

Additional Chart Coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 4 — CHART INFORMATION

SECTOR 4

SOUTH COAST OF BRAZIL—CABO FRIO TO PUNTA DEL ESTE

Plan.—This sector describes the E coast of Brazil from Cabo Frio to Punta del Este, the N entrance to Rio de la Plata in Uruguay. The descriptive sequence is from N to S.

General Remarks

4.1 Winds—Weather.—In Baía de Guanabara local winds which vary from NE depending on the location, blow during the night and part of the morning. They descend from the mountains near the coast and spread up to 6 to 9 miles from the coast. They subside in the morning and are followed by a period of calm which lasts until about noon.

The sea breeze then begins and subsides at sunset. It is reported to be weak when it enters the bay, but immediately becomes stronger.

The regularity of the variation of these breezes ceases only in the event of bad weather. In this event usually from June to October, the winds blow from the SW or S. During this period SE winds usually cause a confused sea breaking in Enseada de Botafogo and Enseada de Flamengo.

Strong thunderstorms form in the interior of the bay on very hot days during January, February, and March, and generally when the sea breeze either lags or does not blow. They are accompanied by short but violent winds and heavy rains.

These thunderstorms are even stronger when clouds gather over Serra dos Orgaos, N of the bay, with winds from N, but this rarely occurs.

During bad weather, it will clear if the wind shifts from SW to N, passing through E. If the contrary occurs, the weather will continue to be bad.

In the morning during May, June, and July there is generally dense fog which disappears in the late morning.

The winds in Canal de Santa Catarina generally follow the direction of the channel.

They are seldom strong, although the short choppy seas are dangerous for small boats.

From March to September, cold fronts accompanied by very strong winds from S to WSW move through the area; they carry continuous precipitation which can last up to 6 days.

During October, the winds shift to E and N, and the following six months are the hottest of the year. During this season, there are frequent storms from N around by E to W.

Winds from SE are accompanied by heavy rain. In general, the heaviest rain fall in August and September, but some years these months are dry.

During August at dawn, the area is frequently covered by a dense fog which fades away about noon.

This part of the coast of Brazil is dominated by Serra do Mar, which extends almost uninterrupted to near the S boundary of Brazil.

The mountains which make up Serra do Mar in most places consists of several ranges lying parallel with the coast, with the highest ranges being farthest from the coast.

North of latitude 30°S, the mountainous terrain reaches the sea in many places, cutting into segments and pockets the fringe of lowland that fronts the foot of the mountains.

South of latitude 30°S, where Serra do Mar abruptly turns W, the coast consists of hilly uplands fronted by a broad area of sand dunes, lagoons, and swamps.

The offshore approaches are fronted by islands, islets, and rocks, most of which are separated by wide and clear channels.

Cabo Frio to Baía Guanabara

4.2 Cabo Frio (22°53'1"S., 42°00'W.), the S extremity of Ilha do Cabo Frio, ends S in the narrow Focinho do Cabo. The island, covered with vegetation, is visible in clear weather for about 4 miles. When seen from the SW, the island appears as an undulating plateau with three peaks, of which the middle peak is the highest. A disused lighthouse, 390m high and is usually cloud covered, stands on the middle peak.

Cabo Frio Light is shown very close to the N of Focinho do Cabo. Good radar returns have been reported from Cabo Frio, distant of about 26 miles.

Caution.—A rock, with a depth of 3.3m, lies close S of Focinho do Cabo.

Between Cabo Frio and Baía de Guanabara, about 63 miles to the W, the coast is low and consists of a uniformed barren sandy beach as far as Ponta Negra. The mountains of Baía de Guanabara where they rise from the sea in almost sheer granite cliffs. The mountains within the E part of this coast are far inland and cannot be identified from seaward.

Ilhas dos Franceses, about 3 miles NW of Cabo Frio and 0.1 mile offshore, consist of two rocky islets, the highest of which is 39m high.

Ponta de Saquarema (22°56'S., 42°30'W.), about 28 miles W of Cabo Frio, is a small hill surrounded by a convent. This convent is conspicuous and visible 6 miles. The point is marked by a light. Laje de Itauna is a group of above-water rocks lying up to 0.5 mile off Ponta de Saquarema and should be given a wide berth.

Ponta Negra (22°58'S., 42°41'W.), about 11 miles W of Ponta de Saquarema, is the extremity of a spur of the mountains projecting about 1 mile from the coast. This dark bluff forms the W limits of Praia de Macambaba and is easily recognized. Radar returns from the point have been reported up to 18 miles. Laje Ponta Negra, a rock with a depth of 1.3m, lies about 0.5 miles S of the point and the sea breaks almost continuously on it. A light is shown from Ponta Negra.

Ilhas Maricas (23°01'S., 42°55'W.) consist of two islets and lies 13 miles WSW of Ponta Negra. Two above-water rocks, on which the sea breaks heavily, lie close off the N extremity of the N islet.

Two small rocks lie close off the S end of the S islet. A light is shown from the N islet.

A rock, with a depth of 14m, lies 1.5 miles NE of the N islet. Good radar returns from the islets have been reported up to 12 miles.

Baia de Guanabara

4.3 Baia de Guanabara (22°57'S., 43°08'W.) is one of the finest and best sheltered natural harbors in the world. It is about 16 miles long, gradually widening from about 1 mile at the entrance to 15 miles at the head.

It contains many islands and islets, and is surrounded by high wooded mountains which slope gently to its shores.

The shores of the bay are sandy beaches, separated by slightly projecting points covered with vegetation. Several rivers empty into the head of the bay.

The bay is approached between Ponta de Itaipu, about 20 miles W of Ponta Negra, and Ponta do Arpoador, about 8 miles farther to the W. The entrance to the bay lies between Ponta de Santa Cruz, about 6 miles WNW of Ponta de Itaipu and Ponta de Sao Joao, about 0.9 mile to the W.

Porto do Rio de Janeiro occupies the S and W parts of the bay. Ilha do Governador, the principal oil terminal, is in the N part of the bay and Niteroi, a shipbuilding center, occupies most of the E part of the bay.

Winds—Weather.—In Baia de Guanabara, local winds blow with great regularity. The regularity of the variation of these winds ceases only in the event of bad weather. In this event, usually from June to October, the winds blow from the SW or S.

During this period, SE winds cause a confused sea breaking in Enseada de Botafogo and Enseada de Flamengo. Strong thunderstorms form in the interior of the bay on very hot days from January to March, and generally when the sea breeze either lags or does not blow. They are accompanied by short, but violent winds and heavy rains.

During bad weather, it will clear if the wind shifts from SW to N passing through E. If the contrary occurs, the weather will continue to be bad. In the morning during May, June, and July there is generally a dense fog which disappears around 1000.

Tides—Currents.—Close to Cabo Frio, with winds from the S, the current tends to the N; with winds from the NE, the current usually tends to the W. A countercurrent, which forms in this area and can be felt up to 10 miles W of the cape, tends to move vessels closer to shore.

In the vicinity of Baie de Guanabara, from October to March, when the wind is from the NE, the current tends to the W; from March to October, when the wind blows from the SE, the current tends to the N.

Aspect.—The entrance of Baia de Guanabara can be identified by several prominent mountains in its immediate vicinity.

On the E side, **Falso Pao de Acucar** (22°58'S., 43°02'W.) rises from the sea in almost sheer granite cliffs and is the most conspicuous. On the W side, Pao de Acucar is prominent. The peak, 395m high, has the shape of a sugarloaf and is so named.

A large pavilion stands on the summit and is lighted until about 2200 hours.

Pico do Corcovado, about 3 miles W of Pao de Acucar, is conspicuous by the lighted statue of Christ on its summit, although it is frequently obstructed by clouds and haze.

Pedra da Gavea, about 5 miles SW of Pico do Corcovado, resembles a square sail. It is visible for about 50 miles in all directions and cannot be mistaken for any other peak in the vicinity. At night the loom of the lights of Rio de Janeiro can be seen for great distances, especially when there are clouds over the city reflecting it.

Directions.—The islands in the approach to Baia de Guanabara are steep-to, and may be approached safely. The passage between Ilha Rasa and Ilha do Pai is the widest, and is the one generally used by vessels approaching from the E.

Ships entering or leaving over the bar have preference of maneuvering over other ships and small craft navigating outside the channel.

Vessels whose draft does not exceed 13.4m should enter the port via the channel E of Ilha de Cotunduba. Mariners should take care to avoid the 10.4m shoal 0.2 mile N of the island, and the sandy shoal which extends 1.5 miles S from Ponta de Santa Cruz.

Vessels whose draft exceeds 13.4m should use the channel dredged to 17m, entered 1 mile E of Ponta de Capacabana.

This route passes between Ponta do Leme and Ilha de Cotunduba; between Ilha Laje and Ponta de anta Cruz; up the E side of the quarantine anchorage, and then to the Alte Tamandare tanker terminal.

Request for pilotage service may be made either to the Harbor Pilots Working Cooperative (Pilot Station VHF channels 16 and 12).

For tankers larger than 100,000 dwt, pilots usually board vessels outside the main channel entrance. This will occur if weather conditions permit and in daylight only.

Ships could also use, in most circumstances, a secondary entry channel with N to S axis passing through Ilha Cotunduba as long as their draft does not exceed 11.3m.

In certain cases and at the discretion of the pilot according to the prevailing conditions ships will use this channel with a draft up to 12.5m.

Caution.—**Ilha Raza** (23°04'S., 43°09'W.), about 7 miles S of the entrance of Baia de Guanabara, is covered with vegetation and shows a light. A radio beacon transmits from the light.

Ilha Redonda lies about 3 miles W of Ilha Raza, and is conical in shape. Filhote de Redonda lies 183m S of the SW side of Ilha Redonda.

Laje da Redonda, about 1 mile to the SW, is a rocky ledge with one head about 1.5m high.

Ilhas Cagarras, about 3 miles N of Ilha Redonda, consists of seven islets. Ilha Comprida is the largest of the group. Ilha de Palmas shows a light.

Sunken rocks extend 183m S of the E end of Ilha de Palmas. Ilha do Pai and Ilha da Mae lie on the NE side of the approach to Baia de Guanabara, close W of Ponta de Itaipu. A shoal patch, with a depth of 20m, lies 0.2 mile S of Ilha do Pai.

A circular anchorage area one mile in diameter, used to anchor drilling platforms, lies N of these islands. Ilha de Cotunduba lies on the W side of the entrance to the bay, about 2 miles S of Ponta de Sao Joao.

Porto do Rio de Janeiro (22°54'S., 43°10'W.)

World Port Index No. 12920

4.4 Porto do Rio de Janeiro is part of the leading commercial center and the largest port complex in Brazil.

The port, which occupies the S and W parts of Baía de Guanabara, lies between Ponta de Santa Cruz and Ponta da Armacao, about 4 miles to the N, on the E side, and Ponta de Sao Joao and Caju, about 5 miles to the NW, on the W side.

Tides—Currents

The tidal currents off the berths at Rio de Janeiro are weak, but SE of Ilha Fiscal they attain a velocity of 1.5 knots at springs. The ebb runs much stronger than the flood, especially after heavy rains. It generally follows a SSE direction to Ilha das Cobras where it divides into two branches. One branch passes through the anchorage E of the island and the other passes through the channel W of the island where it attains great speed.

On the arrival of cold fronts in winter and when the S wind freshens, a "holding in" of the waters of the bay has been observed; this could cause a lengthening of the flood slack water. The tides in Rio de Janeiro are diurnal, but they are nonuniform. The tidal range is 1.1m at springs and 0.5m at neaps.

Depths—Limitations

The main channel is 15.8m at LW. The channel to the container terminal and ore docks is 10m deep. The channel to Gamboa Quay and Sao Cristovao Quay varies from 7.2 to 10.3m deep. The channel to Caju Quay is 5.8m deep.

The Presidente Costa E Silva Bridge crosses Baía Guanabara between the NW entrance point of the commercial harbor and Ilha de Moncangue of Niteroi. Passage under the main span is restricted to vessels of more than 50,000 dwt or with a draft greater than 12.2m.

Other vessels should pass under the span adjacent to the main span; between piers 99 and 100 when bound S; between piers 101 and 102 when bound N.

The main span of the bridge, between piers 100 and 101, has a vertical clearance of 60m above mean sea level, it has horizontal clearance of 269m.

The two adjacent spans have a vertical clearance of 60m above mean sea level, and a horizontal clearance of 170.5m.

There are about 4 miles of quayage in the commercial harbor of Rio de Janeiro. Ships usually moor and unmoor at any hour except when an unexpected event arises, such as breakdown and inclement weather.

Maua Pier is 808m long with depths of 8 to 11m. The pier is used mainly for passenger ships and is located about 0.2 mile W of Ilha das Cobras.

Gamboa Quay, containing Warehouses 1 to 18, extends W from the root of Maua Pier for 3,225m, and has alongside depths of 7.2 to 10.3m.

Sao Cristovao Quay, containing Warehouses 22 to 24 and 30, extends NNW from the W end of Gamboa Quay for a distance of 1,325m. There are depths of 7 to 8.5m alongside.

Caju Quay extends NE from the N end of Sao Cristovao Quay for a distance of 1,300m and has a depth of 6m.

The Oil and Coal Quay, close NE of Caju Quay, is 765m long with depths of 9 to 12m alongside.

The tanker berth in the commercial harbor, which lies 0.2 mile NW of Maua Pier, consists of four mooring buoys in depths of 10 to 12m. The seaward end of the pipeline is marked by a lighted buoy.

Pilotage

Pilotage is compulsory for all foreign vessels. Pilots are available from this station without previous notice. The pilot boat displays a red flag with a black "P." Pilots board, as follows:

1. Vessels approaching from the N—1 mile S of Ponta de Santa Cruz. Due to swells, pilots usually board cargo vessels in the vicinity of Ponta de Santa Cruz.

2. Vessels approaching from the S or entering the dredged channel—2 miles S of Ilha de Cotunduba.

Vessels requiring a pilot at these two stations should request one on 48 hour notice.

Vessels of over 10m draft usually embark a pilot at the outer station. Pilots will not bring a vessel to the quarantine anchorage at night if her draft exceeds 11m.

Regulations

Vessels are prohibited from berthing alongside prior to visits by the customs, health, and police officials. These visits are normally between 0700 and 1900 hours. There is a speed limit of 5 knots in the harbor.

Vessels, with a draft of 11.3m or more, must use the 17m dredged channel which begins in the vicinity of Copacabana Point. There is a speed limit of 6 knots in the harbor.

A vessel reporting system, which is mandatory for vessels 20 grt and over, is in operation in Rio de Janeiro. Vessels must report, as follows:

1. When entering Baía Guanabara—on the Lage-Santa Cruz alignment.

2. When leaving the port of Rio de Janeiro—passing abeam of Ilha Fiscal.

3. When changing berth or anchorage.

The report must include the following information:

1. Vessel name.
2. International call sign.
3. Flag.
4. Port of origin (inbound vessels) or port of destination (outbound vessels).
5. Type of cargo.
6. Anchorage or berth (inbound vessels) or estimated date of arrival at destination (outbound vessels).
7. Estimated date of departure (inbound vessels) or cruising speed (outbound vessels).

Vessels changing berth or anchorage must report the following information:

1. Vessel name.
2. International call sign.

3. Previous position.
4. Present position.

Signals

Storm and weather signals are shown from the signal stations about 0.1 mile W of Ponta de Copacabana and near the middle of Ilha dos Cobras. Another signal station is on the S end of Ilha do Mocangue in the approach to Niteroi.

A white flag indicates good weather, a blue flag indicates bad weather, and a white and blue flag indicates unsettled weather.

When these flags are displayed alone, it also signifies that the temperature will remain stable.

A black pendant, displayed above or below the flag, indicates that the temperature will rise or fall, respectively. Should a large rise or fall in temperature be expected, the pendant will be replaced by a white flag with a red or black rectangular center, respectively.

At night, the following signals are exhibited at the meteorological observatory and on a building in Cidade do Rio de Janeiro:

A white light indicates good weather; a blue light indicates threatening or bad weather; and a red light indicates unsettled weather, with or without rain.

Anchorage

Vessels which have to anchor outside the harbor should do so 1.75 miles N of Ilha Rasa in depths of about 32m.

Vessels awaiting a pilot or quarantine officials should anchor in the quarantine anchorage, close W of Ponta da Armacao. No vessel will remain in this anchorage longer than two hours after the last official has left.

Vessels intending to remain at anchor for long periods of time should use the anchorage located 0.15 to 0.75 mile NW of Ilha das Enxadas, with depths of 6 to 9.3m. There are also anchorage N of the bridge with depths of 4.8 to 15m.

There is an explosives anchorage, with depths of 4 to 7m, located 3.75 miles NNE of Ponta da Armacao.

Anchorage for LASH vessels lie 0.7 mile ENE, with depths of 13.9 to 20m and 0.3 mile W, with depths of 7 to 9m, respectively, of Ilha das Enxadas. The above anchorage areas can best be seen on the harbor charts.

