India) |
| C Kanyakumari Port (S India) | D Vivekananda rock - Thiruvalluvar Statue |
| E East Cape (E India) | F Manappad Point (SE India) |
| G Tiruchendur Point (Tamil Nadu-E India) | H Punnaikkayal (E India) |
| J Tuticorin | K Chidambaranar (Tuticorin) Port (E India) |
| L Kariya Shuli and Vilangu Shuli islets (Pattanamamurveli Island) | M Valluvar Point (E India) |
| N Approaches Pamban Pass (E India) | O Ramen Point (Tamil Nadu-E India) |



Pamban Pass (Tamil Nadu-E India)



Pamban port (Pamban Island-E India)

 The Gulf of Mannar lies between the SE coast of the Indian Peninsula and the W coast of Sri Lanka. Its S boundary lies between Cape Comorin, the S extremity of India, and Point de Galle, the SW point of Sri Lanka. The gulf is bounded N by Adam's Bridge, a chain of islets and rocks extending from the E end of Pamban Island to Mannar Island, about 16 miles ESE.

The NW coast of the Gulf of Mannar is, with the exception of the mountains extending N from Cape Comorin, generally low and sandy, with the mountains lying about 55 miles inland.

This level plain has an average elevation of about 50m, and gradually rises toward Cape Comorin.

The W coast of Sri Lanka is low and planted with coconut trees. Inland, the foothills of the mountain district abreast Colombo begin about 20 miles from the coast.

Winds?Weather

The coast covered by this sector is, like the rest of Sri Lanka, predominantly in a region of the monsoon.

Of the four phases to be considered the Southwest Monsoon is the most important, followed by the Northeast Monsoon. Between these two monsoon are the spring and autumn transitions with their light and unsteady winds.

In the Gulf of Mannar, the Northeast Monsoon is steadiest in January and has much weakened by March. The wind becomes light and variable toward the end of April, and squally showers are common.

The Southwest Monsoon is usually established sometime in May and gains strength in June. From July to the end of September fresh SW winds prevail, with mainly fair weather at the end of the gulf. The wind usually moderates near the head of the gulf at night and in the early morning and freshens again in the afternoon as a result of land and sea breeze effect. In October the wind is more variable and there are heavy squalls with rain in the latter part of the month.

In November, the wind is normally between WNW and NE and the weather is very unsettled with frequent heavy squalls and rain; the Northeast Monsoon usually becomes established by about the end of the month.

Marine sanctuary

The Gulf of Mannar is known to harbour over 3,600 species of flora and fauna, making it one of the richest coastal regions in Asia.

In 1986, a group of 21 islets lying off the Tamil Nadu coast between Thoothukudi and Dhanushkodi were declared the Gulf of Mannar Marine National Park. The

park and its 10 km buffer zone were declared a Biosphere Reserve in 1989. The Gulf of Mannar Biosphere Reserve covers an area of 10,500 km² of ocean, islands and the adjoining coastline. The islets and coastal buffer zone includes beaches, estuaries, and tropical dry broadleaf forests, while the marine environments include seaweed communities, sea grass communities, coral reefs, salt marshes and mangrove forests.

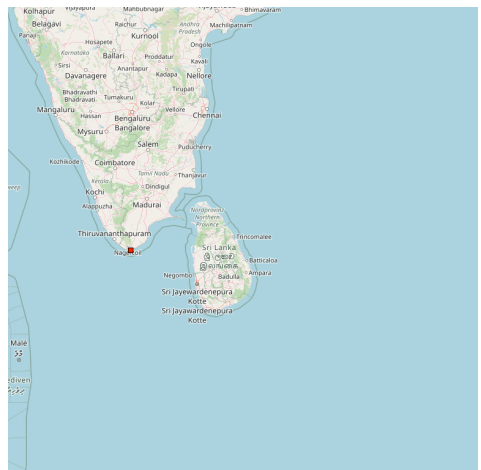
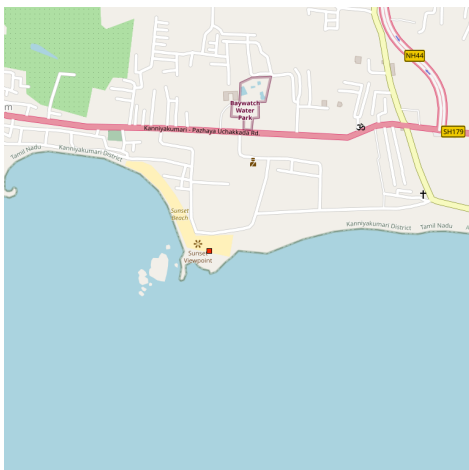


Gulf of Mannar (SE India)


2.39.25.1 - Comorin Cape (S India)

8°04.67 N
77°31.93 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India) - Gulf of Mannar (SE India)





 Cape Comorin, the S extremity of India, is low and sandy, with a small white pagoda on its extremity.

This pagoda is surrounded by a high wall, above which the top of the pagoda may be seen. A bungalow lies NW of the pagoda. A conspicuous memorial, 37m high, lies close W of the cape. The coast close W of the pagoda is barren and sandy, but is wooded NE of it.

Foul ground extends about 0.5 mile S and SE from the cape.

An area of foul ground lies 1.5 miles offshore, about 6 miles W of Cape Comorin.

The land rises gradually N of Cape Comorin so that from a distance the cape appears as a sandy promontory. A mountain, 370m high, about 4 miles NW of the cape, appears as a pointed cone except from E or S. A range, about 9 miles farther N, with heights up to 1,041m, resembles a camel's hump.

Cape Comorin is the most southern point in India, where 3 bodies of water meet: the bay of Bengal (E), the Indian ocean (S) and the Arabian sea (W).

At the cape is the town of Kanyakumari that is a fishing village.

Tides?Currents

The tidal currents off Cape Comorin set E during the flood and W during the ebb, but their direction and strength are much affected by the ocean currents.

The coast between Cape Comorin and Manappad Point, about 35.5 miles ENE, is somewhat higher than the remainder of the NW coast of the Gulf of Mannar, with undulating sand hills up to 60m high. The background consists of reddish soil and rises gradually to the foot of the Southern Ghats a few miles inland. Many villages and whitewashed churches lie along this coast, but landing in a ship's boat is always difficult and dangerous.

An obelisk, 8m high, lies on the coast about 2 miles N of Cape Comorin, and serves to mark the position of a stranded wreck about 0.5 mile ESE.

Caution.?When approaching Cape Comorin from the NW during the Northeast Monsoon, a vessel sheltered by the coast as far as Muttam Point, about 14 miles W of the cape, may suddenly pass from a calm into the strength of the monsoon, even if already well offshore.

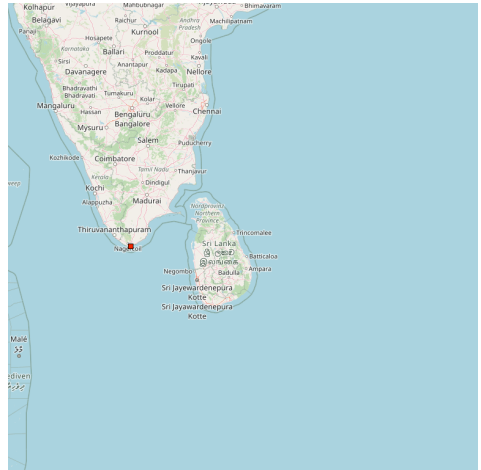
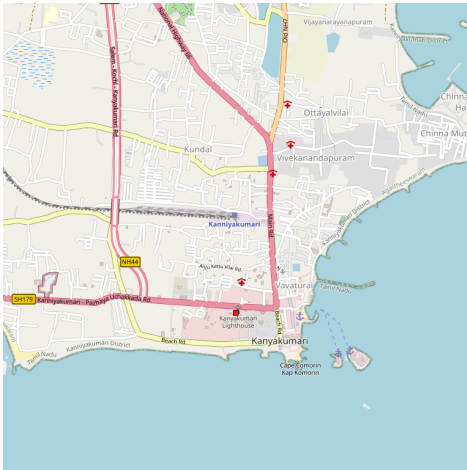
A dangerous obstruction was reported (2002) to lie about 8 miles WSW of Comorin Point.




2.39.25.2 - Comorin Lighthouse (S India)

8°04.86 N
77°32.81 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Gulf of Mannar (SE India)



 Cape Comorin Light is shown from a square white tower, 34m high, and painted in red bands, about 0.3 mile NW of the cape. A church, 54m high, lies in a village about 0.5 mile N of the cape.

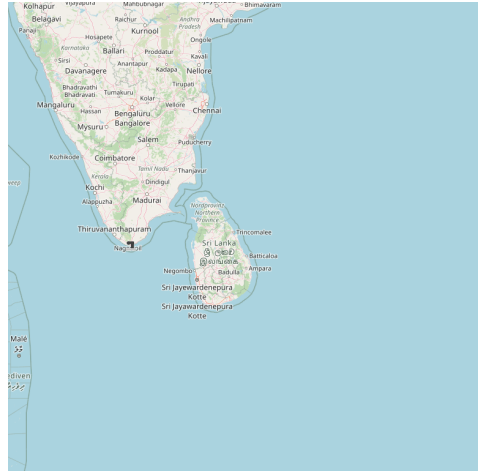
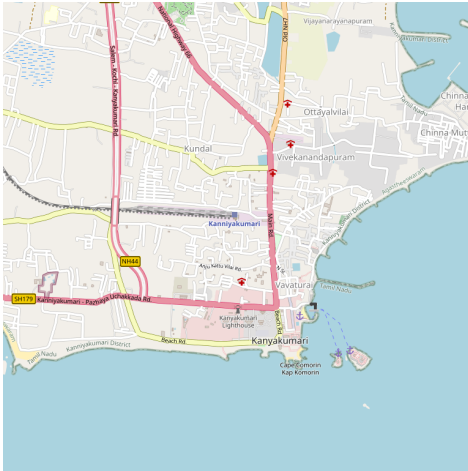
Good radar returns have been reported from Cape Comorin at 23 miles.


2.39.25.3 - Kanyakumari Port (S India)

8°04.89 N
77°33.14 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Gulf of Mannar (SE India)





 Kanyakumari is a town that is at the tip of the Indian Peninsula and faces the Indian Ocean.

The port is a minor port primarily for ferry traffic.

