5. CAPE LOOKOUT TO CAPE FEAR

(1) This chapter describes the deepwater ports of Morehead City and Wilmington, and the smaller ports of Beaufort, Swansboro, Jacksonville, Wrightsville Beach, Wrightsville, Carolina Beach, and Southport. These smaller ports are principally engaged in barge, fishing, and small-craft traffic.

(2) Also discussed are the waters of Cape Fear River and its tributaries; Bogue, Stump, and Topsail Sounds; and Beaufort, Bogue, and New River Inlets, including some of the lesser inlets.

(3) The section of the Intracoastal Waterway from Morehead City to Cape Fear River is described in chapter 12.

(4) **COLREGS Demarcation Lines.**–The lines established for this part of the coast are described in **80.525**, chapter 2.

(5) **Weather**.–The southwesterly curve of this coastline often enables it to escape direct hits from both extratropical and tropical cyclones. This sheltering effect is reflected in the mean wind speeds of Wilmington (7.7 knots) and Morehead City (8.2 knots) compared to that of Cape Hatteras (9.9 knots). This coast is also subjected to less cloud and rain than the Outer Banks while its waters are calmer.

(6) From November through March gales blow about 1 to 3 percent of the time in deeper waters. Shoreward of the 100 fathom line, from October through April, maximum winds of 45 to 55 knots have been encountered while seas of 6 feet (2 m) or more occur 30 to 45 percent of the time; maximum seas are in the 20- to 35-foot (6 to 11 m) range. Hurricanes can bring stronger winds and higher waves but usually affect this portion of the coast about once in 15 to 20 years. An exception occurred when Hurricane Bonnie ravaged the coastline from Cape Fear to Cape Lookout in August 1998 with maximum winds of 115 knots and near-record rainfall totals. Hurricanes Bertha and Fran, in 1996, made landfall within miles of each other only six weeks apart. Both ravaged the coastline from the south of Wilmington to Cape Lookout. Bertha made landfall near Surf City, North Carolina, in the late afternoon of July 12th with maximum winds of 90 knots. Then at midnight on September 6th, Fran made landfall near Cape Fear with maximum winds of 100 knots. Both storms created severe wind damage, major flooding, and near-record storm surges for the area. In September 1985, Gloria generated winds estimated at 110 knots and 40-foot (12 m) seas in these waters as it paralleled the coast before making initial landfall over Cape Hatteras.

(7) Fog is most likely during late winter and early spring when warm air occasionally moves across the relatively cool water shoreward of the Gulf Stream. Visibilities drop below 0.5 mile (0.9 km) about 2 to 3 percent of the time. Radiation fog may drift out over the coastal waters from fall through spring when land stations record visibilities below 0.5 mile (0.9 km) on 1 to 4 days per month.

(8) **Chart 11520.**–From Cape Lookout the coast extends 8 miles in a northwesterly direction and then curves gradually westward and southward to Cape Fear. This section, nearly 100 miles long, is similar to that between Capes Hatteras and Lookout, but the strips of land which form it are separated from the mainland by much narrower bodies of water. As a consequence, the thick woods of the mainland can be seen from much farther seaward. The beach areas from Beaufort Inlet to Bogue Inlet and from New River Inlet to Cape Fear are undergoing rapid development. Many multistoried buildings can be seen in these areas.

(9) Depths along this stretch of coast are regular, and 4 to 6 fathoms can be taken to within 1.5 miles of the beach. The 10-fathom curve, about 10 miles offshore, is nearly parallel to the shore until eastward of Cape Fear where it bends southeastward around Frying Pan Shoals. The 20-fathom curve is from 20 to 45 miles offshore.

(10) There are numerous charted wrecks along this section of the coast, some extending as much as 75 miles offshore; the more dangerous ones are marked.

(11) A **danger zone,** near the northern end of Onslow Bay, extends offshore from Bear Inlet to about 8 miles southward of New River Inlet. (See **334.440**, chapter 2, for limits and regulations.)

(12) Between Beaufort Inlet and Cape Fear River are several inlets through which 4 to 10 feet can be carried to sheltered anchorage, but all are obstructed by shifting bars on which the sea breaks when at all rough. A sea breeze, even if light, will cause a heavy break on the bars, while a land breeze may be heavy without making the bars dangerous. Strangers bound southward in small craft should not leave a sheltered anchorage with the wind anywhere between southeast and southwest, and should find anchorage as soon as possible after the wind begins to blow from those directions. The best guide for entering or leaving the inlets is the appearance of the water, as breakers always form on the shoal areas; strangers should not attempt to enter an inlet when breakers form entirely across it.

