Chart Coverage in Coast Pilot 4—Chapter 10
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
81°W
80°W
79°W
78°W
30°N
29°N
28°N
27°N
26°N
11488
11490
ST. JOHNS RIVER
ST. AUGUSTINE INLET
St. Augustine
MANTANZAS INLET
ATLANTIC OCEAN
Daytona Beach
New Smyrna Beach
Cape Canaveral
Melbourne
SEBASTIAN INLET
Fort Pierce
ST. LUCIE INLET
LAKE OKEECHOBEE
JUPITER INLET
West Palm Beach
Boynton Beach
FLORIDA
Fort Lauderdale
Miami
Bimini Islands

St. Johns River to Miami

(1) This chapter describes the Florida coast southward from the St. Johns River (30°24'N., 81°24'W.) to Miami (25°46'N., 80°08'W.) and includes the deepwater ports at Port Canaveral, Fort Pierce, Port of Palm Beach, Port Everglades and Miami. Information for offshore navigation is given first, followed by a detailed description of the coast, inlets and seaports. The Intracoastal Waterway for this section of the coast is described in chapter 12.

(2)

COLREGS demarcation lines

(3) The lines established for this part of the coast are described in **33 CFR 80.723** through **80.730**, chapter 2.

(4)

Weather

(5) The most dangerous navigational weather hazards along this coast are tropical cyclones, but extratropical lows (nor'easters) can produce gale to storm Force winds, especially in the waters north of Jupiter Inlet from October through March. Tropical cyclones primarily occur from June through November with mid-August through October being the busiest time period. There is about a 30 to 50 percent chance that at least one tropical cyclone will affect these waters each year; a 10 to 15 percent chance exists that it will be a hurricane. The frequency of landfalling tropical cyclones increases south of Daytona Beach. On average, Miami will experience hurricane-force winds once in about seven years, compared to once in 13 years from Cape Canaveral northward. During the Fort Lauderdale hurricane of 1947, sustained winds reached 105 knots and gusted to 135 knots at Hillsboro Lighthouse, while Miami recorded 106-knot winds with 130-knot gusts in the October hurricane of 1950. Storm surges in severe hurricanes can reach 15 feet (4.6 m) or more above mean sea level. In deep water, waves of 30 to 40 feet (9 to 12 m) are possible. Early and late in the hurricane season, storms are often likely to approach the area from the western Caribbean either on a northerly or northeasterly heading. Midseason storms may either be recurving toward the north through northeast or moving west-northwestward.

(6) In general weather along this coast poses few problems for mariners. Gales are usually encountered less than 1 percent of the time with maximum winds reaching 35 to 50 knots from October through March. The easterly trade winds are common throughout much of the year with average speeds of 10 to 15 knots. Only infrequently will a severe cold front or winter storm affect these waters. These cold fronts bring large temperature drops and strong, gusty winds. Northwesterly and northerly winds are usually the strongest. Maximum waves of 18 to 25 feet (5.5 to 7.6 m) can be expected in deep waters from September through February while waves of more than 6 feet (1.8 m) occur 8 to 15 percent of the time from about October through March. Thunderstorms are most likely from May through October and may be associated with easterly waves or tropical cyclones. Tornadoes and waterspouts have been reported in all months; they are not usually as violent as the tornadoes of the midwest.

(7)

ENC - US3GA10M
Chart - 11480

(8) The coast from St. Johns River to Cape Canaveral trends south-southeastward for 125 miles. Three inlets, St. Augustine, Matanzas and Ponce de Leon indent the coast. From St. Johns River to Ponce de Leon Inlet the coast is bold in appearance, with an almost continuous range of sand dunes backed by woods. The section southward of Ponce de Leon Inlet for 25 miles is formed by a very narrow strip of lowland lying between the sea and Indian River North and Mosquito Lagoon. From seaward this coast shows a low line of sand dunes partially covered by grass and scrub trees with distant woods showing over them. The only natural object distinctive in appearance is Turtle Mound, a green hillock about 10 miles south of Ponce de Leon Inlet. When seen from northward and eastward, it is quite conspicuous but is less marked when viewed from other directions. The woods in the vicinity of Cape Canaveral are farther back from the beach and are less distinct when seen from seaward. Many landmarks are available along this stretch of the coast that may be used by southbound vessels proceeding close inshore to avoid the Gulf Stream.

(9) The depths from St. Johns River to Cape Canaveral are irregular. Depths of 5 to 7 fathoms are 1 mile offshore, while a depth of 3 fathoms is within 0.4 mile of the shore except off the entrances to St. Johns River, St. Augustine Inlet and Ponce de Leon Inlet and from about 7 miles north of False Cape to Cape Canaveral.

(10) A **179°–359° measured nautical mile** is just southward of the entrance to St. Johns River; the markers are located northward and southward of St. Johns Light. A submerged instrument platform that extends about 6 feet off the bottom is 5.8 miles south of St. Johns River in about 30°18.1'N., 81°23.0'W. Shoal spots with depths of 33 to 38 feet over them are from 4 to 6 miles offshore and from 12 to 16 miles north-northeastward of St. Augustine Light. These shoals are about 8 miles long in a

southeasterly direction and about 2.5 miles wide. A swash channel with depths of 40 to 50 feet is inside these shoals and about 2 miles from the beach.

(11) Off Ponce de Leon Inlet 10 fathoms will be found within 2 miles of the beach. A wreck with 35 feet over it and shoals with a least depth of 35 feet are 5 to 7 miles north-northeastward of Ponce de Leon Inlet, and privately marked and unmarked fish havens extend 11 miles offshore northeastward and 13 miles offshore southeastward of the inlet. A dangerous sunken wreck is about 1.7 miles east-southeast of the inlet. Going southward the 10-fathom curve gradually works offshore to a distance of 10 miles off False Cape. From about 7 miles north of False Cape to Cape Canaveral there are dangerous shoals.

(12) **Northeastern reporting system/Southeastern reporting system** (See **33 CFR 169.105** and **169.115**, chapter 2, for limits.)

(13)

ENC - US3FL30M
Chart - 11460

(14) From Cape Canaveral to Fort Pierce Inlet, the coast trends generally south-southeastward for 62 miles and is broken only by Sebastian Inlet. The inlet is a narrow dredged channel, not distinguishable from any distance offshore except by the highway bridge across the inlet and by the sand spoil bank on the north side which is bare and a little higher than other sand dunes in the vicinity. This section of the coast is formed almost entirely by a low, narrow strip of sand, covered with vegetation, which lies at a distance of 1 to 2 miles from the mainland, from which it is separated by the shallow waters of Banana and Indian Rivers, a part of the Intracoastal Waterway. From seaward the coast shows a line of sand dunes partly covered with grass and scrub palmetto. At several places buildings show prominently from seaward. In the background the heavy woods on the mainland may be seen. Shoals extend 10 miles offshore with a least depth of 23 feet about 2.5 miles north-northwestward of Bethel Shoal Lighted Buoy 10, which is about 47 miles south-southeastward of Cape Canaveral Light.

(15) A **coral habitat area of particular concern (HAPC)** is centered about 22 miles, 055° from the entrance to Fort Pierce Inlet.

(16) The northern part of the Florida Reef Tract lies just off the coast from St. Lucie Inlet thence south to Biscayne Bay. Mariners are urged to exercise caution when navigating in the area of the reef and to not anchor on or near the reef. See **Coral Reefs**, chapter 3, for additional information.

(17) From Fort Pierce Inlet to Lake Worth Inlet, the coast trends generally south-southeastward for 43 miles and is broken by St. Lucie and Jupiter Inlets. This section of the coast is formed by a low, narrow strip of sand, covered with vegetation, and separated from the mainland by the shallow waters of Indian River and by the Intracoastal Waterway connection between the Indian River and Lake Worth. From seaward the coast shows a line of sand dunes partly covered with grass and scrub palmetto. In the background the heavy woods on the mainland may be seen. Buildings show prominently from seaward.

(18) From Lake Worth Inlet the general trend of the coast is south for 60 miles to the Miami Harbor entrance. The coastline is broken by Port Everglades, several unimportant inlets, Bakers Haulover Inlet and the entrance to Miami Harbor. It is formed almost entirely by a low sand beach covered with grass and scrub palmetto in back of which it is wooded. Conspicuous from seaward are the buildings and piers at Palm Beach and Hillsboro Inlet Entrance Light and the large buildings and tanks along the beach from Palm Beach southward, especially at Fort Lauderdale, Hollywood, Miami Beach and Miami.

(19) This section of the coast is also fairly bold, and the 20-fathom curve runs parallel to the beach at a distance of about 2 miles until in the vicinity of the Miami Harbor entrance where the curve of the shore becomes south-southwestward and the 20-fathom curve is about 4 miles offshore. Between Port Everglades and the Miami Harbor entrance shoaling is rapid, depths of 6 to 8 fathoms being found in places 1.5 miles from the beach.

(20)

ENC - US4FL50M
Chart - 11488

(21) The coast between St. Johns River and St. Augustine Inlet is straight with the 5-fathom curve about 0.5 mile offshore except at the entrances. Offshore shoals along this route have been described previously.

(22) The first 10 miles south of St. Johns River are marked by the water tanks and multistoried buildings at most of the beach resorts. The buildings, amusement park and pier at **Jacksonville Beach** and the spherical elevated water tank at **Ponte Verda Beach**, about 6.5 miles and 9 miles southward of the river entrance, respectively, are very prominent. Otherwise the coast is unmarked except for St. Johns Light and St. Augustine Light.

(23)

ENC - US4FL50M
Chart - 11488

(24) **St. Augustine Inlet** is 30 miles south of the St. Johns River entrance. **St. Augustine**, the oldest city in the United States and a popular winter resort with several fine hotels, is 2 miles inside the entrance.

(25)

Prominent features

(26) **St. Augustine Light** (29°53'08"N., 81°17'19"W.), 161 feet above the water, is shown from a conical tower with a black and white spirally banded shaft on the north end of **Anastasia Island,** 1.5 miles south of the entrance to St. Augustine Inlet.

(27) Other prominent features are an elevated water tank about 200 yards southeast of the light, the towers of the Vilano Beach (State Route A1A) fixed bridge on the Tolomato River, a radio tower 1.3 miles southward of the light, the lighted cross and the radio tower in the northern part of the city and a cupola on the south end of a large building in the city. **Castillo de San Marcos** may be seen after entering the inlet.

(28)

Channels

(29) The entrance channel to St. Augustine Inlet, protected by a jetty on the south side, is subject to frequent change in depth and direction due to current and storm action. Dangerous and shifting shoals extend 1 mile seaward. A lighted whistle buoy marks the approach, and buoys mark the channel. These aids are not charted since they are moved frequently with changing conditions to mark the best water. Mariners are advised to seek local knowledge prior to entering.

(30)

Anchorages

(31) There is good anchorage in the Matanzas River at St. Augustine both below and above the bridge. This anchorage, however, is not used as a harbor refuge because during strong northeasterly and northwesterly winds the sea makes the bar impassable even for small vessels. A more protected anchorage with a hard sand bottom is reported in **Salt Run**, close south-southeastward of St. Augustine Inlet. The mariner should favor the eastern shore for the best water and lee. Private buoys mark the channel into Salt Run.

(32)

Routes

(33) The shore should be given a berth of at least 2 miles when approaching St. Augustine Inlet in order to stay outside of the outer sea buoy. No strangers should attempt to enter without a pilot as the channel shifts frequently.

(34)

Weather, St. Augustine and vicinity

(35) While this area lies within the northern portion of the trades, local effects often determine the winds. In general there is a northerly component in winter and a southerly one in summer. The onshore trades are often reinforced by the local sea breeze, which results in strongest winds blowing during the afternoon. From May through September, winds of 17 knots or more occur about 1 to 5 percent of the time compared to 5 to 10 percent for the remainder of the year. These winter winds are also more variable due to occasional frontal passages and low pressure systems. Nighttime winds are usually the lightest. While damaging tropical cyclones are infrequent, less severe storms can still dump 8 to 10 inches (203 to 254 mm) of rain in this area. One of the worst storms to hit this area was hurricane Dora in 1964. Winds at St. Augustine were estimated at about 110 knots while a 12-foot (4 m) tide swept over Anastasia Island.

(36) The moderating influence of the ocean on maximum summer temperatures and minimum winter temperatures is pronounced along the coast but diminishes a few miles inland. Temperatures reach 90° (32.2°C) or higher at the beach on only a little more than one-half as many days as in the city. The rainy season runs from mid-June through mid-October when about one-half of the 52-inch (1,320 mm) annual average is recorded. During the summer, rain usually falls as afternoon and early evening thundershowers, which also help cool things off.

(37)

Pilots

(38) All vessels including yachts not having local knowledge of the channel are advised to take a local pilot both entering and leaving the inlet. Pilots are available by prior arrangement with the dockmaster at the city yacht pier. At least 24 hours advance notice of time of arrival is requested.

(39)

Harbor regulations

(40) A dockmaster controls moorage at the city yacht pier. The city has a **harbormaster,** who can be contacted through the dockmaster or by telephone (904–825–1026).

(41)

Small-craft facilities

(42) A number of small private landings are on the east side of the city, north and south of the bridge. The city municipal marina is about 100 yards south of Route A1A highway bascule bridge, which crosses the Matanzas River opposite the center of the city. Berths with electricity, gasoline, diesel fuel, water, ice, pump-out station and marine supplies are available. In 2014, the reported alongside depth was 14 feet.

(43) A privately marked channel with a reported controlling depth of 5½ feet in 2002 leads to a marina on the west side of Salt Run. Berths with electricity, gasoline, diesel fuel, water, ice, marine supplies and wet storage are available. Engine and electronic repairs can be made.

(44) Marine railways to 90 feet and complete repair facilities are available at several boatyards and marinas in San Sebastian River.

(45) The Intracoastal Waterway enters the St. Augustine Inlet from the north through Tolomato River and continues southward through Matanzas River. Clearance of the A. Max Brewer Bridge "Bridge of Lions" (Route A1A) crossing the Matanzas River at St. Augustine is given in chapter 12.

(46) **San Sebastian River** flows past the west side of the city of St. Augustine and empties into the Matanzas River 1.4 miles south of the Route A1A highway bridge. In 1996, the controlling depth in the channel, marked by daybeacons, was 6 feet (8 feet at midchannel) to Kings Street Bridge. In stormy southeasterly weather small boats may find a good haven in the river. The overhead power cable crossing the river about 300 yards south of the Kings Street Bridge has a clearance of 66 feet.

(47) An extensive shrimp industry is conducted along the wharves in the upper part of the river, being supplied by seagoing shrimp boats during the shrimp season. Several small shipyards and shrimp boatbuilding yards are along the river. Shrimp boats up to 150 feet long can be handled for general repairs. Supplies and fuel may be obtained at the wharves.

(48)

Crescent Beach to Daytona Beach

(49) From St. Augustine Inlet to Ponce de Leon Inlet the coast continues straight, broken only by Matanzas Inlet. The 5-fathom curve is within 0.5 mile of the shore except off St. Augustine Inlet and Matanzas Inlet. Numerous marked and unmarked fish havens are as much as 18 miles offshore.

(50) An **oceanic spring** is 8.2 miles southeastward of St. Augustine Light and 2.4 miles east of **Crescent Beach**. The location of the spring can be easily detected by the appearance of the water; noticeable swirls, similar to those in a swiftly running stream, can be seen at a distance of about a mile. At times, especially in rough weather, there is a marked disturbance of the water and yellowish color trails off to the northeastward. In choppy weather, a slick is the most noticeable feature. In fact, it has all the appearances of a shoal or reef.