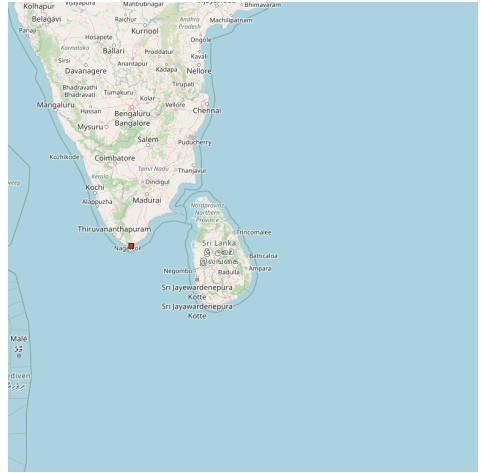
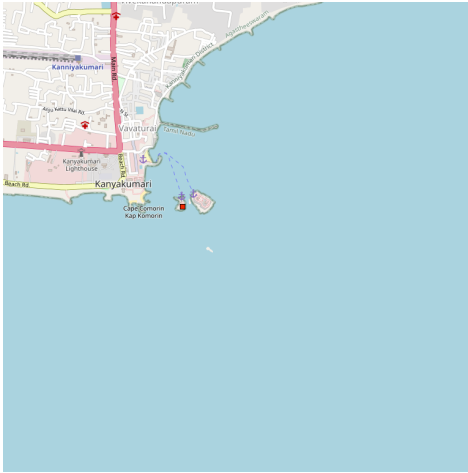
Depths in the boat basin and alongside the pier are 2.3m or less.




2.39.25.4 - Vivekananda rock - Thiruvalluvar Statue

8°04.65 N
77°33.24 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Gulf of Mannar (SE India)



 Vivekananda Rock Memorial is a sacred monument and popular tourist attraction in Kanyakumari, India. The memorial stands on one of two rocks located about 500 meters off mainland India's southernmost tip. It was built in 1970 by the Vivekananda Rock Memorial Committee in honour of the visit of the great

spiritual teacher Swami Vivekananda to Shripada Parai during the month of December 1892 for deep meditation and enlightenment.

He swam to this rock and meditated about the past, present and future of India. It is said that he attained enlightenment on the rock, and henceforth became a reformer and philosopher.

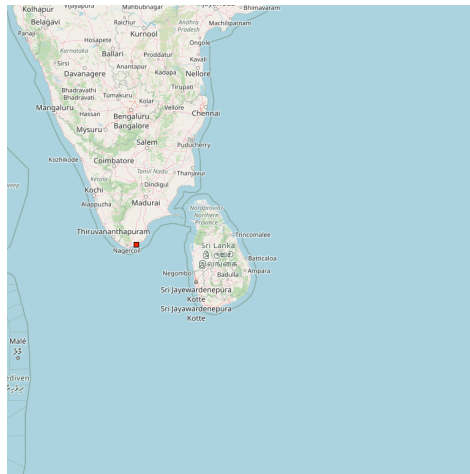
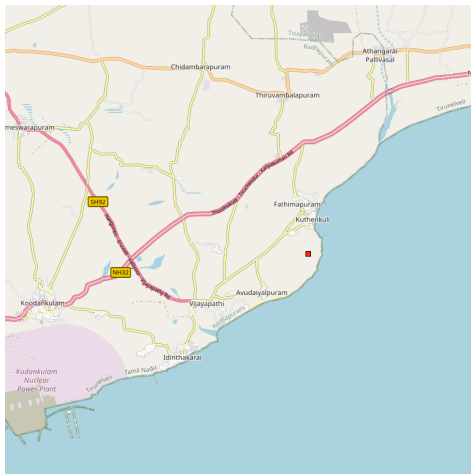
From very ancient times, the rock has been regarded as a sacred place. The Thiruvalluvar Statue is a 133 feet (40.5 m) tall stone sculpture of the Tamil poet and saint Tiruvalluvar, author of the Thirukkural. It was opened in January 1, 2000 (Millenium) and is located atop a small island near the town of Kanyakumari, where two seas and an ocean meet; the Bay of Bengal, the Arabian Sea, and the Indian Ocean . The statue has a height of 95 feet (29 m) and stands upon a 38 foot (11.5 m) pedestal that represents the 38 chapters of "virtue" in


the Thirukkural. The statue standing on the pedestal represents "wealth" and "pleasure", signifying that wealth and love be earned and enjoyed on the foundation of solid virtue.

2.39.25.5 - East Cape (E India)

8°12.44 N
77°46.82 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India) - Gulf of Mannar (SE India)



 East Cape is prominent, and the coastal reef, with depths of 5.5m, extends about 1 mile offshore near the cape.

Anchorage

Shelter from W winds can be found in the bight between Cape Comorin and East Cape, but during the Southwest Monsoon landing by ship's boats should not be attempted as swells roll into the bight.

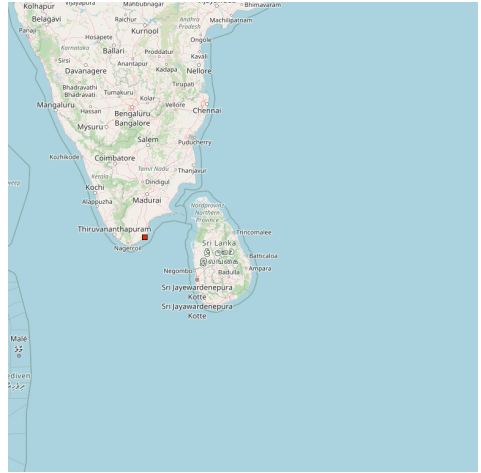
Anchorage can be obtained, in 7.3m, in the bight N of East Cape, partially protected from W winds and swell by the coast SW.


2.39.25.6 - Manappad Point (SE India)

8°22.52 N
78°03.40 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India) - Gulf of Mannar (SE India)





 Manappad Point is a high sandy promontory with a rock base. A light is shown from a white, round concrete tower with red diagonal stripes.

The village of Manappad lies 0.8 mile W of the point.

Manappad Outer Shoal, with a least depth of 6.4m, lies about 8 miles SE of Manappad Point. A 13.4m shoal, reported in 1976, lies about 6 miles farther E. Other shoals lie WNW and WSW. Vessels should avoid passing through this area, and in thick weather should not get into depths less than 35m.

The coast between Manappad Point and Tuticorin is low, sandy, and fringed with coconut trees.

Between Manappad Point and the village of Alantalai (Alendal), about 5.5 miles NNE, an area of foul rocky ground extends about 2.8 miles offshore. There are heavy breakers over this area during the Northeast Monsoon; these breakers extend 1 mile SE of Manappad Point.

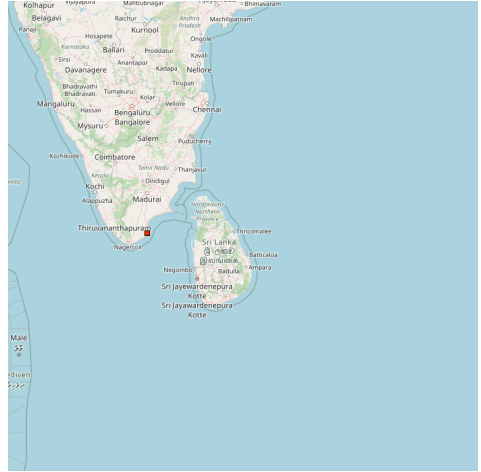
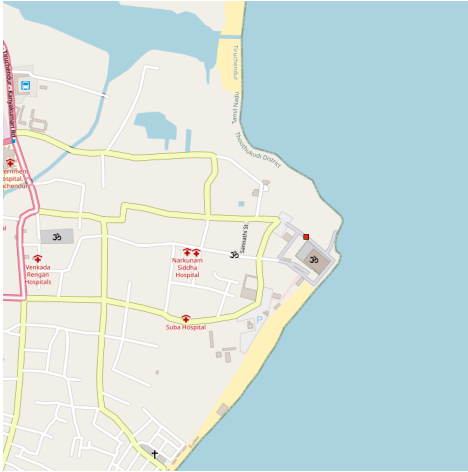
Alendal Shoals, with depths of 3.7m, extend to about 4 miles ESE of Alantalai.




2.39.25.7 - Tiruchendur Point (Tamil Nadu-E India)

8°29.80 N
78°07.73 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Gulf of Mannar (SE India)



 Tiruchendur Point is a low, rocky bluff headland, with a prominent dark-colored temple, 54m high, at its extremity. This pagoda is a useful mark and can be seen for a distance of about 15 miles.

A conspicuous chimney, 28m high, painted in red and white bands and emitting a flame, lies about 5 miles NNW of the point. In 1976, a depth of 14m was reported 9.3 miles ESE of the point.

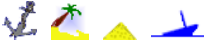
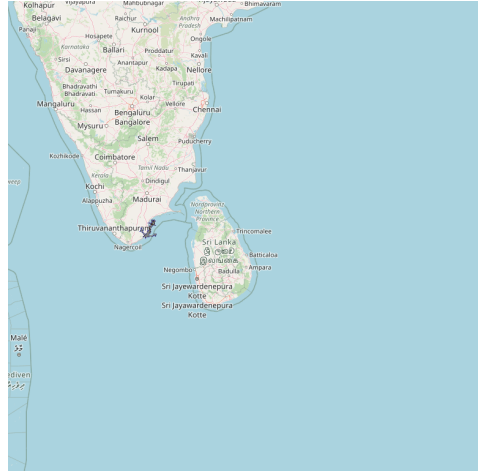
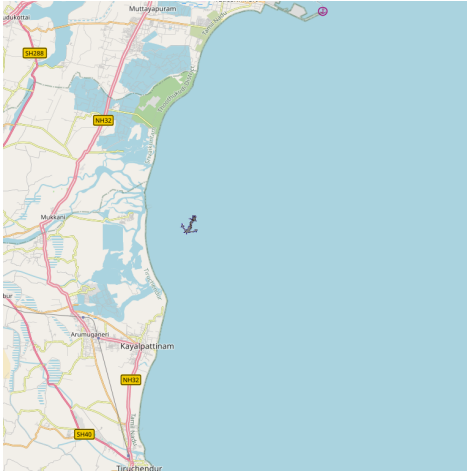
From Tiruchendur Point to abreast the fishing village of Punnaikkayal, about 8 miles N, the coastal reef extends about 2.3 miles offshore. In heavy weather, the sea breaks on this reef in depths of 4.6 to 5.5m; usually it breaks farther inshore in depths of 3.7m.




2.39.25.8 - Punnaikkayal (E India)

8°37.83 N
78°09.07 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Gulf of Mannar (SE India)



 Punnaikkayal, about 1 mile inland, can be identified by the ruins of a church and by a group of palmyra trees on the beach.

A 4.6m patch lies about 3 miles E of the village.

Anchorage in 7.3m, can be found off Punnaikkayal, about 1.5 miles offshore, with the clump of trees bearing 258° remaining clear of the dangerous wreck N of the anchorage.