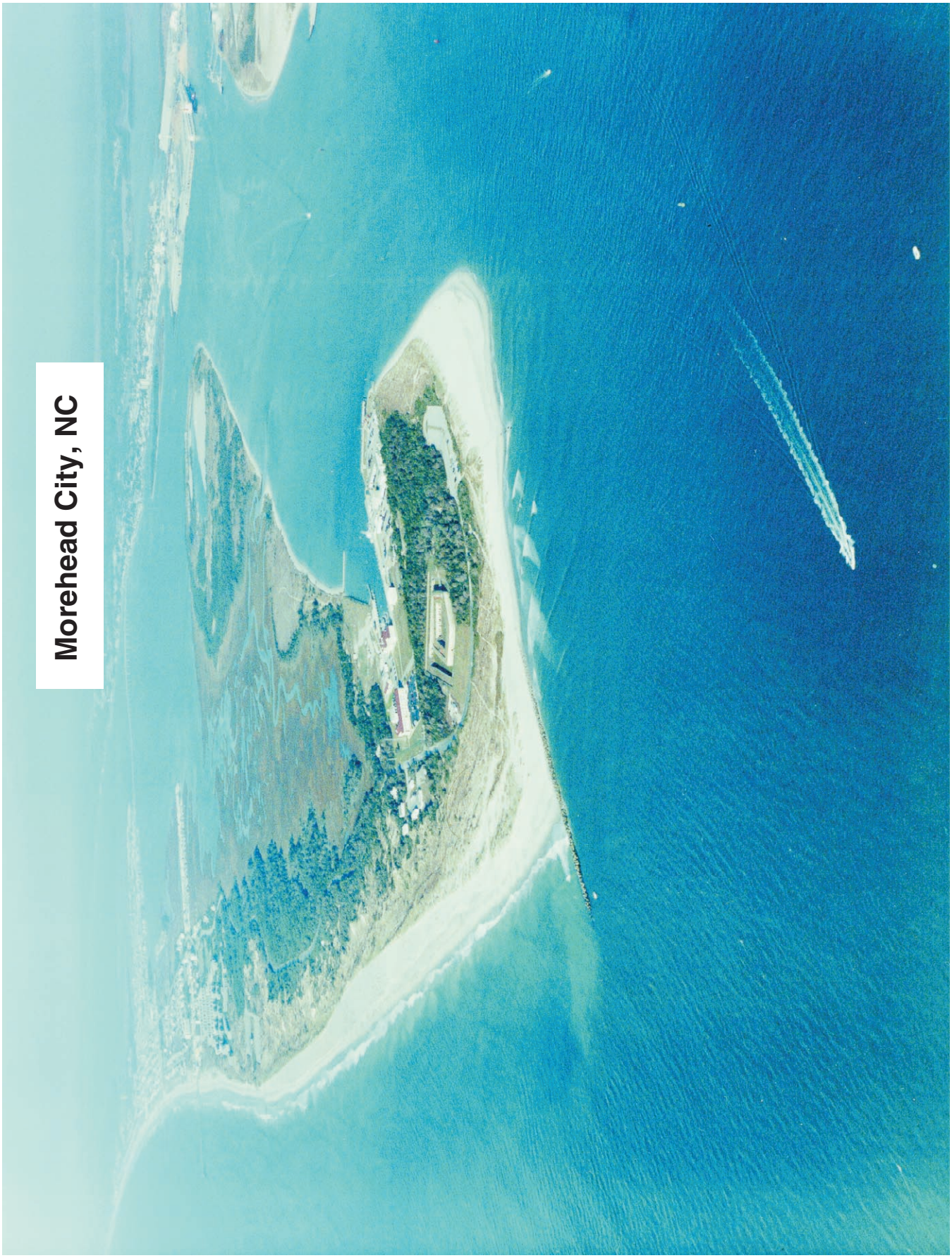
(13) This section of the coast, due to its low relief, presents no good radar targets except for the structure of Frying Pan Shoals Light.

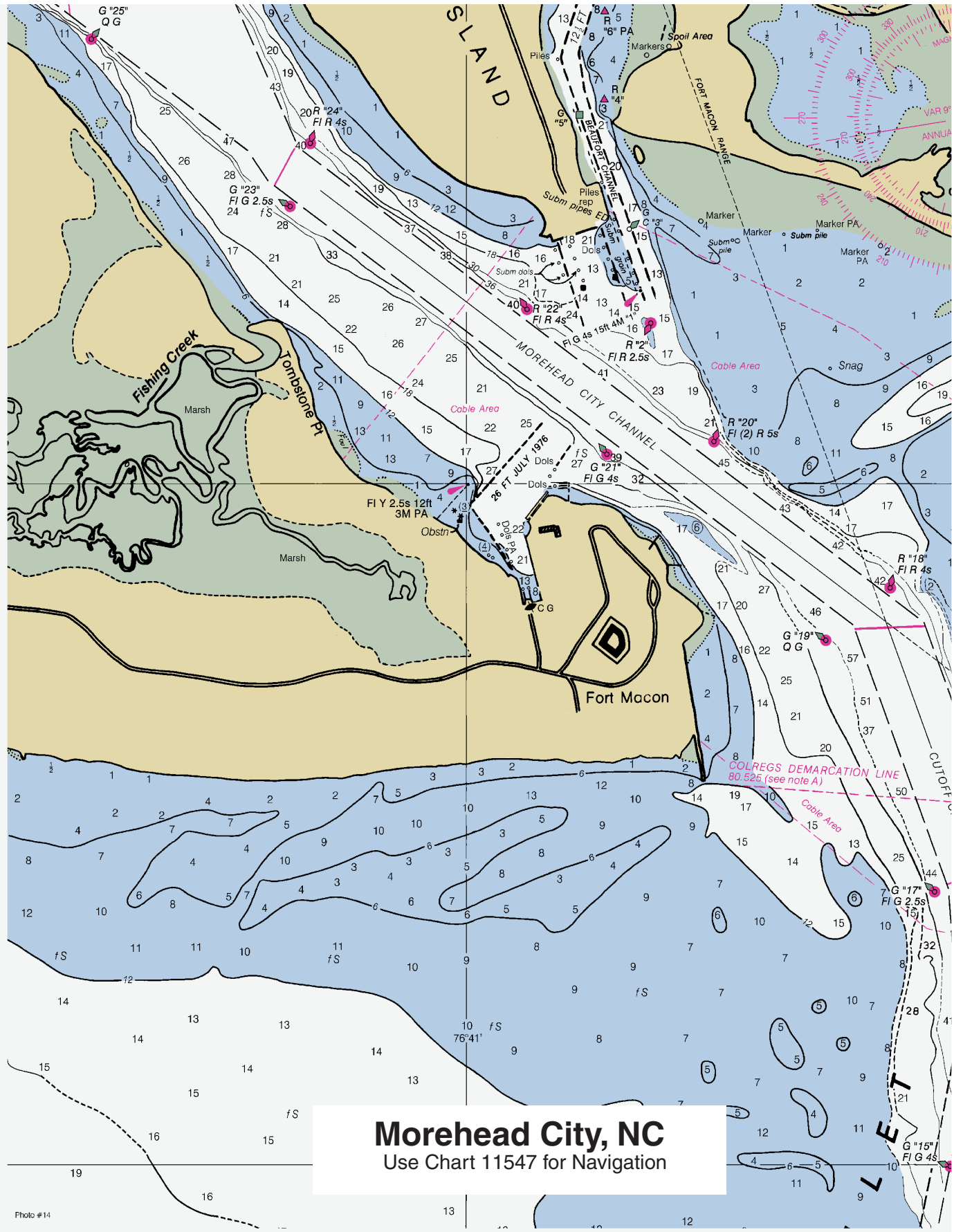
(14) **Charts 11545, 11547.–Beaufort Inlet** is about 220 miles southwestward of the Chesapeake Bay entrance and the same distance northeastward of Charleston. It is the approach to **Morehead City Harbor,** the most important coastal harbor between Cape Henry and the Cape Fear River. The ports of Morehead City and Beaufort are on the west and east sides of the harbor, respectively.