(51) A closer view shows a slick swirl with a slight overfall, the center of the swirl moving about 100 feet, first to the eastward and then to the westward, and a noticeable streak of current to the northeastward. The swirls and overfalls vary rapidly in intensity, as though large bubbles or intermittent volumes of water were being emitted. A boat will be thrown out of the swirl so that it is difficult to hold it in position.

(52) A strong odor, quite similar to the smell of water from the various sulfur springs of Florida, is noticeable and under favorable circumstances can easily be detected 2 miles away.

(53) **Matanzas Inlet** is 11 miles southward of St. Augustine Light. It affords an outlet for Matanzas River, which extends northward to St. Augustine and southward, following the coast for a distance of 8 or 10 miles to **Graham Swamp**. The inlet is obstructed by a shifting bar, and breakers extend across the entire entrance in normal weather. However, in 1983, it was reported that with local knowledge about 3 feet could be carried through the entrance. The Intracoastal Waterway passes through a land cut of the Matanzas River just inside the entrance.

(54) State Route A1A highway bridge across the inlet has a 41-foot fixed span with a clearance of 10 feet. An overhead power cable crossing on the west side of the bridge has a clearance of 32 feet. **Fort Matanzas National Monument** is about 1 mile northwestward of the inlet.

(55) At **Marineland**, 13.6 miles southward of St. Augustine Light, is a conspicuous building housing an oceanarium.

(56) **Flagler Beach** is 26.5 miles southward of St. Augustine Light. The microwave tower and ocean pier are good landmarks. The T-shaped pier extending offshore is 650 feet long and 20 feet wide.

(57) **Daytona Beach** is a popular winter resort about 42 miles southward of St. Augustine Light. The buildings, water tanks and radio towers are visible from seaward. The large recreation pier on the oceanfront is a prominent landmark for passing vessels.

(58) See Daytona Beach, chapter 12.

(59)

Ponce de Leon Inlet to Cape Canaveral

(60) From Ponce de Leon Inlet to False Cape the coast is straight. The 5-fathom curve is about 0.5 mile offshore for a distance of 24 miles. Beyond this distance dangerous shoals and wrecks and numerous fish havens will be found up to 15 miles offshore.

(61) **Ponce de Leon Inlet** is 53 miles southward of St. Augustine Light and 41 miles northwestward of Cape Canaveral Light. It is used by both recreational and small commercial vessels bound for New Smyrna Beach or Daytona Beach as well as others entering for an anchorage.

(62) **Ponce de Leon Inlet Light** (29°04'50"N., 80°55'41"W.), 159 feet above the water, is shown from a red brick conical tower on the north side of the inlet.

(63) The inlet, protected at the entrance by jetties, is entered through a channel that leads over a bar and through the jetties. The outer end of the north jetty is marked by a light, and the inner end of the jetty is awash. Safe navigation may also be hampered by numerous recreational fishing vessels that anchor inside the north jetty. Local knowledge and extreme caution is advised.

(64)

Current

(65) The current through the inlet is strong. It is reported that the average ebb is 3 knots; however, this can increase to 5 or 6 knots with southeasterly winds. High water occurs about the same time as at Mayport.

(66) Inside the inlet, three channels lead to the Intracoastal Waterway; northward through Halifax River, westward through **Rockhouse Creek**, and southeastward through Indian River North. The channels through Halifax River and Indian River North are marked by buoys. In 2010, the midchannel controlling depth was 5 feet; thence in 1986, the midchannel controlling depth in Rockhouse Creek was 7 feet; thence in 2010, the controlling depth was 9 feet to the Intracoastal Waterway by way of Indian River North.

(67) **Ponce de Leon Inlet Coast Guard Station** is on the south side of the entrance to Ponce de Leon Inlet. Supply and repair facilities inside the inlet are described in chapter 12.

(68) The Intracoastal Waterway is just inside the entrance to Ponce de Leon Inlet, passing through Halifax River from the north and Indian River North from the south.

(69) About 10 miles southward of Ponce de Leon Inlet is **Turtle Mound**, a prominent hill 50 feet high. It is under the protection of the Florida State Historical Society. The original Indian name was **Mount of Surruque**. It was charted on Florida maps in 1564. Spanish galleons stopped here for repairs, wood and water.

(70) **Eldora** is a fishing camp 11.5 miles southward of Ponce de Leon Inlet.

(71) **False Cape**, about 7.5 miles northward of Cape Canaveral Light, is the name given to a small part of the coast that it resembles when seen from seaward.

(72) The **John F. Kennedy Space Center** and the **Cape Canaveral Air Force Station** occupy most of **Canaveral Peninsula** and **Merritt Island**, the large land areas between the ocean and the Banana and Indian Rivers, from Mosquito Lagoon on the north to Port Canaveral on the south. The huge Vehicle Assembly Building at the center, said to be one of the world's largest buildings, is visible far from shore. When closer in, other buildings and the mobile service towers at the cape are also conspicuous from all directions.

(73) A **restricted area** has been established in the navigable waters contiguous to the area offshore of the John F. Kennedy Space Center–see **33 CFR 334.1** through **334.6**, **334.525** and **334.595**, chapter 2, for limits and regulations.

(74) A **danger area** has been established along the coast from False Cape and south around Cape Canaveral to the entrance of Port Canaveral, extending out 3 nautical miles–see **33 CFR 334.1** through **334.6** and **334.590**, chapter 2, for limits and regulations.

(75) Trawlers or other vessels should exercise caution while dragging the ocean floor within a 40-mile radius of Cape Canaveral because missile debris containing unexploded ordnance exists in the area.

(76) Ordnance disposal personnel occasionally detonate explosives on the beaches in the vicinity of the cape.

(77) **Cape Canaveral**, where the coast makes a sharp bend westward, is low and sandy. The shore in the vicinity of the cape is constantly moving eastward. **Cape Canaveral Light** (28°27'37"N., 80°32'36"W.), 137 feet above the water, is shown from a white and black horizontally banded conical tower 1 mile inshore from the cape.

(78) Shoals extend 13 miles north and northeast from Cape Canaveral; mariners should use care when in the vicinity of the shoals. The outer shoals consisting of **Hetzel Shoal**, **Ohio Shoal** and **The Bull** have a least depth of 11 feet. The inner shoals consist of **Chester Shoal**, with a least depth of 7 feet, and **Southeast Shoal**, with depths of 5 to 7 feet at the outer end. A lighted buoy is 2.5 miles northeast of Hetzel Shoal. Lighted buoys mark the south and southeast sides of Southeast Shoal. In a heavy sea the shoals are marked by breakers, but with a smooth sea there is nothing to indicate them except their relative positions to Cape Canaveral Light and the lighted buoys. Only small light-draft vessels in calm seas should pass inside the outer shoals.

(79) Several wrecks are east of Cape Canaveral within 13 miles of the shore.

(80) The effect of the Gulf Stream may be expected well in on the shoals, and this should be kept in mind in approaching the cape from the south. In approaching the cape, stay in at least 15 fathoms from the south and at least 13 fathoms from the north to avoid the shoals.

(81)

Port Canaveral

(82) **Port Canaveral (Canaveral Harbor)** is 4 miles southwest of Cape Canaveral Light and 150 miles south of the entrance to the St. Johns River. The city of **Cape Canaveral** is just southward of the port. The principal commodities handled in the harbor are petroleum products, cement, asphalt, salt, general cargo, citrus products and newsprint. Commercial party fishing vessels, cruise ships and many pleasure crafts operate from the port.

(83)

COLREGS demarcation lines

(84) The lines established for Port Canaveral are described in **33 CFR 80.727**, chapter 2.

(85)

Channels

(86) A U.S. Navy project for Port Canaveral provides for an entrance channel 44 feet deep to East Basin, thence 41 feet in East Basin. A federal project provides for a channel 40 feet deep from East Basin to Middle Basin, thence 35 feet deep in Middle Basin, thence 31 feet deep from Middle Basin to West Basin, and thence 31 feet in West Basin. The harbor is maintained at or near project depths. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A. The entrance to the harbor is protected by jetties. The approach channel is marked by white **310°** lighted range and lighted buoys; the entrance channel between the jetties is marked by a green **270°** lighted range, lights and lighted buoys. The entrance to East Basin is marked by a red **325°30'** lighted range. Canaveral Barge Canal leads westward to Banana River and the Intracoastal Waterway from the western end of the harbor just west of West Basin entrance.

(87)

Caution

(88) The National Marine Fisheries Service has advised that the sea turtles and manatees that inhabit the Port Canaveral area are considered to be threatened and endangered species. In order to protect these turtles and manatees, it is requested that excursions from the

centerline of the approach and entrance channels be held to a minimum.

(89)

Dangers

(90) The Navy pier on the east side of Middle Basin is within a **restricted area**, and East Basin is within a **danger zone**. (See **33 CFR 334.530** and **334.600**, chapter 2, respectively, for limits and regulations.) All areas north of the harbor channel are within defined Security Zones A and B. (See **33 CFR 165.705**, chapter 2, for limits and regulations.)

(91)

Weather, Port Canaveral and vicinity

(92) Tropical cyclones are a threat from about June through November. The peak months are August and September.The probability of at least one occurrence of gales from a tropical cyclone in 1 year is about 40 percent while the chance of two occurrences drops to less than 10 percent. However, during the active 2004 hurricane season, Charley, Frances and Jeanne produced storm-force winds with gusts to hurricane force at the port. In 1999, a major hurricane, Floyd, passed about 100 miles east of the port and Hurricane Irene passed about 50 miles to the east.

(93) Windspeeds of 17 knots or more are most likely from October through April when they occur 3 to 7 percent of the time at Cape Canaveral and 10 to 17 percent of the time at Patrick Air Force Base, about 13 miles south of the port. Thunderstorms are observed on about 80 days annually with a peak around 15 days per month from June through September. These are most likely during the late afternoon and early evening. Visibility is generally good, outside of showers. However, in December, January and February, visibility drops below 0.5 mile (0.9 km) on about 2 to 4 days per month; conditions usually improve by mid morning. Temperatures reach 90°F (32.2°C) or more on about 25 days annually at the coast and about 60 days just inland but climb into the 80s (27.2° to 32.2°C) range on a little less than 200 days each year. Freezing temperatures on average occur only about once per year.

(94)

Pilotage, Port Canaveral

(95) A state pilot is compulsory for all foreign flag vessels and all U.S. vessels under registry with a draft of 7 feet or greater. Certain U.S. vessels under enrollment are required to carry a federal pilot. A state pilot is required for all vessels over 500 gross tons docking or undocking at Canaveral Port Authority docks, unless specifically exempted by the Port Director. Pilotage for U.S. and foreign naval vessels is provided by the Canaveral Pilots Association. All Canaveral Pilots Association pilots are fully licensed by state and Federal Government. Pilotage for U.S. Naval vessels is also provided by Southern Federal Pilot. All Southern Federal Pilots are fully licensed by the Federal Government.

(96) Canaveral Pilots Association office is in a white mobile home at 9060 Herring Street, Port Canaveral, Florida. The mailing address is: P.O. Box 0816, Cape Canaveral, FL 32920-0816; telephone 321–783–4645 (office and residences), FAX 321–783–6268 (office only). The office monitors VHF-FM radiotelephone channel 12. Pilot service is available to all vessels. Canaveral Pilots Association serves the channels and basins of Port Canaveral; the pilots also dock and undock vessels.

(97) The Canaveral Pilots Association has two pilot boats, PILOT 1 and PILOT 2, both 40 feet long with a black hull and white superstructure and the word PILOT on the side. The pilot boats display a white light over a red light at night and the International Code flag HOTEL by day. Pilots board about 1 mile southeast of Canaveral Harbor Approach Channel Lighted Buoy 3 (28°22'32"N., 80°31'48"W.) unless special arrangement for boarding elsewhere has been made. Vessels should maintain a speed of about 6 to 8 knots and provide a pilot ladder about 1 meter above the water.

(98) Southern Federal Pilot is located at 1415 Eel Avenue, Merritt Island, FL 32952; telephone 321–446–2635, FAX 321–735–8589, email: sparrish@southernfederalpilot.com. Southern Federal Pilot monitors VHF-FM channel 12. Pilot service is available for the U.S. Navy and vessels in the coastwide trade and serves the channels and basins of Port Canaveral; the pilots also dock and undock vessels. The Southern Federal Pilot boat TENACIOUS is a gray military specification rigid inflatable boat. Pilots board 1 mile east of Buoys 3 and 4.

(99) Arriving vessels should advise the Port Authority, telephone 321–783–7831, and the pilots if they are close to or at the maximum allowable draft and/or if they have any defects or special needs. Port Authority will assign berths and provide line handlers. Pilots will arrange for tug services.

(100) Request for pilot service by FAX is discouraged, as the pilot station is not staffed 24 hours daily. Arrangements can be made by telephone directly or through the Canaveral Port Authority. A 24- hour ETA notice is requested. When working, pilots use VHF-FM channel 12, and the boats monitor channels 12 and 16.

(101) Reduced visibility affects pilot service. Operational guidelines (not in this text) established pursuant to Florida law and in conjunction with marine interests in the port state that vessels are not to maneuver on the channels and basins of the port if visibility is less than 0.5 nautical mile.

(102) The Canaveral Pilots Association and Southern Federal Pilot participates in the North Atlantic right whale Early Warning System. (See North Atlantic right whales, indexed as such, chapter 3.)

(103)

Towage

(104) Three conventional tugs, two 2,000 hp and one 2,150 hp, and one tractor tug 3,600 hp are available at the port. All tugs monitor VHF-FM channels 12 and 16.

(105)

Quarantine, customs, immigration and agricultural quarantine

(106) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(107) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(108) Port Canaveral is a **customs port of entry.**

(109) **Port Canaveral Coast Guard Station** is at the northeast corner of West Basin.

(110)

Harbor regulations

(111) The Canaveral Port Authority has jurisdiction and control over port areas and facilities not under the control of the Federal Government. Vessels are ranked for movement priority. Emergency movements are first priority. Naval vessels engaged in demonstration and shakedown operations and regularly calling cruise ships have second priority. Generally all other vessels move on a first come, first served basis. Port regulations are contained in the Port Authority tariff. In addition, Operational Guidelines for the port have been promulgated by the Port Authority in consultation with the U.S. Coast Guard, U.S. Navy, U.S. Army Corps of Engineers, other interested parties and the pilots. Copies of both publications are available from Canaveral Port Authority, P.O. Box 267, Cape Canaveral, FL 32920-0267; see pilotage (previously mentioned) for telephone number. The Port Authority enforces regulations and assigns berths.

(112) **Radio transmissions are not allowed during missile launchings.**

(113)

Wharves

(114) Port Canaveral has commercial berths owned by the Port Authority. Middle and West Basins are used by commercial vessels as well as at the north and south sides of the Inner Reach; cruise ships usually berth in the West Basin. Canaveral Port Authority maintains a website at *portcanaveral.com*. This site provides descriptions of port facilities and maximum allowable drafts. Pilots also provide information on allowable drafts.

(115) **Facilities on the south side of Inner Reach:**

(116) **Canaveral Port Authority, Cruise Terminals Nos. 2 and 3 Wharf** (28°24'33"N., 80°36'00"W.): 1,403-foot face; 31.5 to 33 feet alongside; deck height, 10.5 feet; mooring cruise vessels; boarding passengers; owned and operated by Canaveral Port Authority.

(117) **Canaveral Port Authority, Cruise Terminals No. 4** (28°24'33"N., 80°35'46"W.): 750-foot face; 31.5 to 33 feet alongside; deck height, 10.5 feet; mooring cruise vessels; boarding passengers; owned and operated by Canaveral Port Authority. (Cruise Terminals 2, 3 and 4 form a continuous berth, 2,153 feet long.)