The coastal reef to the S provides shelter from S winds, but local knowledge is necessary.

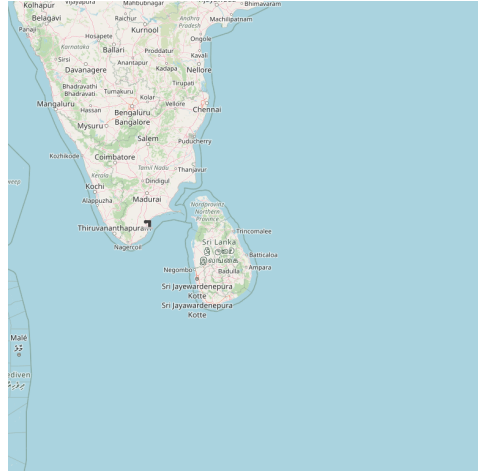
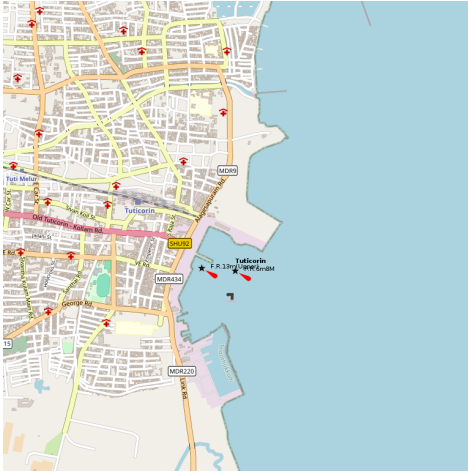
2.39.25.9 - Tuticorin

8°47.96 N

78°09.70 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Gulf of Mannar (SE India)





🇬🇧 Port protected by a breakwater.

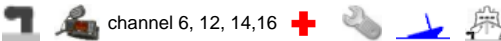
🇫🇷 Port protégé par une digue.



2.39.25.10 - Chidambaranar (Tuticorin) Port (E India)

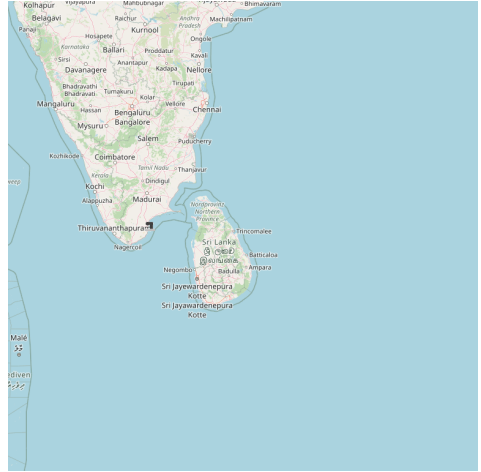
8°45.04 N
78°13.37 E


Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Gulf of Mannar (SE India)



channel 6, 12, 14, 16





 Tuticorin (Tuttukuddi) is the largest commercial town on the W side of the Gulf of Mannar.

Chidambaranar Port is an artificial deep-sea harbour formed with rubble mound type parallel breakwaters projecting into the sea for about 4 km. (Length of North breakwater is 4098.66 m, length of South breakwater is 3873.37 m and the distance between the breakwaters is 1275m).The port (Chidambaranar) is an open roadstead, well-protected by the land to the W from the Southwest Monsoon; it is available in all seasons.

The all-weather harbor of New Tuticorin, about 0.5 mile S of Tuticorin, handles the majority of cargo for the port. The port is protected on its N side by North Breakwater, which is 2.3 miles long, and on its S side by South Breakwater and Eastern Breakwater.

The rocky sea bottom, making dredging closer inshore impossible, necessitates these long breakwaters.

Natural depths of 11m become available only at a distance of approximately 2 miles from shore.

The entrance to the harbor lies 3 miles SE of Pandyan Tivu Light.

Tuticorin also has a passenger terminal for ferry services between the port and Colombo, Sri Lanka.

Tides?Currents

The tidal rise at Tuticorin is 1m at MHWS and 0.7m at near HWN.

The currents along the coast, outside the islands near Tuticorin, generally set with the wind, varying in strength from 1 to 2 knots. They are weak and variable at the change of the monsoons.

When there is a lull in the monsoon, there is a tendency for current to set into, instead of across, the Gulf of Mannar.

The tidal currents at Tuticorin set in a N direction with the flood tide and in a S direction with the ebb.

Depths?Limitations

The approach channel, which is 2,400m long and 183m wide, is dredged to a depth of 12.5m.

The turning basin, which is just inside the breakwaters has a depth of 11.9m and is 500m in diameter.

A drying reef extends up to 0.5 mile E of Pandyan Island.

Orripar, a rock shoal with a least depth of 0.9m, lies about 0.3 mile N of Pandyan Island.

Kariapar, a rocky pinnacle with a depth of 1.5m, lies about 0.8 mile NE of the NE extremity of Pandyan Island. Rocky pinnacles, each with a depth of 1.5m, lie about 0.2 mile E and 0.5 mile ENE, respectively, of Kariapar.

Van Tivu, about 2.8 miles NNE of Pandyan Tivu, lies on a reef which extends about 0.5 mile NE and 0.4 mile SE from it.

A beacon, 10m high, lies on the S extremity of Van Tivu.

A boat channel, about 137m wide, marked by lighted buoys and a lighted range, leads to the old piers at Tuticorin from a position about 1.8 miles NE of the N end of Pandyan Island.

The least depth alongside the piers and wharves at Tuticorin is 2.4m.

Contacts

Tel: (0461) 2352290

Fax: (0461) 2352301

Mail: tutport@sancharnet.in

Regulations

The vessel's ETA should be sent, via the agent, 72 hours and 24 hours in advance and confirmed or amended no less than 6 hours in advance.

The ETA messages should contain the following information:

1. Vessel's name, nationality, and call sign.
2. Length, draft, and gross tonnage.
3. Last port of call and cargo.
4. Port of origin/destination of cargo.
5. Last port of call/next port of call.

4.6 Vessels must contact the signal station 1 hour prior to arrival and upon arrival on VHF channel 12 or 16.

Signals

A signal station, with a flagstaff 29m high, lies on the N end of Pandiyan Island. This station, manned day and night, is connected to the mainland by telephone. Communication is by International Code of Signals.

Storm signals are displayed from the signal station; the General System is used.

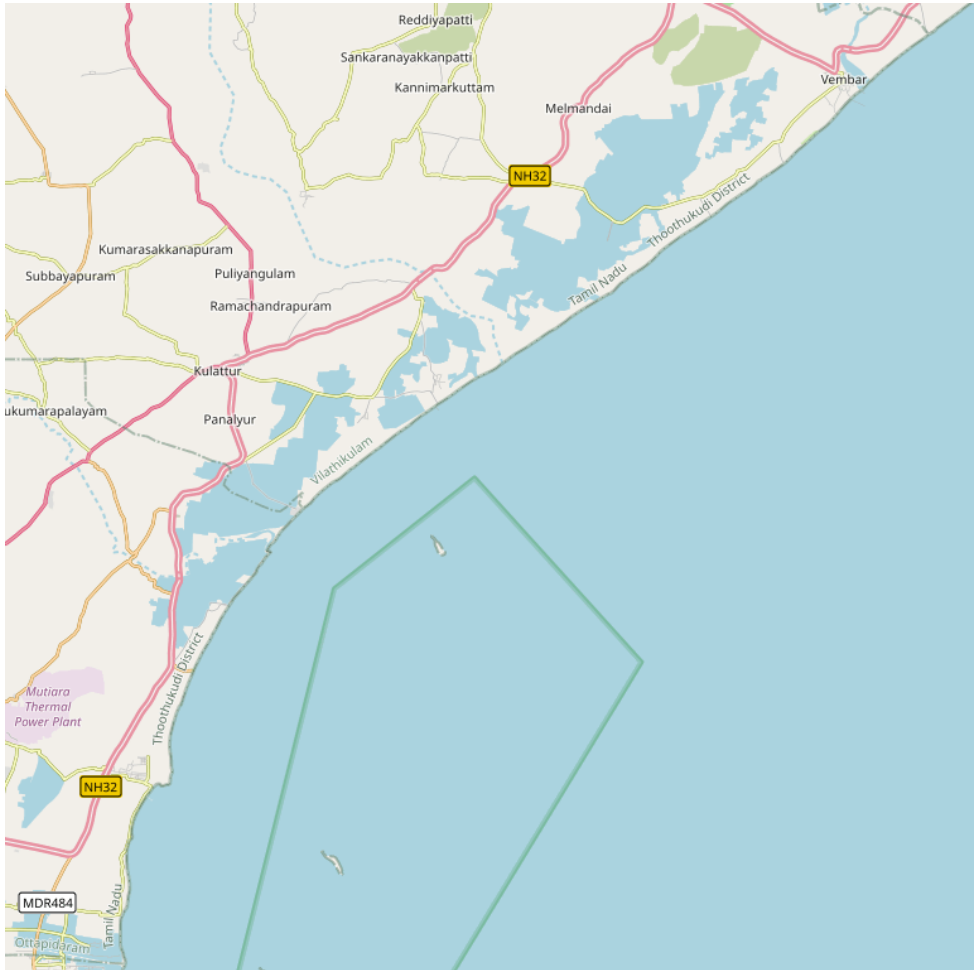
Caution

Several wrecks and foul ground lie between 1.5 and 2.3 miles E and ESE of Pandiyan Island Light.


2.39.25.11 - Kariya Shuli and Vilangu Shuli islets (Pattanamardur-E India

8°56.87' N
76°13.71' E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Gulf of Mannar (SE India) - Kariya Shuli and Vilangu Shuli islets (Pattanamardur-E India)



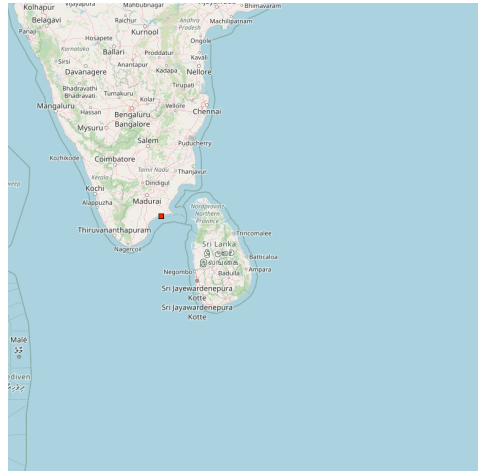
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 The town of Pattanamardur, with some large trees visible up to 10 miles offshore, lies at the head of this bight, about 7 miles N of Tuticorin. The bight is filled by a flat, with depths of less than 5.5m, extending up to about 4.5 miles offshore. Kariya Shuli and Vilangu Shuli, two low-lying sandy islets, lie on this flat.