(15) **Morehead City,** about 4 miles above the Beaufort Inlet channel entrance, is a modern resort city, with marine, shopping, and service facilities, and hotels, motels, and restaurants. It is 249 miles south of Norfolk, Va., and 154 miles north of Wilmington, N.C., by coastwise routes.

(16) The port of Morehead City, the first deep-draft port south of Norfolk, Va., serves as a cargo transshipment point for ocean-going vessels, barges plying the Intracoastal Waterway, rail, and trucks. Exports include general cargo, phosphates, tobacco, pulpwood, logs, asphalt, salt, urea, potash, fishmeal, animal feed, and fertilizers. Imports are petroleum products (including fuel oils and asphalts), fishmeal, chemicals, rubber, fertilizers, and lumber.

(17) **Prominent features.**–The phosphate building and the tallest water tank at the State Ports Authority Terminal, Highway 70 bridge over the Newport River, and water tanks at Beaufort, Atlantic Beach, and on Harkers Island are the most conspicuous landmarks from seaward. It is reported that under ideal conditions Cape Lookout Light and the configuration of Cape Lookout prove of some value as radar targets in making the approach to Beaufort Inlet; these targets, however, should not be relied upon too strongly.


Morehead City, NC


Morehead City, NC
Use Chart 11547 for Navigation
Fort Macon
Fishing Creek
Tombstone Pt
Marsh
Marsh
MOREHEAD CITY CHANNEL
BEAUFORT CHANNEL
FORT MACON RANGE
Spoil Area
Cable Area
Cable Area
Cable Area
Snag
Marker
Marker PA
Subm pile
Piles
Markers
Subm pipes
Subm dols
Dols
26 FT JULY 1976
Obstn
COLREGS DEMARCATION LINE
80.525 (see note A)
G "25"
Q G
R "24"
Fl R 4s
G "23"
Fl G 2.5s
f S
R "22"
Fl R 4s
R "2"
Fl R 2.5s
R "20"
Fl (2) R 5s
G "21"
Fl G 4s
Fl Y 2.5s 12ft
3M PA
C G
R "18"
Fl R 4s
G "19"
Q G
G "17"
Fl G 2.5s
G "15"
Fl G 4s
R "6" PA
R "4"
G "5"
G "3"
76°41'
Photo #14

(18) **Fort Macon State Park** is on the west side of Beaufort Inlet. The Fort Macon Coast Guard Base is close westward of the fort on **Fort Macon Creek.**

(19) **COLREGS Demarcation Lines.**–The lines established for Beaufort Inlet are described in **80.525**, chapter 2.

(20) **Channels.–**A Federal project provides for a channel 47 feet deep over the ocean bar at Beaufort Inlet, thence 42 feet to a turning basin off the North Carolina State Ports Authority Terminal at Morehead City with 40 feet in the turning basin's east leg and 35 feet in the west leg; thence a 12-foot channel and turning basin westward along the Morehead City waterfront as far as Tenth Street; thence a 6-foot channel to the Intracoastal Waterway in Bogue Sound. The entrance and main channels and all of Beaufort Inlet are subject to continual change. Lighted ranges and lighted buoys mark the main channel. Lights, buoys, and daybeacons mark the minor channels. (See Notice to Mariners and latest editions of the charts for controlling depths.)

(21) **Anchorage.–**Vessels required to anchor to await a pilot are advised to select an anchorage on a line east of the position 34°38'25"N., 76°39'26"W. Good anchorage for large vessels also may be found in the area from the sea buoy eastward to Cape Lookout in good sand-shell holding bottom. All of the anchorages are exposed from the southwest quadrant.

(22) **Dangers.–**Cape Lookout Shoals, previously described in chapter 4, are the principal danger in the approach to Beaufort Inlet. Discontinued spoil areas are on both sides of the approach to the entrance channel, and a spoil area is immediately northward of the one on the west side. Lesser depths than charted may exist in these areas; caution is advised. A number of wrecks, some of which are marked, are in the approaches. A fish haven is about 3.8 miles west-northwestward of the sea buoy.

(23) **Tides.–**The mean range of tide at Morehead City is 3.1 feet. (See the Tide Tables for daily predictions.)