(118) **Canaveral Port Authority, South Cargo Piers 1, 2, and 3** (28°24'36"N., 80°36'20"W.): 1,615-foot face; 34 feet alongside; deck height, 10 feet; 108,000 square feet covered storage; 26 acres open storage; 2.5 million cubic feet cold storage; pipelines extend to storage tanks, 257,000-barrel capacity; roll-on/roll-off ramp at the east end of Pier 1; receipt and shipment of general cargo; receipt and shipment of petroleum products at Pier 3; receipt of paper products, asphalt; shipment of perishable food commodities; bunkering vessels; mooring pilot boats; owned by Canaveral Port Authority and operated by Canaveral Port Authority; Coastal Fuels Marketing, Inc.; and Mid-Florida Warehouses, Ltd.

(119) **Canaveral Port Authority, Tanker Berth No. 1** (28°24'34"N., 80°36'32"W.): 45-foot face; 340 feet of berthing space with dolphins; 36 to 38 feet alongside; deck height, 10 feet; storage silo for 32,000 tons of cement; pipelines extend from wharf to storage tanks, 257,000-barrel capacity; receipt of petroleum products; asphalt, and cement; bunkering vessels; owned by Canaveral Port Authority and operated by Coastal Fuels Marketing, Inc.; Transtate Industrial Pipeline Systems, Inc.; and Continental Cement of Florida, Inc.

(120) **Canaveral Port Authority, Tanker Berth No. 2** (28°24'34"N., 80°36'37"W.): 65-foot face; 340 feet of berthing space with dolphins; 38 feet alongside; deck height, 10 feet; pipelines extend from wharf to storage tanks, 250,000-barrel capacity; receipt and shipment of No. 6 fuel oil; owned by Canaveral Port Authority and operated by Transtate Industrial Pipeline Systems, Inc., and Exceltech Corp.

(121) **Canaveral Port Authority, South Cargo Pier 4** (28°24'32"N., 80°36'40"W.): 400-foot face; 400 feet of berthing space; 38 feet alongside; deck height, 10 feet; open storage area at rear for about 25,000 tons of salt; receipt and shipment of general cargo; receipt of salt and paper products; shipment of perishable food commodities; owned by Canaveral Port Authority and operated by Canaveral Port Authority; Mid-Florida Freezer Warehouses, Ltd., and Cargill, Inc., Salt Division. (Tanker Berths 1 and 2, and South Cargo Piers 4 and 5 form a continuous berth, 1,247 feet long.)

(122) **Facilities on the north side of Inner Reach:**

(123) **Canaveral Port Authority, North Cargo Piers 1 and 2** (28°24'45"N., 80°36'43"W.): 1,260-foot face; 1,350 feet of berthing space with dolphins; 38 feet alongside; deck height, 10 feet; crawler cranes to 165 tons; roll-on/roll-off ramp at north end; receipt of containerized and roll-on/roll-off general cargo; receipt of salt; owned by Canaveral Port Authority and operated by Canaveral Port Authority; Morton International, Inc., and Mid-Florida Freezer Warehouses, Ltd.

(124) **Canaveral Port Authority, North Cargo Pier 3** (28°24'39"N., 80°36'47"W.): 400-foot face; 400 feet of berthing space; 32 feet alongside; deck height, 10 feet; 600,000 square feet covered storage; receipt and shipment of general cargo; mooring vessels; owned and operated by Canaveral Port Authority.

(125) **CSR Rinker Materials Corp., Port Canaveral, North Cargo Pier 4** (28°24'39"N., 80°36'56"W.):

(135)

Sebastian Inlet, Florida
Image courtesy of USCG Sector Miami, AST3 Ryan J. Pierce (2014)

400-foot face; 400 feet of berthing space; 34 feet alongside; deck height, 10 feet; one traveling gantry ship unloader, 400 tons per hour rate; silos, 42,000 ton capacity; receipt of cement; mooring vessels; owned by Canaveral Port Authority and operated by CSR Rinker Materials Corp.

(126) **Canaveral Port Authority, Cruise Terminal 5** (northwest corner of West Basin): 565 feet of berthing space; 35 feet alongside; 59,000 square feet embarkation and baggage facility; mooring cruise vessels; boarding passengers; owned and operated by Port Canaveral Authority.

(127) **Canaveral Port Authority, Cruise Terminal 8** (south of Cruise Terminal 5): 800 feet of berthing space; 35 feet alongside; 70,000 square feet embarkation and baggage facility; mooring cruise vessels; boarding passengers; owned and operated by Port Canaveral Authority.

(128) **Canaveral Port Authority, Cruise Terminal 10** (south of Cruise Terminal 8): 724 feet of berthing space; 33.5 feet alongside; 75,000 square feet embarkation and baggage facility; mooring cruise vessels; boarding passengers; owned and operated by Port Canaveral Authority.

(129)

Communications

(130) Good state highways connect to U.S. Route 1 and Interstate 95. The Florida East Coast Railway cargo facility, on the mainland, is 10 miles from the port.

(131)

Sebastian Inlet

(132) From southward of the shoals at Cape Canaveral to Bethel Shoal, a distance of about 43 miles, the shore is straight. The 5-fathom curve is from 0.3 to 1 mile offshore along this section of the coast.

(133) A large water tank is prominent about 4.5 miles southward of **Cocoa Beach** and 13 miles southward of Cape Canaveral Light. **Indian Harbor Beach** is marked by a water tank. **Indialantic** is marked by prominent water tanks.

(134) **Sebastian Inlet** is 36.5 miles southward of Cape Canaveral Light. In 1983, there was a reported controlling depth of 5 feet from the Intracoastal Waterway through the dredged channel of the inside bar, thence 8 feet to the eastern entrance. In 1983, it was reported that 12 feet can be taken across the bar in smooth seas. The western entrance is marked by private buoys and a light. The entrance is protected by a north jetty, marked by a private light, extending 600 feet from shore and a south jetty extending 500 feet from shore. A steel bulkhead leads in

(146)

a west-northwest direction for about 1,500 yards from the south side of the inlet into Indian River. The inlet is used by local fishermen and party boats.

(136) Sebastian Inlet is dangerous and particularly hazardous to small boats not designed for the open seas. Persons using this inlet should be experienced boatmen and have local knowledge. It is reported that shoaling exists just north of the south jetty and for about 200 yards to the east of the south jetty. Shoaling also exists in the general area south of the small spoil island between the bridge and the Intracoastal Waterway. Shoals are gradually building up and shifting. Minimum depth in the inlet varies; the bottom is rocky in spots.

(137) It is further reported that the velocity of the tidal currents reaches 10 knots, and turbulence exists between the bridge and the end of the jetties. Anchoring east of the bridge is extremely hazardous, particularly by the stern. Except during flat calms, breaking and confused seas exist off the mouth of the inlet and inside the inlet as far as the bridge. Conditions worsen with increasing seas or winds and on an ebb tide. Small boats departing the inlet on a flood or slack tide can find it impossible to return on an ebb tide. While the inlet conditions are generally worse during the winter months, hazardous conditions develop rapidly in the summer in squalls and on ebb tides. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(138) Additional information on local existing conditions can be obtained by contacting the Fort Pierce Coast Guard Station (telephone: 772–464–6100). A fixed highway bridge, State Route A1A, crossing the inlet has a clearance of 37 feet.

(139) **Thomas Shoal**, with a least depth of 26 feet over it, is 7 miles eastward of Sebastian Inlet. **Bethel Shoal**, with depths of 29 to 30 feet over it, is 17 miles southeastward of the inlet and 11 miles offshore. A lighted buoy is northeast of the shoal area. A 23-foot shoal spot is about 2.5 miles north-northwestward of the buoy.

(140)

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(141) From Bethel Shoal to Jupiter Inlet, a distance of about 50 miles, shoal areas and wrecks are over 10 miles offshore.

(142) The twin towers at **Riomar** 12 miles northward of Fort Pierce Inlet are prominent.

(143) **Indian River Shoal**, with depths of 10 to 30 feet over it, is about 8 miles northward of Fort Pierce Inlet and extends for about 3 miles offshore.

(144)

Fort Pierce Inlet

(145) **Fort Pierce Inlet** is 62 miles southward of Cape Canaveral Light and 33 miles northward of Jupiter Inlet Light. Care must be exercised in entering due to the strong currents. In southeasterly weather with an ebb tidal current the entrance is rough.

(147) **Fort Pierce**, on the west shore of the Indian River inside Fort Pierce Inlet, is the St. Lucie County Seat. Derecktor Ft. Pierce, operates a service and refit center for the global fleet of megayachts, large sailing yachts and commercial vessels.

(148) Several fishing vessels operate in and out of the harbor. It is the distributing point for supplies to the surrounding country. The Intracoastal Waterway passes through the Indian River east of the city. (See chapter 12.)

(149) **Fort Pierce Coast Guard Station** is on the south side of Fort Pierce entrance channel, on the west side of the cove immediately westward of **Faber Point.**

(150)

Prominent features

(151) Several high rise condominiums, 1 mile north of the entrance, are prominent. A state park is located on the end of the north jetty.

(152) Also prominent are a 210-foot meteorological tower 7.2 miles south of the entrance, two 200-foot cement silos within the harbor, and the concrete towers of a nuclear powerplant about 7.6 miles southward of the entrance. The meteorological tower is marked by a fixed red light about halfway up and a flashing red light on top.

(153)

COLREGS demarcation lines

(154) The lines established for Fort Pierce Inlet are described in **33 CFR 80.727**, chapter 2.

(155)

Channels

(156) A federal project provides for an entrance channel 30 feet deep and an inner channel and turning basin 28 feet deep. Depths in the channel may vary considerably between dredging operations. (For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.) Two rubblestone jetties with revetment extensions protect the entrance. The channel is marked with lighted ranges and lighted buoys.

(157)

Dangers

(158) There are a number of shoals and wrecks in the approaches to the harbor; some of them are marked. A fish haven, about 1.7 miles long, from 0.8 mile to 1.2 miles offshore, is about 2 miles northward of the entrance. In the entrance channel, shoaling tends to build southward from the north side of the channel just inside the jetties, abeam Coon Island, and in the turning basin. Local knowledge is advised to determine the extent of shoaling in these areas.

(159)

Current

(160) The ocean currents typically run across the channel and there is considerable set when entering or leaving. With an incoming tide, there is a very strong set to the north at the seaward end of the south jetty. The tidal currents in the inlet have a velocity of about 3 knots. The currents run through the cut parallel to the channel and can reach velocities of 4 to 6 knots. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book. From the turn in the channel and along the Inner Range for about 0.8 mile, the current sets at an angle to the channel, pushing inbound vessels to the west on an incoming tide and outbound vessels to the east on an outgoing tide. At the western end of Causeway Island, where the channel crosses the Intracoastal Waterway, strong cross currents are also encountered with the set to the south on the flood and to the north on the ebb. These currents are influenced by wind and heavy rain runoff or discharge of fresh water from inland areas. Vessels are advised to use caution when making their approach to the bridge that crosses the Intracoastal Waterway between Causeway Island and Fort Pierce and when mooring at the facilities just northward of the bridge.

(161)

Pilotage, Fort Pierce

(162) Pilotage is compulsory for all foreign vessels and for U.S. vessels under register in foreign trade if drawing 7 feet or more of water. Pilotage is optional for U.S. coastwise vessels that have on board a pilot licensed by the Federal Government. The pilot will board at the sea buoy. Pilot ladders should be rigged 1 meter above the water and the ship proceeding at 4 to 5 knots when the pilot boat comes alongside. The pilots do not maintain a radio listening watch unless underway on the pilot boat. The boat monitors VHF-FM channels 12 and 16. Advance notice of at least 24 hours is required for all arrivals; a 2-hour notice is required for all departures and inner port movements. A 72-hour notice is required for vessels calling on the port for the first time or for vessels not on a regular run. The pilots can be reached through the Palm Beach Pilots Association at 561-845-2628 or by email: Office@palmbeachpilots.com. Due to channel conditions, the pilots advise only vessels drawing less than 19 feet (21 feet maximum at high water slack) can be allowed into the port. One way traffic is required for larger vessels and tows when transiting the dredged channel.

(163)

Towage

(164) There are no dedicated ship-assist tugs in Fort Pierce. If tugs are needed, arrangements must be made well in advance.

(165)

Quarantine, customs, immigration and agricultural quarantine

(166) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(167) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(168) Fort Pierce is a **customs station.**

(169)

Harbor regulations

(170) The port director is the county administrator for St. Lucie County. There is no harbormaster in Fort Pierce. Anchoring within the city of Fort Pierce is limited to 96 hours and 14 days within the county limits.

(171)

Speed zone

(172) The entire waterway east of Dynamite Point to the Intracoastal Waterway is a regulated speed zone and vessels must proceed at a slow speed. West of the Intracoastal Waterway vessels must proceed at idle speed.

(173)

Manatees

(174) A regulated speed zone for the protection of manatees is at Fort Pierce in the vicinity of the municipal yacht basin. (See Manatees, chapter 3.)

(175)

Wharves

(176) The facilities at Fort Pierce are privately operated and located on the mainland just to the west of the turning basin. The northernmost facility offers dockage and refueling from the 140-foot seawall at the end of a wide slip; expect strong tidal currents to set vessels to the north or south on the approach. In 2002, the reported depth at the center of the slip was 20 feet with 12 to 20 feet along the southwest corner of the seawall.

(177) **Derecktor Ft. Pierce** (27°27'30"N, 80°19'24"W), is the largest facility in the port. Length, 455 feet north side; 330 feet south side; width, 184 feet east side with 154 feet for mooring. A haul-out basin, measuring 220 feet long by 50 feet wide, has been developed on the east side of the wharf to support upland operations of a 1,500-ton mobile boat hoist

(178) **The Old City Pier** (27°27'26"N., 80°19'23"W.) just south of the Indian River Terminal, is 330 feet long with two berths and has reported depths of 14 to 25 feet from west to east. The berth on the east side of the pier has a roll-on/roll-off ramp and a reported depth of 10 feet. Primarily used for roll-on/roll-off operations and vessel layovers.

(179) Three breasting dolphins (27°27'46"N., 80°19'18"W.) in the northern section of the turning basin are used for temporary mooring of barges and tugboats; 22 feet alongside was reported in 2002.

(180)

Supplies

(181) Gasoline, diesel fuel, bunker C, water and some marine supplies are available.

(182)

Repairs

(183) The 1,500-ton mobile boat hoist at Derecktor Ft. Pierce is capable of hauling vessels up to 250 feet in length and/or 1,500 U.S. short tons. An eight-acre reinforced tarmac allows for as many as 12 vessels to be serviced simultaneously. The facility can provide shore power up to 480-volt, 3-phase to yachts and commercial vessels.

(184)

Communications

(185) Fort Pierce is served by a Class II railroad, by U.S. Route 1 and by several state highways. The airport is 3 miles northwest of the town.

(186)

Small-craft facilities

(187) The municipal yacht basin, just south of **Moore Creek**, has a marked approach channel from the Intracoastal Waterway. The entrance is immediately south of the bridge. Extreme caution should be exercised as strong crosscurrents exist. The overhead power cable crossing this channel has a clearance of 85 feet. Berths, gasoline, diesel fuel, ice, water, electricity, pump-out station and limited marine supplies are available. The yacht basin is controlled by a dockmaster.

(188) The facilities of a yacht club and a marina are on the south side of the Fort Pierce entrance channel, immediately westward of Faber Point. The yacht club has about 92 open berths with a reported depth of 6 feet in 2006. Gasoline, diesel fuel, water, ice and electricity are available. The marina has berths, electricity, water, ice and pump-out station available.