2.39.25.12 - Valinokkam Point (E India)

9°09.56 N
78°38.97 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India) - Gulf of Mannar (SE India)



 **Caution.** Vessels, other than small coasting vessels, should not approach the coast between Tuticorin and Valinokkam Point, about 37 miles NE, closer than 6 or 7 miles due to the many off-lying shoals.

The coast between Valinokkam Point and Ramen Point, about 32 miles ENE, is fronted by a chain of islands and shoals extending up to 6 miles offshore. Depths outside this chain of islands and shoals are regular, but in places overfalls occur. An anchorage is located 2.5 miles NE of Valinokkam Point. A dangerous rock lies about 1 mile WSW of the anchorage.

Large vessels should not navigate in depths less than 22m off this stretch of coast as the area is imperfectly surveyed and several relatively shoal patches are charted. They should not sight any of the islands of which the chain is composed. Kilakkarai Passage, the shallow passage between the chain and the coast, can only be used by small vessels; local knowledge is necessary due to the numerous shoals, with depths of less than 1.8m, and the narrow, undefined channels between them. The passage affords a smooth passage for small coastal vessels for half the distance between Tuticorin and Pamban.

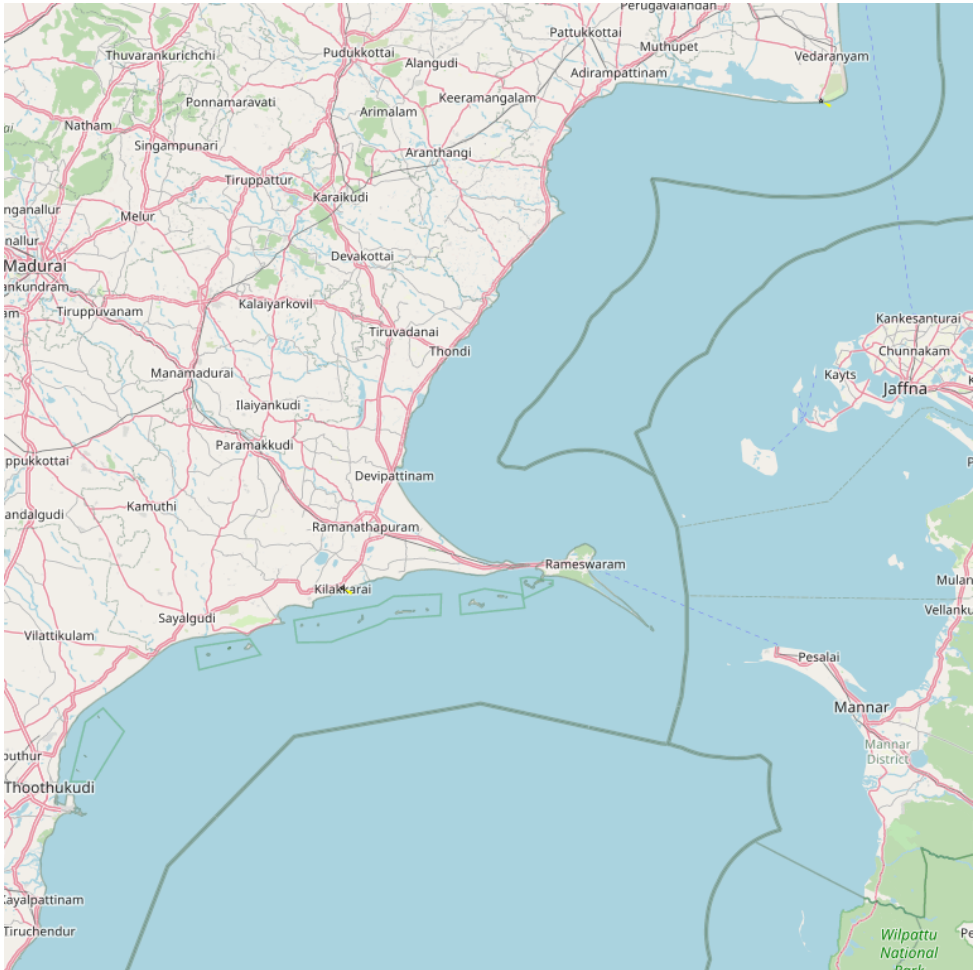
Valinokkam Point is marked by a beacon, 6m high. A submerged rock is marked by a beacon about 1.5 miles NE. These beacons are useful marks for vessels making the W entrance of Kilakkarai Passage, between Valinokkam Point and Anapipar Tivu (Anapipar Tivu), about 2 miles E.

The passage then leads S of a submerged rock, marked by a beacon, about 4 miles ENE of Valinokkam Point, and then to the anchorage off Kilakkarai. A light is shown from a white hexagonal concrete tower with red bands, 30m high, at Kilakkarai.


2.39.25.13 - Approaches Pamban Pass (E India)

9°12.15 N
79°10.77 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Gulf of Mannar (SE India) - Approaches Pamban Pass (E India)



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 Mansfield Patch, with a least depth of 5.8m, about 7 miles SE of Kundagal Point, is the N and shallowest of a group of detached patches.

Batt Patch, with a least depth of 4.9m, lies about 2.8 miles WNW of Mansfield Patch; the sea breaks on Batt Patch in a fresh breeze.

Manauli Reef, with its E edge about 4 miles SW of Kundagal Point, consists of coral and dries in places. The E end of the reef is marked by beacons.

Manauli Tivu (Manilla Tivu), with a conspicuous white beacon close E, lies about 2 miles from the E end of the Reef.

Pulli Shoal, with a least depth of 1.2m and over which the sea breaks, lies about 3 miles E of Manauli Tivu.

Puma Channel, leading to Pamban Pass, lies between Manauli Reef and Pulli Shoal.

Pulli Reef, N of Pulli Shoal, has three islands on it.

Pumurichan, along the W edge, has a conspicuous beacon, 10m high, on its SW side; Pumurichan Tivu, farther SE; and Kurisadi Tivu (Kursadi Tivu).

The extensive coral reef dries in places; its N edge is well defined at low water, but its S edge is indented and the sea breaks on it. Beacons mark the S and NW sides of Pulli Reef.

Kurisadi Beacon No. 2, 7m high, lies in the middle of Kurisadi Tivu. Kurisadi Beacon No. 1, 4.8m high, lies about 0.2 mile NW of Kurisadi Beacon No. 2, on the N edge of Pulli Reef.

Shingle Island, low and covered with scrub, lies nearly 1 mile ESE of Kurisadi Tivu. The island lies on Kallaru Reef, a coral reef, on the SW edge of which the sea breaks heavily. A conspicuous triangular white beacon, 9.5m high with a black band, lies on the E end of Shingle Island.

Kundagal Channel leads into Kundagal Gut, between Kundagal Point and the N side of Kurisadi Tivu, then NW into Sand Bank Channel, then NNE through The Basin to Pamban Pass.

The tidal current sets W through Kundagal Channel on the flood, and then W along the N edge of Pulli Reef, where it joins with the flood current through Puma Channel. The combined currents then set N, but they are weak unless influenced by strong S winds.

Directions

Vessels approaching Pamban Pass from the S should use great care as the off-lying islands are low, and there are no hills or conspicuous landmarks. During the Southwest Monsoon, haze frequently overhangs and obscures the islands.

Vessels over 4.6m draft should not approach within depths of 14.6m until their position is accurately determined.

The first landmarks identifiable from seaward are Rameswaram Temple, 50m high, appearing as a large square tower viewed from NE or SW and as a narrow pinnacle from SE or NW; Gandhamana Temple, 44m high, about 1 mile NW, lying in a large enclosure, but less conspicuous;

Pamban Light, a white tower, on a sandhill on the NW point of Pamban Island; a

red square water tower on a framework structure, 18m high, about 5 miles W of Pamban Light, and conspicuous when bearing less than 050°; and the beacon close E of Manauli Tivu, Pumurichan, and Shingle Island.

Vessels approaching Kundagal Channel, which is the better and more direct approach, should, after having passed the outlying dangers, steer to pass about 0.4 mile E of Shingle Island, taking care to avoid the shoals E.

When the beacon about 0.3 mile NE of Kundagal Point bears 286°, steer for Kundagal Gut, passing S of Kundagal Point. Continue W and bring Kurisadi Beacon No. 1 and Kurisadi Beacon No. 2 in line, astern, bearing 130°; this range leads through Sand Bank Channel passing close SW both of a buoy, moored 0.6 mile W of Kundagal Point, and a buoy moored 0.5 mile further WNW. Keep close to beacons marking the SW side of the latter channel, and SW of Elbow Buoy, a red conical buoy at the junction of Sand Bank Channel and The Basin, a narrow channel leading NNE, with depths of 4.6 to 6.7m in the fairway, which is marked by beacons.

A NNE course through The Basin leads to the S end of Pamban Pass.

A buoy moored 0.5 mile SW of Elbow Buoy marks a shoal ground of less than 1m on the W side of the deeper water at the intersection of Sand Bank Channel and The Basin.

Puma Channel, the SW approach, only available to those with local knowledge, demands navigation by eye. Manauli Reef, on the W side, is well-marked on its S and E sides by breaking seas.

Mandapam South Beacon, in line bearing 338° with a beacon on a low hill NNW, leads into Puma Channel. When the beacon on the SW side of Pumurichan bears 060°, vessels should steer NE through Puma East Channel; then steer along the N edge of Pulli Reef and into the channel N of Pulli Reef, marked by beacons; and finally steering into Sand Bank Channel and following the directions given above.

The vessels bound for the drydock at Mandapam, about 0.5 mile E of Mandapam South Beacon, should pass through Puma Channel as described and, leaving Cana Paru Reef about 0.3 mile to port, continue on the 338° range line until 1.3 miles from Mandapam South Beacon; local knowledge is necessary from this point.