(24) **Currents.–**Tidal currents along Beaufort Inlet Channel attain velocities of up to about 2 knots. They usually set along the channels, but, at the entrance to Morehead City Channel, they usually set across the channel near the end of the flood period and beginning of the next ebb.

(25) Heavy swells build up in Beaufort Inlet Channel with northerly or southerly winds, making boating hazardous and entry or departure of ships difficult during unfavorable tidal conditions. Tidal conditions are hazardous near and under the causeway north of the State Ports Authority Terminal. It was reported in July 1983, that the current will attain a velocity of 4 to 5 knots off the southwest corner of the State Ports Authority Terminal, and whirlpools will develop off the southeast corner at maximum tides. (See the Tidal Current Tables for predictions.)

(26) **Weather, Cherry Point/Morehead City and vicinity**. The marine influence at Cherry Point/Morehead City is reflected by the average number of days the temperature reaches 90°F (32.2°C) (35 days) and falls to 32°F (0°C) or below (40 days). In midsummer, average highs reach the upper 80's (30.1° to 32.2°C) with nighttime lows about 10° to 15°F (5.6° to 8.4°C) cooler. Winters are mild as maximum temperatures usually climb to the mid 50's (12.2° to 13.3°C) with nighttime readings in the mid 30's (1.1° to 2.2°C). July is the warmest month with an average high of 88°F (31.1°C) and an average low of 72°F (22.2°C). January is the coolest month with an average high of 55°F (12.8°C) and an average low of 36°F (2.2°C). The warmest temperature on record is 104°F (40°C) recorded in June 1993 while the lowest temperature on record is -2°F (-18.9°C) recorded in January 1985. Each month, May through September, has recorded temperatures of 100°F (37.8°C) while each month, October through April, has had temperatures below freezing. The average number of days with a maximum temperature of 90°F (32.2°C) or greater is 35, while the average number of days with a minimum temperature of 32°F (0°C) or cooler is 40.

(27) More than one-third of the average 55 inches (1,397 mm) of rain falls during July, August and September, often as heavy, brief showers or thunderstorms. Measurable precipitation falls on 4 to 7 days per month on the average. July is the wettest month averaging 7.37 inches (187.2 mm) while April is the driest month averaging 2.68 inches (68.1 mm) of rainfall. Over 9 inches (228.6 mm) of precipitation fell during one 24-hour period in September 1946.

(28) Snowfall averages only 2.5 inches (63.5 mm) each year and has fallen in each month, November through April. The greatest 24-hour snowfall was 16 inches (406.4 mm) which occurred in March 1980.

(29) Visibilities are usually good although a steady southerly blow can produce haze and mist.

(30) The southerly exposure of Cherry Point/Morehead City, with only a slender, low barrier island as protection, makes it vulnerable to the destructive winds and tides of hurricanes. An average of 1.2 tropical cyclones annually, have passed within 150 miles (278 km) of Morehead City during the past 153 years (1842-1995). Most approach from the southwest or south. The principal threat of destructive winds and exceptionally high tides comes from tropical cyclones that originate in the tropical North Atlantic during August and September; particularly those that recurve northward so that the last 300 miles (556 km) or more of their approach lies over water and, which subsequently strike or pass close to the port. They also pose an additional threat of destructive tidal currents if they accelerate to forward speeds of 20 knots or more, after recurving, and make landfall within 100 miles (185 km) west of the port. The strongest recorded winds at Morehead City were 77 knots with gusts to 112 knots during Helene in September 1958. This was probably exceeded during Ione in September 1955 but no record was made; sustained winds were estimated at 82 knots with gusts to 93 knots.

(31) The exposure to the destructive winds and tides of many recurving tropical cyclones makes Morehead City unsuitable as a hurricane haven for both small craft and large ocean-going vessels. There are no sheltered berths or hurricane anchorages for deep-draft vessels. These ships should evade at sea if hurricane force winds (64 knots or more) are expected. Vessels with a large sail area should evade if winds of 48 knots or more are expected. Small recreational craft should, if possible, be removed from the water and firmly secured in a sheltered location ashore when a "Hurricane Watch" is issued. Bearing in mind that bridges will remain closed to waterborne traffic during a hurricane threat, larger shallow draft vessels should secure in those creeks and waterways farther inland, which offer the shelter of surrounding woodland.

(32) Peletier and Spooners Creeks off the Intracoastal Waterway in Bogue Sound are bounded by good piling, and the nearby woodland offers some protection from destructive winds. Damage is more likely, this close to the open ocean, from a storm surge, which may be associated with seas over-topping Bogue Banks in the case of a near strike by a hurricane. Furthermore, recent development along Bogue Banks presents the strong possibility that approaches to these creeks, via the Intracoastal Waterway, will be

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blocked with debris from mobile home parks and other structures on the dunes, for a considerable period after a hurricane strike. For these reasons, many craft, including fishing vessels, prefer to secure to trees long the Adams Creek Canal section of the Intracoastal Waterway just south of the Core Creek swing bridge. More detailed information may be found in the **Hurricane Havens Handbook for the North Atlantic Ocean** as mentioned in Chapter 3.

(33) **Pilotage, Morehead City.**–Pilotage is compulsory for all foreign vessels and U.S. vessels under register in the foreign trade. Pilotage is optional for U.S. coastwise vessels which have on board a pilot licensed by the Federal Government.

(34) Pilotage is available from Morehead City Pilots Association, Inc., Maritime Building, 113 Arendell Street, Morehead City, NC 28557, telephone 919-726-4068, fax 919-726-9044, radiotelephone VHF-FM channels 14 and 16.