(189) A dredged channel marked by daybeacons leads from the Intracoastal Waterway to **Taylor Creek**. A marina on the north side of the creek just inside the entrance had a reported alongside depth of 6.5 feet in 2010. Berths with electricity, gasoline, diesel fuel, water, ice, a pump-out station and wet and dry storage are available. Hull, engine and electronic repairs can be made.

(190)

Capron Shoal to Gilbert Shoal

(191) For a distance of 13 miles southward of Fort Pierce Inlet, broken ground with 18 to 28 feet over it extends from 2.5 to 6 miles offshore.

(192) **Capron Shoal** has a least depth of 18 feet over it about 3.6 miles southeastward of Fort Pierce Inlet.

(199)

St. Lucie Inlet, Florida
Image courtesy of USCG Sector Miami, AST3 Ryan J. Pierce (2014)

(193) **Pierce Shoal**, with 21 to 30 feet over it, lies about 2 miles offshore and 6 to 8.5 miles southeastward of Fort Pierce Inlet.

(194) **St. Lucie Shoal**, with 15 to 30 feet over it, lies from 3 to 6 miles offshore and 22 to 26 miles northward of Jupiter Inlet Light. It is the principal danger in this area. The northern end of the shoal is marked by a lighted whistle buoy and an unlighted buoy is southeast of a 15-foot spot at the southern end.

(195) Several wrecks are eastward of the broken ground within 10 miles of the shore.

(196) **Gilbert Shoal**, with 17 to 30 feet over it, is 1 to 1.5 miles offshore about 3 miles north of St. Lucie Inlet.

(197)

ENCs - US4FL43M, US5FL43M
Chart - 11428

(198) **St. Lucie Inlet**, forming the mouth of the St. Lucie River and the south end of the Indian River, lies 20 miles south of Fort Pierce Inlet and 13.5 miles north of Jupiter Inlet Light. The entrance to the inlet is protected by jetties and a detached breakwater. The inner part of the north jetty is in ruins. A rock ledge across the inlet extends south for over 1 mile from the east end of the north jetty ruins. Extensive sandbars are on the north side of the inlet channel from the north jetty to the Intracoastal Waterway. It is reported that shoaling builds up across the channel from both the north and south sides. Depths in the channel vary.

(200) St. Lucie Inlet is dangerous and particularly hazardous to small boats not designed for the open seas. Persons using the inlet should be experienced boatmen and have local knowledge.

(201) It is reported that tidal currents reach a velocity of 7 knots. Currents continue to flow 2 hours after high and low tides. Entrance is easiest just on the flood side of slack water. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(202) The approach is marked by a lighted whistle buoy. The entrance buoys are not charted, as they are frequently moved to mark the best water. It is reported that after heavy storms, buoys may be off station due to dragging or to shifting channels.

(203) It is further reported that ground swells can make inlet passage impossible for all craft. Breakers occur throughout the entire channel as seas, ground swells and winds increase, particularly on an ebb tide.

(204) While the inlet conditions are generally reported to be worse during winter, hazardous conditions develop rapidly during summer squalls.

(205) Additional information on local existing conditions can be obtained by calling the Fort Pierce Coast Guard Station (telephone: 772–464–6100).

(206) **St. Lucie River** enters the sea through St. Lucie Inlet and connects with the Gulf coast via the Okeechobee Waterway. State Route A1A highway bridge crossing the river 3 miles above the junction with the Intracoastal Waterway has a fixed span with a clearance of 65 feet. The railroad bridge at Stuart has a bascule span with a horizontal clearance of 46 feet and a vertical clearance of 6 feet at center. The bridge is on automatic operation, normally left in an open position and closed upon the approach of trains. (See **33 CFR 117.317**, chapter 2, for details of operation.) The Roosevelt (U.S.1) highway bridge, adjacent to the east, has a fixed span with a clearance of 65 feet. The Roosevelt railroad bascule bridge has a clearance of 14 feet at the center. The overhead power cable at the bridge has a clearance of 75 feet over the main channel. (See **33 CFR 117.1** through **117.59** and **117.317**, chapter 2, for drawbridge regulations.)

(207) Cross currents at the entrance to St. Lucie River create a hazardous condition for vessels and barges making the short turn from the Intracoastal Waterway. Vessels should stay 100 yards southward of a line between Light 4 and Daybeacon 6 to avoid hitting the hard ledge on the north side of the channel.

(208) St. Lucie River has several branches of some commercial importance. These, with the main river, form an important center for yachting and fishing in the winter. Traffic on the river is mostly in fish and timber.

(209) **Manatee Pocket** is a protected body of water about 1 mile long and 0.2 mile wide. It had a reported controlling depth of 4½ feet in 1983. The entrance is 0.6 mile west of the intersection of the St. Lucie River and the Intracoastal Waterway. The channel at the entrance is marked by daybeacons. Berthage, electricity, gasoline, diesel fuel, water, ice, pump-out station, wet and dry storage and hull, engine and electronic repairs are available at any of several marinas. A 150-ton mobile hoist is a available at a repair yard at the southeast end of Manatee Pocket. Small boats can obtain protection from tropical storms in Manatee Pocket. The holding bottom is good. Yachts can anchor anywhere for overnight stops.

(210) **Port Salerno**, a small town at head of Manatee Pocket, has a marl plant and is headquarters for a fishing fleet. Several boatyards with machine shops and several resorts with good facilities for yachts are available.

(211) **Pilots** for St. Lucie Inlet can be obtained at Manatee Pocket.

(212) At **Port Sewall**, 1.2 miles above the junction of St. Lucie River and the Intracoastal Waterway, there is a marina where berths with electricity, wet storage and limited marine supplies are available. Hull, engine and electronic repairs can be made; lift capacity 50-tons.

(213) **Rio** is a small real estate development on the north bank of St. Lucie River, 3.5 miles above **Sewall Point**. A privately dredged channel 1 mile west of Light 21 leads to a marina where gasoline, diesel fuel, ice, water, a pump-out station, berthing with electricity and some marine supplies are available; a 10-ton folklift is also available for hull, engine and electronic repairs. In 2001, the reported approach depth was 5.5 feet. Another marina in the slip 0.2 mile westward has gasoline, diesel fuel, electricity and a lift to 35 tons; hull, engine and electronic repairs can be made.

(214) **Stuart** is a city on the St. Lucie River, 5 miles above Sewall Point. It is the county seat of Martin County and is on the Florida East Coast Railway, U.S. Highway No.1, and the Okeechobee Waterway. The city has a hospital and is the distributing center to the surrounding area, which is noted for its winter vegetables, citrus and tropical fruits, poultry raising, ranching and commercial fishing.

(215) The municipal pier, 400 yards southeast of the Roosevelt bascule bridge, has berthage available. In 2002, the reported channel and alongside depth was 3.5 feet. On the east bank of the North Fork of the St. Lucie River, 1,200 yards north of the Roosevelt bascule bridge, a yacht sales facility offers maintenance services and fuel deliveries. A travel lift is available.

(216) There is a small protected basin in **Frazier Creek**, 0.3 mile south of the Roosevelt bascule bridge. In 1983, the reported controlling depth was 5 feet from the waterway to the highway bridge about 0.1 mile above the mouth. The bridge has a 33-foot fixed span with a clearance of 5 feet.

(217) **Pilots** for St. Lucie Inlet and connecting waterways can be obtained through the Stuart Chamber of Commerce.

(218) St. Lucie River divides into two forks west of Stuart. The **North Fork** extends several miles in a north-northwest direction. It is about 0.75 mile wide with an even bottom of 10 to 12 feet in depth. The South Fork is described as part of the Okeechobee Waterway, chapter 12.

(219)

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(220) From St. Lucie Inlet to Jupiter Inlet, a distance of 14 miles, several shoals and wrecks are within about 3 miles of the shore. The shoals and wrecks should be avoided by deep-draft vessels. The 20-fathom curve is a safe guide.

(221) **Jupiter Inlet Light** (26°56'55"N., 80°04'55"W.), 146 feet above the water, is shown from a red brick tower on the north side of the inlet, 94 miles south of Cape Canaveral Light. The light is reported to be obscured by high-rise construction from 231° to 234° when within a range of 5.5 miles.

(222)

Jupiter Inlet

(223) **Jupiter Inlet**, an opening in the beach just south of Jupiter Inlet Light, is 14 miles south of St. Lucie Inlet. It leads to Jupiter Sound on the north, Loxahatchee River on the west and Lake Worth Creek on the south. A short stone jetty is on the north side of the entrance to the inlet and private lights mark the entrance. Small boats of the

(224)

Jupiter Inlet, Florida
Image courtesy of USCG Sector Miami, AST3 Ryan J. Pierce (2014)

fishing fleet use the inlet. The Intracoastal Waterway is 0.5 mile inside the entrance to the inlet. (See chapter 12.)

(225) Jupiter Inlet is dangerous and particularly hazardous to small boats not designed for the open seas. Persons using this inlet should be experienced boatmen and have local knowledge. It is reported that shallow sandbars exist from the lighthouse through the mouth of the inlet and that the sandbar at the junction of the Intracoastal Waterway and the entrance builds up continuously. A very shallow sandbar extends south and east from the north jetty across the entire inlet. The bar is very deceptive and usually lies 1 or 2 feet below the surface. The openings through the sandbar shift with rapidly changing weather conditions and can be very shallow.

(226)

Current

(227) It is further reported that tidal currents reach a velocity of 6 knots. Eddies and extreme turbulence accompany flood and ebb tides, particularly near the south jetty. Breaking and confused seas frequently exist over the sandbars off the mouth of the jetty. Conditions are worst with ebb tide and easterly winds. Near low water, long ground swells and wake from passing vessels can create dangerous waves in seemingly calm seas. Conditions are most hazardous during the winter months. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(228) Additional information on local existing conditions can be obtained by contacting the Lake Worth Inlet Coast Guard Station (telephone: 561–844–4470).

(229)

Lake Worth Inlet to Hillsboro Inlet

(230) Between Jupiter Inlet and Lake Worth Inlet, a distance of about 10.5 miles, the coast is clear of shoals with the 10-fathom curve about 1 mile offshore. A fishing pier extends about 340 yards seaward from about 26°53'37"N., 80°03'24"W.

(231) **Lake Worth Inlet** is a dredged cut through the barrier beach 11 miles south of Jupiter Inlet Light and 31 miles north of Hillsboro Inlet Entrance Light. The entrance is protected by two jetties and the cut by revetments.

(233)

COLREGS demarcation lines

(234) The lines established for Lake Worth Inlet are described in **33 CFR 80.727**, chapter 2.

(235) **Port of Palm Beach** is a deepwater port development 1.1 miles west of the entrance to Lake Worth Inlet. The port borders the communities of **Riviera Beach** on the

(232)

Lake Worth Inlet, Florida
Image courtesy of USCG Sector Miami, AST3 Ryan J. Pierce (2014)

north and **West Palm Beach** on the south. It is 259 miles south of Jacksonville and 68 miles north of Miami. The principal cargoes are export containers, yachts, sugar and general cargo. There is also barge traffic. An extensive roll-on/roll-off operation is conducted in the Bahama Island trade. All of the wharves and warehouses are owned by the Port of Palm Beach District.

(236)

Coast Guard Station

(237) **Lake Worth Inlet Coast Guard Station** is inside the entrance about 0.7 mile north of Peanut Island on the west side of the Intracoastal Waterway.

(238)

Prominent features

(239) Prominent from offshore are the many multistoried buildings along the beaches north and south of the inlet. Of these, the 42-story condominium and the Breakers Hotel, 1 mile north and 3.5 miles south of the inlet, respectively, are the most prominent.

(240)

Channels

(241) A federal project provides for a 35-foot entrance channel, thence a 33-foot inner channel to two turning basins with depths of 33 and 24 feet, respectively, at the Port of Palm Beach. Markers include a **271°30'** lighted entrance range, lights and lighted and unlighted buoys. The north (right outside) quarter of the entrance channel tends to shoal along the north jetty. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.

(242)

Anchorages

(243) Two offshore anchorage grounds are close north and south of the channel entrance. (See **33 CFR 110.1** and **10.185**, chapter 2, for limits and regulations.) There is no deepwater anchorage in the harbor. Anchorage for craft drawing up to 8 feet is available in the vicinity of **Palm Beach**.

(244)

Dangers

(245) A reef in the form of a ridge with scattered boulders extends for about 300 yards eastward of Peanut Island about 25 feet north of the improved channel. The reef, with a least depth of about 4 feet over it, is extremely dangerous. On the ebb, the current sets across the reef in a northeasterly direction. Two fish havens are 0.7 and 1.5 miles off the north side of the entrance and another is 1.5 miles off the south entrance.

(246)

Manatees

(247) A regulated speed zone for the protection of manatees is in the vicinity of the powerplant on the west side of the turning basin. (See Manatees, chapter 3.)

(248)

Current

(249) The currents in the inlet are strong and must be carefully guarded against. The current velocity is 2.4 knots on the flood and 3.6 knots on the ebb. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(250)

Weather, West Palm Beach and vicinity

(251) With the Gulf Stream only about 2 miles (4 km) offshore and prevailing winds off the Atlantic most of the year, the climate of this area is pleasant. The average high temperature for West Palm Beach is 83°F (28.3°C) while the average low temperature is 67°F (19.4°C). July is the warmest month by a fraction of a degree with an average high temperature of 90°F (32.2°C) and an average low temperature of 75°F (23.9°C). January is the coolest month of the year with an average high temperature of 75°F (23.9°C) and an average low of 57°F (13.9°C). An official reading of 100°F (37.8°C) has never been recorded at West Palm Beach but the all-time high temperature is 99°F (37.2°C) recorded in July 1981. The extreme minimum temperature for West Palm Beach is 27°F (-2.8°C) recorded in January 1977. Every month except December and January has recorded maximum temperatures in excess of 90°F (32.2°C), and an average of 75 days each year have a maximum extreme in excess of 90°F (32.2°C). An average of only one day each year has an extreme minimum at or below freezing.

(252) The average annual precipitation for West Palm Beach is 61 inches (1,549 mm). September is the wettest month averaging 8.8 inches (223.5 mm), and February is the driest month averaging only 2.6 inches (66 mm). Snowfall is nearly nonexistent at West Palm Beach and the greatest 24-hour snowfall was trace. This has occurred only once for the 50-year period of record, January 19, 1997.

(253) Wind speeds of 17 knots or more can be expected about 7 to 10 percent of the time from October through April as a result of lows, cold fronts or intensification of the trade winds. While gales are rare, they are most likely during the tropical cyclone season, which runs from June through October on the average.

(254) West Palm Beach is vulnerable to hurricanes. As of 2016, hurricanes with near direct impact were Frances and Jeanne in September 2004 and Wilma in September 2005. Sandy, in October 2012, did not make landfall but generated large swells at the inlet causing extensive shoaling.

(255) Thunderstorms can generate strong, gusty winds along with heavy rain. They are most likely from June through September on about 10 to 16 days per month. Visibilities drop below 0.5 mile (0.9 km) on 1 to 2 days per month, on the average, from November through April.

(256)

Pilotage, Port of Palm Beach

(257) Pilotage is compulsory for foreign vessels and for U.S. vessels under register in the foreign trade and drawing more than 7 feet of water. Pilotage is optional for U.S. coastwise vessels that have a pilot aboard licensed by the Federal Government.

(258) The Port of Palm Beach is served by Palm Beach Pilots Association, at Riviera Beach Marina, 200 E. 13th Street, Suite B, Riviera Beach, FL 33404; telephone 561–845–2628. The office/station monitors VHF-FM radiotelephone channel 14.