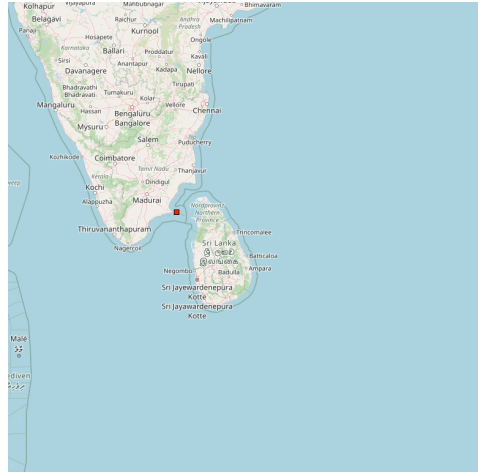
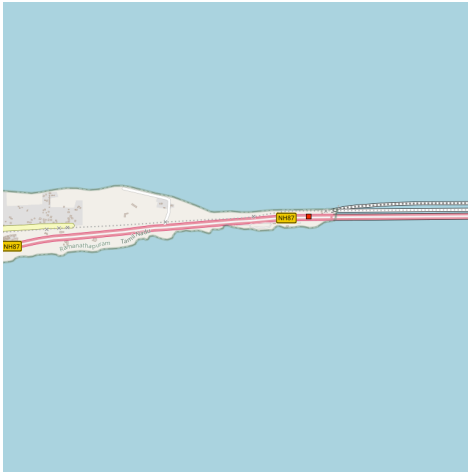
The drydock at Mandapam is 81m long and 15m wide, with the sill 2m below chart datum.


2.39.25.14 - Ramen Point (Tamil Nadu-E India)

9°16.94 N
79°11.33 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)

- Gulf of Mannar (SE India)



 Ramen Point is the E extremity of a narrow tongue of land projecting E from the coast.

A temple in ruins lies about 183m W of the point; a coconut plantation lies about 183m farther W.

The coast from Ramen Point to Devipattanam, about 21

miles NW, is generally low and level.

Kathu Vallimuni Reef, consisting of scattered coral heads, extends up to 0.5 mile offshore, and lies parallel with the coast for about 1.8 miles W of Ramen Point.

There are several heads, which dry 0.6m, at the E end of the reef.

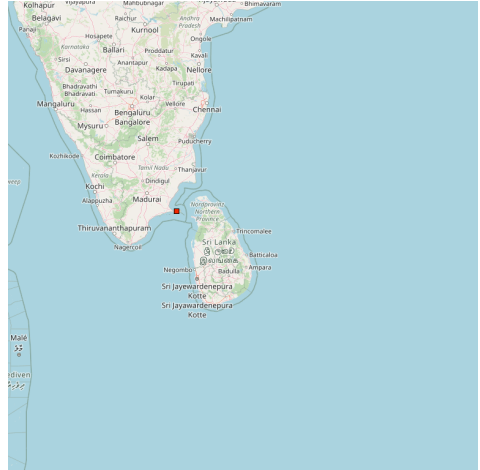
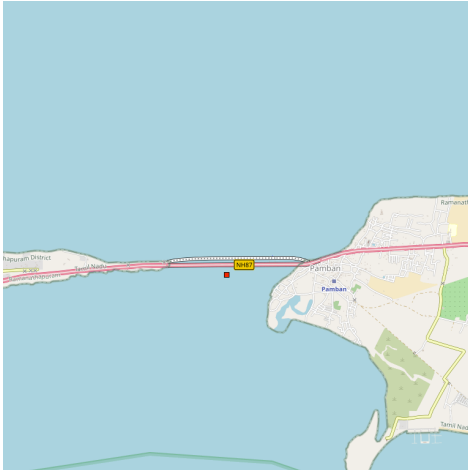
Vella Pertumuni Reef extends about 3 miles W of Kathu Vallimuni Reef, from which it is separated by a boat channel.




2.39.25.15 - Pamban Pass (Tamil Nadu-E India)

9°16.86 N
79°11.93 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Gulf of Mannar (SE India)



Pamban bridge

 Pamban Pass is the navigable channel, partly artificial, through the banks which occupy the space between the W end of Pamban Island and the mainland.

It is of great advantage to coastal craft trading between ports on the W coast of India and ports

of the Bay of Bengal.

A rocky barrier extends in a straight line between the W coast of Pamban Island and Ramen Point, about 1.3 miles W.

Pamban Viaduct, which carries the South India Railway is built on this barrier.

A cutting, 61m wide, through the barrier and crossed by a rolling lift bridge, lies about 0.2 mile W of Pamban Island. The bridge is under the control of the Port Conservator at Pamban, who requires 30 minutes notice to open the bridge; in an emergency it can be opened immediately.

On the W side of Pamban Pass the barrier is named The Great Dam. It consists of large masses of flat-surfaced rocks, which were formerly portions of a causeway that extended from Pamban Island to the mainland. The N face of the

dam is steep-to, and at LW presents a wall-like appearance, but the boulders are sufficiently separated to allow a free passage to the water.

The channel N of the rolling lift bridge over Pamban Pass is marked by buoys and beacons.

Depths? Limitations

In 1979, it was reported that the maximum draft for vessels using the pass was limited to 2.1m.

The pass is used by some coastal vessels of from 200 to 800 grt and about 61m in length; these are as large as can safely transit the channel.

Tides? Currents

The tidal rise at Pamban Pass is 0.7m at MHWS, and 0.5m at MHWN.

The pass is well-marked with beacons, buoys, and is easy to navigate.

Tidal currents are only noticeable at the change of the monsoon in March, April, and October. At other times they are masked by the S current during the Northeast Monsoon, and by the N current during the Southwest Monsoon. These currents often attain velocities of 6 knots, making passage of the pass difficult.

Pilotage

Pilotage is compulsory for merchant vessels. Licensed pilots at Pamban are under the orders of the Pamban Port Conservator. Pilots are stationed at Kundagal (Kundugal) Point, the SW extremity of Pamban Island, Mundel Point at the W end of Pamban Island, and on the N side of Pamban Pass, to look out for vessels approaching Pamban.

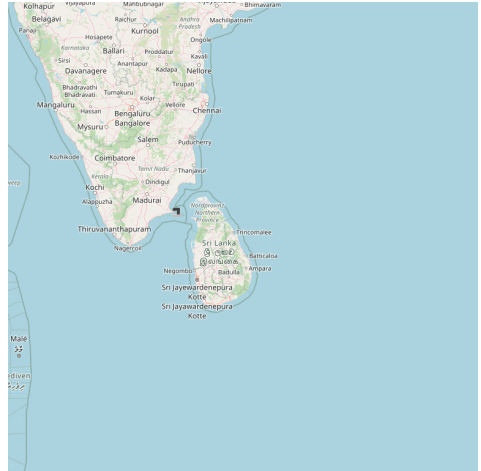
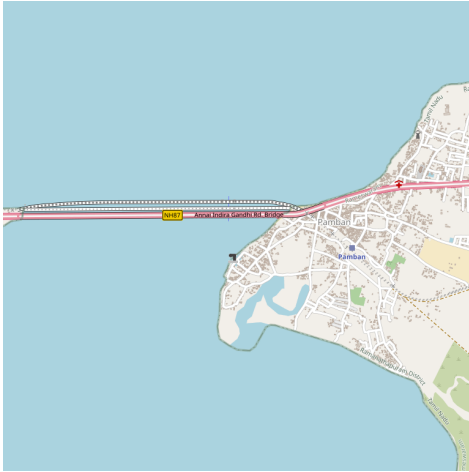
There are no official signals for vessels needing a pilot, but local craft usually display a red or white flag.



2.39.25.16 - Pamban port (Pamban Island-E India)

9°16.77 N
79°12.33 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Coromandel coast (E India)
- Gulf of Mannar (SE India)

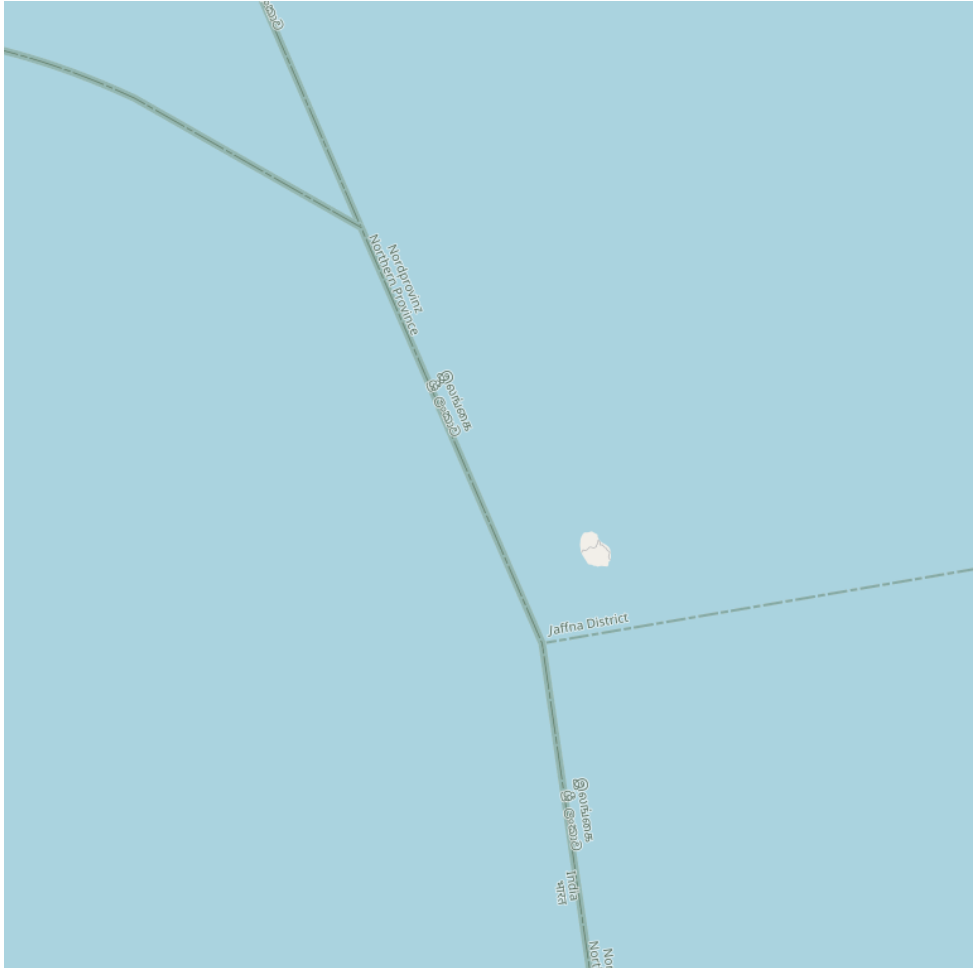


Pamban, administered by a conservator, lies close N of the W extremity of Pamban Island. Cargo is handled by lighters to and from the beach. South and SW winds prevail from April to October.


2.40 - Kachchaitivu (Kachchtivu) island (Sri-Lanka)

9°23.46 N
79°31.68 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - East Coast of India - Kachchaitivu (Kachchtivu) island (Sri-Lanka)



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 Kachchaitivu (Kachchtivu), about 10 miles SW of Delft Island , is 12m high and covered with scrub.