(35) The pilot boat is 44 feet long, and has a black hull with a white top and the word PILOT displayed on the sides of the house. At night, the pilot boat displays a white light over a red light. The pilot boat monitors VHF-FM channels 13, 14, and 16, and works channel 14. Pilots board vessels in the vicinity of Beaufort Inlet Lighted Whistle Buoy BM (34°34.8'N., 76°41.5'W.) and east of Beaufort Inlet Channel in position 34°38.4'N., 76°39.4'W. from the pilot boat, day or night. Vessels should maintain a speed of about 5 knots and provide a pilot ladder 1 meter above the water. Deeper draft vessels may be required to anchor east of Beaufort Inlet Channel east of the previously mentioned pilot boarding position, or east of channel Buoy 6, and wait on tides before entering. (See anchorage.)

(36) Arrangements for pilot services are usually made well in advance through ship's agents or direct to the pilot office. Vessels are requested to give a 2-hour advance notice before ETA.

(37) **Towage.**–Tugs up to 4,000 hp are available; tugs are required for docking oceangoing vessels. Arrangements for such services are usually made well in advance through ships' agents.

(38) **Quarantine, customs, immigration, and agricultural quarantine.**–(See chapter 3, Vessel Arrival Inspections, and appendix for addresses.)

(39) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.) There is a county hospital in Morehead City.

(40) Beaufort-Morehead City is a **customs port of entry.**

(41) **Harbor regulations.**–The port of Morehead City is administered by the North Carolina State Ports Authority, which is represented by the manager of the North Carolina State Ports Authority Terminal. The manager's office is at the terminal. There are no formal harbor regulations.

(42) **Wharves.**–The facilities described at the port of Morehead City include the North Carolina State Ports Authority Terminal and a privately operated oil terminal on the east side of the basin on Radio Island.

(43) The alongside depths for the facilities described are reported depths. (For information on the latest depths, contact the State Ports Authority or the private operator.) Unless otherwise indicated, the facilities mentioned are owned and/or operated by the State Ports Authority.

(44) Most of the other facilities in the port are used by fishing vessels and small craft. For a complete description of the port facilities, refer to Port Series No. 12, published and sold by the U.S. Army Corps of Engineers. (See appendix for address.)

(45) **Facility on Radio Island:**

(46) **Aviation Fuel Terminals Tanker Wharf** (34°42'53"N., 76°41'29"W.): on west of Radio Island; 100-foot face, 650 feet with dolphins; 34 feet alongside; deck height, 12 feet; handles petroleum products, sulfur, and liquid fertilizer.

(47) **Facilities on north side of Bogue Sound**:

(48) **North Carolina State Ports Authority Berth No. 1** (34°43'06"N., 76°41'44"W.): 350-foot south face, 80-foot east face; 36 feet alongside; deck height, 10 feet, 2 feet at ramps at west end of south face.

(49) **North Carolina State Ports Authority, Berths Nos. 2 and 3**, adjoining Berth No. 1 to the southwest; 1,000-foot face; 40 feet alongside; deck height, 10 feet; shiploader with overhead clearance of 45 feet; belt-conveyor system, loading rate 3,000 tons per hour; handles phosphoric acid and dry bulk materials including phosphate; operated by North Carolina State Ports Authority and Morehead City Exports Terminals.

(50) **North Carolina State Ports Authority Berths Nos. 4 and 5**: adjoining Berths Nos. 2 and 3 to the west; 1,281-foot face; 35 feet alongside; deck height, 10 feet; mobile cranes to 30 tons; handle general cargo, asphalt, salt, and fishmeal; various operators.

(51) **North Carolina State Ports Authority Berths Nos. 6 and 7**: adjoining Berths Nos. 4 and 5 to westward; 1,090-foot face; 35 feet alongside; deck height, 10 feet; two traveling 115-ton gantry cranes; use of mobile equipment from Berths Nos. 4 and 5; handles general cargo and dry bulk materials including lumber, steel, paper products, machinery, potash, urea, fishmeal, and heavy lift items; various operators.

(52) **North Carolina State Ports Authority Berths Nos. 8 and 9**: adjoining Berths Nos. 6 and 7 to the northward; 1,350-foot face with 100-foot roll-on/roll-off ramp at north end; 35 feet alongside; deck height, 10 feet, 8 feet at roll-on/roll-off ramp; use of gantry cranes from Berths Nos. 6 and 7 and mobile equipment from Berths Nos. 4 and 5; handles general, heavy-lift, containerized, and roll-on/roll-off cargo.

(53) A Navy staging area and three LST loading ramps are at the southern end of Radio Island. Three rows of mooring dolphins separate the loading ramps. A submerged groin extends southward along the easterly side of the easterly row of dolphins.

(54) **Supplies.**–Bunker C fuel oil is available at North Carolina State Ports Authority Berth No. 1. Diesel fuel is obtained by truck. Marine supplies and provisions are available in Morehead City.

(55) **Repairs.**–There are no drydocking or major repair facilities for deep-draft vessels in the port; the nearest facilities are at Newport News and Norfolk, Va. Several machine shops, off the waterfront, can make limited above-the-waterline repairs. The largest of these shops is equipped to perform general welding and fabricating, and produce shafts up to 20 feet in length.

(56) A boatyard about 0.55 mile west of North Carolina State Ports Authority Berths Nos. 8 and 9 has a 300-ton vertical lift. A 10-ton crane is at the yard. Hull and engine repairs can be made to small vessels.

(57) **Small-craft facilities.**–Most of the small-craft facilities are along the southern waterfront of Morehead City. A yacht basin is on the north side of the city, off the northwest side of the North Carolina State Ports Authority Terminal. Other small-craft facilities are at nearby Beaufort and Radio Island, and westward of the city along the Intracoastal Waterway.