(259) The pilot boats are PILOT#1 and PILOT#2; both have gray hulls, white superstructures and the word PILOT on the sides. PILOT#1 is 31 feet long; PILOT#2 is 35 feet long. Both boats display a white over red light at night. The pilot boats monitor VHF-FM channel 16 and 14 and work on channel 14. The pilot boarding and cruising area, depending on wind and gulf stream current conditions, is near Lake Worth Lighted Buoy LW (26°46'22"N., 80°00'36"W.) or as instructed by the pilots. Vessels are requested to rig the pilot ladder on the leeward side about 1 meter above the water and maintain a speed of 6 knots or less. A northern gulf stream current almost all year makes an approach to the inlet from the southeast the safest, however, at times large swells do occur and alternate approaches may be instructed by the pilots for safety reasons. Large vessels are taken in only at slack water and may be restricted to daylight hours under certain conditions. Pilots do not maintain a 24-hour watch at the pilot office/station. At least 24 hours advance notice of arrival is requested. For more information, visit www.palmbeachpilots.com.

(260)

Towage

(261) Port Towing Corp. provides ship assist and coastwise towing in and around the Port of Palm Beach. Three tugs are available; one with 1,500 hp and two with 3,000 hp each. The tugs monitor VHF-FM channel 16. Telephone: 561-844-0106 and 561-346-8213.

(262)

Quarantine, customs, immigration and agricultural quarantine

(263) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(264) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(265) Palm Beach is a **customs port of entry.**

(266)

Harbor regulations

(267) Copies of the Port Tariff may be obtained at the offices of the Port of Palm Beach District at the Maritime Office Building in Riviera Beach, or visit www.portofpalmbeach.com. The Port Operations Manager assigns berths and enforces the harbor regulations. The Port of Palm Beach is a public corporation created by the state legislature. Port regulations state it shall be unlawful for any vessel, boat, barge or other watercraft of any kind to anchor in the channel or turning basin, except in cases of actual emergency.

(268)

Wharves

(269) The Port of Palm Beach has three slips and four marginal wharves. A marginal passenger wharf is 0.2 mile north of the north slip. The port district owns most of the facilities and the port tenants operate most of them. There are about 50 acres of open storage and 150,000 square feet of warehouse space. The port operates its own belt line railroad which connects with the Florida East Coast Railway. Mobile cranes to 230 tons are available, with other equipment available as required. All berths have fresh water available. All berths have a deck height of 8.5 feet except Berths 13 and 14, 8 feet, and Berths 20, 21 and 22, 5 feet. Slip 1 is the north slip, Slip 2 is the south slip.

(270) **Berth 1:** marginal wharf immediately northward of Slip 1; 450 feet long; 25 feet alongside; used by large yachts and small passenger vessels.

(271) **Berths 2, 3:** north side Slip 1; 700 feet long; 35 feet alongside.

(272) **Berth 4:** head of Slip 2; 220 feet long; 25 feet alongside; receipt and shipment of general cargo by small vessel and barge.

(273) **Berths 5, 6:** north side Slip 2; 640 feet long; 35 feet alongside; primary location for receipt of fuel oil, pipelines extend to oil storage tanks with 2 million barrel capacity; receipt of bulk cement; receipt and shipment of general cargo.

(274) **Berth 7:** marginal wharf between Slips 1 and 2; 215 feet long; 25 feet alongside; receipt and shipment of general cargo.

(275) **Berths 8, 9:** south side Slip 1; 700 feet long; 35 feet alongside; receipt and shipment of general cargo; various operators.

(276) **Berths 10, 11, 12:** three roll-on/roll-off ramps at the head of Slip 1; 210-foot face; 35 feet alongside; 2 ½ acres open storage, receipt and shipment of general, containerized and roll-on/roll-off cargo; operated by Heavy Lift Service Inc.

(277) **Berths 13, 14:** north side Slip 1; 700 feet long; 35 feet alongside; receipt and shipment of general and containerized cargo; operated by Heavy Lift Service, Inc.

(278) **Berths 15, 16, 17:** marginal wharf immediately northward of Slip 1; 610 feet long; 25 feet alongside; receipt and shipment of general and containerized cargo; mooring cruise vessels; operated by the Crown Cruise Line.

(279) **Berths 18, 19:** south side of slip immediately north of Berth 17; 300 feet long; 25 feet alongside; receipt and shipment of general and containerized cargo and vehicles; operated by Tropical Shipping Co., Ltd.

(280) **Berths 20, 21, 22:** west of Berth 19; three roll-on/roll-off ramps; each 67 feet long; 25 feet alongside; receipt and shipment of roll-on/roll-off cargo; operated by Tropical Shipping Co., Ltd.

(281) **Berth 23:** across slip north of Berth 19; 80 feet long; 25 feet alongside; receipt and shipment of containerized cargo and vehicles; operated by Tropical Shipping Co., Ltd.

(282) **Berths 24, 25:** 0.2 mile north of Slip 1; 450 feet long; 25 feet alongside; receipt and shipment of containerized cargo and vehicles; operated by Tropical Shipping Co., Ltd.

(283)

Supplies

(284) Fresh water is piped to the berths. Diesel fuel and gasoline can be delivered by tank truck. Provisions and some marine supplies are available.

(285)

Repairs

(286) Only minor repair work can be obtained for large ships. The nearest drydocks are at Jacksonville and Port Everglades.

(287)

Communications

(288) Class II railroad connections are available. There are highway connections to U.S. Route 1, Interstate Route 95 and Florida's Turnpike. The **Palm Beach International Airport** is 5.5 miles southwestward of the port area.

(289) The Intracoastal Waterway passes through Lake Worth just eastward of Port of Palm Beach. Facilities in the area for yachts and small craft are given in chapter 12.

(290)

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(291) From Lake Worth Inlet the general trend of the coastline is south for 41 miles to Port Everglades. It is broken by several inlets of little importance. The coast is formed almost entirely by a low sand beach, with more or less conspicuous dunes partly covered by grass and scrub palmetto, and woods in the background. Numerous towns, tanks, radio towers and scattered buildings are visible from seaward. Conspicuous from offshore are the buildings and pier at Palm Beach, Hillsboro Inlet Entrance Light and the large buildings and tanks at Fort Lauderdale.

(292) The coast between Lake Worth Inlet and Port Everglades is fairly bold. The 20-fathom curve runs parallel to the beach and for a greater part of the distance is less than 2 miles from it. Several wrecks and obstructions are within 0.5 mile of the shore.

(295)

Boynton Inlet, Florida
Image courtesy of USCG Sector Miami, AST3 Ryan J. Pierce (2014)

(293) **Palm Beach**, a resort on the narrow island between Lake Worth and the sea, is connected to West Palm Beach by highway bridges. The ocean pier here is used only for amusement purposes. Several other towns and cities are along the shores of Lake Worth.

(294) **Boynton Inlet**, at the south end of Lake Worth, is a small dredged cut through the outside beach, about 100 feet wide. The entrance to the inlet is protected by jetties. In 1983, the reported controlling depth over the bar and to the Intracoastal Waterway was 5 feet. The inlet is crossed by Route A1A highway bridge, which has a fixed span with a clearance of 18 feet. An overhead power cable at the bridge has a clearance of 38 feet. Boynton Inlet is dangerous and particularly hazardous to small boats not designed for open seas. Persons using this inlet should be experienced boatmen and have local knowledge. The channel is unmarked.

(296) It is reported that shoaling exists, commencing about 100 yards south of the end of the north jetty and extending to the south. Submerged rocks extend 15 feet east of the end of the south jetty. Within the inlet, along the north and south jetties, east of the Route A1A highway bridge, is a concrete ledge that is just below the surface at high tide.

(297) Tidal currents through the inlet reach a reported velocity of 8 knots, and with an easterly wind it is impassible because of breakers at the entrance. There is a strong undertow when the tide is ebbing. Eddies and extreme turbulence accompany flood and ebb tides. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(298) It is further reported that except during a flat calm, breaking and confused seas exist in the channel from the bridge to the mouth of the inlet. Conditions worsen as seas and winds increase, particularly when the current is running. Conditions are more hazardous during winter.

(299) A dangerous wreck is about 1.8 miles south-southeast of the inlet.

(300) Additional information on local existing conditions can be obtained by contacting the Lake Worth Inlet Coast Guard Station (telephone: 561–844–4470).

(301) **Boca Raton Inlet** is a narrow dredged cut through the beach 5 miles northward of Hillsboro Inlet Entrance Light. It is used mostly by party fishermen. The hotel at **Boca Raton** is a prominent landmark. The mouth of the inlet is protected by short jetties marked by private lights. The bar channel shifts with the winds; local knowledge is recommended.The inlet interior is dredged continuously. Mariners are urged to minimize wake and proceed with caution.

(302) Boca Raton Inlet is dangerous and particularly hazardous to all boats not designed for open seas. Persons using this inlet should be experienced boatmen and should

(311)

be extremely knowledgeable of the area. The channel is unmarked.

(303) It is reported that shoaling exists 30 yards outside of the inlet and also inside the inlet. Depth at low tide varies from 1 to 3 feet. A sandbar protrudes out of water inside the inlet on the north side. A sandbar extends underwater to within 30 feet of the south jetty. Shoaling and sandbars are continually shifting.

(304) It was reported that increased shoaling may be expected and that the inlet may occasionally be closed by severe weather.

(305) Tidal currents through the narrow channel reach a reported velocity of 7 knots.

(306) It is further reported that except during a flat calm, breaking and confused seas exist at the mouth of the inlet. Conditions worsen as seas and winds increase, particularly during ebb tide. Breaking seas at the mouth of the inlet will extend 200 feet inside inlet mouth. Conditions are more hazardous during winter. Strong easterly winds are often encountered when attempting to navigate the inlet. These are particularly strong in November through May. In May through September heavy thunderstorms often occur during early morning and afternoon.

(307) Additional information on local existing conditions can be obtained by calling **Fort Lauderdale Coast Guard Station** (telephone: 954–927–1611).

(308) Highway A1A bridge crossing the inlet has a 45-foot bascule span with a clearance of 23 feet at the center. (See **33 CFR 117.1** through **117.49**, chapter 2, for drawbridge regulations.)

(309) **Hillsboro Inlet Entrance Light** (26°15'33"N., 80°04'51"W.), 136 feet above the water, is shown from an octagonal pyramidal skeleton tower with central stair cylinder, lower half of structure white, upper half black, on the beach on the north side of the inlet.

(310) **Hillsboro Inlet**, 31 miles southward of Lake Worth Inlet, connects with Hillsboro River and the Intracoastal Waterway. It has considerable importance as a base for party fishermen who run out into the Gulf Stream. The entrance channel is marked by lights, daybeacons and a lighted entrance buoy. The jetties are submerged at the entrance channel; caution is advised. Rocky reefs are reported to extend northward and southward of the respective entrance lights; the southern reef is reported to dry at its southern end at low tide. The current in the entrance is reported to set northward across the channel on the flood and southward on the ebb. In 1990, shoaling to a depth of about 1 foot was reported at the entrance channel between Lights 1 and 2.

(312) Route A1A highway bridge crossing the inlet has a bascule span with a clearance of 13 feet. The bridgetender monitors VHF-FM channel 16 and works on channel 13. (See **33 CFR 117.1** through **117.59** and **117.289**, chapter 2, for drawbridge regulations.) On the flood tide the current past the bridge is reported to be as much as 5 to 6 knots. An overhead power cable at the bridge has

(318)

Port Everglades, Florida
Image courtesy of USCG Sector Miami, AST3 Ryan J. Pierce (2014)

a clearance of 64 feet. Yacht landings are on the south shore on either side of the bridge. A depth of 5 feet is at the landings. Berthage, electricity, gasoline, diesel fuel, water, ice, some marine supplies, a mobile 10-ton lift, and hull, engine, and electronic repairs are available.

(313) Southward of Hillsboro Inlet shoaling is rapid; depths of 6 to 8 fathoms have been found 1.5 miles offshore. A wreck 3.2 miles south of Hillsboro Inlet Entrance Light and 0.4 mile offshore has a depth of about 10 feet over it. Two small rock islets on each side of a stranded vessel were formed by the jettisoning of a cargo of cement about 5 miles south of Hillsboro Inlet Entrance Light and 0.4 mile offshore. They were blasted away during World War II, but until the depth over them has been determined, the area should be avoided by light-draft vessels.

(314) Fish havens extend 1 to 2.4 miles offshore between Hillsboro Inlet and Port Everglades.

(315) A submerged groin is 1 mile north of the entrance of Port Everglades and 0.4 mile offshore.

(316)

Port Everglades to Port Laudania

(317) **Port Everglades** is a deepwater port on the east coast of Florida, 301 miles south of Jacksonville and 948 miles from New York. Many of the world's large passenger vessels call at this major cruise port. Although principally a consumer port, considerable foreign commerce passes through. The principal commodities handled include petroleum products, automobiles, bulk cement, steel products, lumber, containerized cargo and a variety of general cargo. Two unmarked jetties protect the harbor entrance, which is virtually landlocked.

(319)

Prominent features

(320) There are numerous tall hotel buildings on the north side of the entrance close westward of the north jetties. The numerous hotels and several tanks along the beach and tanks and radio and television towers in Fort Lauderdale are other conspicuous objects.

(321) Because of the low shoreline good radar targets are limited in the approach to Port Everglades. It is reported, however, that the north and south jetties present good targets. Additionally, the entrance buoys are difficult to identify by radar because of the heavy small-craft traffic in the entrance.

(322)

COLREGS demarcation lines

(323) The lines established for Port Everglades are described in **33 CFR 80.727**, chapter 2.

(324)

Channels

(325) A federal project provides for an entrance channel leading from the Atlantic Ocean between the jetties to a main turning basin inside. There are turning basins to

the north and south of the main turning basin. Southport Channel leads southward from the main turning basin to Southport Terminal, with a turning basin on the west side. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.

(326) A lighted buoy marks the entrance, and channel markers include lighted buoys, lights and a **269°30'** lighted entrance range.

(327)

Dangers

(328) Two submerged breakwaters, extending almost 0.7 mile offshore on either side of the entrance, are unmarked. A large abandoned spoil area north of the entrance channel has very little water on it and at times appears above the water as an island; it was reported to be building up to the northwestward in 1983. The shoal area westward of the spoil area is marked a daybeacon. A **Naval restricted area** extends about 2.5 miles offshore and about 4 miles southward of the south edge of the entrance channel. (See **33 CFR 334.580**, chapter 2, for limits and regulations.) Large vessels entering the port on weekends and holidays are advised to exercise extreme caution because of very heavy small-craft traffic. The ruins of a former jetty, covered 3 feet, extend south from the inner end of the north jetty.

(329) A large fish haven extends from 1.5 to 5.7 miles north of the entrance channel and from 1 to 2.2 miles offshore. A smaller fish haven is about 1 mile north of the entrance channel and about 1.5 miles offshore.

(330) Large commercial vessels approach, enter and depart the entrance channel within both quadrants east of Lighted Buoys 2 and 3. Small craft in the vicinity of the approach areas of the entrance channel are advised to be underway and prepared to get out of the way of any large commercial traffic at all times. They are advised never to anchor within 0.6 mile of Lighted Buoy PE or anywhere in the entrance channel itself, in order not to impede the passage of large commercial traffic.

(331)

Anchorages

(332) The commercial anchorage area is north-northeast of Port Everglades Lighted Buoy 2 (See **33 CFR 110.186**, chapter 2, for limits and regulations.) **All commercial vessels planning to use the Port Everglades anchorage, whether bound for Port Everglades or not, are required to provide the U.S. Coast Guard with an advanced notice of arrival**. (See **33 CFR 160.212**, chapter 2, for regulations.) Vessels using this anchorage must report their positions and time of anchoring to the Port Everglades Harbormaster on VHF-FM channel 14.