Anchorage is prohibited in several areas in Baía de Guanabara because of submarine cables and oil and water pipelines. These areas are also shown on the area charts.

Vessels are also prohibited from anchoring in the approach channel to the oil terminal off Ilha do Governador.

4.5 Niteroi (22°53'S., 43°07'W.) ([World Port Index No. 12930](#)) stands on the opposite side of Baía de Guanabara, across from Rio de Janeiro.

The port is situated in Enseada de Sao Lourenco and can be approached either by passing between Ponta do Toque-Toque and Ilha do Mocangue Grande, or between the latter island and Ilha do Viana.

The vertical clearance of the bridge between piers 126 and 130 is 19m.

Enseada de Sao Lourenco is entered by a narrow channel, with a least depth of 5.4m, between Ilha Caju and Ponta da Areia, 183m to the SW.

The maneuvering basin in the channel of Niteroi is 430m long, 250m wide, and has a depth of 6m.

The quay at Niteroi, which is about 450m long from the S shore of Enseada de Sao Lourenco, has a depth of 7m alongside, near its center, and at least 2m elsewhere. A floating dock is moored at the E end of the quay.

A pier, with a light shown from its head, extends 100m W and SW from the W extremity of Ilha da Conceicao.

An L-shaped pier projects W, then about 450m N from the NW extremity of Ilha do Mocangue, with a second pier projecting 300m N from its root. A shoal patch, with a depth of 8.3m, lies close N of this pier head. A third pier is reported to project about 100m NW from the NE extremity of Ilha do Mocangue. A light is exhibited from the head of each pier.

It has been reported that the quay on Ilha do Caju is being dredged to 12m to provide two ro-ro berths and two cargo berths.

Pilotage is compulsory and pilots board at the quarantine anchorage. Before entering the port vessels must clear with port authorities at the quarantine anchorage.

Baía de Guanabara—North Part

4.6 The bay N of Rio de Janeiro is generally shallow and foul. The main channel, swept to a depth of 17m and described in paragraph 4.4, leads from the quarantine anchorage to about 1 mile E of Ilha d'Aqua, about 0.7 mile off the E side of Ilha do Governador.

There are several maritime terminals for the loading and discharging of oil in the N part of Baía de Guanabara.

The principal terminals are as follows: Terminal Maritime Alte Tamandare, about 0.5 mile ENE of Ponta da Ribeira; Terminal de Butadieno, about 0.7 mile NE of Ilha d'Aqua; the terminals at Ponta da Ribeira and near Ponta da Cousa; Ilha Comprida; and Ilha Redonda, ENE of Ilha Comprida.

Terminal Maritime Alte Tamandare has a length of 424m and can accommodate two tankers, one on each side, 105,000 grt each and in depths of at least 17m. The largest tanker to dock had a draft of 15.8m.

The other terminals can accommodate tankers with lengths up to 172m and drafts up to 9.4m.

There are numerous oil pipelines in the N part of the bay and can best be seen on the area charts. Vessels are cautioned not to anchor in the vicinity of these pipelines.

Caution.—When using the applicable navigation chart, do not use objects on both sides of the channel concurrently to fix the vessel's position.

The two sides of the bay were surveyed independently and do not exactly match.

Baía de Guanabara to Baía de Sepetiba

4.7 Between Ponta do Arpoador and Cabo da Gavea, about 6 miles to the WSW, the coast is backed by the continuation of the mountains that surround Rio de Janeiro.

Ponta dos Dois Irmaos, about midway along this stretch, is high and steep and rises to Pico Dois Irmaos, about 0.5 mile inland.

Cabo da Gavea (23°01'S., 43°18'W.) is the SW extremity of a rocky promontory. Pico da Tijuca, a conspicuous peak, stands about 4 miles N of the cape. A dangerous rock, with a depth of 2.5m, lies about 0.2 mile offshore and nearly 0.75 mile WSW off the cape.

Ilhas Tijucas consists of three islets and several rocks whose least known depth is 7.8m and are located about 1 mile S and SE of Cabo da Gavea.

Mariners are advised to navigate in depths no lower than the 20m curve when transiting this area.

A channel runs between the islets and the coast. Vessels using this channel should keep near Cabo da Gavea, which is steep-to.

4.8 Pontal de Sernambitiba (23°02'S., 43°28'W.), a low islet joined to the coast by a drying sand ridge, is located almost 10 miles W of Cabo da Gavea. Ilha Urupiral lies 2.5 miles SW of Pontal de Sernambitiba, and between it and the mainland is Ilha das Pecas.

Ponta de Guaratiba (23°05'S., 43°34'W.) is the SW extremity of a promontory which is about 1 mile wide. It rises to a conical peak, 354m high, and is the SW end of a chain of mountains surrounding Rio de Janeiro. A small, low, islet lies close W of Ponta de Guaratiba.

Ilha Rasa da Guaratiba, close S of Ponta de Guaratiba, is 32m high and covered with low vegetation. An above-water rock lies about 0.1 mile WSW of the island. The passage between the island and the coast is obstructed by submerged rocks. A light is shown from the island.

Laje da Marambaia (23°07'S., 43°51'W.), about 15 miles W of Ponta de Guaratiba and 2.75 miles offshore, is 17m high and barren. From the S this steep-to rocky islet appears cone shaped. A light is shown from Laje da Marambaia. A shoal with a depth of 7.3m and one with a depth of 7.6m lie 0.8 mile and 1 mile W, respectively, of the light.

Restinga de Marambaia, a tongue of land which extends nearly 25 miles W from the foot of Morro de Guaratiba, is separated from the mainland at its E end by a narrow channel.

It is mostly sandy with some low vegetation. Ilha de Marambaia, which forms the W end of this peninsula, rises to a height of 640m.

Areas prohibited to anchoring or fishing are located along the S coast of Restinga da Marambaia.

Baia de Sepetiba

4.9 Baia de Sepetiba, N of Restinga de Marambaia, is about 20 miles long and up to 8 miles wide. The W part of the bay has numerous islands and rocks, with deep water and good anchorage between them. The E part of the bay, with fewer islets and dangers, is shallower, but does not afford good anchorage. The N shore of the bay is low and intersected by several rivers and drainage canals navigable by small craft.

The bay, approached W of Ilha do Marambaia, is entered between **Ponta do Sino** (23°05'S., 44°01'W.) and Ponta do Bispo, about 6 miles to the NNW.

Sepetiba Ore Terminal (23°01'S., 44°02'W.)

World Port Index No. 12935

4.10 The ore terminal, consisting of a 390m deep-water pier, is situated off the SE end of Ilha Guaiba, about 7 miles due N of the bay entrance.

A channel, marked by lighted buoys and dredged to 22.5m, leads in a 328°30' direction for nearly 5 miles from a position about 3 miles SW of Ponta do Sino.

The channel then turns to the E and leads in a 069° direction for about 5 miles to a position abreast the ore pier off the S side of Ilha Guaiba. Range lights and a racon mark the two legs of the channel. The distance from the entrance at the bar to the port is 14 miles. The dredged depth of 22.5m is carried as far as the maneuvering basin in front of the quay, which was dredged (1992) to 12.3m.

Vessels should send an ETA to their Rio de Janeiro Agent 6 days, 48 hours, and 24 hours prior to arrival. Any significant change in ETA should be corrected as soon as possible, but not less than 8 hours prior to arrival.

Vessels are requested to contact Sepetiba Marine Operations when within VHF radiotelephone range. Anchoring or berthing instructions should be requested 4 hours prior to arrival or within radio telephone range.

The S berth has a depth of 24m alongside and the N berth has a depth of 19m alongside. A mooring dolphin at the W end of the pier provides an overall mooring length of 470m alongside the S berth. Vessels up to 300,000 dwt can be accommodated. The current runs about 2 knots at times off the pier. A heavy swell sometimes runs into the bay and it may be necessary for a vessel to leave the berth and anchor off it.

Pilotage.—Pilotage is compulsory. Pilots board from a motorboat in the vicinity of Nos. 1 and 2 buoys, about 4 miles ESE of Pau a Pino light, which is equipped with a racon. Tug assistance is compulsory for all maneuvering in the vicinity of the pier.

Anchorage.—Anchorage can be taken in the vicinity of the pilot boarding area in a depth of 23m, sand and shell. Ships should not proceed beyond this point unless a pilot is aboard and instructions for mooring have been received.

Large ships can anchor about 2 miles NE of Ponta dos Castelhanos or about 3 miles NW of Ponta do Sino while awaiting berth to load ore.

Caution.—Less water than charted has been reported on the 328.5° entrance channel.

4.11 Ilha Guaibinha (22°59'S., 44°02'W.) lies about 0.5 mile N of Ilha Guaiba. Anchorage is afforded in the middle of the channel between the two islands, in a depth of 13 to 14m.

A shoal, with depths of less than 5.5m, extends about 0.7 mile E and 1.25 miles NE from Ilha Guaibinha.

Laje Preta de Fora, above-water and showing a light, lies at the NE end of this shoal.

Ilha Jurubaiba (22°58'S., 43°57'W.) lies 5 miles NE of Ilha Guaiba and shows a light from its W side. A light is shown from Laje do Cabrito, a submerged rock located 3 miles W of Ilha Jurubaiba. The island is flat and elongated in a E to W direction, 32m high with rocky slopes.

Ilha de Jaguanum (23°00'S., 43°56'W.) lies about 2 miles NE of Ponta Mangona, the N extremity of Ilha da Marambaia.

The island shows two elevations of the same altitude separated by a depression. It is covered by intense vegetation, with rocky slopes.

Anchorage is afforded off the NW side of Ilha de Jaguanum, in a depth of about 9.1m. The best anchorage for small craft is NE of the island, in depths of 10 to 20m, but care should be taken to keep clear of the spit extending NW from Ilha Bonita.

4.12 Ilha de Itacuruca (22°57'S., 43°53'W.), the largest and highest island in Baía de Sepetiba, lies about 2 miles NE of Ilha de Jaguanum, and is separated from the coast by Canal de Itacuruca on its N side.

The island is flat on its N part and high on the S part, with dense vegetation, rocky slopes with beaches, and many isolated houses which is the village of Itacuruca that stands near the mainland near the W entrance to the canal.

A pier in the village can accommodate vessels of up to 3m draft. The canal has a minimum depth of 4.6m in the fairway.

Anchorage may be obtained 183m S of the pier at Itacuruca, in depths of 7 to 8m, mud, with good shelter from all except W and SW winds. The E part of Baía de Sepetiba is shallower than the W part and there are fewer islets and dangers in it.

The NE part of the bay is low and backed by mangroves and it is broken by the mouths of several rivers and canals which are navigable by small craft.

The villages of Sepetiba and Pedra stand on this part of the bay. Anchorage may be obtained by small vessels about 1 mile off Sepetiba in a depth of 4m, mud.

Caution.—Several mooring buoys are located in Canal de Itacuruca.

4.13 Porto de Sepetiba (22°56'S., 43°50'W.) consists of an L-shaped jetty, with a berthing length of 540m, extending S from the S point of Ilha da Madeira. Coal is imported and aluminum ores exported. The N face of the pier can accommodate two vessels of 45,000 dwt. The S face of the pier can accommodate two vessels of 65,000 dwt or one 90,000 dwt vessel and one 50,000 dwt vessel.

The approach channel is dredged to 15m; the turning basin and berths alongside the pier have been dredged (1994) to 8.7m.

An alternative fairway channel, passing S of Ilha do Martins and marked by lighted buoys and a lighted beacon, is used by outgoing vessels after unloading at Sepetiba.

Ilha Grande

4.14 Ilha Grande (23°09'S., 44°13'W.), lying in the entrance of Baía da Ilha Grande, is about 16 miles long and 7 miles wide. The island is mountainous and covered with thick vegetation to the water's edge.

Pedra d'Aqua, the summit of the island, is 989m high and Pico da Papagaio, about 2 miles ESE, is 964m high and resembles a parrot's beak.

Ponta de Castelhanos, the E extremity of the island, shows a light.

The S coast of Ilha Grande is formed by several bays and coves, two of which are located between Ponta de Lopes

Mendes and Ponta da Andorinha, 2.5 and 6 miles WSW, respectively, of Ponta de Castelhanos. The buildings of a penal colony stand on the W side of the bay.

Ponta dos Meros (23°14'S., 44°21'W.) is the SW extremity of Ilha Grande. Ilha dos Meros lies 1 mile NW of the point and rocks awash lie 0.25 mile NE of the island.

The NE and NW coasts of Ilha Grande are described with Baía da Ilha Grande.

Baía da Ilha Grande

4.15 The entrance to Baía de Ilha Grande lies between Ilha de Marambaia and **Ponta de Juatinga** (23°18'S., 44°30'W.), 30 miles to the WSW. The bay is extensive and its shores are deeply indented.

The two channels of Grande Island Bay are easily recognized by the elevations of Marambaia Island, on the E bank, and from Juatinga point, on the W bank, and Grande Island is between them, also with outstanding mountains.

Approaching the E and W channels does not present any difficulty up to the places of pilot boarding and disembarkation; however, navigation in the vicinity of Marabbaia spit has restrictions which are best shown on the area chart.

There are numerous islands, islets, and rocks throughout the bay. There are good anchorage areas in most parts of the bay.

Baía da Ilha Grande—East Part

4.16 The E part of the bay, lying W of Baía de Sepetiba, is formed by the NE side of Ilha Grande and the coast to the N and is entered between Ilha da Marambaia and **Ponta de Castelhanos** (23°10'S., 44°06'W.).

The bays and coves on the NE coast of Ilha Grande afford excellent anchorage, but those on the mainland coast are generally exposed to winds from SE through SW, and to the swells caused by these winds.

Enseada das Palmas (23°08'S., 44°07'W.) lies 2.5 miles NW of Ponta de Castelhanos. The bay is separated into two small coves by Pontinha.

Anchorage can be obtained in the SE part of the bay in depths of about 11m, and small craft may anchor off the head of the S cove, in a depth of about 7m.

Ilha Pau a Pino is located about 3 miles N of Enseada das Palmas and rises sheer from the sea. The island has little vegetation, but shows a light. A rocky ledge extends about 0.2 mile SW from the island.

Enseada do Abraao (23°08'S., 44°09'W.) lies about 2 miles NW of Enseada das Palmas. On the W shore of the bay are the large buildings of a disused quarantine station and a small landing pier.

Abraao, a small fishing village, stands at the head of the bay. Vessels drawing up to 3m can berth at the pier at HW.

Anchorage may be obtained in any part of the bay according to draft. It is the best anchorage in the E part of Baía de Ilha Grande, and is sheltered from all winds.

Enseada da Estrela is located about 2 miles WNW of Enseada do Abraao.

Anchorage is available in all parts of the bay over a bottom of sand and mud, but the swell sometimes runs into it.

Saco do Ceu, a landlocked cove, lies in the NW corner of the bay. Small craft can anchor in Saco do Ceu, in depths of 6 to 9m. A depth of 2.2m exists near the middle of the entrance to the cove, about 183m N of the S entrance point.

Ilha de Macacos (23°05'S., 44°14'W.) is separated from Ilha Grande by a narrow passage which is encumbered with rocks and can be used by small boats at HW.

Ponta Maria Albardo is the N extremity of the island and a shoal patch, with a depth of 13.1m, lies 0.3 mile N.

Baia de Ilha Grande—North Shore

4.17 Baia de Mangaratiba (22°58'S., 44°04'W.) is entered between Ponta do Bispo and Ponta da Cruz, about 0.5 mile WSW. This shallow bay is exposed to the sea, which breaks heavily on its NW shore. The town of Mangaratiba stands on the E side of the bay and has a small concrete pier.

Laje de Mangaratiba, low, dark-colored, and steep-to, lies in the approach to Baia de Mangaratiba, and shows a light.

Between Laje de Mangaratiba and Ponta do Leme, about 10 miles to the WSW, the coast is fringed by off-lying islets and indented by small bays, which can best be seen on the area chart.

Tebig Oil Terminal (23°04'S., 44°14'W.), a concrete pier extending 1,280m out from Ponta do Leme, has a berthing length of 570m. It accommodates tankers from 350,000 to 500,000 dwt., in depths of 27.5m on the S side of the pier, and 35m on the N side of the pier.

Vessels approach the terminal through a lighted, buoyed channel 9.2 miles long, 0.2 mile wide, with a least depth of 22m, and commencing about 3 miles N of the W extremity of Ilha Grande.

Pilotage.—Pilotage for the channel and berths is compulsory and drafts up to 20m can be accommodated at anytime. Arrival time of vessel should be sent 72 hours in advance, and should be confirmed 48 and 24 hours before arrival. Pilots embark 2 miles WSW of Ponta Acaia, the extreme W point of Ilha Grande. Vessels can be berthed day or night.