(58) (See the small-craft facilities tabulation on chart 11541 for services and supplies available.) Restaurants and living accommodations are along the Morehead City waterfront.

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(59) **Communications.–**The port is served by U.S. Route 70 and State Route 24. The city is linked to the Southern Railway System through the Atlantic and East Carolina Railway. The 3-mile Beaufort and Morehead Railroad connects the city with nearby Beaufort.

(60) **Beaufort** (pronounced BO-furt), on the eastern side of Morehead City Harbor, has considerable fishing and boatbuilding activity. It is reached from Beaufort Inlet through Beaufort Channel and from the Intracoastal Waterway through Gallants Channel. The Taylor Creek Channel is described in chapter 4.

(61) A Federal project provides for channel depths of 15 feet in **Beaufort Channel,** 12 feet in **Gallants Channel** from the Intracoastal Waterway to the first turn just north of Town Creek, thence 15 feet in the lower part of the channel to the junction with Beaufort Channel, and thence 15 feet from the junction through a 12-foot basin in front of the town of Beaufort, and thence through Taylor Creek to a point 0.2 mile westward to Lenoxville Point. The channels are subject to shoaling between dredging, and lesser depths may be found. (See Notice to Mariners and latest editions of charts for controlling depths.) The channels are well marked by lights, buoys, and daybeacons. A submerged groin extends southward between the westerly edges of Beaufort Channel and the easterly row of dolphins at the southeastern end of Radio Island.

(62) A dredged channel leads eastward from Gallants Channel to a basin at the head of **Town Creek,** north of Beaufort. In June 1996, the midchannel controlling depth to the basin was 3 feet; thence in 1966, 10 feet in the basin.

(63) Beaufort is connected by a highway bridge across Gallants Channel to **Radio Island** and thence to Morehead City by bridges over the Intracoastal Waterway. Minimum clearance is 4 feet for the bridges with bascule spans over Gallants Channel. (See **117.1 through 117.49 and 117.822**, chapter 2, for drawbridge regulations.) An overhead power cable close northward of the highway bridge has a clearance of 87 feet. The bridges over the Intracoastal Waterway are described in chapter 12.

(64) **Small-craft facilities.–**Most of the facilities are along the southwest waterfront of Beaufort. There are also facilities near the northern end of Radio Island. (See the small-craft facilities tabulation on chart 11541 for services and supplies available.) Machine shops in Beaufort can make engine repairs.

(65) **Charts 11543, 11541.–Bogue Sound** extends about 22 miles westward along the coast from Beaufort Inlet to Bogue Inlet. It is shallow and separated from the ocean by **Bogue Banks,** a wooded beach 0.1 to 1 mile wide. The sound is about 2 miles wide midway of its length, but narrow at each end; the western end has numerous marshy islets. The Intracoastal Waterway route is through the north side of the sound. The mean range of tide in Bogue Sound is about 2.5 feet near the inlets, and about a foot where the tides meet near the middle. Strong south and southwest winds may raise the tide a foot or more, and north to northwest winds lower it the same amount.

(66) **Bogue Inlet,** 22 miles west of Beaufort Inlet, is the seaward approach to the town of Swansboro, which can be seen from outside. The entrance is used almost exclusively by local fishermen. The inlet is between a high wooded ridge on the west and a long low spit on the east. On the inside of the spit, about a mile eastward of the inlet, is **Swansboro Coast Guard Station.** The entrance to the inlet, obstructed by a shifting bar extending about 0.5 mile seaward, is subject to frequent change. The channel is marked by uncharted lighted and unlighted buoys which are frequently shifted to mark the best water. Strangers should wait for a rising tide and never attempt to enter when the bar is breaking. If local fishermen happen to be coming in, it is advisable to follow them. The channels inside the inlet are also subject to considerable change, particularly during southeast and southwest storms.

(67) The mean range of tide is 2.2 feet in the inlet; high water occurs 2 hours earlier than at the head of the marshes inside. (See the Tide Tables for daily predictions.)

(68) A fish haven, covered 15 feet, is about 4 miles southeastward of Bogue Inlet in about 34°36'42"N., 77°02'18"W.

(69) **Swansboro,** a small town on the west bank of White Oak River 3 miles north of Bogue Inlet, is reached by the shifting channel from the inlet, and from Bogue Sound and Cape Fear River through the Intracoastal Waterway. Numerous fishermen base at Swansboro. State Route 24 highway bridge over White Oak River at the town has a 30-foot fixed span with a clearance of 12 feet. The highway bridge over the easterly channel, about 0.3 mile southeastward, has a 30-foot fixed span with a clearance of 6 feet. Swansboro is described in more detail in connection with the Intracoastal Waterway, chapter 12.

(70) For 4 miles above Swansboro, **White Oak River** has a width of 1 mile or more through which there is a narrow tortuous channel between the flats and oyster rocks. Farther up, the river is narrow and deep and leads between marshes to the fixed bridge at the town of **Stella,** about 8 miles above Swansboro. The river above State Route 24 highway bridge is unmarked and has many logs and snags; navigation is limited to shallow-draft skiffs only.

(71) **Bear Inlet** and **Browns Inlet,** 3 and 6 miles westward of Bogue Inlet, respectively, are unmarked and used by local boats only; neither is recommended to strangers.

(72) The **danger zones** of firing ranges are in the ocean between Bear Inlet and New River Inlet and in New River. (See **334.440**, chapter 2, for limits and regulations.)

(73) **Chart 11542.–New River Inlet,** 35 miles westward of Beaufort Inlet, is considered dangerous by local pilots, and entrance should not be attempted except under the most favorable conditions. A strong ebb current from the inlet causes a break on the bar when there is a sea outside. The break is especially bad when the ebb sets against a south or southeast wind. The mean range of tide at the inlet is 3 feet. At the head of the marshes, 2 miles above the entrance, the range is about 1 foot. (See Tide Tables for daily predictions.)