(333) No vessels may anchor in a "dead ship" status (i.e., propulsion or control unavailable for normal operations) without prior approval from the Coast Guard Captain of the Port (COTP). In addition, vessels are not permitted to anchor for more than 72 hours without prior COTP approval. Vessels shall request approval directly from the USCG COTP.

(334) The anchorage is in close proximity to three (inner, middle and outer) reefs that run along the South Florida coast. The anchorage area has charted soundings ranging from 125 feet to more than 500 feet. The depth of the western side of the anchorage area averages approximately 125 feet. The bottom type in the anchorage consists of a sand, mud and coral rubble mixture that does not provide adequate holding during adverse weather. There are also minor obstructions in the anchorage area that are mainly discarded spools of cable; these may be annotated on the chart as obstructions.

(335) The close proximity of the anchorage area to the shallow reefs requires vigilance by vessel captains while transiting and anchoring in the area. Violent, unpredictable winds in excess of 50 knots can be associated with local thunderstorm activity. Upon the approach of thunderstorms from any direction or in sustained wind conditions of 25 to 30 knots from north-northeast through south-southeast directions, all vessels in the anchorage ground are strongly advised to have engines on standby and be prepared to vacate the anchorage. It is highly recommended that vessels leave the anchorage and head to sea when sustained winds in excess of 30 knots are blowing from north-northeast through south-southeast directions. A proper anchor watch is vitally important with the vessel's position being checked frequently and VHF-FM channels 14 and 16 continuously monitored.

(336) Although not required, pilotage to the anchorage is available upon request and is strongly recommended for masters who are unfamiliar with the Port Everglades anchorage. Anchoring south of the entrance channel by vessels with a draft in excess of 12 feet is prohibited. (See **33 CFR 334.580**, chapter 2, for regulations.) The USCG COTP may close the anchorage and direct vessels to depart during periods of adverse weather or at other times as deemed necessary in the interest of port safety or security.

(337)

Current

(338) The tidal currents in the entrance average about 0.7 knot. In 1983, it was reported that the flood currents attain a velocity of 3 knots and the ebb currents 4 knots. Current swirls of varying characteristics are often encountered in the turning basin and make handling of ships difficult. Prevailing winds from the southeast and east coupled with a rising tide are the most hazardous. Caution should be exercised to avoid striking the piers or the rocky sides of the turning basin. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(339) The entrance channel has dangerously strong cross currents that vary in strength and are unpredictable in direction. These currents generally run at right angles to the direction of the narrow entrance channel making transit hazardous, without local knowledge, for deep draft vessels. These currents have been reported to be as much as 5 knots.

(340) Several locations in the port are also reported to be affected by man-made currents. The outflow from the Florida Power and Light cooling water discharge canal, just south of Berth 29, will effect passing ships in varying ways depending upon the output of the plant and the size and draft of the ship. After periods of heavy rainfall, the flood control gates in the Everglades of South Florida are opened causing very strong ebb currents which might dominate the flood currents in areas such as the Dania Cut-off Canal.

(341)

Weather, Port Everglades and vicinity

(342) Tropical cyclones threaten (move within 180 miles of) Port Everglades once or twice each year on the average. About 50 percent of these are hurricanes. While the season runs from June through November, about 83 percent of all threats have occurred in August, September and October. However the port has also been affected, outside of the normal season, in December, February and May. Tropical cyclones have approached the port from all octants although they are rare from the northwest through northeast.

(343) While the port is most vulnerable to winds off the open ocean, the relatively flat terrain provides little resistance to strong land winds; however, nearby manmade structures afford some protection. Due to the narrow channel opening and two jetty systems the port is well protected from ocean waves except for those approaching from the east. However, energy from even these waves is lost by shoaling and diffraction inside the harbor. Wind waves inside are limited by lack of fetch.

(344) Storm tides have exceeded 12 feet (3.6 m) at Fort Lauderdale in the past. The lack of significant elevations on barrier land strips subjects the entire Intracoastal Waterway in this area, including Port Everglades, to severe flooding from hurricanes. These factors plus the absence of sheltered berths or anchorages makes evasion at sea the best course of action for all seaworthy, deep-draft vessels when a hurricane threatens the port.

(345) Thousands of shallow- draft boats are moored in the extensive canal system just north of Port Everglades. If feasible, they should be removed and transported inland to higher elevations. Because of the many boats, it might not be possible to move along the Intracoastal Waterway, to seek protection up a canal or river unless departure is quite early. If a boat must be moored, it should be ballasted to be low in the water, to escape wind effects, and be well secured with allowance for increased water heights. More detailed information may be found in the **Hurricane Havens Handbook for the North Atlantic Ocean** as mentioned in chapter 3.

(346) Aside from the tropical cyclone threat the climate is conducive to marine activities. Gales are rare. They may occur with strong cold fronts or in severe thunderstorms. Winds of 17 knots or more are most likely from September through April when they blow about 2 to 5 percent of the time. Precipitation occurs on about 94 days annually and is most likely in summer. Thunderstorms occur on 10 to 15 days per month from June through October, a period that records more than 60 percent of the annual rainfall total. These brief, heavy showers usually help cool things off in the late afternoon or early evening. Temperatures climb to 90°F (32.2°C) or more on an average of 56 days each year and extreme of 100°F (37.8°C) has been recorded. The extreme minimum in winter is 28°F (-2.2°C). Visibilities are generally good and drop below 0.5 mile (0.9 km) on an average of just 8 days each year; November through March is the most likely period.

(347)

Pilotage, Port Everglades

(348) Pilotage is compulsory for all foreign vessels and for U.S. vessels under register in the foreign trade with a draft of 7 feet or more. Pilotage is optional for U.S. coastwise vessels that have on board a pilot licensed by the Federal Government.

(349) The Port Everglades area is served by Port Everglades Pilots Association, P.O. Box 13017, Port Everglades, FL 33316; telephone 954–522–4491, fax 954–522–4498, radiotelephone VHF-FM channels 14, 16, and 77.

(350) Port Everglades pilot boats "Pilot No. 4" and “Pilot No. 5” have gray hulls and white superstructures, and pilot boat "Pilot No. 7" has a red hull and white superstructure. The pilot boats have the word PILOT displayed on the sides. The pilot boat displays the hotel flag by day and a white light over a red light at night. Each pilot boat is equipped with an AIS. The pilot boat monitors and works VHF-FM channels 14 and 16. There is significant vessel traffic in the vicinity Port Everglades Lighted Buoy PE (26°05'30"N., 80°04'46"W.). Unless directed to come closer by the Port Everglades Pilots or the Port Everglades Harbormaster, all vessels should plan on receiving their pilot 2 miles east of Port Everglades Lighted Buoy PE. Vessels should maintain a speed of 7 knots and provide a pilot ladder 3 feet (1 meter) above the water on the lee side. Swift, variable currents, usually east of the buoy, can affect boarding procedures.

(351) Arrangements for pilots can be made through ships’ agents or the Port Everglades Harbormaster (telephone: 954–468–0212). At least 24 hours advance notice of arrival is requested, with confirmation given 2 hours in advance of arrival by radiotelephone on VHF-FM channel 14.

(352)

Towage

(353) Three tractor tugs of up to 6,000 hp and two Ship Docking Modules of 4,000 hp are available 24 hours per

day. Arrangements for tugs should be made through the harbormaster's office.

(354)

Quarantine, customs, immigration and agricultural quarantine

(355) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(356) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.) There are five general hospitals and several smaller private hospitals in the area.

(357) Port Everglades is a **customs port of entry.**

(358)

Coast Guard

(359) Fort Lauderdale Coast Guard Station is on the east side of the Intracoastal Waterway southeast of the turning basin.

(360) **Harbor regulations** are established by the Port Everglades Department of Broward County and are contained in Port Everglades Tariff #12. The administration, operation and maintenance of the port are under the direction and supervision of the port director. The **harbormaster** clears all traffic passing through the port, assigns berths and enforces the regulations ashore. The harbormaster should be contacted concerning all ship movements and any requirements that ships may have for their safe passage through the port, such as tug boat assistance or the removal of temporary obstructions. The Marine Division of local, county and state police departments enforce the regulations afloat. A copy of the port tariff is available online at www.porteverglades.net. The harbormaster's office can be contacted 24 hours a day by telephone (954–468–0212) or on VHF-FM channel 14. Every commercial vessel with a length overall of 90 feet or greater transiting the waters of Port Everglades anywhere between 17th Street (on the north) and the Dania Cutoff Canal (on the south) and either arriving from or departing to international waters is required to coordinate its movement through the Port Everglades Harbormaster on VHF-FM channel 14. In addition, all vessels transiting the waters of Port Everglades must monitor VHF-FM channel 14.

(361)

Manatees

(362) Regulated speed zones for the protection of manatees are in Port Everglades. (See Manatees, chapter 3.)

(363)

Wharves

(364) Port Everglades has numerous deepwater berths. All the berths are owned and operated by the Port Everglades Department of Broward County. The port has 380 acres of open storage, over 2 million cubic feet of cold storage space, in excess of 1,000 electrical reefer outlets and 8 roll-on/roll-off ramps. Foreign Trade Zone No. 25 with 388,600 square feet of warehousing is also located in the port. Privately owned facilities provide over 10 million barrels of storage space for petroleum products as well as cement silos totaling 112,000 ton capacity. Berths 4 through 15 have pipeline connections available for handling petroleum products, asphalt and other bulk liquids. Heavy lift cranes up to 300 tons, eight container gantry cranes of up to 50 tons and modern cargo handling equipment are available at the port. Containers can be worked at all berths listing general cargo by means of ship's gear or mobile container handling equipment available in the port. All berths have access to the highways. An Intermodal Container Transfer Facility (ICTF) comprised of 42 acres is available in the port. The alongside depths given for each facility described are project depths. Actual depths alongside, in almost all locations, exceed project depth. For information on the latest depths, contact the Port Everglades Harbormaster. Only the major facilities are described.

(365) **Berth 1A:** 180 feet long; 12 feet (reported) alongside; deck height, 9 feet; used as a layover berth.

(366) **Berth 1B:** 220 feet long with an adjacent 70-foot wide roll on/roll off ramp; 23 feet (reported) alongside; deck height, 9 feet; 6 feet at ramp; used as a layover berth.

(367) **Berths 1, 2, and 3:** 1,600 feet long; 30 feet alongside; deck height, 9 feet; roll on/roll off cargo at Berth 1, break bulk and general cargo, Naval ships, cruise ships.

(368) **Berth 4:** 1,150 feet long; 41 feet alongside; deck height, 7.5 feet; roll on/roll off cargo at head of slip, general cargo, cruise ships.

(369) **Berth 5:** 1,150 feet long; 40 feet alongside; deck height, 7.5 feet; roll on/roll off cargo at head of slip, break bulk and general cargo, petroleum products, asphalt.

(370) **Berth 6:** 380 feet long; 34 feet alongside; deck height, 7.5 feet; break bulk and general cargo.

(371) **Berths 7 and 8:** 1,200 feet long; 38 feet alongside; deck height, 7.5 feet; petroleum products and asphalt, occasional general cargo at Berth 7.

(372) **Berths 9 and 10:** 1,200 feet long; 38 feet alongside; deck height, 7.5 feet; petroleum products.

(373) **Berth 11:** 500 feet long; 33 feet alongside; deck height, 7.5 feet; liquefied petroleum gas with pipelines to storage tanks.

(374) **Berths 12 and 13:** 1,226 feet long; 38 feet alongside; deck height, 7.5 feet; petroleum products.

(375) **Berths 14 and 15:** 1,226 feet long: 38 feet alongside; deck height, 9 feet; rail mounted bulk cement self unloaders and pipelines leading to cement silos adjacent to dockside; primarily bulk cement, petroleum products, occasional break bulk, dry bulk and general cargo.

(376) **Berths 16, 17 and 18:** 1,648 feet long with 43-foot wide roll on/roll off ramp at south end of Berth 18; 37 feet alongside; deck height, 9 feet; one 50-ton container gantry crane having an outreach of 113 feet at 109 feet above MHW and one 100-ton mobile harbor crane; cruise ships, containers, break bulk and general cargo, roll on/roll off cargo using ramp at west end of Berth 19.

(377) **Berths 19 and 20:** 1,300 feet long with 84-foot-wide roll on/roll off ramp at west end of Berth 19; 37 feet alongside; deck height, 9 feet, 6 feet at ramp; containers,

break bulk and general cargo, roll on/roll off cargo using ramp at south end of Berth 18, Naval ships, cruise ships.

(378) **Berths 21 and 22:** 1,475 feet long; 37 feet alongside; deck height, 8 feet; primarily cruise ships, Naval ships, containers, and general cargo.

(379) **Berth 23:** 200 feet long; 38 feet alongside; deck height, 9 feet; lay-berth for small vessels.

(380) **Berths 24 and 25:** 1,369 feet long; 39 feet alongside berth 24 and 41 feet alongside Berth 25; deck height, 9 feet; cruise ships, Naval ships, layovers.

(381) **Berths 26 and 27:** 1,337 feet long; 40 feet alongside; deck height, 9 feet; containers, break bulk and general cargo, cruise ships, Naval ships.

(382) **Berths 28A, 28B, 28E, and 28F:** surrounding the small basin south of Berth 27; 28A (north wall), 480 feet; 28F (south wall), 400 feet; 28A to 28E have 27 feet alongside, 28F has 21 feet alongside; deck height, 9 feet; 28A and 28B - harbor tug dockage; 28E - not used; 28F - general cargo and lay-berth. A mooring dolphin is centered on the east side of the basin and is used for mooring large cruise vessels in Berth 29.

(383) **Berth 29:** 800 feet; deck height, 9 feet: 41 feet alongside; cruise ships, containers, break bulk and general cargo.

(384) **Berth 30:** north side of Southport terminal; 900 feet; deck height, 11 feet; 41 feet alongside; two 46.5-ton container gantry cranes having an outreach of 145'-06" at 130 feet above MHW with setbacks of 5 feet from the bulkhead and 9 feet from the fenders; containers.

(385) **Berths 31 and 32:** east side of Southport terminal; 2,000 feet; deck height, 11 feet; 41 feet alongside; three 46.5-ton container gantry cranes having an outreach of 145'-06" at 130 feet above MHW with setbacks of 5 feet from the bulkhead and 9 feet from the fenders; containers.

(386) **Berth 33A:** southeast corner of Southport terminal; 800 feet, 140 feet at ramp; deck height, 11 feet, 9 feet at ramp; 42 feet alongside; two 46.5 ton container gantry cranes having an outreach of 145'-06" at 130 feet above MHW with setbacks of 5 feet from the bulkhead and 9 feet from the fenders; containers and roll on/roll off cargo.

(387) **Berths 33B and 33C:** southeast corner of Southport terminal, adjacent to 33A; finger pier 500 feet long by 20 feet wide between the two berths; 120 feet ramp at each berth; deck height, 11 feet, 7 feet at ramp; 41 feet alongside; roll on/roll off cargo, lay-berth.

(388) **Supplies** of all kinds in any quantity can be obtained and all types of marine supplies are available in Port Everglades. All berths have fresh water pipelines. Berths 1 through 27 have pipeline connections for bunkering vessels while alongside. Berths 28 through 33 are accessible by tank truck and barge. Arrangements can be made for special blended fuels.

(389)

Repairs

(390) There are no major repair facilities for large vessels in Port Everglades. The nearest major repair facilities are is in Jacksonville, FL, and Freeport, Bahamas.

(391) Several machine, electrical, electronic and marine engine repair firms located off the waterfront can make above-waterline repairs to small craft. Diving services are available.