Ilha Grande—Northwest Coast

4.18 The NW coast of Ilha Grande trends generally NE from **Ponta Acaia** (23°10'S., 44°23'W.) to the N extremity of the island.

Enseada de Aracatiba (23°09'S., 44°20'W.) is entered between Ponta Grande, 2.5 miles ENE of Ponta Acaia, and Ilha Longa, 1 mile NE and close offshore. Anchorage is available in the bay, with good shelter, about 0.4 mile S of the W end of Ilha Longa, in a depth of 21m, mud.

Enseada de Sitio Forte is entered between Ponta Grossa de Sitio Forte, about 2 miles NE of Ilha Longa, and Ponta Aripeba, about 1 mile farther E. The head of the bay is formed by a small cove, the W side of which is foul.

Anchorage, sheltered from all winds, and the best on this coast, may be obtained in the bay. A good berth is situated 1 mile SSE of Ponta Grossa de Sitio Forte, in a depth of 17m, mud.

Saco do Bananal (23°06'S., 44°15'W.) is entered between Ponta Aripeba and Ponta do Bananal, about 1 miles to the NE.

Laje Matariz de Fora, a rock with a depth of 5.3m, lies almost midway between the entrance points of the bay. Laje Matariz de Dentro, a rock with a depth of 0.5m, lies 183m SE of the above danger.

Baia da Ilha Grande—Central Part

4.19 The central part of the bay is formed by the NW side of Ilha Grande and the much indented coast to the N. Numerous islands, islets, and dangers encumber this part of the bay. The principal inlets on the mainland are Baia de Jacuacanga, Porto de Angra dos Reis, and Baia da Ribeira.

The smaller islets and dangers in this area can best be seen on the area charts.

Ilha da Gipoia (Ilha da Jiboia) (23°03'S., 44°22'W.), about 8 miles N of Ponta Acaia, is the largest and highest island fronting the principal inlets on the mainland.

The coves on the N and E banks offer the best anchorage for recreational boats, with depths from 3 to 10m, sheltered from the S and SW winds; however, the ones on the E bank are restricted. There is a submarine pipeline between their points.

Ilha de Porcos Grande, about 2 miles E of the SE side of Ilha da Gipoia, is the largest of a group of three islets, and is covered with dark vegetation. Ilhote de Porcos, the smallest, lies about 183m S of Ilha de Porcos Grande, and Ilha de Porcos Pequenos lies 0.15 mile off its N side.

Laje Preta (23°03'S., 44°18'W.) lies about 0.2 mile NE of Ilha de Porcos Pequenos. It is dark in color with sparse vegetation and shows a light. Laje do Miguel, a rock with a depth of 7.6m, lies about 0.3 mile NW of Laje Preta.

Ilha Saracura (23°03'S., 44°16'W.), about 2 miles ESE of Laje Preta, lies on the E side of the approach to Baia de Jacuacanga. It is rather low and shows little vegetation. A light is shown from its W side.

Shoals extend ENE from Ilha Saracura, with a least depth of 6.2m lying 0.35 mile NE of the island. A passage between these shoals and Ponta de Leste, 1 mile ENE, is marked on its E side by a buoy moored 0.25 mile W of the point.

Laje de Saracura, a rock with a depth of 7.2m, lies 0.4 mile SW of Ilha Saracura. A 10.6m patch lies 0.4 mile W of the island, while an 11.7m patch lies 0.6 mile S of the island.

Laje dos Homens (23°02'S., 44°18'W.), a cluster of low and bare black rocks, lies about 2 miles WNW of Ilha Saracura, and shows a light.

Baia de Jacuacanga

4.20 Baia de Jacuacanga (23°02'S., 44°15'W.) is entered between **Ponta de Leste** (23°03'S., 44°15'W.) and Ponta do Peregrino, about 3 miles to the NW. Several islets, rocks, and shoals lie in the bay. A monument stands at an elevation of 70m about 0.2 mile NE of Ponta de Leste. Submarine pipelines are laid on the E side of the bay.

The SE side of the bay is exposed to SW winds but is comparatively free from dangers. The only danger lying more than 0.5 mile offshore are Laje das Duas Irmãs, situated 1 mile NW of Ponta de Leste and marked on its N side by a lighted buoy, and Laje do Bernardo, about 0.7 mile NNW of the same point.

The NW side of the bay is fringed to a distance of about 1 mile by islets and dangers which include; Ilhas das Duas Irmas, two islets lying 0.75 mile and 1 mile, respectively, SSE of Ponta do Peregrino; Lajes Brancas, a prominent group of whitish-colored bare rocks, lie almost 0.75 mile ESE of the same point.

Lajes Pretas, a group of dark-colored, bare, above-water and drying rocks lie 1 mile E of the point. Laje Grande, a group of black above-water rocks, showing a light, lying about 2 miles ENE of the point.

In the N corner of the bay, a modern shipyard with four drydocks and 600m of quayage for vessels drawing up to 7m, stands near the town of Boa Vista.

Anchorage is available in most parts of Baía de Jacuacanga, but the whole of the E part is exposed to SW winds. The best Anchorage for small craft are Enseada da Mombaca and Enseada de Camorim, situated on the W side of the bay.

Caution.—Anchorage is prohibited in the charted pipeline area.

4.21 Angra dos Reis (23°01'S., 44°19'W.) ([World Port Index No. 12940](#)) is entered between Ponta da Cidade and Ponta do Calafate, about 2 miles to the W. The town is located on the NW side of the bay. A conspicuous yellow silo stands on the wharf at the town. The buildings of a school stand at the head of Enseada Batista das Neves, about 0.7 mile NE of Ponta do Calafate.

Tides—Currents.—The tidal currents in Porto de Angra dos Reis are very weak.

Depths—Limitations.—The main pier extends 0.3 mile SE from the town. It has 345m of berthing space, with an average depth of 7.5m alongside. This wharf is being extended 150m to the SE. A small pier in Enseada Batista das Neves can berth vessels drawing up to 3m.

Pilotage.—Pilotage is compulsory. Pilots board vessels in the vicinity of Ilha Saracura when approaching from E of Ilha Grande and at the entrance to the buoyed channel 2 miles W of the W point of Ilha Grande when approaching from W of Ilha Grande. Request for a pilot must be made at least 24 hours in advance. Pilot boards in approximately position, 23°04'S, 44°14'W.

Anchorage.—Anchorage can be taken in 7.8m, mud, with the conspicuous silo on the pier bearing about 280°, distant 0.4 mile. This anchorage is sheltered from all winds except from the SW, which raises a sea and causes a strong set toward the head of the harbor.

An outer anchorage lies with the silo bearing 015°, distance 1.25 miles, in a depth of 12m.

4.22 Parcel da Ilha do Calombo (23°02'S., 44°19'W.), a submerged reef with one drying head, lies about 0.1 mile W of the S end of Ilha do Calombo. The island has low vegetation and is surrounded by rocks. A light is shown from Parcel da Ilha do Calombo.

A 3.8m patch, marked by a buoy on its W side, lies about 0.15 mile S of Parcel da Ilha do Calombo. A shoal patch, with a depth of 2.5m and a lighted buoy moored close W, lies 0.3 mile N of the N end of Ilha do Calombo.

Ilha do Maia is located on the W side of the harbor, about 0.25 mile ESE of Ponta do Calafate. Ilha Francisco lies 0.75

mile NE of Ilha do Maia. A building stands on the highest point of the island.

Laje das Enchovas, with a least depth of 2.8m and marked close NE by a buoy, lies about 0.2 mile NE of Ilha Francisco.

The numerous other dangers in the harbor can best be seen on the area chart.

Baía da Ribeira

4.23 Baía da Ribeira (23°00'S., 44°23'W.) is entered between Ponta da Maresia, the W extremity of Ilha da Gipoia, and Ponta do Coqueirao, on the mainland about 3 miles to the WNW.

The bay, extending about 8 miles NE, is thickly studded with islands and outlying sunken rocks extending from both sides. These dangers narrow the bay to about 1 mile in the center. Some of these dangers are marked by beacons and buoys and can best be seen on the area chart.

The principal inlets in the bay are Enseada da Japuiba on the E side, Enseada do Ariro at the head, and Enseada de Bracuhy on the NW side.

Vessels entering the bay should proceed with caution and should not attempt to enter any of its inlets without local knowledge.

Canal da Gipoia (23°02'S., 44°21'W.) leads N of Ilha da Gipoia and is one of the approaches to Baía de Ribeira. It has a least width of 0.4 mile and general depths of 12.8m, with the exception of a 7.3m patch in mid-channel. A rocky patch, with a depth of 3.2m, lies about 0.7 mile ESE of Ponta do Adolfo.

A submarine cable is laid across the channel and is marked by lighted beacons on each side of the channel. A light is shown from Laje da Figueira at the NW end of the canal.

Baía da Ilha Grande—West Part

4.24 The W part of the bay lies between Ponta de Juatinga, its SW entrance and Ponta do Coqueirao, about 17 miles to the NNE.

Ponta de Juatinga (23°18'S., 44°30'W.), which shows a light, is the S extremity of a high peninsula about 0.6 mile long. Morro Cairucu, about 5 miles W of Ponta de Juatinga, has twin peaks. Radar returns of 21 miles from Ponta de Juatinga have been reported.

Enseada do Pouso is entered between Ponta da Mesa, 2.5 miles NW of Ponta de Juatinga, and **Ponta Cajaiba** (23°13'S., 44°33'W.), 2.5 miles further NNW. The bay is clear of dangers, but is open to all except SW winds.

Anchorage may be obtained near the middle of the bay, 1.25 miles WNW of Ponta da Mesa, in a depth of about 17m, mud.

Baía de Mamangua (23°14'S., 44°36'W.) and Enseada de Parati Mirim have a common entrance between Ponta Cajaiba and Ilha do Algodao, about 2 miles to the NW.

Baía de Mamangua, the SE inlet, is 4.5 miles long and lies between two mountain ranges; it affords little shelter from SW winds which blow through a gap in the mountains. Enseada de Parati Mirim, the NW inlet, is landlocked and sheltered.

Baía de Parati is entered between **Ponta Grossa de Parati** (23°11'S., 44°39'W.) and Ilha do Araujo, about 3 miles to the

NW. The bay is encumbered with numerous islets and shoals, but is accessible to small craft. The town of Parati stands near the head of the bay.

There is a small wooden pier in town which can accommodate vessels with drafts up to 2.4m at HW.

A channel, with depths of over 5m, follows the SE shore of Baía de Parati, passing SE of Ilha de Bexiga, located 3.25 miles SW of Ponta Grossa de Parati, and the chain of islets and rocks which extend 1.25 miles NE from this islet.

Laje de Tapera, with a depth of 4.6m, encroaches on the SE side of this channel, 2.5 miles SW of Ponta Grossa de Parati, and is marked on its NE side by a black buoy.

The channel may be entered passing either side of Ilha de Mantimento. The remainder of Baía de Parati has depths of less than 5m.

Anchorage is available for small craft SW of Ilha da Bexiga in depths of from 5 to 6m, mud, and sheltered from all winds.

Ilha Rapada (23°10'S., 44°40'W.), 48m high, rocky with low vegetation and surrounded by submerged and uncover rocks. The island lies in the entrance to Baía de Parati, about 2 miles NW of Ponta Grossa de Parati. The island shows a light.

Parcel dos Meros, an outlying drying shoal marked by a buoy, lies 7 miles ENE of Ilha Rapada.

From the vicinity of Ilha do Araujo, the shore of Baía de Ilha Grande trends N for 6 miles and then E for 13 miles to Ponta do Coqueirao, and is fringed by numerous islets and submerged rocks lying up to 2 miles offshore.

Vessels should not proceed within 3 miles of this shore without local knowledge.

Anchorage is available to vessels with local knowledge off the NW side of **Ilha Sandri** (23°03'S., 44°30'W.), in depths of 8 to 12m, mud, good shelter from swells.

Ponta de Juatinga to Ilha de Sao Sebastiao

4.25 Between Ponta de Juatinga and Ponta Negra, about 7 miles to the SW, the coast is mountainous. Between Ponta Negra and Ponta da Trindade, about 7 miles farther W, the coast is indented and forms several inlets which are open to the S.

Between Ponta da Trindade and Ponta da Cruz, about 7 miles to the W, there is a small inlet entered between Ponta do Comburi and Ponta Brava.

Parcel do Camburi, which has a depth of 10m, lies about 3 miles SW of Ponta da Trindade. During heavy SW seas, the shoal breaks at times.

Enseada de Picinguaba and Enseada de Ubatumirim, both of which are opened to the SW and afford no shelter, lie within 6 miles to the W of Ponta da Cruz. Numerous islets and dangers lie within 2 miles of these bays.

Caution.—A dangerous wreck lies 0.5 mile W of Ponta Negra.

4.26 Ilha das Couves (23°25'S., 44°51'W.) lies about 2 miles SSW of Ponta da Cruz. Ilha Comprida lies about 0.3 mile N of Ilha das Couves and has depths of 10.4m in the fairway between the two islets.

Ilha Rapada (23°26'S., 44°54'W.) lies about 2 miles W of Ilha das Couves.

Parcel da Rapada, a rock with a depth of 10.3m, lies about 0.2 mile S of Ilha Rapada.

Parcel Grande da Rapada, with a depth of 14.6m, and Parcel do Meio, with a depth of 14m, lie about 2 miles SE and 1.75 miles ESE, respectively, of Ilha Rapada. Laje Grande, with two above-water rocks, lies about 2 miles WNW of Ilha Rapada.

Enseada de Ubatuba (23°26'S., 45°03'W.) lies about 7 miles W of Ilha Rapada, and is entered between Ponta Grossa and Ponta de Respingador.

The town of Ubatuba lies at the head of the bay and is of little importance commercially.

A small T-headed pier, with a berthing length of 20m and a depth of 3.7m alongside, is situated about 2 miles WNW of Ponta Grossa, which shows a light.

Laje Patieiros, with a depth of 4.3m, lies about 0.1 mile N of Ponta Grossa. The sea nearly always breaks over this shoal.

Anchorage is available on the S side of Baía de Ubatuba, in a depth of 6.4m, mud, 0.5 mile W of Ponta Surutuya, which lies 1.25 miles NW of Ponta Grossa.

4.27 Ilha Anchieta (Ilha dos Porcos) (23°48'S., 45°04'W.), about 5 miles SSW of Ponta Grossa, is separated from the mainland by a channel 0.3 mile wide. The island is completely covered with trees, but is hard to distinguish against the high mainland. Ilha das Palmas lies about 1 mile off the E side of Ilha Anchieta.

Enseada das Palmas is entered between the NW extremity of Ilha Anchieta and Ponta Norte, 1 mile to the E. The bay affords anchorage in depths of 5 to 7.5m, with shelter from all winds except from those between NE and E. A prison stands on the S shore of the bay.

Between Ponta Espaiá and **Ponta Grossa** (23°35'S., 45°13'W.), 8 miles to the WSW, the coast is formed by Enseada do Flamengo, Enseada da Fortaleza, and Enseada do Mar Virado, three bays which afford temporary anchorage.

Small craft can anchor in Enseada do Flamengo in a depth of 6m, with good shelter in the NW part of the bay.

Between Ponta Aguda and Ponta Massaguacu, 3 and 9 miles WSW, respectively, of Ponta Grossa, there is a bay, the E part of which is shallow. Ilha do Tamandua is 1 mile W of Ponta Aguda. The passage between it and the mainland is obstructed by rocks awash.

Enseada de Caraguatatuba (23°40'S., 45°23'W.) is entered between Ponta Martim de Sa, 1 mile W of Ponta Massaguassa (Ponta Massaguacu), and Ponta Arpoar, 5.5 miles S. It is filled by a bank of sand with depths of less than 5.5m.

Caraguatatuba (23°37'S., 45°25'W.), a fruit exporting center, is situated at the N corner of the bay. A light is shown from Ponta Massaguassa; a tower stands on a hill located about 0.1 mile N of Ponta Martim de Sa.

Ilha do Mar Virado (23°34'S., 45°10'W.) lies about 3 miles ENE of Ponta Grossa. Between the N end of the island and the mainland, a number of islets and dangers restrict passage between the two.

4.28 Ilha da Vitoria (23°45'S., 45°01'W.) lies about 11 miles SSE of Ilha dos Porcos and shows a light from its E side.

Ilha dos Pescadores and Ilhote das Cabras lie off the N end of Ilha da Vitoria.

Ilha dos Buzios (23°48'S., 45°08'W.) lies about 6 miles WSW of Ilha da Vitoria and Ilha Sumitica lies about 0.7 mile SW of the S extremity of Ilha dos Buzios. An above-water rock and a rock awash, lie midway between the two islands.

Ilha de Sao Sebastiao

4.29 Ilha de Sao Sebastiao (23°50'S., 45°20'W.) is mountainous and wooded and is separated from the mainland by Canal de Sao Sebastiao. Pico do Sao Sebastiao, its summit, stands on the SW part of the island. In clear weather the island can be seen for about 45 miles.