(74) The bar channel is subject to continual change and local knowledge is advised. The inlet is marked at the entrance by a lighted whistle buoy; other buoys marking the bar channel are not charted because they are frequently shifted in position. An unmarked fish haven is about 1.9 miles southwestward of the southern entrance point to New River Inlet.

(75) **New River** has a width of 1 to 2 miles from the head of the marshes above the inlet to within 2 miles of Jacksonville, above which it is a narrow stream. There is practically no periodic tide in the river. It has been reported, however, that the wind can vary the height of the water 3 to 4 feet at the State Route 172 highway bridge, 3 miles above the Intracoastal Waterway.

(76) A dredged channel in New River leads from the Intracoastal Waterway to a point about 0.65 mile below U.S. Route 17 highway bridge at Jacksonville. In February 2002, the midchannel controlling depth was 2.8 feet to Light 17, thence 8.1 feet to Light 23; thence 5 feet at midchannel in 1993-January

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2001. In 1982, shoaling to 3 feet was reported in the eastern half of the channel between Light 27 and Daybeacon 28. The channel is well marked by lights and daybeacons. Spoil areas, some discontinued, extend close along the easterly side of the channel for almost its entire length. In 1980, depths of 2 to 6 feet could be carried to Jacksonville with local knowledge.

(77) **Fulcher Landing,** used mainly by fishermen, is on the west side of New River about 1.5 miles above the Intracoastal Waterway. There are numerous piers at seafood-packing houses at the landing where gasoline, diesel fuel, water, electricity, and marine supplies may be obtained. Cabins and a restaurant are nearby. Two marine railways here can haul out boats up to 50 feet for engine and hull repairs.

(78) State Route 172 highway bridge over New River, 3 miles above the Intracoastal Waterway, has a fixed span with a clearance of 65 feet.

(79) A small-craft facility is just below the bridge on the south side of the river; berths, gasoline, water, and limited marine supplies are available. In July 1983, depths of 3 feet were reported alongside the facility. A marine railway that can handle craft up to 60 feet long is 0.25 mile below the bridge on the south side of the river. In July 1983, depths of 5 feet were reported available to the railway.

(80) **Jacksonville,** on the east bank of New River about 17 miles above the Intracoastal Waterway, is a city with a county hospital. Limited amounts of marine supplies are available here. Pulpwood is shipped by rail and also by barge down the Intracoastal Waterway.

(81) There are several barge docks and a marina on the east side of the river at Jacksonville. Berthage, electricity, gasoline, diesel fuel, water, ice, marine supplies, and a launching ramp are available at the marina. A trailer can haul out craft to 28 feet for hull and engine repairs.

(82) Jacksonville has highway connections with U.S. Route 17 and State Routes 24, 53, and 258.

(83) U.S. Route 17 highway bridge over New River at Jacksonville has a 33-foot fixed span with a clearance of 10 feet. An overhead power cable with a clearance of 18 feet is just south of the U.S. Route 17 bridge. Above the U.S. Route 17 bridge, the overhead power cables have a minimum clearance of 20 feet. A highway bridge, about 200 yards below U.S. Route 17 highway bridge, has a 40-foot fixed span with a clearance of 15 feet. In February 1998, a fixed highway bridge with a designed clearance of 46 feet was under construction across New River at the southern entrance to **Wilson Bay**, about 1.5 miles below the U.S. Route 17 highway bridge.

(84) **Chaney Creek** extends eastward about 300 yards north of the U.S. Route 17 bridge. A privately marked channel leads to a marina about 0.7 mile above the mouth. Depths of 1 to 3 feet can be carried to the fixed bridges just above the marina. The fixed spans have minimum clearances of 8 feet horizontal and 6 feet vertical. The marina has berths with electricity, gasoline, water, ice, and marine supplies; hull and engine repairs can be made.

(85) **Charts 11539, 11541.–New Topsail Inlet,** 19 miles southwestward of New River Inlet, is entered through a marked channel over a shifting bar. The bar channel leads to a junction with two dredged channels inside the entrance. The buoys marking the bar channel are frequently shifted in position to mark the best water, and therefore not charted; caution is advised. The inlet should not be entered by strangers. A southwesterly or northwesterly storm totally changes the configuration of the inlet. Information on existing conditions can be had by contacting the **Wrightsville Beach Coast Guard Station**. The mean range of tide is 3 feet.

(86) An unmarked fish haven is about 2.2 miles eastward of the northern entrance point to New Topsail Inlet.

(87) The dredged channels inside the entrance are well marked. One channel leads northeastward through Topsail Sound for about 5.5 miles to a junction with the Intracoastal Waterway; in 1977, the midchannel controlling depth was 3 feet. **Howards Channel** leads northwestward for about 1.1 miles to a junction with the Intracoastal Waterway; in February 1999, the controlling depth was 7 feet. Both channels are subject to continual change, and local knowledge is advised.

(88) **Topsail Sound** extends northeastward from New Topsail Inlet along the northwesterly side of the barrier beach. There are several marinas on the southeasterly side of the sound where berthage, electricity, gasoline, water, ice, and limited amounts of marine supplies can be obtained; launching ramps also are available.

(89) **Little (Old) Topsail Inlet,** 1.5 miles southwestward of New Topsail Inlet, is constantly changing and was reported closed in July 1983. The shore on both sides is a low sand beach without distinguishing marks.

(90) **Rich Inlet,** about 4.5 miles southwestward of New Topsail Inlet, is constantly changing and was reported closed in July 1983.