(392)

Communications

(393) Truck and barge lines serve the port, and local and interstate bus service is available. Many domestic and overseas airlines serve the port through the **Fort Lauderdale-Hollywood International Airport,** 1 mile west of the port.

(394)

Small-craft facilities

(395) Yachting and small-craft facilities are centered at Fort Lauderdale close northward of the port and are described with the Intracoastal Waterway in chapter 12.

(396) **Port Laudania**, just south of Port Everglades, is used by small ships handling containers, general cargo and heavy equipment. The 3.1-mile route from Port Everglades entrance to the port is through the main channel, thence southward for 1.8 miles in the Intracoastal Waterway and westward for 0.9 mile in the Dania Cut-Off Canal to a 540 by 310-foot turning basin on the north side. Due to the size and draft of the commercial vessels calling at Port Laudania, the center of the channel in the Dania Cut-off Canal is generally required for safe navigation. To prevent dangerous meeting situations, Security calls should be given by vessels over 50 feet in length or over 7 feet in draft on VHF-FM channels 13 and 16 prior to transiting the Dania Cut-off Canal. Facilities include 1,440 feet of wharfage with 14 feet reported alongside, one ramp for roll-on/roll-off loading, 9 acres of open storage, over 15,000 square feet of enclosed warehouse storage, water, fuel and lubricants by truck. Truck service is available, and railroad sidings are nearby. Numerous marine repair facilities are available for power, sail and sportfish yachts as well as mega- and super-yachts in need of service, repowering, repairs or major refits. A 900-ton mobile boat hoist and a 35-ton mobile crane are available. Yachts up to 210 feet in length by 40 feet wide and 14 feet of draft can be serviced at the Dania Cut-off Canal facilities.

(397)

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(398) Between Port Everglades and the Miami Harbor entrance, 20 miles to the southward, the general trend of the coastline is south, and it is formed almost entirely by a low sand beach. The large buildings and tanks in Hollywood, Miami Beach and Miami are particularly conspicuous from seaward.

(399) This section of the coast is also fairly bold, and the 20-fathom curve runs parallel to the beach at a distance of about 2 miles until in the Miami Harbor entrance where the curve of the shore becomes south-southwestward and the 20-fathom curve lies about 4 miles offshore. Inside this curve shoaling is rapid, and northward of the Miami

(408)

Port of Miami, Florida
Image courtesy of USCG Sector Miami, AST3 Ryan J. Pierce (2014)

Harbor entrance 6 to 8 fathoms are found in places 1.5 miles from the beach.

(400) **Hollywood** is a popular resort 5 miles south of Port Everglades and about 1 mile west of the Intracoastal Waterway. The historic Hollywood Beach resort, a very prominent structure, is on the ocean beach east of the city.

(401)

Bakers Haulover Inlet

(402) **Bakers Haulover Inlet** has been dredged through the barrier beach at the north end of Biscayne Bay, 11.6 miles south of Port Everglades, to provide circulation of water in the bay. The channel leads westward through the inlet, thence northward to a boat basin on the east side of the channel, and connects with the Intracoastal Waterway north of the basin and through a cut opposite the basin. In 2008–2009, the controlling depth was 11 feet through the inlet to the highway bridge, thence 10 feet in the basin and 9 feet in the channels leading to the Intracoastal Waterway. Route A1A highway bridge over the inlet has a fixed span with a clearance of 32 feet; an overhead power cable just east of the bridge has a clearance of 53 feet. Current velocities of about 2.9 knots on the flood and 2.5 knots on the ebb have been recorded in the inlet. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(403) Many charter-boat fishermen use the inlet in good weather. Several prominent hotels are south of the inlet. The Intracoastal Waterway is 0.4 mile inside the entrance.

(404) The Florida Department of Natural Resources has established a **slow-no wake speed zone** in the Intracoastal Waterway where the channels converge in the vicinity of Bakers Haulover Inlet.

(405) An unmarked fish haven is about 5.5 miles northeast of the entrance channel and about 2.1 miles offshore.

(406)

Miami Harbor

(407) **Miami Harbor** is a deepwater port on the east coast of Florida under the jurisdiction of the Metropolitan Dade County Seaport Department. It is 324 miles south of Jacksonville, 971 miles from New York and 151 miles from Key West. It is principally a consumer port, but considerable foreign commerce passes through, and it is of great importance as a cruise port. The principal commodities handled are petroleum products, bananas, steel products, meat, newsprint, foreign cars and other vehicles, alcoholic beverages and general cargo. Two unmarked jetties protect the harbor entrance, known as

Government Cut, which was dredged to form a deepwater entry to the port.

(409) **Miami**, the state's most populated city, covers most of the west shore of Biscayne Bay north of Key Biscayne and is 5 miles from the Gulf Stream. It is an internationally famous winter resort and a popular yachting center, particularly in winter. A large number of small boats that fish and cruise along the Florida Keys operate out of the port.

(410) **Miami Beach** occupies the barrier beach that separates the ocean from the upper part of Biscayne Bay and is also an important yachting center. A number of causeways, with bridges over the channels, form good highway connections with Miami and the mainland communities. The city is principally residential, except for some shops and amusement places. The numerous large hotels take up most of the beach and along Biscayne Bay. Marinas, yacht basins and numerous small private landings are on the west side of the city along the canals and other waterways off Biscayne Bay. **Miami Beach Coast Guard Base** and a commercial terminal are northward of the main ship channel near the east end of the MacArthur Causeway. A restricted area is around the Coast Guard Base. (See **33 CFR 334.605,** chapter 2, for limits and regulations.) Miami Beach City Yacht Harbor is on Meloy Channel at the southwestern end of Miami Beach.

(411) **Prominent features.** There are numerous tall buildings and hotels in Miami and along the oceanfront at Miami Beach that are visible for miles in all directions. A very prominent landmark in Miami Beach is the tall green and black building at about 25°47'26"N., 80°07'56"W., on which the red obstruction lights and an illuminated time and temperature sign, flashing from 7 a.m. to midnight, can be seen over 16 miles offshore. A tall stack and water tank on Virginia Key, Cape Florida Light, the aviation light at **Miami International Airport,** a number of radio and television towers and numerous other tanks and towers are also prominent.

(412) Radar targets in the approaches to Miami Harbor are poor, except for the land and jetty configurations. Heavy small-craft traffic in the vicinity of the sea and entrance buoys may make visual or radar identification of these buoys difficult. In making a night approach, the many lights on Miami Beach may make identification of navigational aids difficult.

(413)

COLREGS demarcation lines

(414) The lines established for Miami are described in **33 CFR 80.730**, chapter 2.

(415)

Channels

(416) A federal project provides for a 52-foot channel from the sea buoy to inside Government Cut, then 50 feet to the Fisher Island Turning Basin and to the end of container berth in Fishermans Channel. Miami Main Channel on the north side of the Port of Miami has a project depth of 36 feet to Main Turning basin with the same depth that is off the northwest corner of Dodge Island. The turning basin south of Dodge Island has a project depth of 50 feet. The federal project extends 1,200 feet west of the basin. The channels and turning basins are maintained at or near project depths. Mariners are advised that abrupt shoaling may be encountered along the northerly and southerly edges of the dredged channel. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.

(417) A fishing pier, marked by a light at each end, is on the south side of the inshore end of the north jetty. The lights are reported to be difficult to distinguish.

(418) A shoal marginal area about 100 feet wide extends between the northern edge of the channel and the MacArthur Causeway along almost its entire length.

(419) A lighted buoy marks the entrance; the buoy is equipped with a RACON. Channel markers include lighted buoys, lights and lighted ranges. A Precautionary Area has been established with a radius of one nautical mile around the sea buoy. This is necessary because large ships inbound and outbound of the port will board and disembark pilots within this area and will be severely limited in their ability to maneuver. All vessels are to exercise extreme caution within this area. Vessels may not anchor within those portions of the Precautionary Area that lie outside the designated anchorage.

(420) **Meloy Channel** branches from the main channel at the inner end of the land cut and extends northwestward along the southwest shore of Miami Beach to MacArthur Causeway. In 1998, the reported controlling depth was 9 feet.

(421) **Fishermans Channel** is a private channel maintained by the City of Miami. The channel leads westward from the turning basin at Fisher Island for about 2.0 miles to a turning basin off the southwestern corner of Dodge Island; then southwestward to the junction with the Intracoastal Waterway. The channel west of the 1,200-foot extension from the turning basin south of Dodge Island is maintained by Miami-Dade County and in 1995 had a depth of about 23 feet with lesser depths along the southern edges of the channel. (For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A.) Natural depths to 10 feet lead from the turning basin off Dodge Island to the Intracoastal Waterway. The channel is well marked.

(422) Other channels in Biscayne Bay are discussed with the Intracoastal Waterway in chapter 12.

(434)

METEOROLOGICAL TABLE – COASTAL AREA OFF MIAMI, FLORIDA
Between 25°N to 29°N and 78° to 82°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARS OF RECORD
Wind > 33 knots [1]	1.1	1.5	1.0	0.4	0.1	0.2	0.1	0.2	0.7	1.3	0.8	1.1	0.7
Wave Height > 9 feet [1]	3.5	4.4	3.2	1.8	1.2	0.9	0.5	0.7	1.8	4.3	3.6	3.7	2.4
Visibility < 2 nautical miles [1]	0.4	0.4	0.3	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.4
Precipitation [1]	3.3	3.2	2.5	2.1	3.1	4.2	3.0	3.8	4.9	4.7	3.2	3.2	3.5
Temperature > 69° F	54.1	54.1	67.5	86.6	98.6	99.8	99.9	100.0	99.9	97.9	86.4	64.6	84.6
Mean Temperature (°F)	69.7	70.0	72.0	74.8	78.1	81.2	83.1	83.4	82.3	79.2	75.1	71.5	76.8
Temperature < 33° F [1]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mean RH (%)	75	75	75	74	77	79	78	78	79	76	74	74	76
Overcast or Obscured [1]	15.4	14.7	14.2	10.5	11.3	13.8	9.0	9.3	13.1	14.1	11.6	13.7	12.5
Mean Cloud Cover (8^{ths})	4.3	4.2	4.1	3.8	3.9	4.3	4.1	4.2	4.5	4.4	4.2	4.2	4.2
Mean SLP (mbs)	1020	1019	1018	1017	1016	1017	1018	1017	1015	1015	1018	1019	1017
Ext. Max. SLP (mbs)	1040	1040	1042	1040	1038	1033	1033	1034	1030	1037	1032	1044	1044
Ext. Min. SLP (mbs)	994	989	994	998	999	999	1003	1000	987	996	993	996	987
Prevailing Wind Direction	E	E	E	E	E	E	E	E	E	NE	E	E	E
Thunder and Lightning [1]	0.5	0.9	1.0	1.4	2.2	3.5	4.4	4.7	4.5	2.6	1.0	0.7	2.4

[1] Percentage Frequency

(423)

Anchorages

(424) Two anchorage areas are north of Miami Lighted Buoy M. (See **33 CFR 110.188**, chapter 2, for limits and regulations.) The anchorages are in close proximity to the three-reef system that runs along the Atlantic Ocean coast of south Florida. Recent vessel groundings have shown there is very little time to respond to a dragging anchor before coming into contact with the inshore reefs. The holding ground in the anchorage consists of shallow sand, mud and coral rubble covering of the limestone substrate. During periods of high winds and seas, vessel anchors may not hold firmly in this ground.

(425) Violent, unpredictable winds in excess of 50 knots can be associated with local heavy thunderstorm activity. The area is also susceptible to large waterspouts. Upon the approach of thunderstorms from any direction or in sustained winds of 25 to 30 knots from north-northeast through south-southeast, all vessels are warned to have main propulsion engines on standby and be prepared to vacate the anchorage. When sustained winds in excess of 30 knots from north-northeast through south-southeast are to be expected, vessels may be ordered from the anchorage and advised to head directly to sea. Although not required, pilotage to the anchorage is available upon request and is strongly recommended for vessel masters who are unfamiliar with the anchorage.

(426)

Dangers

(427) Shoals extend about a mile offshore northward of the entrance, and vessels approaching from the northward should keep at least 1.5 miles offshore until within 4 miles of the entrance and then haul out for the sea buoy. A fish haven with 17 feet over it is about 3.5 miles northeast of Miami Harbor entrance in about 25°48'34"N., 80°05'26"W. The outer reefs, for about 10 miles south of the entrance, are unmarked except for the northerly red sector in Fowey Rocks Light, and vessels approaching from that direction should stay outside this sector until well up before closing the sea buoy.

(428)

Currents

(429) Strong tidal currents run in the entrance between the jetties; the current velocity being about 2 to 4 knots. A northerly wind causes a considerable southerly set across the ends of the jetties. Vessels are advised to favor the southerly side of the entrance channel during southerly winds, as a pronounced northerly set may be experienced.

(430) The Biscayne Bay Pilots report variances between predicted and actual currents. Cross-channel current variations in Government Cut are particularly difficult to negotiate. Caution should be exercised when entering Government Cut from the sea during flood tide with northeasterly winds; a strong turning torque occurs when the bow is just inside the north jetty. A similar but less serious situation occurs when leaving the port during ebb tide. Horizontal current gradients that may make maneuvering difficult occur in the turning basin north of Fisher Island.

(431) See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(432)

Weather, Miami and vicinity

(433) A subtropical marine climate features a long, warm summer with abundant rainfall followed by a mild, dry winter. Winds blow mainly from the east through southeast. This is often a combination of trades reinforced by an afternoon sea breeze. At night, winds may be more variable and lighter and sometimes blow off the land.

From fall through spring, fronts, and sometimes lows, add to the variability but also cause a strengthening of winds. Winds speeds during these seasons climb to 17 knots or more, 2 to 5 percent of the time. Along the coast, winds are often stronger than inland.

(435) The marine influence is also reflected in the precipitation and temperatures. Miami Beach records about 48 inches (1,219 mm) annually compared to nearly 59 inches (1,499 mm) at the airport. June is the wettest month averaging 9 inches (228.6 mm) of rainfall while December is the driest month averaging 1.9 inches (48.3 mm). Snowfall is almost unheard of in Miami but on January 19, 1977, snow did fall. A dusting accumulated as far south as Fort Lauderdale and flakes fell and melted on impact at Miami and as far south as Homestead, 20 miles south of Miami.

(436) The average high temperature at Miami is 83°F (28.3°C) and the average low is 69°F (20.6°C). August is the warmest month with an average high of 90°F (32.2°C) and an average low of 77°F (25°C). January is the coolest month with an average high of 76°F (24.4°C) and an average low of 60°F (15.6°C). The maximum temperature at Miami has never reached 100°F (37.8°C) and the extreme maximum of 98°F (36.7°C) has been recorded on five separate occasions, the last being on August 1, 1990. The coldest temperature on record is 30°F (-1.1°C) recorded on January 22, 1985. Miami has an average of 58 days each year when the temperature climbs above 90°F (32.2°C) and only six days each year when the temperature falls below 45°F (7.2°C).

(437) Visibilities drop to ¼ mile or less (< 0.5 km) on about 7 days each year.

(438) Tropical cyclones are most likely to affect this area during August, September and October although they can occur in any month. Miami lies in the heart of the U.S. hurricane belt, in an area where tropical cyclones are often recurving, slowing and intensifying. Of the 58 tropical cyclones that threatened Miami during the period of 1842–1995, 52 occurred during the months of August, September and October. At this latitude, along with the proximity of the Caribbean Sea and much warmer water, October is the most likely month of occurrence. The predominant direction from which the storm arrives is from the south or southeast. Since 1950, approximately 24 storms have come within 50 nm of Miami. Hurricane Cleo in 1964 and Hurricane Andrew in 1992 are likely the most noteworthy storms to impact Miami. Hurricane Cleo was a very small storm and did little damage. Cleo passed near Miami on August 27, 1964 with maximum winds of 110 miles per hour (49 m/s) and gusts to 135 miles per hour (60 m/s). Hurricane Andrew passed just south of Miami on August 24, 1992. Andrew ravaged Homestead, Florida in the early morning hours with winds in excess of 150 knots on a path that traveled across south Florida in approximately four hours.