A light, with a racon, is shown from Ponta do Boi, the S extremity of the island; a light is also shown from Ponta Pirabura, about 2 miles NE of Ponta do Boi.

Baia de Castelhanos, on the E side of the island, is exposed to SE sea and winds. Saco do Sombrio is on the S extremity of Baia de Castelhanos, and affords complete sheltered anchorage to small craft in depths of 10 to 20m.

Anchorage can also be taken in the S part of Baia de Castelhanos, in depths of about 20m mud, and sheltered to all winds except NE and E winds.

Caution.—Dense fog has been reported in the vicinity of Ilha de Sao Sebastiao.

Canal de Sao Sebastiao

4.30 Canal de Sao Sebastiao (23°48'S., 45°24'W.) lies between the mainland and the W coast of Ilha de Sao Sebastiao. The canal is entered from the N between **Ponta das Canas** (23°44'S., 45°21'W.), and Ponta do Arpoar, 3 miles to the W, and from the S between Ponta da Sela, the W extremity of Ilha de Sao Sebastiao, and **Ponta Toque-Toque** (23°50'S., 45°31'W.).

Winds—Weather.—The winds during the day blow nearly always from N, NE, or SSW following the direction of the canal, but are frequently interrupted by calms. At night the land wind is variable.

Tides—Currents.—The tidal currents are irregular and follow the general direction of the winds, and almost always proceeding them. They have a velocity of 1 to 2 knots, and sometimes with strong winds, reach a velocity of 3 to 4 knots.

The height of the tide in the port varies from 0.2m at LW and 1.5m at HW, having a average level of 0.7m. The tide runs either N into the channel or S with characteristics of permanent flowing as if it was a river following the orientation as given by the channel.

The current attains considerable speeds which might impair maneuvering of vessels in the channel, especially at times of entrance of a cold front when winds attain a significant force.

Depths—Limitations.—The channel of the port of Sao Sebastiao is 12.3 miles long. The South Bar Channel, dredged to 25m, although depths of 19m have been reported. It is 300m wide at its narrowest part, allowing entrance and sailing of vessels drawing up to 23m. The North Bar Channel has a depth of 18m and is 550m wide at its narrowest part, allowing entrance and sailing of vessels drawing up to 10m.

A shoal, with a depth of less than 9.1m, extends 1.5 miles N from Ponta das Canas.

A shoal of sand and mud, with depths of less than 5.5m, extends about 2 miles E from Ponta Arpoar. It then gradually closes the coast to the S and ends at Ponta Araca, about 1 mile S of Sao Sebastiao. A depth of 9.4m was reported about 3 miles NE of Sao Sebastiao Light.

Laje dos Moleques, showing a light, is a cluster of low and bare rocks resembling parts of a sunken wreck, and lies about 0.6 mile SW of Ponta Araca and 0.2 mile offshore.

Vessels must keep in mid-channel as it was reported that less water than charted was found about 0.2 mile S of Laje dos Moleques.

Pilotage.—Pilotage is compulsory. Pilots board incoming vessels 1.5 miles WSW of Ponta da Sela, or 1.5 miles NNW of Ponta das Canas. At least 24 hours advance notice of arrival is required.

4.31 Sao Sebastiao (23°48'S., 45°24'W.) ([World Port Index No. 12960](#)) has an L-shaped pier situated on the SE side of the town. The outer commercial quay has a length of 150m, with a depth of 8.2m alongside. The inner berth is 90m long with a depth alongside of 5m. Tug assistance is required in mooring at all berths.

Terminal Maritimo Almirante Barroso (23°48'S., 45°23'W.) is located on the W edge of the channel between the shore and the island. Safe access for large tankers is possible through the S entrance, but smaller tankers with drafts of 7.6m or less may enter through the N channel entrance. The head of the T-shaped jetty is 1,690m from the shore.

The N arm is 300m long and can accommodate a vessel of 115,000 dwt. Depths alongside are 13.7m at the inside berth and 19m at the outside. The S arm is 580m long and can accommodate vessels up to 300,000 dwt. Depths are 19m inside and 26m outside.

Anchorage.—There are designated anchorage areas within Canal de Sao Sebastiao which are best shown on the area chart.

A prohibited anchorage area exists 0.25 mile S of Ilhabela extending to the opposite shore. This is a submarine cable area and is marked by blue lights on each shore.

Ilha de Sao Sebastiao to Baia de Santos

4.32 Between Ponta Toque-Toque and Ponta Munduba, the E entrance point of Baia de Santos, 44 miles to the WSW, the coast forms a wide bay, the shores of which consists of sandy beaches separated by small rocky points. Serra do Mar continues to back the coast, but presents no prominent features.

Ilha das Couves (23°48'S., 45°43'W.) lies 11.5 miles WNW of Ponta Toque-Toque. As Ilhas, two islets, lie about 0.5 mile NE of Ilha das Couves.

The passage between As Ilhas and Ilha das Couves is foul. Baixo Pequeno and Baixo Grande, each with a least depth of 2.4m, lie 0.4 mile S and 0.9 mile SW of Ilha das Couves. Ilha do Gatos lies about 1 miles E of Ilha das Couves.

Anchorage, sheltered from S and SE winds, is available for small craft N of As Ilhas, in a depth of 11m. Breakers have been reported over Baixo Grande.

Ilha Montao de Trigo (23°52'S., 45°47'W.) lies 4.5 miles SW of Ilha das Couves and is 298m high, conical, and wooded up to its summit.

Arquipelago de Alcatrazes (24°06'S., 45°42'W.) lies with Ilha Alcatrazes, the largest of the group, 18 miles S of Ilha das Couves. The island is rocky with little vegetation and rises to a height of 316m.

Ilha da Sapata lies nearly 2 miles ENE of Ilha de Alcatrazas, with two islets and a shoal with a depth of 2.3m in between.

Ilha do Porto, with a small islet close WNW, lies about 0.4 mile NW of Ilha de Alcatrazas. The island shows a light.

Ilha do Paredao is the larger of two islets about 2 miles NNW of Ilha do Porto. A 7.6m shoal patch lies about 0.4 mile SW of Ilha de Alcatrazes.

These islands lie at the center of a firing exercise area, the size of which is about 12 miles in radius. Anchoring and fishing are prohibited.

4.33 Laje de Santos (24°19'S., 46°11'W.), about 30 miles WSW of Ilha de Alcatrazas, is a whitish rocky islet. A group of rocks lie about 1 mile SE of Laje de Santos. A light is shown from the islet.

Pedra do Corvo (23°51'S., 46°08'W.), about 19 miles W of Ilha Montao de Trigo, is the NE extremity of Ilha de Santo Amaro, which forms the E side of Porto de Santos, and the E entrance of Canal de Bertioaga.

The canal is narrow and navigable by small craft in depths up to 3m. The canal should not be attempted without local knowledge. A light is shown from Pedra do Corvo.

The E coast of Ilha de Santo Amaro, between Pedra do Corvo and Ponta Santo Amaro, about 9 miles SSW, has several islets and dangers lying within 1 mile.

Ilha dos Arvoredos (23°58'S., 46°10'W.) lies about 7 miles SSW of Pedra do Corvo. The island shows good radar returns up to 20 miles. A conspicuous tower stands on the island.

Ilha da Moela (24°03'S., 46°16'W.) shows a light and is located about 7 miles SW of Ilha dos Arvoredos. The island is a good radar target, distant 19 miles.

A radiobeacon transmits from the light. A wreck lies about 3 miles ESE of the light on Ilha da Moela.

Baia de Santos

4.34 Baia de Santos (24°0'S., 46°21'W.) is entered between Ponta Munduba and Ponta Itaipu, about 6 miles to the W, and recedes about 5 miles N to Ilha de Sao Vicente.

The E part of Ilha de Sao Vicente is separated from Ilha de Santo Amaro by a narrow buoyed channel which leads to Porto de Santos. There are general depths of 13 to 14.6m in the entrance to the bay and 7 to 10m in its N part.

Porto de Santos (23°57'S., 46°18'W.)

[World Port Index No. 12970](#)

4.35 Porto de Santos consists of the navigable estuary between Ilha de Santo Amaro and Ilha do Sao Vicente and forms a semicircle around the city.

The approach channel, marked by buoys and ranges, is about 5 miles in length and is entered 2.25 miles SW of Ponta Grossa. The harbor channel is entered between Ponta da Praia to the N and Ponta de Fortaleza to the S.

Winds—Weather

The prevailing winds are from NE and E, but sometimes they are from NW and SW. This latter wind causes a rough sea in Baia de Santos. During the summer, the prevailing winds are from the S and during winter from the N. During the winter rainy season, heavy mist is common in the morning.

Tides—Currents

The tidal currents are strong, especially the ebb tide, which sometimes exceeds 3 knots. North winds decrease and SW winds increase the height of the tide. The range of the tide is 1.1m at springs and 0.3m at neaps.

Depths—Limitations

The seaward limit of the port of Santos is the parallel of 24°02'07"S.

The approach channel has been dredged (1994) to a depth of 10.2m.

It was reported that vessels with a draft up to 9.8m could enter the harbor at any time while vessels with a draft greater than 9.8m, depending on the tide, could generally berth 2 hours before HW.

A continuous line of quays front the E and N side of the port for a distance of 5 miles starting about 0.7 mile NE of Ponta da Praia. These and all other port facilities are described below.

The Estuario Wharf, Berths 25 to 35, has depths of 9.8 to 11m and a length of 1,980m. A submerged mole, with a depth of 11.4m, lies between Berth 28 and Berth 29.

The Macuco Wharf, Berths 12A to 27, has a length of 3,017m with depths of 8 to 11m. Grain is handled at Berths 13 and 26.

The Paqueta Wharf, Berths 1 to 12, has a length of 2,071m with depths of 5 to 7m. Grain is handled at Berth 1. An underwater sill protrudes 1.2m from Berth 6.

The Saboo Wharf is 990m and has a depth of 10m. Bulk solids and bulk liquids are handled. The maximum vessel length accommodated is 200m.

The Alemoa Wharf is 720m with a depth of 12m. It accommodates bulk liquids. The maximum vessel size is 265m.

The Conceicaozinha Wharf is 567m and has a depth of 13.5m. The bulk fertilizer quay is located across from Paqueta Quay. It can handle 2 vessels. The maximum vessel length is 265m.

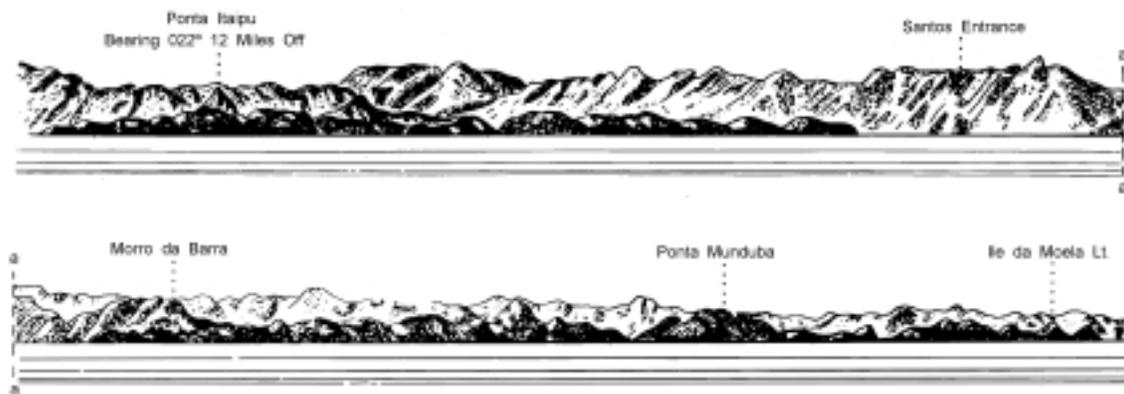
The container terminal is located across from the Paqueta Quay. It can handle 2 vessels. The length is 510m with a depth of 13m.

The Barnabe Wharf is 302m with a depth of 13.5m. It handles inflammable liquids.

It is located across from the Estario Quay and the maximum vessel length is 190m.

The Cosipa Wharf is 300m with a depth of 10m. It is located at the N end of Canal de Picaquera and can handle 2 vessels at the same time.

The Ultrafil Wharf is 164m with a depth of 10m. The Fertilizer Wharf is located close E of Cosipa Wharf. It can handle vessels up to 23,000 dwt.



Entrance to Porto de Santos

A buoyed channel, 100m wide, leads from the harbor channel to the turning basin abreast the wharf at the Alemoa refinery.

The Canal de Piacaguera, a 60m wide channel, leads N through Rio Piacaguera from the Alemoa turning basin to a wharf which serves a fertilizer plant and a steel mill. A turning basin is located off the wharf.

Vessels over 205m in length or with a beam greater than 29m cannot use Canal de Piacaguera.

The channel has reported dredged depths of about 10 to 12m.

The limiting draft for vessels with a length of greater than 185m is 9m at HW and 8.3m at LW. The limiting draft for vessels with a length of greater than 195m is 8.7m at high water and 8m at LW.

Vessels may transit the canal only during daylight hours and must be assisted by tugs.

A dangerous wreck is reported to lie close N of Ponta dos Limoes.

A rock, marked by a buoy and with a depth of 8.5m, lies close to the dredged channel abreast of berth 14.

A shoal, with less than 1.8m and marked on its SE side by a buoy, lies close to the dredged channel WSW of the W extremity of Ilha Barnabe.

Water pipelines and submarine cables are laid in the vicinity of the approach and harbor and can best be seen on the area chart.

Overhead cables, with a vertical clearance of 81m, cross the harbor channel 1 mile N of the container terminal.

Aspect

Ponta Munduba and Ponta Itaipu, the entrance points of Baía de Santos, are both high and covered with dark colored vegetation. Ponta dos Limoes, 3 miles NW of Ponta Munduba, rises to high land and can be identified at a distance.

A light is shown from Ilha das Palmas, about 1 mile SSW of Ponta dos Limoes.

Monte Serrat (23°56'S., 46°20'W.), lying almost 3.5 miles NNW of Ponta dos Limoes, attains a height of 165m. A church and a large building stand on its summit, while a conspicuous pipeline runs in a NE direction from the summit. A church,

standing at a height of 208m, 1.75 miles SW of Monte Serrat is also prominent.

Three pairs of range lights indicate the approach and entrance to the harbor. The outer pair is in line, bearing 021.5°, and leads into the dredged channel. The middle pair is in line, bearing 057°. The inner pair is in line, bearing 094°, but has been reported difficult to distinguish.

Pilotage

Pilotage is compulsory. Pilots board vessels about 0.7 mile W of Ilha das Palmas. Pilots should be requested at least 2 hours in advance of arrival. Pilot boat flies a red flag with a black "P" on it. In bad weather the pilot will direct vessels from the pilot boat to a sheltered position in order to board vessel.

The ship must not proceed N of the pilot station until a pilot has been embarked. The pilot station and pilot boat are equipped with VHF radiotelephone.

Regulations

In view of the possibility of the transmission by mosquito carriers of yellow fever and certain types of malaria non-existent in Brazil.

Vessels having Santos as the first Brazilian port of call, and having called during the voyage at the ports mentioned below, the Inspectorate has decided to interdict the entrance of such vessels into the Santos Estuary, in order that inspection may be carried out at an opportune moment to eliminate such mosquito carriers if they should be found onboard.

The characteristics of the Port of Santos, in the interior of an estuary reached through a narrow channel, where mosquitoes may easily reach land on either side, makes such inspection necessary before the entrance of vessels, therefore, an official detailed to carry out this extends will accompany the pilot when he boards the vessel at the bar.

Vessels arriving from such ports will no longer be granted free pratique requested by radio. This will be given on the occasion of the regular Sanitary Visit against presentation by the Captain of the document supplied by the official proving that the inspection was carried out.

Non-compliance with these regulations will be considered as infraction of the law and subject to legal penalties.

Vessels arriving from the following ports will be subject to the above-mentioned inspection at the bar:

1. Ports of Mexico and USA situated in the Gulf of Mexico.
2. Ports of the Antilles.
3. Ports of Central America.
4. Ports of Colombia, Venezuela and the Guianas.
5. Ports of Intertropical Africa.

Anchorage

Designated anchorage areas, and requirements for using them, are shown on the chart.

Caution

Anchorage is prohibited outside the designated areas, or in the dredged channel.

In addition, vessels are advised to avoid the submarine cables laid across the S approach to Baía de Santos.

The maximum speed permitted in the harbor is reported to be 6 knots.

The harbor and entrance channel require continuous dredging due to silting and the depths may be less than stated, especially in the turning basins.

Baía de Santos to Baía de Paranaguá

4.36 Between Ponta de Itaipu, the W entrance of Baía de Santos, and the mouth of Rio Itanhaem, about 23 miles to the WSW, the coast is generally low.