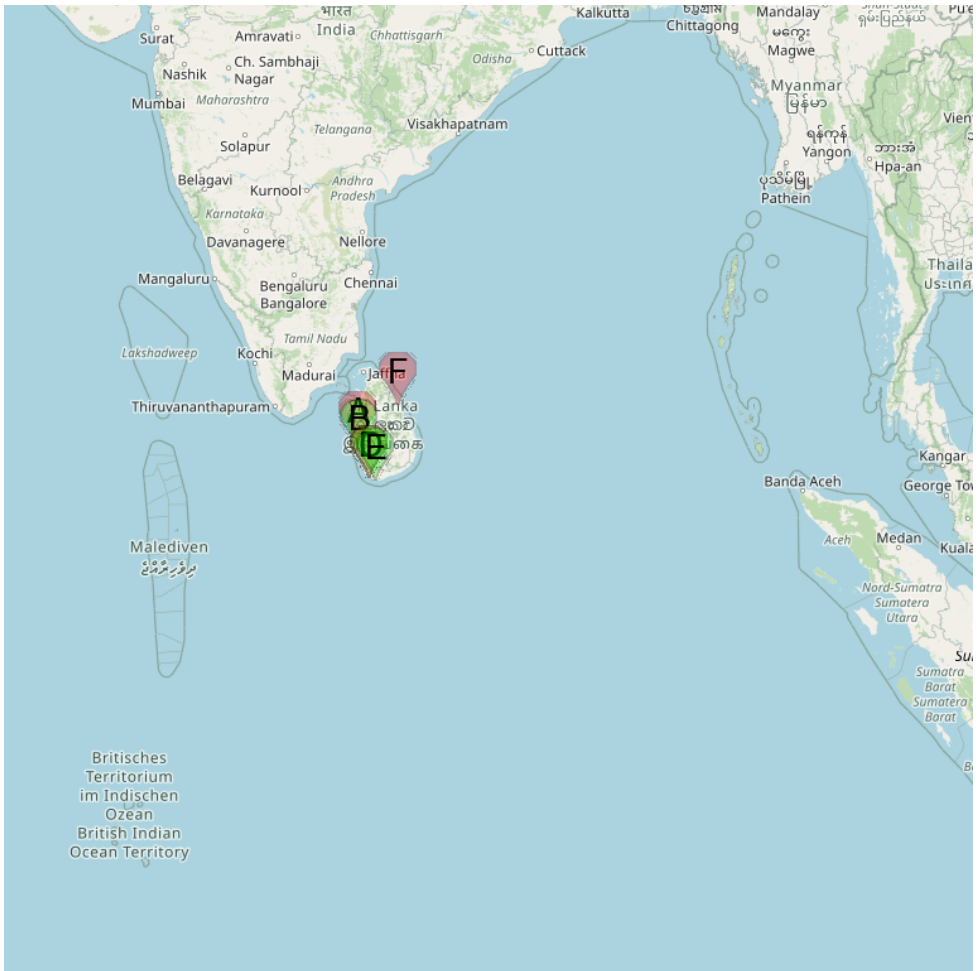
There is a well and a small shrine on the NE side of the island. Depths of less than 9.1m extend 1 mile SE of the island.

Depths of less than 5.5m extend about 2.5 mile NE from the broad peninsula extending N from Pamban Island.

3 - Sri Lanka

8°19.22 N
81°00.99 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Sri Lanka



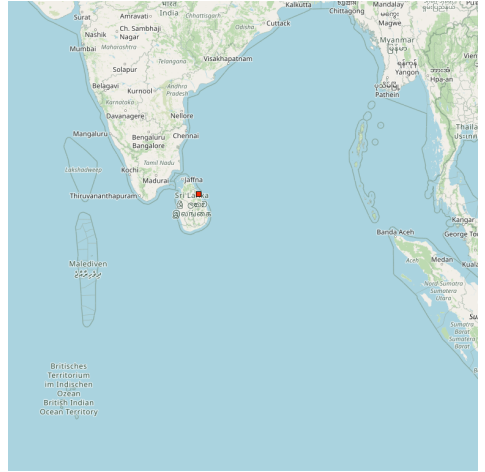
- A Negombo
- C Galle
- E Mirissa
- B Colombo Sri Lanka
- D Galle Harbor
- F Trincomalee Inner Harbor

Sri Lanka is an island country with maritime borders with India to the northwest and the Maldives to the southwest.


3.1 - Trincomalee Inner Harbor

8°34.14 N
81°13.29 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Sri Lanka



 Harbor.

 Port de commerce côtier.

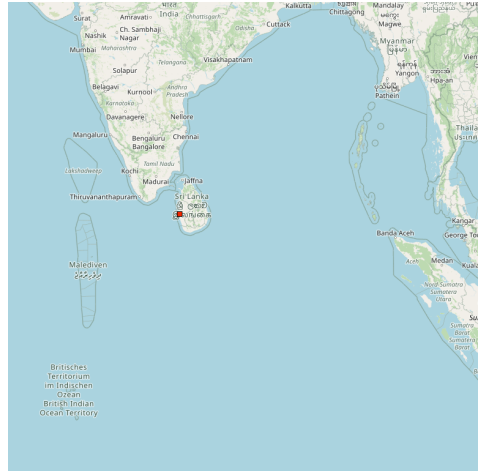
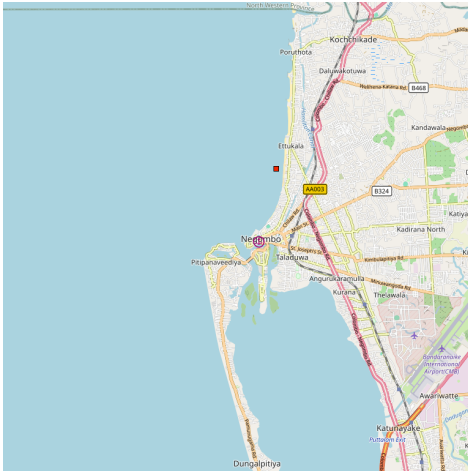


3.2 - Negombo

7°13.72 N
79°50.24 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Sri Lanka



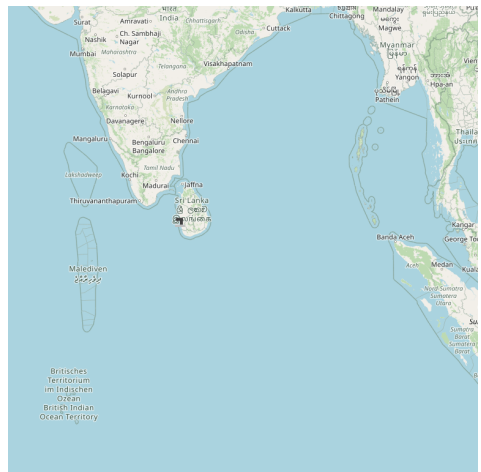
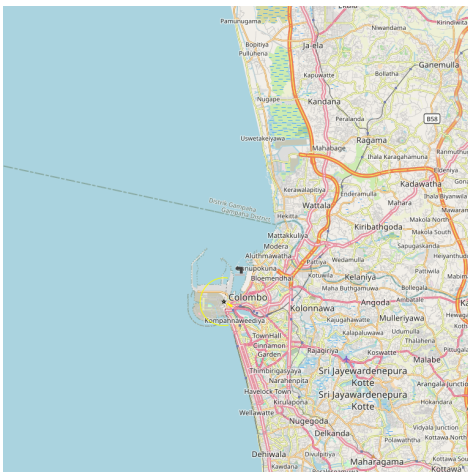


Isabelle C

3.3 - Colombo Sri Lanka

6°57.19 N
79°50.98 E

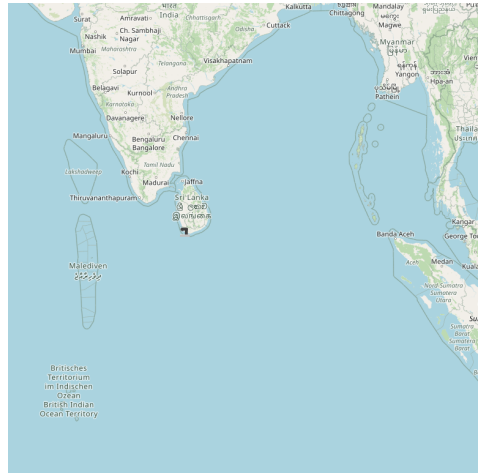
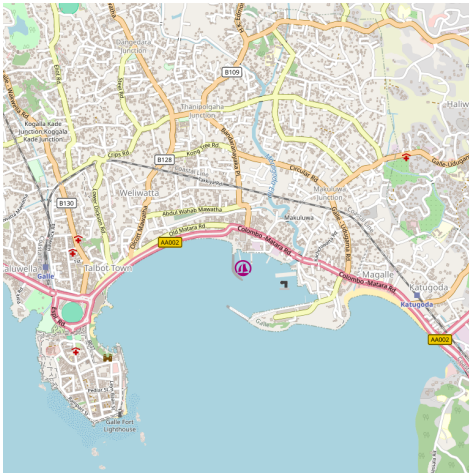
Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Sri Lanka




3.4 - Galle Harbor

6°02.00 N
80°13.85 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Sri Lanka



Samarinda

 Port protected by a breakwater.

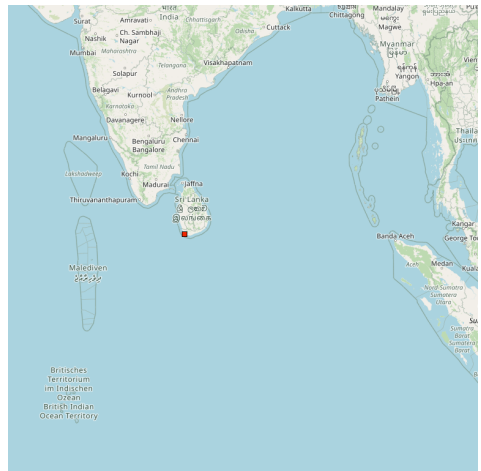
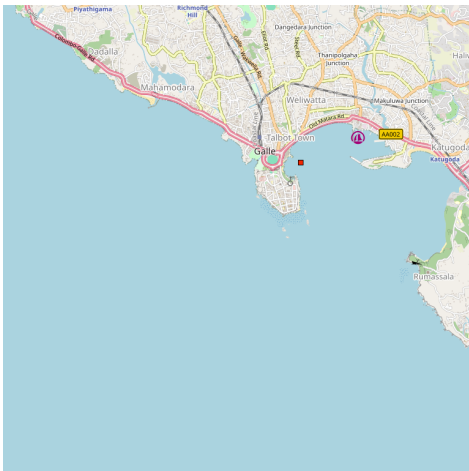
 Port protégé par une digue.