(439)

Pilotage, Miami

(440) Pilotage is compulsory for all foreign vessels and U.S. vessels under register in the foreign trade with a draft of 7 feet or more. Pilotage is optional for coastwise vessels that have on board a pilot licensed by the Federal Government.

(441) The Miami area is served by the Biscayne Bay Pilots Association, at the far east end of the Port of Miami on Dodge Island, 2911 Port Blvd., Miami, FL 33132; telephone 305–374–2791 (office), 305–375–9453 (dispatch); fax 305–374–2375; VHF-FM radiotelephone channel 16. All types of vessels are served.

(442) Biscayne Bay Pilots have three boats: MIAMI, 42 feet long; BISCAYNE, 42 feet long; VIZCAYA, 52 feet long; all boats have black hulls with buff superstructures and the word PILOT in black letters on the sides. International Code Flag H is flown by day, and the standard pilot lights are displayed at night. The pilot boats monitor VHF-FM channel 16 and work on channel 12. The pilot boarding and cruising area is close seaward about 3 nautical miles east of Miami Lighted Buoy M (25°46'06"N., 80°05'00"W.). The buoy is equipped with a racon. Unless directed to come closer by the Biscayne Bay Pilots, ships should approach no closer. Pilots will board vessels day or night. Vessels are requested to rig the pilot ladder on the leeward side about 1 meter above the water and maintain a speed of about 6 knots. Swift variable currents, usually east of the sea buoy, may affect boarding procedures. Cargo vessels exceeding 965 feet in length are requested to stay 3 nautical miles eastward of the sea buoy for pilot boarding. All other large deep-draft vessels are requested to stay at least 2 nautical miles eastward of the sea buoy for pilot boarding because of the strength and proximity of the Gulf Stream current.

(443) Pilotage is usually arranged by telephone or fax through ship's agents. Vessels are requested to give a 24-hour advance notice of arrival with confirmation 2 hours before ETA by radiotelephone on VHF-FM channel 12.

(444)

Towage

(445) There are large tugs of up to 5,100 hp available in the port. Salvage, wrecking and diving equipment is available.

(446)

Quarantine, customs, immigration and agricultural quarantine

(447) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(448) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.) There are more than 10 public and private hospitals in Miami and 3 at Miami Beach. Many others are in the surrounding area.

(449) A U.S. quarantine station is at Miami. (See Appendix A for address.)

(450) Miami is a **customs port of entry.**

(451)

Coast Guard

(452) The **district office** is in downtown Miami. (See Appendix A for addresses.) Miami Coast Guard Base and Miami Sector Office are on Causeway Island, 1.2 miles inside the outer end of the entrance north jetty.

(453) **Harbor regulations** are established by the Metropolitan Dade County Seaport Department. The Seaport Director assigns berths and enforces the regulations. It is unlawful for any vessel or other craft to proceed at a speed that will endanger other vessels or structures. Official signs are posted indicating limiting speeds through critical portions of the harbor or waterways.

(454)

Wharves

(455) The Port of Miami has over 30 deepwater berths adjacent to the Miami Harbor Channel; these include the berths at the Port of Miami on Dodge Island and the privately owned facilities on the north side of Fisher Island and just west of Causeway Island.

(456) The facilities at the Port of Miami are owned by the Miami-Dade County Seaport Department. All berths have fresh water available, but electric power and telephone hookups are not provided. Dodge and Lummus Islands are fully merged and should be considered a single facility. Vehicular traffic is served by a six-lane elevated highway bridge over the Intracoastal Waterway. A single track bascule bridge allows Florida East Cost Railway to access warehouses A, B, C and G in the cargo area of the Port. A four-track railway marshaling yard is provided in the cargo area. Fisher Island can only be reached by water transportation (shuttle barges). A total area of approximately 609,000 square feet of covered storage is available in transit sheds A, B, C, D. E and G. Fifty thousand square feet of refrigerated space is available in Shed G; operated by a private company.

(457) The port has ten gantry cranes at the southeastern end of the facility. Three cranes have a 40-ton lift capacity, while the remaining seven gantry cranes can lift 50 tons. Mobile cranes are available through a private operator on the port, and from various contractors in the Miami area.

(458) The depths alongside each facility are reported depths. (Contact the Miami-Dade Seaport Department, Biscayne Bay Pilots Association or private operator for the latest depths). Only the major facilities of the port are described.

(459) **Port of Miami, Passenger Terminal No. 6** (25°46'48"N., 80°10'51"W.): 750-foot face, 36 feet alongside; deck height, 7.5 feet; mooring cruise vessels and harbor tugs; boarding passengers; operated by Miami-Dade County Seaport Department and Moran Towing of Miami, Division of Moran Towing Corp.

(460) **Port of Miami, Passenger Terminals Nos. 1 to 5, and 10 (Bays 1 to 25¾)** (25°46'45"N., 80°10'34"W.): 3,220-foot face; 36 feet alongside; deck height, 7.5 feet; mooring cruise vessels; boarding passengers; operated by Miami-Dade County Seaport Department.

(461) **Port of Miami, Bays 25¾ to 38** (25°46'33"N., 80°10'04"W.): 1,600-foot face; 36 feet alongside; deck height, 7.5 feet; mooring cruise vessels; boarding passengers; operated by Miami-Dade County Seaport Department.

(462) **Port of Miami, Passenger Terminal No. 7, Terminal A.** (25°46'20.66"N., 80°09'27.84"W.): 1,200-foot face; 36 feet alongside; deck height, 7.5 feet; mooring cruise vessels; boarding passengers; operated by MiamiDade County Seaport Department.

(463) **Port of Miami, Passenger Terminals Nos. 8 and 9 (Bays 38 to 45)** (25°46'28"N., 80°09'56"W.): 1,680-foot face; 36 feet alongside; deck height, 7.5 feet; mooring cruise vessels; boarding passengers; operated by Miami-Dade County Seaport Department.

(464) **Port of Miami, Bays 45 to 55** (25°46'24"N., 80°09'46"W.): 1,220-foot face; 31 to 36 feet alongside; deck height, 7.5 feet; 119,000 square feet covered storage; receipt and shipment of conventional and roll-on/roll-off general cargo; shipment of automobiles; operated by Miami-Dade County Seaport Department.

(465) **Port of Miami, Roll-on/Roll-off Berth 55W** (25°46'22"N., 80°09'42"W.): 900-foot face; 31 feet alongside; deck height, 7.5 feet; container storage area in rear; receipt and shipment of conventional and roll-on/roll-off general cargo; operated by Miami-Dade County Seaport Department.

(466) **Port of Miami, Roll-on/Roll-off Berth 59W** (25°46'21"N., 80°09'36"W.): 550-foot face; 35 feet alongside; deck height, 7.5 feet; container storage area in rear; receipt and shipment of conventional and roll-on/roll-off general cargo; operated by Miami-Dade County Seaport Department.

(467) **Port of Miami, Roll-on/Roll-off Berth 65W** (25°46'21"N., 80°09'30"W.): 690-foot face; 35 feet alongside; deck height, 7.5 feet; container storage area in rear; receipt and shipment of conventional and roll-on/roll-off general cargo; operated by Miami-Dade County Seaport Department.

(468) **Port of Miami, Container Terminal, Berths 1 to 5 (Gantry Crane Berths 99 to 130.5)** (25°45'58"N., 80°09'12"W.): 4,377-foot face; 50 feet alongside; deck height, 12 feet; ten traveling container-handling cranes to 50-ton capacity; three 40-ton gantry cranes; paved storage areas to 135 acres with refrigerated cargo containers in rear; receipt and shipment of containerized general cargo; operated by Miami-Dade County Seaport Department.

(469) **Port of Miami, Bays 144 to 148** (25°46'02"N., 80°09'45"W.): 600-foot face; 50 feet alongside; deck height, 7.5 feet; container storage area in rear; receipt and shipment of containerized and roll-on/roll-off general cargo; operated by Miami-Dade County Seaport Department.

(470) **Port of Miami, Roll-on/Roll-off Berth 154** (25°46'08"N., 80°09'53"W.): 670-foot face; 24 feet alongside; deck height, 7.5 feet; 36,000 square feet of

covered storage; receipt and shipment of containerized and roll-on/roll-off general cargo; operated by Miami-Dade County Seaport Department.

(471) **Port of Miami, Roll-on/Roll-off Berth 155** (25°46'10"N., 80°09'58"W.): 550-foot face; 21 feet alongside; deck height, 7.5 feet; container storage area in rear; receipt and shipment of containerized and roll-on/roll-off general cargo; operated by Miami-Dade County Seaport Department.

(472) **Port of Miami, Roll-on/Roll-off Bays 160 to 177** (25°46'16"N., 80°10'18"W.): 1,661-foot face; 23 to 24 feet alongside; deck height, 7.5 feet; container storage area in rear; 73,500 square feet of covered storage; receipt and shipment of containerized and roll-on/roll-off general cargo; mooring harbor tugs; operated by Miami-Dade County Seaport Department and Coastal Tug & Barge, Inc., a subsidiary of The Coastal Corp.

(473) **Port of Miami, Passenger Terminal No. 12 (Bays 183 to 195)** (25°46'26"N., 80°10'34"W.): 1,450-foot face; 23 feet alongside; deck height, 10 feet; receipt and shipment of roll-on/roll-off general cargo; mooring cruise vessels and other floating equipment; boarding passengers; operated by Miami-Dade County Seaport Department.

(474) **Coastal Fuels Marketing, Fisher Island Terminal Dock and Slip** (25°45'50"N., 80°08'31"W.): 800-foot face; 34 feet alongside; deck height, 6 feet; pipelines extend from wharf to storage tanks with 667,190 barrel capacity; receipt and shipment of petroleum products; fueling vessels; mooring company-owned floating equipment; and occasional landing for vehicular and passenger ferry; owned by Coastal Fuels Marketing, Inc., and operated by Coastal Fuels Marketing, Inc., a subsidiary of The Coastal Corp. and Fisher Island Holdings, LLC.

(475) **Supplies** of all kinds in any quantity can be obtained, and all types of marine services are available in Miami. Fresh water is piped to most berths. Fuel oil and diesel oil are available at the oil terminals and by tank barge or truck; most vessels bunker by barge while alongside.

(476)

Repairs

(477) There are no major repair facilities for large vessels in Miami. The nearest major repair facilities are at Jacksonville and Tampa. There are six heavy-lift, traveling, container cranes, lift capacity to 50 tons at Port Everglades, and there are no facilities available for drydocking or hauling-out deep-draft vessels.

(478) Marine repair firms along the Miami River offer a wide range of services, including construction, repair and conversions, to small coastal and inter-island vessels. The largest marine railway is capable of hauling out vessels up to 500 tons; the largest vertical boat lift is capable of hauling out vessels up to 500 tons and 130 feet. The largest shaft machined in the port is 36 feet by 90 inches. Cranes up to 200 tons are available.

(479) Several machine, electrical, electronic and marine engine firms located off the waterfront can make above-the-waterline repairs to vessels berthed at the port.

(480)

Communications

(481) Considerable ocean shipping calls at the port, and a large number of cruise ships operate from the port the year round.

(482) Local and interstate bus and truck lines operate over the excellent highways and freeways to and in the city and numerous domestic and overseas airlines serve the port through the Miami International Airport west of Miami.

(483)

Miami River

(484) **Miami River** trends westward then northwestward through the heart of the city of Miami for about 2.8 miles to the confluence of **South Fork Miami River** and **North Fork Miami River**. North Fork leads northwest for another 0.6 mile to the junction with **Miami Canal**, thence Miami Canal continues northwest for about 1.8 miles to a dam below the NW 36th Street bridge. Miami Canal is reported to be navigable for small boats for about 10 miles above the dam; however, the head of navigation from seaward is at the dam. Tamiami Canal leads westward from Miami Canal to **Sweetwater** in the Everglades. A dam is about 1.2 miles above its junction with Miami Canal.

(485) Miami River and Tamiami Canal are **Regulated Navigation Areas**. (See **33 CFR 165.1** through **165.13**, and **165.726**, chapter 2, for limits and regulations.)

(486) The Coast Guard reports that ships may encounter current anomalies at the mouth of Miami River that have caused occasional groundings. Currents in the river are strong on the ebb and cause swirls at the bends.

(487) The minimum clearance of the 10 drawbridges crossing Miami River and Miami Canal from the mouth to the head of navigation at the dam about 5 miles above the mouth is 6 feet. (See **33 CFR 117.1** through **117.59**, **117.305**, and **117.307**, chapter 2, for drawbridge regulations.) The drawbridges over Miami River from NW 5th Street through NW 22nd Avenue may at times be closed to marine traffic because of special events being held at the Orange Bowl. Advance notice of such closures will be published in the Local Notice to Mariners. The bridgetender monitors VHF-FM channels 13 and 16.

(488) A fixed people-mover bridge with a clearance of 75 feet crosses the river 0.25 mile above the mouth. The Miami Avenue bascule bridge with a clearance of 21 feet crosses the river about 0.3 mile above the mouth. A fixed railroad bridge with a clearance of 75 feet crosses the river 0.4 mile above the mouth. The triple fixed spans of Interstate Route 95 bridge cross the river 0.7 mile above the mouth; the vertical clearance is 75 feet. Another fixed highway bridge, 2.1 miles above the mouth, has a clearance of 75 feet.

(489) A highway bascule bridge with a reported 35-foot span and a clearance of 6 feet crosses the Tamiami Canal just above its junction with Miami River. (See **33 CFR 117.1** through **117.49**, chapter 2, for drawbridge regulations.)

(490) The river and canals are important parts of the Miami waterfront for both commercial and pleasure craft. There are commercial wharves, yacht basins, marine repair plants and oil-terminal wharves on the banks of Miami River and Miami Canal to just above the railroad bridge about 0.2 mile below the dam. The principal wharves can accommodate any vessel able to enter the river.

(491)

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(492) Small-craft facilities are distributed along the east and west shores of Biscayne Bay from above Baker Haulover Inlet to Dinner Key, on Miami River and on Tamiami and Miami Canals. Marine railways, lifts and launching ramps are available. Gasoline, diesel fuel, fresh water, ice, berthing with electricity, marine hardware, provisions and telephone services are available about the harbor. Hull, engine and electronic repairs can be made. There are many large hotels, motels, tourist homes and restaurants. (For details on facilities, channel depths, bridges, etc., between Bakers Haulover Inlet and Miami Harbor Channel, see chapter 12.)

(493) During the winter tourist season, when berthing space is at a premium, many craft have to anchor in the bay off the facilities. There are dockmasters at most of them to advise and assist in finding a secure berth. Many of the large hotels at Miami Beach have their own docks.

(494) The **City of Miami Miamarina** is at the northeast corner of **Bay Front Park**, which extends from the Dodge Island Causeway southward to Miami River and fronts on Biscayne Boulevard. The marina caters to private, commercial and sightseeing vessels. The facility has over 200 slips accommodating craft to 150 feet. Water, electricity, laundromat and telephones are available. U.S. Customs and U.S. Department of Agriculture officials are on call at the dockmaster's office; they also handle immigration and U.S. Public Health Service matters. In 1983, depths of 10 feet were reported in the approach with 9 feet in the basin. The **dockmaster's** office, at the marina, is manned 24 hours a day.