It is backed by a range of mountains from 5 to 12 miles inland. Some hills, appearing as islands from a distance, stand between the mountain range and the coast.

Rio Itanhaem (24°11'S., 46°48'W.) can be entered by small craft at HW, but local knowledge is necessary.

The town of Conceicao de Itanhaem stands on a hill on the N side of the mouth of the river.

Between the mouth of Rio Itanhaem and the mouth of Rio Peruibe, about 14 miles SW, the coast continues low and sandy. Then to Ponta Paranaguá Guassu, about 4 miles to the S, the coast is steep.

Ilha de Peruibe (24°22'S., 46°59'W.) lies about 2 miles SSE of the mouth of the Rio Peruibe and 1 mile offshore. Ilha do Guarau lies about 1 mile S of Ilha de Peruibe. A wreck lies stranded about 0.3 mile N of this islet. A number of islets and rocks lie N and S of Ilha do Guarau light.

4.37 Laje de Conceicao (24°14'S., 46°41'W.), a bare above-water rock, lies about 6 miles ESE of the mouth of Rio Itanhaem. The islet shows a light. Laje Pedro Segundo, with a least depth of 1.7m, lies about 8 miles ESE of Laje de Conceicao. The sea breaks on this steep-to shoal during bad weather.

Parcel da Conceicao (24°18'S., 46°47'W.), with a least depth of 4m, lies about 6 miles SW of Laje de Conceicao. The sea breaks over this rocky shoal during fresh onshore winds.

Parcel das Reis, with a depth of 13.1m, lies about 8 miles SE of Laje de Conceicao.

Ilha Queimada Grande (24°30'S., 46°40'W.), almost barren, lies about 15 miles S of Laje de Conceicao. The rounded summit, which is in its SW part, appears to have twin peaks when seen from E or S. Parcel de Sueste, a 2.3m patch, lies close SE of the islet.

The islet shows a light from its N extremity. Good radar returns have been reported from the islet at 17 miles.

Ilha Queimada Pequena (24°23'S., 46°48'W.) lies about 10 miles NW of Ilha Queimada Grande. This conical islet is visible for about 20 miles.

Laje Noite Escura, with a depth of 11m, lies about 0.5 mile S of the islet. Parcel do Una, with a depth of 5.8m, lies about 16 miles SW of the islet.

Ponta do Una (24°25'S., 47°01'W.) and the stretch between Barra de Icapara, about 27 miles to the SW, Rio Comprido and Rio Ribeira de Iguape empty into the sea. Ponta da Jurea lies midway between these two rivers. Barra de Icapara, entered 3 miles SW of Rio Ribeira de Iguape, is narrowed by two sandbanks on which the sea nearly always breaks.

Small craft with local knowledge can cross the bar in good weather. A dangerous wreck lies about 10 miles E of Barra de Icapara.

Between Barra de Icapara and Barra de Cananeia, about 34 miles to the SW, the coast is formed by Ilha Comprida.

This low island, separated from the mainland by Mar Pequeno, is covered with mangroves on its NW and central part. It has a greatest width of about 3 miles and is visible a short distance.

Mar Pequeno, navigable by vessels with drafts up to 3m, has sharp bends and an average width of 0.4 mile. It is encumbered by many islets and sandbanks, which are covered with mangroves.

About 12 miles NNE of Barra de Cananeia, Mar Pequeno divides into two arms. Mar do Cubatao, the W arm, leads SW into Baía do Trapandê; Ilha de Cananeia is formed between these two arms.

Iguape (24°42'S., 47°33'W.) is situated on the NW shore of Mar Pequeno, about 7 miles W of Barra de Icapara. A church in the town, with two tall towers, is prominent from seaward.

On the W side of the town is Canal Valo-Grande, an artificial channel leading N to join Rio Ribeira de Iguape.

There are two piers for small craft at the town. Pilots can be obtained at Cananeia at the SW end of Mar Pequeno.

4.38 Ilha de Bom Abrigo (25°07'S., 47°52'W.) lies 4 miles SSE of Barra de Cananeia and is saddle-shaped and wooded. A small rugged islet, 130m high with some vegetation, lies 0.25 mile to the SE, with an above-water rock and a rock awash close to it. Ilha de Bom Abrigo shows a light.

Pilotage can be obtained at Cananeia. If previous notice is given they will board vessels at the anchorage off Ilha de Bom Abrigo.

Barra de Ararapira lies about 16 miles SW of Ilha de Bom Abrigo light. Small craft should enter only during good weather and with local knowledge. Ilha do Castilho, 7 miles ENE of Barra de Ararapira, has two summits and resembles a castle at a distance. Ilha Figueira lies about 7 miles SW of Ilha Castilho and is steep, rocky, and almost bare.

Anchorage is available, with good shelter, about 0.2 mile off the NW side of Ilha de Bom Abrigo, in depths of 6 to 9m, sand, but care must be taken to avoid a shoal, with a depth of 4.8m, located 0.3 mile NW of Ilha de Bom Abrigo light.

The bar at Barra de Cananeia is bounded by banks which extend from the S end of Ilha Comprida and from the coast 3 miles S, but these can be seen as the sea always breaks over their extremities. The entrance is narrow, but vessels drawing up to 2.5m can enter in calm weather.

The banks at the bar are subject to frequent change and the entrance should not be attempted without up-to-date local knowledge. Within the bar, depths increase to about 18m.

Baia de Paranagua

4.39 Baia de Paranagua (25°29'S., 48°30'W.) is entered between Ponta Inacio Dias and Pontal do Sul, about 10 miles to the SW. The bay extends to the N and W, and contains many islands and islets.

Baia das Laranjeiras, the N branch of the bay, is entered about 7 miles W of Ponta Inacio Dias and is almost entirely obstructed by mud banks. It should not be entered without local knowledge.

The W branch of the bay extends about 21 miles from Pontal do Sul. Porto de Paranagua and Porto de Antonina lie on the S side of the W branch about 15 and 26 miles, respectively, from the entrance to Canal da Galheta.

Ilha do Mel (25°31'S., 48°20'W.) lies in the middle of the entrance of the bay and divides it into two channels. The island consists of two parts connected by a narrow isthmus.

The N part is low and the SE part hilly. Canal Norte and Canal Sueste cross Barra de Paranagua and lead N of Ilha do Mel.

Tides—Currents.—Seaward of the bar, the tidal currents sets NE and SE at velocities of 1 to 2 knots.

With strong E winds, the SW current runs from 2 to 3 hours longer than the NE current, and attains a velocity of about 3 knots.

In Canal Norte, the flood current sets to the NW and the ebb sets SE, at a rate of 2 knots. With S to SE winds or spring tides, the ebb can reach a rate of about 5 knots.

In Canal Sueste, the flood current sets WNW at a rate of 1 knot to 2 knots, and the ebb sets S at a velocity of 2 knots. With S or SE winds or spring tides, the flood can attain 3 knots and the ebb 4 knots.

4.40 Banco do Superagui (25°29'S., 48°14'W.), with depths of less than 5.5m and on which the sea breaks, extends about 2 miles SW from Ponta Inacio Dias. Then its S edge, which forms the N side of Canal Norte, extends W to the S extremity of Ilha das Pecas.

Ilhas das Palmas, consisting of two islets, lie about 1 miles NNE of Ponta das Conchas, the E extremity of Ilha do Mel. The higher islet shows a light.

A number of rocks and shoals lie to the W and N of Ilhas das Palmas and can best be seen on the area chart.

Banco dos Ciganos, with depths less than 5.5m, and Banco das Palmas, with depths of less than 1.8m, lie on the S side of Canal Norte. The sea almost always breaks over the bank when there is a breeze.

In the entrance of Canal Sueste, two wrecks lie on the W side of the channel. The N most wreck lies about 2 miles SE of Ponta do Joaquim and is marked by a buoy. The second wreck lies about 0.3 mile SE of the buoy.

A dangerous wreck, marked by a buoy, lies 0.75 mile WSW of Ilhas das Palmas light.

Banco da Galheta, on the S side of Ilha do Mel, is a circular-shaped sandbank on which the sea breaks.

Canal da Galheta, the deep, buoyed channel to Porto de Paranagua, passes through the NE part of Banco da Galheta.

Depths—Limitations.—Canal da Galheta has been dredged to a depth of 12.6m in 1996. The reported maximum permitted draft and beam were 11.3m and 50m at HW.

The channel is 200m wide from seaward to 0.75 mile SE of Ilha da Galheta, then 150m to Porto de Paranagua with a widening to 250m at the bend N of Rasa de Cotinga.

The seaward end of the channel is marked by buoys moored about 4 miles SE of Ilha de Galheta.

Canal da Galheta is subject to silting and depths may be less than stated.

Two channels, Canal Sueste and Canal Norte, are located NE of Canal da Galheta. Both channels give access to the entrance of the bay where they merge together between Ponta das Pecas and Ponta do Bicho.

Neither Canal Sueste or Canal Norte should be used by deep draft vessels when a heavy sea is running nor should they be attempted without a pilot.

Canal Sueste is about 20 miles long with depths of 10 to 20m. The approach is made between Ilha do Mel and Ilhas das Palmas. A buoy marks its seaward entrance.

Canal Norte passes between Banco Superagui to the N and Banco dos Ciganos and Banco das Palmas to the S.

This channel is unmarked and should not be attempted without local knowledge.

Pilotage.—Pilotage is compulsory. Pilots board vessels 0.5 mile NE of Nos. 1 and 2 lighted buoys to Canal da Galheta. A pilot should be requested 24 hours, and confirmed 5 hours, before a ship's expected time of arrival. A pilot is always on duty at the old pilot station at Ponta das Conchas in case of emergency. The pilot station is equipped with VHF and operates on channels 6 and 16.

Regulations.—Ships of less than 20m in length and sailing ships must not interfere with the movement of other ships within the narrow channel of Canal de Galheta.

Vessels engaged in fishing must not interfere with any other ship navigating in Canal de Galheta or its access.

Ships are forbidden to cross the channel or its access if such crossing interferes with the safe passage of another ship within the channel or its access.

Ships should not overtake in the channel and ships should avoid anchoring in the channel. Vessels proceeding with the tidal current have the right of way.

Entry and exit of Canal de Galheta will be permitted at all stages of the tide, during daylight hours only. Tug assistance in the channel is mandatory for all vessels drawing more than 9.4m.

4.41 Porto de Paranagua (25°30'S., 48°31'W.) ([World Port Index No. 12980](#)) lies in the W part of the bay about 12 miles WNW of Ponta das Conchas. Vessels arriving, approach

the bar and embark a pilot at the waiting buoy. The distance from the bar to the docks is 18 miles.

There are three channels to the harbor; the N channel, used by coasters and fishing craft, and the SE channel, with a depth of 10m, 4,500m long and 150m wide, is used by deep sea vessels. Maximum official draft for crossing the bar during spring tide is 9.5m, and during neap tide 8.8m.

The S channel has been dredged to 12m. Vessels can enter at any time, except those vessels with a draft over 10.7m. The maneuvering basin is 600m wide and 12m deep.

Tides—Currents.—At spring tides, the flood current attains a velocity of 0.75 knots, the ebb a velocity of 1.75 knots. At neap tides, the flood and ebb currents attain a velocity of about 0.75 knot.

Depths—Limitations.—The port has about 2,000m of mooring space with depths alongside of 8 to 12m. The tanker pier, 200m long, with a berth on the outer face to take vessels of 9.4m draft, and on the inner face to take vessels of 7.1m draft, is located about 0.5 mile W of the W end of the main quay.

Pier 4 of the tanker pier, with a length of 358m, has a alongside depth of 8m. Pier 2 has a length of 143m and can accommodate three tankers simultaneously. The minimum depth alongside is 8m.

Pilotage.—Pilotage is compulsory between the pilot waiting buoy (18 nautical miles from the port) and the harbor. Pilot is requested at least 4 hours in advance.

In 1993, reclamation work was in progress at the SE extremity of the port for a container terminal.

The largest vessel that can be accommodated is 272m long, has a draft of 11.3m, and is 123,000 dwt.

Anchorage.—Anchorage in the outer roads is available in a depth of 15 to 20m, on the inner roads in a depth of 14m.

Other designated areas have been established off Porto de Paranagua and are used, as follows:

1. No. 1—Vessels awaiting a pilot.
2. No. 2—Vessels with a maximum length of 210m and a maximum draft of 11.3m. Also used by vessels operating to Antonina and requiring fuel or lubricants.
3. No. 2A—Barges.
4. No. 3—Vessels less than 180m long.
5. No. 4—Vessels less than 180m long.
6. No. 5—Inspection anchorage.
7. No. 6—Vessels over 180m long requiring fuel or lubricants.
8. No. 7—Quarantine and explosives anchorage.
9. No. 8—Vessels over 180m long.
10. No. 9—Vessels over 180m long.
11. No.10—Barges.
12. No.11—Vessels over 180m long.
13. No.12—Vessels awaiting berthing assignments at Paranagua and Antonina.

4.42 Porto de Antonina (25°26'S., 48°42'W.) ([World Port Index No. 12990](#)), is situated in an inlet at the head of the W branch of Baía de Paranagua, 10 miles WNW of Porto de Paranagua. It is reached through a narrow channel between sandbanks which extend from both shores of the bay.

The channel is not well marked and is only used during the day at HW. The allowable draft for the port is 5.5m.

There are two concrete piers, the largest privately owned, has 200m of berthage with a depth of 4.2m on its E side and 5.5m on its W side. The maximum length for ships using the port is about 149m.

Pilotage is compulsory. Pilots board vessels either at Barra de Paranagua or Porto de Paranagua. There is no anchorage space at Antonina. Vessels wait at Paranagua anchorage for a berth at Antonina.

Baía de Paranagua to Rio Sao Francisco do Sul

4.43 Between Pontal do Sul and Baía de Guaratuba, about 20 miles SSW, the coast is low and backed by Serra do Prata.

A conspicuous water tower stands on the coast, 10 miles SW of Pontal do Sul, and a similar tower stands on Ponta de Matinhos, 2.5 miles N of the entrance to Baía de Guaratuba.

At the entrance of Paranagua Bay, there are many banks and submerged and uncovered rocks, in depths less than 10m.

Navigation in this area should only be attempted through Galheta Channel.

Galheta Channel was dredged on Galheta bank, and the depths out of its banks are less than 5m.

Ilhas Currais (25°44'S., 48°22'W.), a chain of islets, lie about 10 miles S of Pontal do Sul. The highest islet is covered with vegetation.

Ilhas Itacolomis, a group of four rocks, lie about 7 miles SSW of Ilhas Currais and 7 miles offshore. A reef extends about 0.5 mile NW from Ilhas Itacolomis, and depths of less than 11m extend about 0.5 mile S from the islets.

Baía de Guaratuba (25°52'S., 48°34'W.), entered N of Ponta de Caieira, is about 8 miles long and 3 miles wide.

There are several islets in the bay and a number of rivers empty into it. The village of Guaratuba stands on the S shore of the bay about 0.5 mile within its entrance.

Ilha Caioba lies close off the N side of the entrance and shows a light. A radio masts, marked by white lights, stand 0.5 mile NW and about 3 miles SW of the light on Ilha Caioba.

The entrance bar is obstructed by sandbanks, between which are formed narrow channels, which should not be attempted without local knowledge. During bad weather the sea breaks over the bar.

Pilotage.—Pilotage is compulsory for Baía de Guaratuba it can be obtained off Barra de Paranagua, but must be requested in advance.

Between Ponta de Caieira and the entrance to Rio Sao Francisco do Sul, about 18 miles to the S, the coast is low, but backed by a mountain range some distance inland.

A conspicuous monument stands on the summit of Ponta Brigituba, about 2 miles S of Ponta Caieira.

Rio Sao Francisco do Sul

4.44 Rio Sao Francisco do Sul (26°10'S, 48°35'W.) flows into the sea by two mouths situated 19 and 37 miles, respectively, S of Baía de Guaratuba, and separated by Ilha de Sao Francisco do Sul.

The N entrance leads to Porto de Sao Francisco do Sul on the NW side of the island. The S entrance is almost entirely obstructed by sandbanks, on which the sea breaks violently.

About 8 miles upriver, the S channel is obstructed by causeway carrying a railroad from the mainland to the island.

Ilha de Sao Francisco do Sul, about 18 miles in length, is generally low, with large areas of swamps and mangroves. Cabo Joao Dias, the N extremity of the island, rises to Morro Joao Dias, about 0.6 mile to the S.

Morro Pao de Acucar, the highest land in this vicinity, stands on the NW side of the island. A conspicuous cross stands on the summit of this mountain.

The E coast of Ilha de Sao Francisco is low, and the only features distinguishable from seaward are some low hills, known as Morretes, about 11 miles S of Cabo Joao Dias and close inland.

Ilhas Tamboretas, a group of low islands, lie about 3 miles off the E coast, and 13 miles S of Cabo Joao Dias.