3.5 - Galle

6°01.87 N

80°13.20 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Sri Lanka



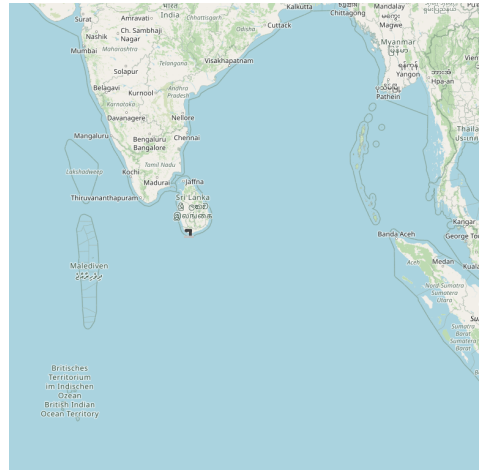
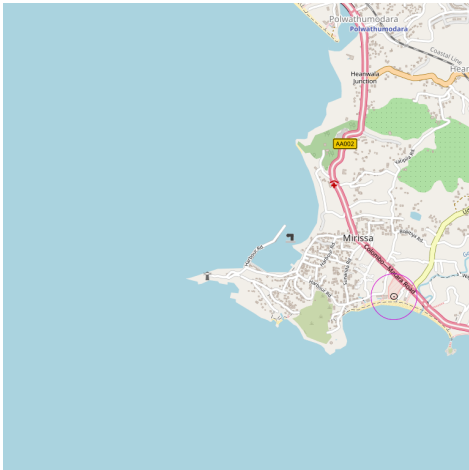


Isabelle C

3.6 - Mirissa

5°56.95 N
80°27.06 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Sri Lanka





Harbor View
Isabelle C

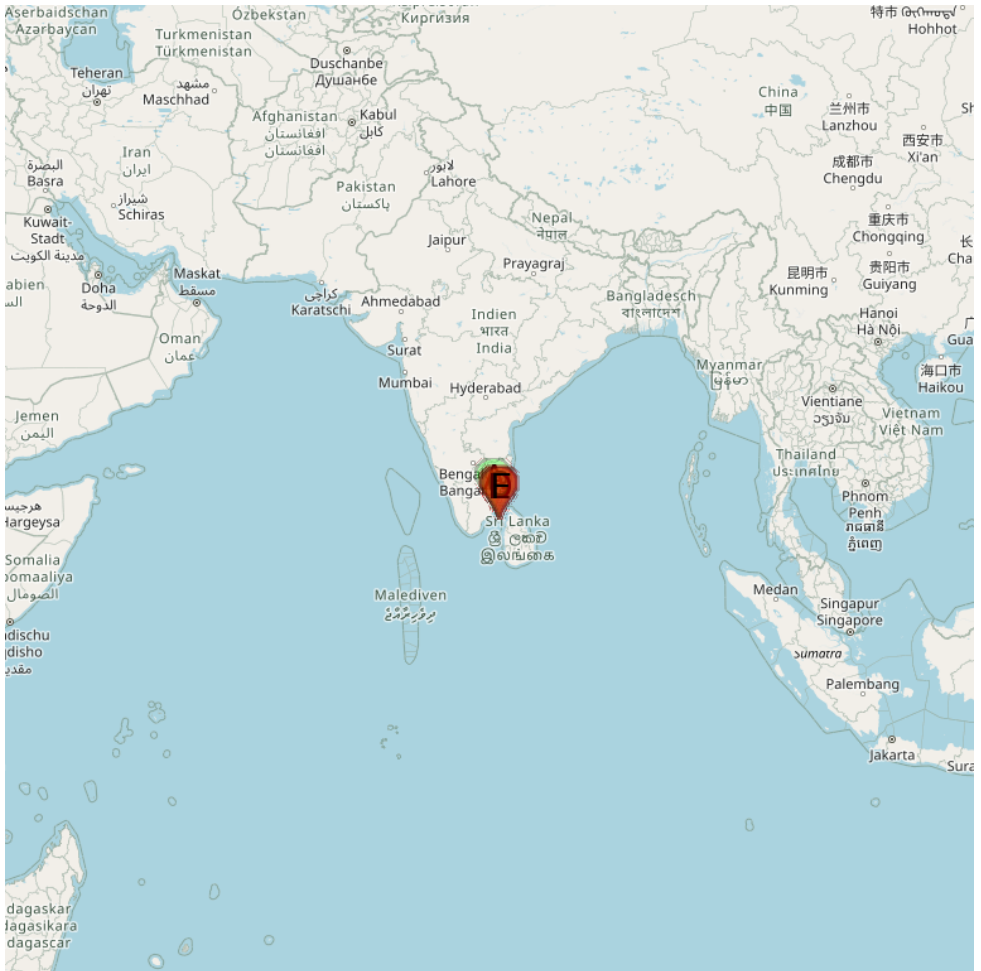


Isabelle C

4 - Palk Bay (E India)

5°51.27 N
79°35.28 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Palk Bay (E India)



A Tondi jetty (E India)

B Pamban Island (E India)

C Pamban light (Pamban island-E India)


D Dhanushkodi (Pamban island-E India)

E Lands End (Pamban island-E India)

F Adam's Bridge (Pamban island-E India)

palk strait

gulf of mannar

 Palk Bay, the continuation S of Palk Strait, is bounded on the E by the coast of Sri Lanka, on the S by Mannar Island, Adam's Bridge, and Pamban Island, and on the W by the coast of India.

The bay has general depths of 11 to 12.8m, but on its E side depths of 9.1m and less extend up to 15 miles from the coast of Sri Lanka, and within it are several islands, rocks, and shoals.

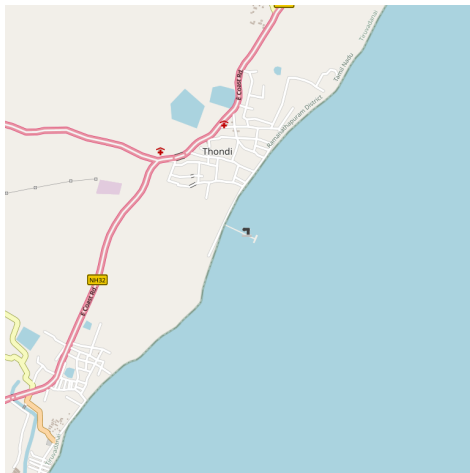
On the S side of the bay depths of less than 9.1m extend up to 7 miles from the coast. The NW part of the bay has not been fully surveyed.


Caution.?Dangerous wrecks and other hazards to navigation in Palk Strait are best seen on the chart.

4.1 - Tondi jetty (E India)

9°44.19 N
79°01.17 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Palk Bay (E India)



 Tondi, is a small port for local coasting craft.

Two white masonry beacons, 4.5m high, mark the port limits.

A light stands about 4.5 miles NE of Tondi.

Anchorage may obtained, in 6m, mud, about 5 miles ESE of Tondi, but this position is exposed to all but offshore winds.

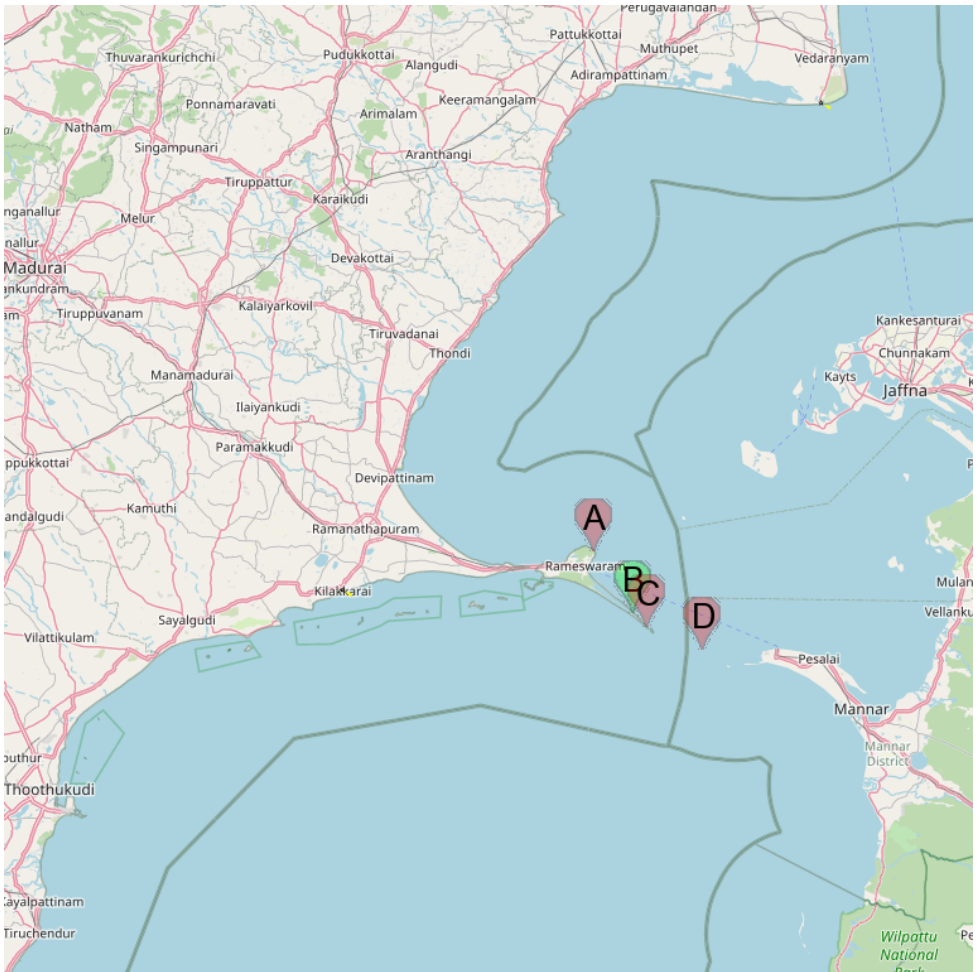
Small vessels anchor nearer the town, in about 4.9m, stiff mud.