Winds—Weather.—From March to September, the land breezes blow from SW to WSW. During the rest of the year it blows between WNW and NW. At times, strong winds will raise a sea over the bar.

Tides—Currents.—At springs, the river current can attain velocities of 3 to 4 knots, and is only overcome by the full strength of the tidal current going in. During fresh NE or SE winds, especially the latter, there is a strong onshore current.

4.45 Arquipelago das Gracas, a group of islets and above-water rocks, lie about 2 miles ESE of Cabo Joao Dias. Ilha da Paz, the largest of the group, shows a light from its summit.

Banco Joao Dias, a sandy shoal, with a least depth of 3.6m, lies about 0.8 mile NE of Cabo Joao Dias. Banco da Galharada is a drying sandbank extending NE from the W entrance of Rio Sao Francisco do Sul.

A lighted mooring buoy, connected to the shore by two submarine pipelines, lies about 7 miles SE of Cabo Joao Dias.

Anchoring is prohibited in the vicinity of the pipelines. The terminal can accommodate tankers up to 200,000 dwt with a maximum draft of 17m. Berthing is done during daylight hours only.

The Mooring Master boards about 3 miles E of the mooring buoy.

4.46 The entrance of Rio Sao Francisco do Sul is approached either by Canal Norte or Canal Sul. Canal Norte passes over the bar N of Banco Joao Dias, and Canal Sul leads between Banco Joao Dias and Cabo Joao Dias.

Canal Norte is used by small coastal vessels and fishermen, as the depth over the bar is 4.1m. Canal Sul is used by larger vessels with a HW draft of 7m and 5.5m at any phase of the tide.

In Canal Sul, less water than charted has been reported (1994) between Buoy 4 and Buoy 1.

Within the bar there are depths of 11 to 30m to Porto de Sao Francisco do Sul. It was reported that the channel across the bar was dredged to 11m. Submarine pipelines, which are best shown on the chart, lie across the entrance to Rio Sao Francisco Do Sol.

Pilotage.—Pilotage is compulsory. The pilot station is on Ilha da Velha, close SW of Ilha da Paz. Vessels are boarded 0.7 mile SW of the pilot station, in response to whistle or siren signals. Pilots occasionally board vessels from their own canoes, which must be hoisted aboard.

In bad weather, the pilot may board inside the bar, W of Ponta do Sumidouro.

4.47 Porto de Sao Francisco do Sul (26°15'S., 48°38'W.) (World Port Index No. 13000) port lies on the NW side of Ilha de Sao Francisco do Sul and extends about 1 mile SSW of Ponta do Rabo Azedo.

It is fronted by numerous shoals and dangers which can best be seen on the area chart.

The access channel is 150m wide with a depth of 10m. The minimum depth is 8m. Night navigation is only allowed for vessels with a draft up to 8.5m. The main wharf extends 525m SE from Ponta de Cruz. There are depths of about 5 to 10m alongside. The quay at the head of the basin is 150m long and has one berth that is 90m long with a depth of 4.2m alongside.

There are two piers near the point about 0.4 mile SSW of Ponta da Cruz.

The S pier is about 61m long with a depth of 5.5m alongside. A customs pier lies close S of the above piers.

Anchorage.—There is an anchorage, in depths of between 12.8 and 15.8m, close to the pilot boarding place.

Caution is necessary as a shoal patch with a depth of 7.9m lies 0.25 mile SW of that position.

There are six designated anchorages, as follows:

1. No. 1—for vessels drawing up to 8.2m—0.6 mile NW of Ponta do Rabo Azedo.
2. No. 2—for vessels drawing over 8.2m—1.1 miles N of Ponta do Rabo Azedo.
3. No. 3—for small craft—1 mile SSW of Ponta do Rabo Azedo.
4. No. 4—explosives, dangerous cargoes, and quarantine anchorage—0.8 mile S of Trincheira Light.
5. No. 5—for loaded vessels using the oil terminal, with a draft of over 16m and with a maximum draft of 18m, in a depth of 21m, fine sand, in position 26°12.5'S, 48°25.0'W.
6. No. 6—for vessels awaiting a berth at the oil terminal in ballast, or under repair, with a draft of less than 16m, in a depth of 20m, fine sand, in position 26°12'S, 48°27'W.

4.48 Joinville (26°19'S., 48°51'W.) lies about 13 miles SW of Sao Francisco do Sul, on the S bank of Rio Cachoeira.

The channel leading to the port is marked by beacons and buoys, some of which are lighted. Vessels drawing less than 2m can reach the port.

Rio Sao Francisco do Sul to Porto de Itajai

4.49 Between Rio Araquari, the S channel of Rio Sao Francisco do Sul, and Porto de Itajai, about 28 miles to the S, the coast is high and backed by mountains, some of which are near the coast and can be seen for about 45 miles.

Morro Bau, with a flat summit, is the highest of these mountains and stands about 16 miles WNW of Itajai. It can be seen from about 20 miles offshore.

Several islets and submerged rocks lie on the shoal area extending E from the mouth of Rio Araquari. Ilha dos Lobos and Ilha Tipitinga lie about 4 and 2.5 miles SE of the mouth of the river.

Enseada de Itapocoroí (26°47'S., 48°37'W.), entered W of Ponta do Vigia, affords anchorage in about 8m, sand and mud, but care must be used as the holding ground is poor.

The village of Itapocoroia is situated on the SE shore of the bay. A light is shown 1 mile SE of Ponta do Vigia.

Ilhas Itacolomis, about 4 miles NNW of Ponta do Vigia, consists of two islets. A shoal, with a depth of 1.2m, extends about 183m SSE from the islets.

Ilha Feia (26°45'S., 48°38'W.), about 2 miles SSW of Ilhas Itacolomis, is 75m high. A reef, with some drying heads, extends about 0.3 mile E of the islet.

Between Ponta do Vigia and Ponta Negra, about 3 miles to the S, the coast rises to a chain of mountains, the highest of which is Morro do Gravata. Good radar returns have been reported from Ponta Negra at about 10 miles.

Between Ponta Negra and Ponta Cabecudas, 6 miles S, the coast is formed by Praia de Itajai, a sandy beach at the S end of which is the mouth of the Rio Itajai-Acu.

Porto de Itajai (26°55'S., 48°38'W.)

World Port Index No. 13020

4.50 Porto de Itajai lies about 2 miles within the mouth of Rio Itajai-Acu, and is entered between the heads of two moles which lie 1 mile NW of Ponta das Cabecudas, which is a good radar target for better than 20 miles.

Winds—Weather.—From March until September, the prevailing winds are from SW to WSW. During the rest of the year, they are from WNW to NW.

Tides—Currents.—The range of the tide is 0.9m at springs and 0.2m at neaps. The ebb current normally attains a velocity of 2.5 knots, but after heavy rains the current may attain a velocity up to 5 knots.

Depths—Limitations.—The N and S moles, which extend about 0.5 mile offshore, are about 183m apart, but the navigable channel between them is less than 91m wide. The bar across the entrance is formed by a shoal extending to the S and E from the head of the N mole. Depth at the bar is 8.5m.

The access channel has a width of 100m with a depth of about 8m.

The maneuvering basin has a width of 250m and a depth of 8m. The maximum length of a vessel to enter the port is 220m for cargo vessels and 160m for tanker.

There are five berths, with the largest being 740m long, with an alongside depth of 8m.

There are several small wooden piers above and below the main wharf.

There are six tanker berths located about 2 miles upstream from the main wharf. They can accommodate a vessel with a maximum length of 155m and a maximum draft of 6m.

Vessels can enter or sail at any stage of the tide with a maximum draft of 7.9m. Vessels with a maximum draft of 8.5m may enter or sail at HW. Tanker movements can be made in daylight hours only.

There is a speed limit of 5 knots reported in the access channel.

Aspect.—The buildings of the city, a white church with two towers, and a water tower and hospital near the church are all conspicuous and visible from seaward. Another water tower, standing about 1 miles NW of the harbor, is also conspicuous.

Pilotage.—Pilot is required on all foreign vessels and on Brazilian vessels of over 2,000 tonnes. Pilots require 6 hours notice prior to arrival. Pilots board vessels from a red launch.

The boarding area lies about 2.5 miles ENE of Ponta das Cabecudas Light (26°56'S., 48°37'W.). Vessels moor and unmoor during daylight hours only.

Anchorage.—Small vessels or vessels with suitable drafts may anchor in Enseada das Cabecudas in depths about 7m, mud and sand. The quarantine anchorage is situated E and SE of Ponta das Cabecudas.

Anchorage is prohibited in the channel or the turning basin, except when required for maneuvering requirements, to avoid close quarter situation or emergency.

Caution.—Pedra de Santa Teresa, a rock with a depth of 4m and marked by a buoy, lies about 0.3 mile NW of Ponta das Cabecudas.

Porto de Itajai to Ilha de Santa Catarina

4.51 Between Ponta das Cabecudas and Ponta de Bombas, about 16 miles to the SE, the coast continues high and backed by mountains inland. Along this part there are several points which form bays open to the NW.

Enseada de Camboriú (26°59'S., 48°36'W.), about 4 miles SSE of Ponta das Cabecudas, is entered W of Ponta das Laranjeiras. The bay is open to the NE, but sheltered from all other winds. A river, with a narrow and obstructed bar, empties into the SE part of the bay. A small village stands near the mouth of the river.

A submerged rocky ledge extends about 0.2 mile E from Ponta das Laranjeiras.

A dangerous group of rocks, with a depth of 1m, lies about 0.6 mile W of the same point; with a calm sea and the wind blowing off the land there are rarely breakers reported over these rocks.

A dangerous wreck lies 4 miles SSE of Ponta das Laranjeiras.

Anchorage is available in Enseada de Camboriú, about 0.3 mile off the SE shore of the bay, with the village church bearing 170°, distant about 0.7 mile, in a depth from 8 to 9m.

The anchorage consists of sand and mud with good holding ground, but it is exposed to winds between N and ENE.

Enseada de Porto Belo, about 8 miles S of Ponta das Laranjeiras, is entered between **Ponta da Ilhota** (27°05'S., 48°35'W.) and Ponta de Porto Belo, 0.7 miles to the ESE.

Ilha Joao da Cunha lies about 3 miles SW of Ponta de Porto Belo and forms a natural breakwater for a small cove. The village of Porto Belo stands on the S shore of this cove.

Anchorage may be obtained about 0.7 mile NNW of the N extremity of Ilha Joao da Cunha, in depths of 11 to 13m, mud and gravel. This anchorage is exposed to winds from between N and NNE. There is an anchorage for small vessels midway between the SW end of the island and Ponta do Vieira, about 0.6 mile to the SW, in a depth of 5.5m, sand and mud.

4.52 Ponta de Bombas (27°19'S., 48°28'W.), about 3 miles SE of Ponta de Porto Belo, is the E extremity of a peninsula which separates Enseada de Porto Belo from Baía das Tijucas.

Ponta Zimbros, about 5 miles SSW of Ponta de Bombas, is the S extremity of the peninsula.

Baía das Tijucas is entered between Ponta Zimbros and Ponta de Ganchos, about 0.7 miles SSW.

Rio Tijucas empties into the W part of the bay, and the village of Tijucas stands on the N entrance of the river. Depths of less than 5.5m lie within about 2 miles of the W shore of the bay.

Enseada de Ganchos, the S part of Baía de Tijucas is indented by several coves off which small vessels can anchor in depths from 5 to 6m, soft mud.

A vessel approaching these anchorages should take care to avoid the dangers off Ponta de Ganchos. Morro de Ganchos, about 3 miles SW of Ponta de Ganchos, is a good landmark.

4.53 Ilha da Gale (27°11'S., 48°24'W.), rocky and covered with vegetation, lies about 4 miles SE of Ponta de Bombas. Two islets lie close off the NE end of the island. A light is shown from Ilha da Gale.

Pedra Nocetti, with a depth of 10m, lies about 2 miles SE of Ilha da Gale. Ilhado Amendoim lies about 3 miles WSW of Ilha da Gale.

Pedra das Cinzas, with a depth of 10m, and Pedra da Iris, with a depth of 4m, lie about 2 miles and 0.5 mile, respectively, ENE of Ilha do Amendoim.

Calhau de Sao Pedro (27°15'S., 48°25'W.), two bare above-water rocks near the center of a submerged reef about 0.5 mile long, lies about 4 miles S of Ilha da Gale. Some heads on this reef dry. A light is shown near the E end of Calhau de Sao Pedro.

Ilha do Arvoredo, quite high and covered with vegetation, lies about 5 miles SSE of Ilha da Gale. The island is the best mark in the approach to Canal de Santa Catarina.

Two above-water rocks lie about 0.4 mile ENE of the S end of the island. A light is shown from the SE extremity of the island.

Anchorage is available about 0.1 mile off the SW side of the island in Baía Mansa, in a depth of about 12m.

Ilha Deserta lies almost 1.5 miles E of Ilha do Arvoredo. It is covered with dark vegetation and has some above-water rocks up to 0.1 mile off its N and S ends.

Ilha de Santa Catarina

4.54 Ilha de Santa Catarina (27°37'S., 48°30'W.) is separated from the mainland by the narrow Canal de Santa Catarina, is about 29 miles long. The island is prominent from the E, although the mountains on the mainland are higher.

Lagoa da Conceicao, about 8 miles long, lies close to and parallel with the E side of the island, and forms a large depression which is conspicuous from seaward.

Its entrance, maintained by dredging, lies about 12 miles S of the N extremity of the island.

A number of islands, islets, rocks, and shoals lie close off the E coast of the island and can best be seen on the area chart.

Ilhas das Tres Irmas (27°50'S., 48°31'W.) lies from 1.5 to 3 miles E of Ponta do Frade, the S extremity of Ilha de Santa Catarina. Ilha Irma de Fora is the furthest E and the highest; a 7m shoal patch lies 1 mile S of this island.

Ilhas dos Moleques do Sul (27°51'S., 48°26'W.) consist of three whitish islets lying about 1 mile E of Ilha Irma de Fora.

They are prominent and their sides appear steep when seen from the SE. Laje Moleques do Sul is an above-water rock lying 0.6 mile SW of the islets; a 6.6m shoal patch lies about 1.1 mile WNW of Laje Moleques do Sul.

Canal de Santa Catarina

4.55 Canal de Santa Catarina (27°32'S., 48°34'W.), lying between Ilha de Santa Catarina and the mainland, is about 0.2 mile wide at its narrowest part at Florianopolis. Two bridges span the channel W of Florianopolis. Numerous sandbanks and mud flats narrow the channel throughout its length. The N and S parts are named Canal Norte and Canal Sul, respectively.

Tides—Currents.—The tidal currents in Canal de Santa Catarina are fairly regular. They enter from N and S at the same time and meet off Florianopolis.

The strength of the tidal currents seldom exceeds 0.5 knot, but near spring tides it sometimes attains velocities of 1.5 to 5 knots. The tidal currents are somewhat influenced by the winds.

4.56 Approaching Canal de Santa Catarina from the N, vessels usually pass between Ponta do Rapa and Ilha do Arvoredo, but passage between Ilha do Arvoredo and Calhau de Sao Pedro is also free of dangers.

Ilha Anhatomirim, showing a light, and close off the mainland, should then be identified, and after passing about midway between it and Ponta Grossa, the NW extremity of Ilha de Santa Catarina, alter course for the entrance of the marked channel to Florianopolis.

Numerous islets, rocks, and shoals lay on both sides off the marked channel and can best be seen on the area chart. Local knowledge is required.

Pilotage.—There is no pilotage service.

Anchorage.—A vessel drawing up to 6m can easily reach a position about 1 mile NE of Ilha Anhatomirim and anchor there in a depth of about 7m.

With NE winds, vessels anchor in 5.8 to 7m, soft mud, about 1 mile N of Ilha Ratao Grande.

Vessels awaiting the tide or pilot usually anchor in this position.

4.57 Canal Sul is entered between **Ponta dos Naufragados** (27°50'S., 48°34'W.), the SW extremity of Ilha de Santa Catarina, and Ilha de Aracatuba, about 0.3 mile to the SSW. A partly marked narrow and winding channel leads through the numerous sandbanks and shoals to Florianopolis.

Vessels drawing up to 3m at LW and 4.3m at HW, can reach the anchorage off Florianopolis, but local knowledge is essential.

Numerous islets, rock, and shoals lie between Ponta dos Naufragados and Florianopolis, and are seen on the area chart.

4.58 Banco dos Naufragados (27°51'S., 48°33'W.), with a least depth of 1.8m, and on which the sea nearly always breaks, lies in the SE entrance to Canal Sul, about 0.45 mile S of Ponta do Frade. There is a clear passage on either side of this danger.

Pilotage.—There is no pilotage service.

Anchorage.—Vessels awaiting a pilot or the tide, can anchor about 0.4 mile WNW of Ponta dos Naufragados, in a depth of 14m.

The bottom is hard sand; therefore, a long scope of chain should be used.

There is a more sheltered anchorage about 0.5 mile SE of Ilha dos Cardos in depths from 7 to 8m, sand.

The anchorage affords shelter from E winds only, therefore, caution is necessary during strong winds from any direction, as space is restricted by sandbanks and shoals.

4.59 Porto de Florianopolis (27°36'S., 48°33'W.) ([World Port Index No. 13030](#)) lies on both sides of Canal de Santa Catarina at its narrowest part, which is spanned by two bridges. The N bridge has a vertical clearance of 28m and the S bridge clearance is 17m.

Depths of 5.5 to 22m lie between the S end of the marked channel and the N bridge, and 5.5 to 30m between Laje Tipitinga and the S bridge.

Three piers on the W side of the channel can accommodate vessels of up to 3.6m drafts, and one pier is for vessels with a draft to 1.8m. The berths on the E side of the channel are used only by fishing vessels and small craft.

There is a tanker berth at mooring buoys off Ponta do Leal, 1 mile NNW of the N bridge.

Anchorage.—Vessels can anchor on the E side of the channel, 0.3 mile S of the S bridge in a depth of 7m, mud.

Caution is necessary, as there are depths of less than 3m only 183m E of this anchorage. There is anchorage 0.5 mile N of the E end of the N bridge in depths from 5 to 8m, mud.

Ilha de Santa Catarina to Cabo de Santa Marta Grande

4.60 Between Ilha de Santa Catarina and Cabo de Santa Marta Grande, about 50 miles SSW, the coast is high, wooded, and indented. During clear weather, the mountains in the interior can be seen from about 36 miles offshore.

Ilha de Coral (27°56'S., 48°33'W.) lies about 6 miles SSE of Ponta dos Naufragados, and is high and wooded. The island shows a light, and when seen from the N or S, appears to be rounded. Two detached patches lie about 0.6 mile SSW of the island.

Ponta de Galeao lies 6 miles SSW of Ilha do Coral. A reef on which the sea always breaks extends N from the point.

Enseada de Imbituba (28°13'S., 48°39'W.) is entered between Ponta de Imbituba, 19 miles SSW of Ilha do Coral, and Ponta do Catalao, 1.5 miles to the NW. Lights are shown from both points. Porto de Imbituba is in the S part of the bay and is protected by a breakwater.

There are two conspicuous TV towers on a hill 2.5 miles W of Ponta de Imbituba, and a prominent tower stands in the town. All of these towers show obstruction lights. Good radar returns have been reported from Ponta de Imbituba.

Pedras do Aracaju, with a least depth of 6.9m, and Pedras de Imbituba, with a least depth of 8.7m, lie about 0.8 and 1.1 miles, respectively, N of Ponta de Imbituba.

4.61 Porto de Imbituba (28°14'S., 48°40'W.) ([World Port Index No. 13040](#)), a coal-shipping port, lies on the SW side of the bay. The port consists of an artificial basin open to the NNW and protected by a breakwater on its E side which projects about 850m NNW from Ponta de Imbituba.

There are no major restrictions with regard to length of vessel. Depth at the entrance of the port is 12m. The maneuvering basin inside the port is 315m wide with a depth of 10m. A light is shown from the breakwater head.

Depths—Limitations.—Berth No.1 and 2, 308m long with 9.5m alongside, is used for the shipment of coal and general cargo.

Berth No. 3, 245m long with 9.3m alongside, used for bulk and general cargo. Berth No. 4 is the ro-ro berth and has a depth of 7.5m alongside.

There are two entrance channels. The N channel has a depth 10m, and the S channel a depth of 12m.

There are no major restrictions in regard to the length of vessel. Depth at the entrance of the port is 12m.

The maneuvering basin inside the port is 315m wide with a depth of 10m. The largest vessel to enter the port was 200m in length with a draft of 9.5m.

Pilotage.—Pilotage is compulsory. Pilots board vessels at the anchorage off the port in response to two long blasts. Pilot should be given notice at least 24 hours before arrival and confirmation at 12 hours.

Anchorage.—Vessels anchor off the port about 0.7 mile E of Ponta do Catalao, in a depth of 12.7m, but it is exposed to winds from between NE and E. During these winds, small vessels can anchor off Ilha de Santana de Fora.

4.62 Between Ponta de Imbituba and Porto de Laguna, about 16 miles SSW, the coast is low and separates the sea from three lagoons which lie parallel to the coast and about 1 mile inland.

Ilha das Araras (28°19'S., 48°39'W.), lies about 5 miles S of Ponta de Imbituba and 2.75 miles offshore. The island has a light and rises in sheer cliffs and is covered with vegetation.

Ilha Tacami lies about 3 miles SE of Ilha das Araras and consists of a rounded mass of rock. A small reef, with some above-water heads, extends SW from the islet. Close NE of the islet the sea breaks. A 14.5m patch lies about 0.7 mile N of Ilha Tacami.

Ilha dos Lobos (28°27'S., 48°42'W.) lies about 4 miles NE of Barra de Laguna and 2 miles offshore. A light is shown from the island.

4.63 Porto de Laguna (28°30'S., 48°47'W.) ([World Port Index No. 13050](#)).—Barra de Laguna, which gives access to the port, is entered between two breakwaters situated 0.2 mile N of Ponta do Tamborete. The entrance between the two breakwaters is about 137m wide. The port is situated about 1 mile W of the breakwater entrance. The port is mostly used for fishing vessels.

Winds—Weather.—Southeast and S winds prevail during the winter, and NE winds prevail the rest of the year.

Tides—Currents.—Tidal currents generally have a velocity of 1 knot to 1.5 knots, but sometimes attain a velocity of 2 to 3 knots.

Depths—Limitations.—The depths in the entrance are constantly changing. Inside the bar, the depths decrease during N winds, and increase during S winds. The entrance is impracticable during strong SE winds.

There are heavy breakers over the shoal extending from the head of the S breakwater. Local knowledge is essential.

The main wharf is 300m long with depths from 3 to 5m alongside.

There is also a 500m long wharf at the town, on the E side of the channel, 1 mile NW of the main wharf which can accommodate vessels up to 2.5m drafts.

Aspect.—Morro da Gloria stands on the N side of the entrance, about 2 miles WNW of Ponta do Tamborete. A conspicuous monument stands on its summit and is a good landmark in the approach. The monument is floodlit at night.

Anchorage.—Vessels can anchor in about 5.5m, 0.25 mile N of the N breakwater. Within the port, only small vessels of less than 100 grt can anchor.

4.64 Cabo de Santa Marta Grande (28°36'S., 48°49'W.), about 8 miles SSW of Barra de Laguna, is conspicuous and easy to identify. It is the ends of a range of mountains which back the coast to the N. The cape is dark and its summit has some white patches which resemble houses at a distance.

From 10 to 12 miles NE, the cape appears as an island sloping SE and ending in low sandy ground.

Good radar returns have been reported from the cape up to 22 miles. A light is shown from the cape and a radiobeacon transmits from the light.

Cabo de Santa Marta Grande to Porto do Rio Grande

4.65 Between Cabo de Santa Marta Grande and Porto do Rio Grande, about 275 miles SW, the coast consists of a low white sandy beach, with a few small sandhills with tufts of vegetation.

The current along this coast sets to the S, attaining a velocity of about 1.7 knots during NE winds. It is doubtful whether the wind influences the current to any great extent along this coast. It is possible, however, that after prolonged S or SW winds, the S current slows or even ceases.

With SE winds, the sea becomes rough and the current always sets toward the coast.

4.66 Pedra do Campo Bom (28°45'S., 49°00'W.), with a depth of less than 1.8m, lies about 12 miles SW of Cabo de Santa Marta Grande and 3 miles offshore. When the wind is fresh, the sea breaks. A similar rock lies 1 mile farther SW.

Rio Ararangua (28°55'S., 49°20'W.), which flows into the sea 34 miles SW of Cabo de Santa Marta Grande, can be entered by small craft drawing up to 3m, with the help of local knowledge. A light is shown from Morros dos Conventos, about 2 miles SW of the entrance of Rio Ararangua.

Torres (29°20'S., 49°44'W.) is a small town lying 32 miles SW of the Rio Ararangua. It is near the mouth of the Rio Mambituba. Entrance to the river should not be attempted

without local knowledge. A light is shown on the coast near the S end of the town.

Anchorage may be obtained by small vessels in the river near the town.

Capao da Canoa (29°46'S., 50°01'W.) lies 29 miles SSW of Torres and shows a light. Prominent water tanks stand N and S of the light. A small pier projects from the coast about 2 miles S of the light.

Caution.—A dangerous sunken wreck lies about 7 miles ENE of Torres.

Recife das Torres, awash and on which the sea always breaks, lies about 1 mile SE of Torres. A stranded wreck lies on the NE part of the reef.

4.67 Tramandai (29°59'S., 50°08'W.) ([World Port Index No. 13055](#)), with the neighboring town of Imbe, is located about 14 miles SSW of Capao da Canoa and appears as one from offshore. A church and several prominent water towers are good landmarks. Three prominent water towers stand on the coast within six miles SSW of Capao de Canoa light.

Barra de Tramandai, which separates the towns of Tramandai and Imbe and gives access to a lagoon, can be entered by small craft with local knowledge.

A light is shown 2 miles S of Barra Tramandai. A lighted buoy, moored about 2 miles ESE of the light, marks the seaward end of a submerged pipeline. A dangerous wreck lies about 2 miles NNW of the lighted buoy.

4.68 Tramandai Maritime Terminal (Almirante Soares Dutra)(30°01'S., 50°06'W.) is situated about 3 miles S of Tramandai and consists of two lighted mooring buoys for tankers. The No. 2 buoy is situated about 0.5 mile SE of the No. 1 buoy. The No. 2 buoy permits mooring of tankers up to 200,000 dwt, with drafts up to 19m. The No. 1 buoy permits mooring of tankers up to 105,000 dwt, with drafts up to 16m.

Berthing is carried out by a mooring master who boards vessels 2 miles E of the SBMs. If vessels have to wait for a mooring master they should anchor 1.5 miles NE of No. 1 buoy; in depths of 20m if the vessel's draft is 15m or less; and 2 to 2.5 miles NE of No. 2 buoy; in depths of 24m for vessels with a greater draft. Berthing is only carried out by day, but vessels may unberth at any time. Sea pilots are not required.

Vessels should send their ETA direct to the Petrobras Radio Station and Rio de Janeiro Radio, 48 hours prior to arrival and be confirmed at least 24 hours in advance.

Caution.—There are submarine oil pipelines between Lighthouse Tramandai and the monobuoys of the maritime terminal of Tramandai. Navigation should be avoided in this area and all other areas as shown on the area charts.

4.69 Between Barra de Tramandai and Porto do Rio Grande, about 167 miles to the SW, the coast consists of extensive areas of undulating sand, covered with low vegetation which decreases toward its SW end.

Inland, there are several scattered dunes also covered with low vegetation. Several towns and villages stand along this coast, but they are only visible in clear weather from about 3 to 4 miles offshore.

Cidreira (30°10'S., 50°12'W.), a small village, lies about 11 miles SSW of Tramandai. A light is shown from the village.

A conspicuous water tank stands about 6 miles NNE of the light. A second water tank stands 6 miles SSW of the light.

Banco da Berta, with depths of less than 15.8m, extends about 4 miles offshore, about 20 miles SSW of Cidreira.

A wreck lies stranded on the coast about 19 miles SSW of Cidreira. A second stranded wreck lies about 7 miles farther SSW.

Solidao (30°42'S., 50°29'W.), showing a light, lies about 36 miles SSW of Cidreira. A light is shown at Mostardas, about 39 miles SSW of Solidao. Another light, with a racon, is shown at Conceicao, about 42 miles farther SW.

Numerous shoals, with depths of less than 20.1m, lie within 25 miles of the coast between Mostardas and the entrance of Porto do Rio Grande. Banco Minuano, with a depth of 13.7m, lies about 21 miles ENE of Barra do Rio Grande and 10.25 miles offshore.

Parcel do Carpinteiro, with a depth of 14.1m, lies about 16 miles ESE of Barra do Rio Grande and 13 miles SSW of Banco Minuano.

A dangerous wreck is reported to lie about 2 miles W of Banco Minuano.

Caution.—Surveys of years ago indicate that the shoreline between Mostardas and Barra do Rio Grande lies approximately 3 miles W of its charted position. Mariners are advised to use caution when navigating in this area.

Porto do Rio Grande (32°03'S., 52°05'W.)

[World Port Index No. 13060](#)

4.70 Porto do Rio Grande lies about 9 miles N of Barra do Rio Grande, which is the entrance to the channel. This channel is the outlet of Lagoa dos Patos and Lagoa Mirim.

The former extends NE for about 130 miles, and the latter extends SW for about 1 miles, and the two are connected by Rio Sao Goncalo.

This channel also leads to Porto de Pelotas on Rio Sao Goncalo, about 20 miles NNW of Porto do Rio Grande, and Porto Alegre on Rio Guaiba, at the N end of Lagoa dos Patos.

Tides—Currents

The tidal currents in Barra do Rio Grande are greatly influenced by the wind and should always be considered when entering or passing between the breakwaters.

During NE winds, the ebb current sometimes attains a velocity of 5 knots and the flood current a velocity of 3 knots.

After prolonged SW winds, which raise the water level in the lagoons, the ebb current is particularly strong.

Because of these strong tidal currents, a single screw vessel may sometimes have difficulty rounding the breakwaters.

Vessels may be drawn toward Banco da Barra or the breakwaters, depending on whether it is a flood or ebb current.

Depths—Limitations

Barra do Rio Grande, the entrance of the channel, is protected on each side by a breakwater extending about 2 miles S from the coast. The heads of the two breakwaters are about 0.5 mile apart and lie E and W of each other.

A submerged extension extends about 70m from the head of the E breakwater and about 200m from the head of the W breakwater. A light is shown from the head of each breakwater.

A dangerous wreck lies sunk about 137m E of the head of the E breakwater. A wreck, which is dangerous to navigation, lies about 0.7 mile SSE of the E breakwater.

Banco da Barra, a sandy shoal with a least depth of 5.5m, lies about 1 mile SSW of the E breakwater.

The access channel to Porto Rio Grande is 9 miles long and varies in width from about 0.1 to 0.3 mile.

At the bar, in the vicinity of the breakwater, the water depth varies from 8 to 12.2m. There are eight artificial channels leading to the approach of Porto Alegria.

The main channel which is used is Feitoria, with a width of 120m and a depth of 5.2m. The maximum size of a vessel entering the port is 245m in length and a draft of 5.2m.

Vessels carrying dangerous cargo are prohibited from using the channel at night.

From the breakwater to the Porto Novo access channel the channel is marked by buoys and water depth varies from 9 to 17m. The port is divided into three major areas.

Porto Novo is formed by a 1.5 mile long channel located between the E end of the peninsula on which the city of Rio Grande stands, and a low, sandy islet which has been reclaimed from part of an extensive sandbank about 0.1 to 0.3 mile E of the city.

Porto Velho lies along the N side of this peninsula and is approached through Porto Novo.

Superporto is located on the left side of the approach to Rio Grande, between the entrance breakwaters and the entrance to **Saco da Mangueira** (32°03'N., 52°05'W.).

The access channel to Superporto is dredged (1995) to 13.8m between buoys No. 1 and No. 2 and Cotrijul Terminal.

The port facilities in the three port areas are described in detail below.

The Porto Velho Wharf has a length of 640m and a depth of 4.6m. It is used by fishing vessels and lighters.

Porto Novo is 1,890m long with a depth of 8.8m. Vessels with a draft greater than 7.9m have trouble approaching the piers due to silting.

The Super Porto General Cargo Terminal is 300m with a depth of 12.2m. It handles containers.

The Cotrijui Terminal is about 150m long with a depth of 12.2m. It is T-shaped and handles grain. It can accommodate a vessel of 60,000 dwt.

The Portobras Terminal is 611m with a depth of 14.5m. It handles grain and soybeans. The maximum LOA is 412m. The maximum draft is 11.9m with a maximum size of 80,000 dwt.

The Luch Singer Terminal is 130m long with a depth of 11m. It is T-shaped and handles fertilizer. It can accommodate vessels up to 60,000 dwt.

The Petroleum Terminal is about 213m long with a depth of 9.7m. The maximum vessel length is 240m.

Aspect

A round tower, 67m high at Porto Novo, is the most conspicuous object in the area. Also visible is the cathedral, with two towers, and a conspicuous silo, 0.3 mile ENE and 1 mile E, respectively, of the round tower. A conspicuous tower

stands on the coast, 2.75 miles WNW of the entrance. The silo at the grain terminal, 0.5 mile N of the head of the W breakwater, is easily identified from seaward.

The former pilot lookout, a white square masonry tower with a mast and yards, stands close S of Banco de Barra light; it is about half the height of the light but larger in bulk.