4.2 - Pamban Island (E India)

9°11.84 N
79°26.27 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Palk Bay (E India) - Pamban Island (E India)

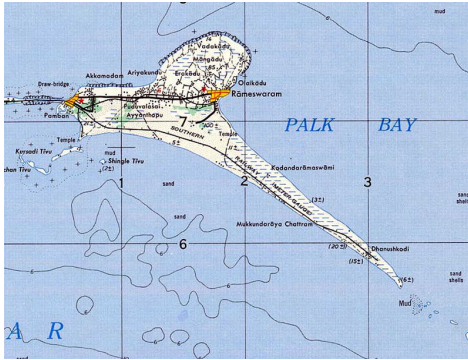


A Pamban light (Pamban island-E India)


B Dhanushkodi (Pamban island-E India)

C Lands End (Pamban island-E India)

D Adam's Bridge (Pamban island-E India)



Pamban Island (E India)
MANJUNATHA Reddy

 Pamban Island (also known as Rameswaram Island) is low, sandy, and well-planted with coconut trees towards its W end, where a broad peninsula extends about 3 miles N.

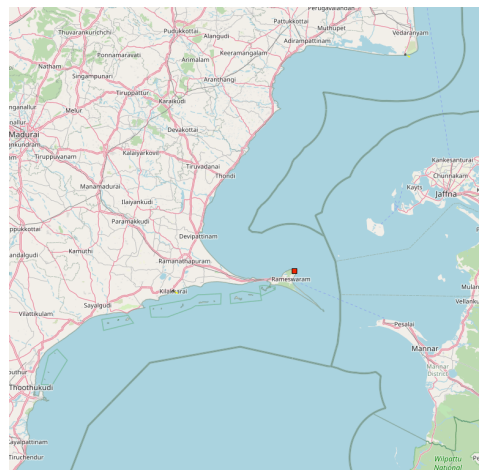
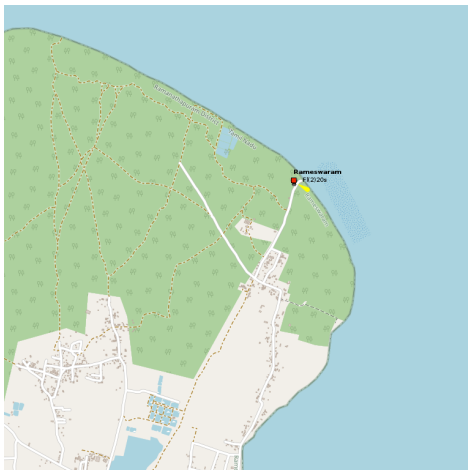
The chain formed by Pamban Island, the shoals of Adam's Bridge, and Mannar Island of Sri Lanka separate Palk Bay and the Palk Strait in the northeast from the Gulf of Mannar

in the southwest. Pamban Island extends for around 30 kilometres in width from the township of Pamban in the west to the remains of Dhanushkodi towards the south-east. The length of the island varies from 2 kilometres at the Dhanushkodi promontory to 7 kilometres near Rameswaram. The area of the island is around 67 square km.

4.2.1 - Pamban light (Pamban island-E India)

9°19.06 N
 79°19.83 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Palk Bay (E India) - Pamban Island (E India)



Pamban Light is shown from a conspicuous white tower on a sandhill on the NW point of Pamban Island. NE Beacon, 5.5m high and white, lies close N of the light.

Kanthe Thuki Reef, composed of partly drying coral heads, lies between 0.3 and 0.5 mile W of Pamban Island Light.

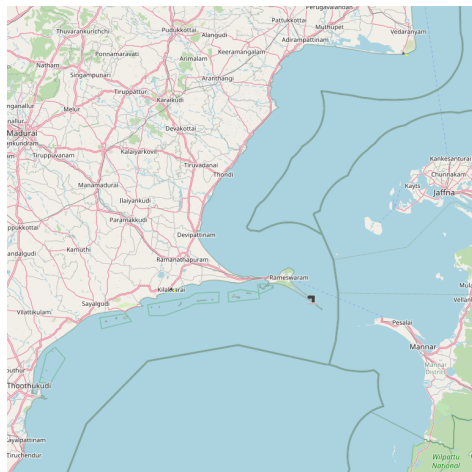
A boat channel between this reef and the coast is used by pilots when boarding vessels during the Northeast Monsoon.


Outer Fairway Buoy, painted in black and white checkers, is moored in the N approach to Pamban Pass, about 0.3 mile NW of Kanthe Thuki Reef, and about 0.7 mile WNW of Pamban Island Light.

4.2.2 - Dhanushkodi (Pamban island-E India)

9°11.13 N
79°24.91 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Palk Bay (E India) - Pamban Island (E India)



 Dhanushkodi, about 2 miles NW of Lands End, is connected to the railway system of India.

A pier, for use by vessels of the ferry service between Dhanushkodi and Talaimannar, extends from the NE coast of Pamban Island abreast the town. The pier is 219m long, with depths of 3.4m on each side of the pier head; the pier carries a double railway track.

The town of Dhanushkodi is most known for a cyclone passing, in 1964, over the railway station and drowning 100 passengers in the train that was traveling.

Dhanushkodi was a small town only having a railway station, an hospital, some stores, and few

houses. In 1964 a cyclone wiped out the whole town and a memorial was later created to those who died in the storm.

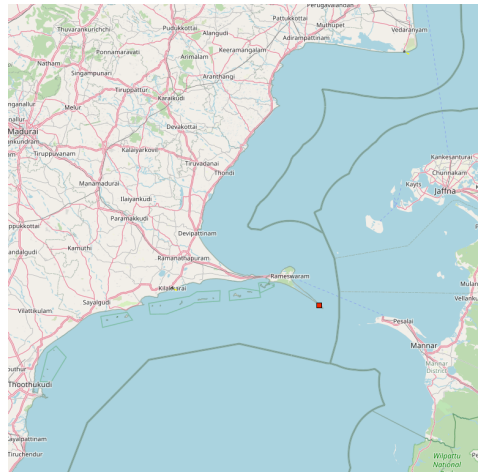
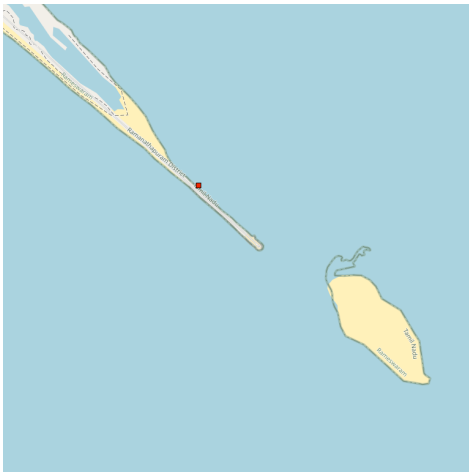
remains of Dhanushkodi church




4.2.3 - Lands End (Pamban island-E India)

9°09.27 N
79°26.69 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Palk Bay (E India) - Pamban Island (E India)



 Lands End is the SE extremity of Pamban Island; a small but conspicuous building lies near the point.

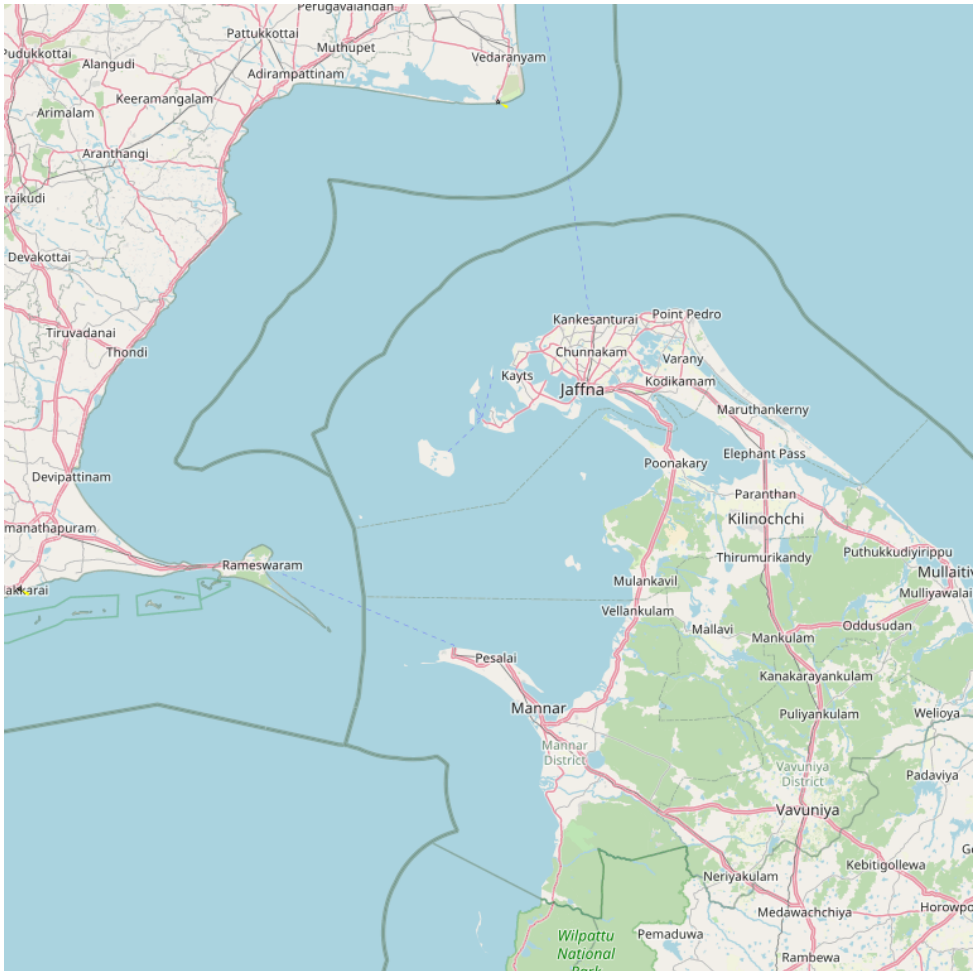
Dhanushkodi, about 2 miles NW of Lands End, is a railroad terminal; the red-roofed railway buildings are conspicuous.



4.2.4 - Adam's Bridge (Pamban island-E India)

9°06.34 N
79°33.96 E

Mer du Nord - Ten degrees channel (India) - Bay of Bengal - Palk Bay (E India) - Pamban Island (E India) - Adam's Bridge (Pamban island-E India)



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Adam's Bridge (Rama's Bridge or Rama Setu) is a chain of limestone shoals of sand and rocks, mostly dry, which connects Pamban Island with Mannar Island (off the NW coast of Sri Lanka), about 16 miles ESE.

It is composed mostly of shifting sand banks, with intricate shallow channels (1 m to 10 m) between them.

The bridge is 30 km long and separates the Gulf of Mannar (SW) from the Palk

Strait (NE).

Shoal water extends up to 5 miles from the bridge, with depths under 11m. Farther seaward, depths increase sharply to over 183m about 12 miles SW of Adam's Bridge.



Adam's Bridge (Pamban island-E India)

www.sea-seek.com



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