Pilotage

Pilotage is compulsory. Pilots board off the whistle buoy about 1 mile E of the breakwaters. ETA should be given 24 hours in advance and confirmed not less than 12 hours before arrival. The pilot boat is red with a black "P" on either bow.

Should weather conditions prevent the pilot from boarding, vessels will be guided by the pilot boat which will display the signal "Pilot on board. Keep in my wake."

Anchorage

There are various designated anchorage and prohibited anchorage areas between Barra do Rio Grande and Porto Novo; ships should anchor only as directed by the port authorities.

Caution

It should be noted that the water in the port may vary in the course of a few hours, from completely fresh to nearly the density of sea water, depending on the direction of the wind.

It is prudent to reckon safe draft for entry and loading as if in fresh water.

It has been reported that the strong SW current at the breakwaters causes the channel buoys to be set to the SW.

Lagoa dos Patos

4.71 Lagoa dos Patos, the largest lake in Brazil, extends about 130 miles NE from Porto do Rio Grande and is separated from the sea by a peninsula from 6 to 20 miles wide.

Numerous rivers empty into the lake, the largest being Rio Guaíba at its NE end and Rio Sao Goncalo at its SW end.

Except for the dredged channels at each end, Lagoa dos Patos has general depths of 5.5 to 7.3m.

Winds—Weather.—Northeast and SE winds cause a lowering of the water level on the E shore of Lagoa dos Patos and swells on the W shore. NW and SW winds cause an increase of the water level on the E shore and a lowering on the W shore.

Southwest winds, which usually accompany cold fronts in winter, are violent and long lasting. They cause damming on Barra do Rio Grande which raises the entire level of Lagoa dos Patos. This may even occur some days before the SW wind reaches Rio Grande.

Northeast winds, which usually occur in spring and at the beginning of autumn, cause an outflow through Barra do Rio Grande and lower the level of the lake.

Tides—Currents.—The currents in the lake follow the direction of the wind and during strong winds, may attain a velocity of 2 knots in the dredged channels in the SW part of

the lake. During S and SW winds, a current in the dredged channels may drive vessels toward the N shore.

Between São Jose do Norte and Ponta da Feitoria, about 20 miles N, an intricate channel leads through the shallow SW part of the lake. This channel has a project depth of 6m over a width of 80m; however, at times depths are less. It is marked by beacons and buoys, most of which are lighted.

Between Ponta da Feitoria and Ponta de Itapua, the E entrance of Rio Guaíba, about 94 miles NE, the fairway lies near the E shore of the lake. It is marked by lights and lighted buoys.

Between Ponta de Itapua and Porto Alegre, about 22 miles NNW, another intricate channel leads up the Rio Guaíba. This channel has a project depth of 6m; however, at times depths are less. It is marked by beacons and buoys, some of which are lighted.

Navigation in Canal da Feitoria at night is prohibited for merchant vessels when carrying dangerous cargo.

Pilotage.—Pilotage is compulsory and is available only during daylight hours. Pilots can be obtained at Rio Grande.

Caution.—Due to frequent changes in the width and depths of the channels, local knowledge is required. Small craft should keep clear of larger ships in narrow channels as eddies and abnormal water effects can cause boats to collide with ships propellers. Fish stakes, some of which are located in the channels, constitute a danger.

4.72 Porto Alegre (30°02'S., 51°14'W.) ([World Port Index No. 13080](#)) lies on the E bank of Rio Guaíba, about 25 miles from its mouth.

It is built on a rocky promontory and is reported to be about 30m high. The government palace and the cathedral stand on this summit.

Several rivers empty into the Rio Guaíba in the vicinity of the port. Some of these rivers are navigable by small craft up to 200 miles during the flood season.

Winds—Weather.—From November to April, the prevailing winds are E and SE. From May to August, the winds are variable, and from September to October, the winds are S and ESE.

Depths—Limitations.—There are three main sectors of quays in Porto Alegre. Maua Quay is 3,240m long with alongside depths of 4 to 6m. The Cais dos Navegantes Section is 2,500m long with depths of 5 to 6m. The Cais Marcilio Dias Section is 2,260m long with alongside depths of 4 to 5m.

There are four tanker berths in Rio Gravatai, which discharges through the E bank close N of the N end of Cais dos Navegantes.

The berths can accommodate tankers of 1,600 grt and not exceeding 5.2m in draft and 100m in length.

To reach these berths, vessels must pass through a bridge with a lifting span 53m wide, having a vertical clearance of 10.1m in closed position and 36m in open position.

It is not recommended that vessels longer than 245m or with a draft of 5.2m attempt to reach Porto Alegre. A ro-ro berth, with 300m of quay, is located at the port.

Pilotage.—Pilotage is compulsory. A pilot is picked up at Rio Grande. Pilots will not take vessels through the approach channels to Porto Alegre at night. Request for pilot is made 12 hours prior to arrival.

Regulations.—Vessels of over 12 knots may leave Rio Grande for Porto Alegre, or vice versa, not later than 1700 hours in summer, or 1500 hours in winter, or those of less speed one hour earlier.

This means that vessels entering from the ocean and bound for Porto Alegre direct must enter Rio Grande at least three hours before the time indicated to allow for delays in getting clearance at Rio Grande and changing pilots.

In summer months, vessels of 14 knots may leave either way at daybreak and complete the transit in the day, otherwise, vessels must anchor overnight at either end of Lagoa dos Patos.

Anchorage.—Vessels awaiting berthing anchor 0.2 mile off the center part of Maua Quay in a depth of 7m.

4.73 Porto de Pelotas (31°47'S., 52°20'W.) ([World Port Index No. 13070](#)) is located about 20 miles NNW of Rio Grande, and 5 miles W of the mouth of the Rio Sao Goncalo.

The channel over the bar at the entrance of Rio Sao Goncalo has been dredged to a depth of 5.5m over a width of 80m, but continual silting makes the channel shallower than the charted depth. The port is accessible to vessels with a draft of 2m.

Rio Sao Goncalo is marked by beacons and buoys, some of which are lighted.

Pilotage—Pilotage is the same as Lagoa dos Patos. Pilots board at Rio Grande or Porto Alegre.

There is 500m of quayage with a maximum depth of 5.1m alongside.

Lagoa Mirim

4.74 Lagoa Mirim extends about 97 miles SW from the SW entrance of Rio Sao Goncalo, and is separated from the sea by a low and sandy peninsula from 10 to 30 miles wide and partially inundated.

Numerous rivers empty into the lake, the principal one of which is **Rio Jaguarao** (32°39'S., 53°11'W.). This river flows into the NW side of Lagoa Mirim and forms part of the boundary between Brazil and Uruguay.

Numerous navigational aids, some of which are lighted, are located throughout Lagoa Mirim. Local knowledge is essential in the lake.

Barra do Rio Grande to Caba Poloni

4.75 Between Barra do Rio Grande and the mouth of Arroio Chui, about 115 miles SSW, the coast is a low sandy strip, backed by the peninsula which separates Lagoa Mirim from the sea. This very low coast is inconspicuous on the radar screen, the echoes obtained usually coming from dunes located from 1 to 2 miles inland. The light structures are easily identified, and are visible up to 7 miles offshore by day.

Lights are shown from the coast at Sarita, Verga, Albardao, and Chui, about 32, 53, 68, and 115 miles, respectively, SSW of Barra do Rio Grande.

Between Barra do Rio Grande and Arroio Chui, depths of less than 18.3m lie within about 27 miles of the coast. Depths of less than 9.1m lie within about 1 to 3 miles of this coast. Vessels in this area should keep well off the coast.

Banco do Albardao, which is composed of rock covered by fine sand with depths of less than 10m, and a minimum depth of 6.6m, extends from 4 to 15 miles SSE from Verga light.

Canal da Verga, the channel between this bank and the coast, has a minimum depth of 12m in the fairway.

4.76 Southwest of Arroio Chui, the first prominent feature is the rocky Punta Coronilla, a distance of about 13 miles.

Isla Verde, the largest of several islets, surrounded by above-water rocks and submerged rocks, lies about 2 miles ESE of Punta Coronilla.

A rock, awash, lies 0.5 mile E of these islets. A fort stands on a hill about 3 miles SW of Punta Coronilla.

Anchorage is available 0.25 mile S of Isla Verde in a depth of 11m.

Between Punta Palmar, about 9 miles S of Punta Coronilla, and Cabo Castillo, about 21 miles farther S, the coast consists of a flat sandy beach. A light is shown from Punta Palmar.

Cabo Castillo (34°21'S., 53°46'W.) is a rocky promontory which rises to Cerro Bueno Vista, about 0.2 mile inland.

The cape is a good landmark because of its isolated position and distinctive shape. Good radar returns have been reported from the cape, distant 16 miles.

Punta del Diabolo, the NE extremity of Cabo Castillo, is a white sheer cliff, rounded in shape, with some dark colored patches of bushes.

Punta Aguda, the E extremity of Cabo Castillo, lies 0.75 mile SSE of Punta del Diabolo.

4.77 Islas de Castillo Grande (34°21'S., 53°44'W.) consists of Isla del Marco and Isla Seca lying 1 mile ENE and 0.33 mile N, respectively, of Punta Aguda. Depths of 9 to 15m lie between the two islets. A white, steep rocky cliff stands on the SE side of Isla del Marco and is visible 10 to 12 miles.

Anchorage.—Small vessels, with local knowledge, can anchor between Isla Seca and Cabo Castillo, about 0.2 mile off the cape in depths of 3.5 to 4.5m, fine sand.

Vessels anchor in Bahia Castillo, NW of the summit of Cerro Buena Vista, nearly 0.5 mile from the cape in a depth of 4.5m. Before anchoring, care should be taken to ascertain the nature of the bottom, as it is rocky in places.

These anchorages afford good shelter from the pamperos, but a vessel should immediately put to sea if the wind shifts to the NE, as it raises a heavy sea.

Caution.—The existence of a local magnetic anomaly has been reported in the vicinity of Cabo Castillo, but this report has not been verified.

Cabo Polonio to Punta del Este

4.78 Cabo Polonio (34°24'S., 53°47'W.) is a steep rocky promontory rising to a greenish cone-shaped hill. When first seen from NE or SW, it appears as an island. A light is shown from the highest part of the cape. A radiobeacon transmits from the light structure.

Good radar returns have been reported from the cape, distant about 16 miles.

Anchorage is afforded in the bay N of Cabo Polonio in a depth of 10m, 0.6 mile NNE of Cabo Polonio Light.

During offshore winds, vessels can anchor in a depth of 9.1m about 0.5 mile off the beach extending N from Cabo Polonio. Vessels can also anchor about 1 mile off this beach in depths from 9 to 15m, sand and mud.

A number of prominent mountain peaks are located to the W and N of Cabo Polonio and can best be seen on the area chart.

Islas de Torres, arid and rocky, lie up to 1.25 miles E of Cabo Polonio, and consists of three islets. A rocky patch, with a depth of less than 1.8m, lies about 0.3 mile W of the E most islet. Narrow passages lie on either side of the above patch and between the inner islets and Cabo Polonio, but they should not be used without local knowledge.

Bajo Polonio (34°26'S., 53°48'W.) is a dangerous rocky shoal, with a least depth of 3m, lying about 2 miles SW of Cabo Polonio; the sea often breaks over it.

A shoal, with a depth of 14.3m and bottom of hard gravel, has been reported to lie 18 miles ENE of Cabo Polonio. Much discolored water was observed in the vicinity and caution is necessary as shallower depths may exist.

An explosives dumping area is centered about 4 miles ENE of Cabo Polonio.

4.79 Between Cabo Polonio and Cabo Santa Maria, about 24 miles to the SW, the coast consists of a beach, backed by sandhills. There is a heavy surf on this beach, making landings dangerous and sometimes impossible. Some huts, generally surrounded by trees, are scattered along this beach, but vegetation is very scarce.

Punta Rubia, about 5 miles NNE of Cabo Santa Maria, is the only break along this beach. It appears as an islet from seaward. A high hill with a reddish patch rises from Punta Rubia and is the only one of its color in this area.

Bajo la Pedrera, with a depth of 8.2m, lies about 0.5 mile SE of Punta Rubia.

Cabo Santa Maria (34°40'S., 54°09'W.), located 24 miles SW of Cabo Polonio, is low with a rocky reef extending about 0.15 mile to the S. A light is shown from a hillock on the cape.

Good radar returns have been reported from the cape, distant 15 miles.

Anchorage is available W of Cabo Santa Maria, 0.75 miles offshore, in depths of 10.9 to 12.8m.

4.80 Banco La Plata, with depths of 18.3 to 37m, lies in the N approach to Rio de la Plata between the meridians of about 52°30'W and 55°20'W. It extends parallel with the N coast, from 20 to 50 miles offshore, and is composed of fine sand and broken shells.

Pozos de Fango, a depression of the ocean bed with depths from 36 to 82m, lies between Banco La Plata and the coast to the N. It begins about 15 miles E of Isla de Lobos and extends about 80 miles ENE, and is about 15 miles wide at its E end.

The bottom is mud of the consistency of sticky clay, the color varying from lead to bluish black.

Bajo Speedwell (34°40'S., 54°07'W.), with a depth of 9.7m, lies about 2 miles E of Cabo Santa Maria. Banco Laplace, a dangerous sandbar, the existence of which is doubtful, was reported to lie about 2 miles S of Cabo Santa Maria.

A 10m patch lies about 10 miles E of Cabo Santa Maria, and a 15m patch lies about 6 miles SE of the same cape.

4.81 Puerto de la Paloma (34°39'S., 54°09'W.) ([World Port Index No. 13100](#)) lies on either side of a low peninsula, joined to the coast by a narrow sandy isthmus, about 1 mile NE of Cabo Santa Maria.

Puerto Viejo is S of the peninsula and Puerto Nuevo is to the N.

Puerto Viejo, with depths of 1.2 to 3.9m, is entered between the reefs extending S from the peninsula and Isla de la Tuna, about 0.4 mile NE of Cabo Santa Maria and close offshore.

The entrance, about 0.1 mile wide, is dangerous and local knowledge is essential.

Puerto Nuevo, accessible to vessels drawing up to 3m, is formed by a rubble breakwater about 0.6 mile long, projecting NW from the end of the peninsula. Rocks, awash, extend about 0.3 mile E from the E end of the peninsula.

A 3m patch lies about 0.4 mile NE of the same point. A pier at the S end of Puerto Nuevo has a depth of about 5m alongside its head, which is 15m long. A light is shown from the head of the pier.

Bajo Falkland (34°38'S., 54°07'W.), a rock awash, lies about 1 mile NE of the head of the breakwater. A wreck lies stranded on this rock. A 3.6m shoal lies about 0.2 mile W of Bajo Falkland.

Bajo 18 de Julio, with a least depth of 4.2m, lies about 0.6 mile ENE of the head of the breakwater.

4.82 The coast between Cabo Santa Maria and Punta Jose Ignacio, about 26 miles to the WSW, is backed by sandhills, but has no conspicuous features. Gaps in these sandhills indicate Laguna de Rocha and Laguna Garzon, lying close inland.

Punta Jose Ignacio (34°51'S., 54°38'W.) extends about 1 mile from the general coastline and rises to a hill. This point has a frontage of rocks, about 0.6 mile long in an E and W direction. It is fringed by a reef which extends about 0.5 mile E and 183m S. A small cove for boats is on each side of Punta Jose Ignacio. A light is shown from the point.

A lighted buoy is moored 7 miles SSW of Punta Jose Ignacio and is the approach buoy for a lighted single buoy mooring for oil tankers. The mooring buoy is located about 0.5 mile SW of Punta Jose Ignacio, in a depth of 18m.

A floating hose, 270m long, painted black with orange bands and marked by a light, extends from the buoy. A prohibited area, shown on the chart, surrounds the SBM.

Only vessels under pilotage navigating to and from the oil terminal may enter this area. Berthing master is available to assist ships securing to the buoy and boards at the anchorage.

The vessel's ETA should be signaled 48 hours in advance and be confirmed 24 and 12 hours before arrival. The maximum permissible draft is 16.7m.

Leading beacons, painted with red and white horizontal bands, lead to the oil buoy. Vessels may anchor clear of the approach buoys, but not closer than 0.5 mile.

Bajo Ladas (34°52'S., 54°38'W.), with a depth of 9.7m, lies about 1 mile S of Punta Jose Ignacio. Bajo Didy, with a depth of 0.4m, lies about 0.4 mile SE of the above point. A shoal, with a depth of 12.8m, lies about 3 miles SE of Punta Jose Ignacio.

A stranded wreck lies on shore, about 4 miles W of Punta Jose Ignacio. An obstruction lies about 11 miles SSW of the same point.

Between Ponta Jose Ignacio and Punta del Este, about 17 miles to the WSW, the coast consists of a sandy beach, free of off-lying dangers.

A small river empties into the sea about 12 miles WSW of Punta Jose Ignacio.

Punta del Este (34°58'S., 54°57'W.) is described in paragraph 5.9.