(91) An unmarked fish haven is about 2.7 miles southward of the southern entrance point to Rich Inlet.

(92) **Mason Inlet** is 8.5 miles southwestward of New Topsail Inlet. The inlet is constantly changing and was reported closed in July 1983.

(93) **Wrightsville Beach** is a summer resort about 11.5 miles southwestward of New Topsail Inlet. Two tanks and many multistoried buildings on the beach and on Harbor Island are prominent from seaward. The facilities on the inside of the barrier beach are reached through Masonboro Inlet.

(94) **Wrightsville Beach Coast Guard Station** is at the southern end of Wrightsville Beach at Masonboro Inlet.

(95) **Masonboro Inlet,** about 12.5 miles southwestward of New Topsail Inlet and 22.3 miles north-northeastward of Cape Fear, is protected by jetties. A lighted whistle buoy is off the entrance.

(96) A channel leads between the jetties at Masonboro Inlet, thence northward through dredged **Banks Channel** and **Motts Channel** to a junction with the Intracoastal Waterway at Wrightsville. The buoys marking the bar channel are frequently shifted to mark the best water, and therefore not charted; caution and local knowledge are advised. Banks and Motts Channels are well marked by lights and daybeacons.

(97) Strong tide rips form on the ebb current. The mean range of tide on the bar is 3.8 feet. (See Tide Tables for daily predictions.)

(98) The municipal dock at Wrightsville Beach, just southward of U.S. Route 74-76 highway bridge, is 120 feet long with a reported depth of 4 feet alongside; water and electricity are available. Charter fishing boats use the wharf. There is bus service between Wrightsville Beach, Wrightsville, and Wilmington.

(99) Several small-craft facilities are on the north side of Motts Channel between Wrightsville Beach and **Wrightsville.** (See the

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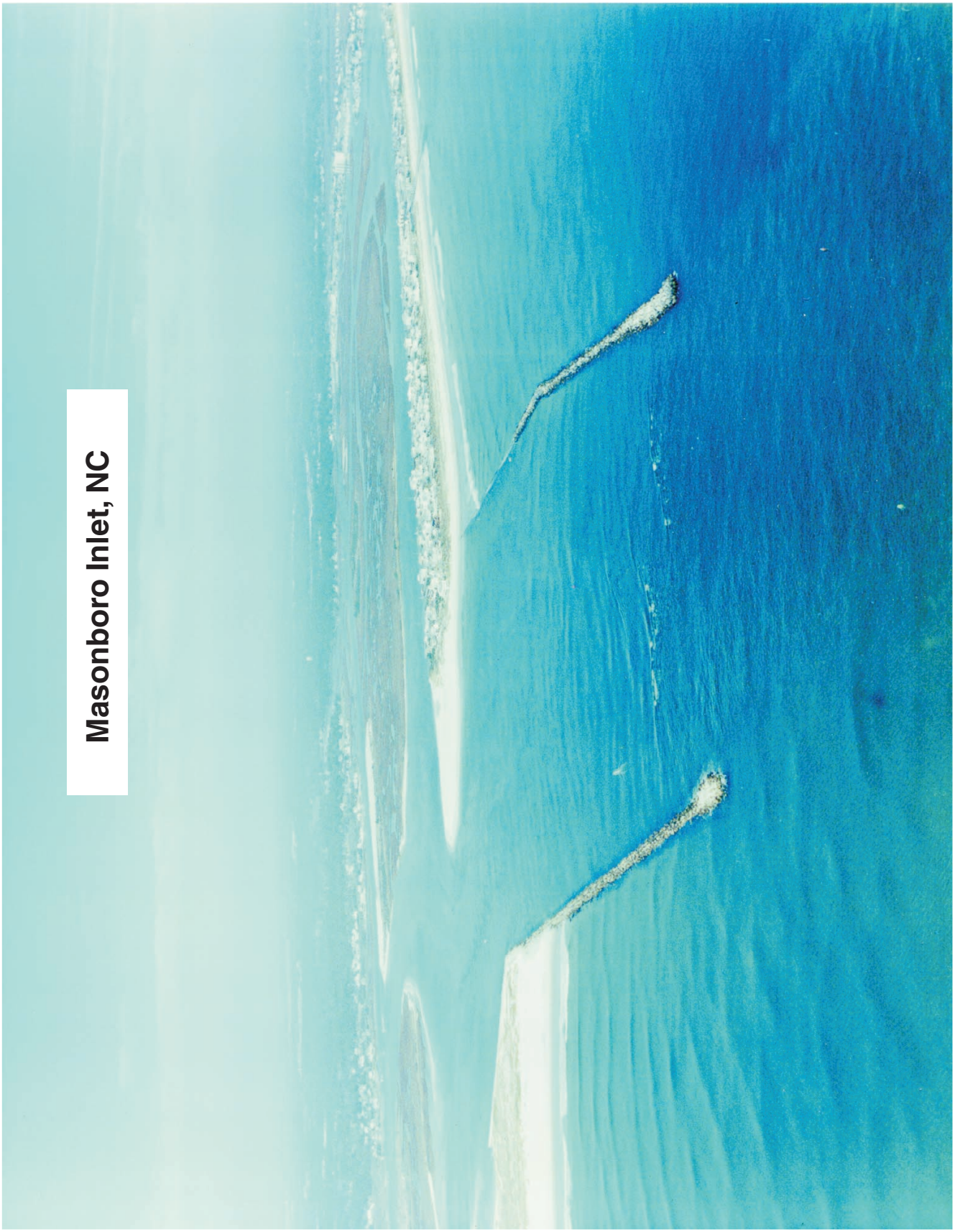
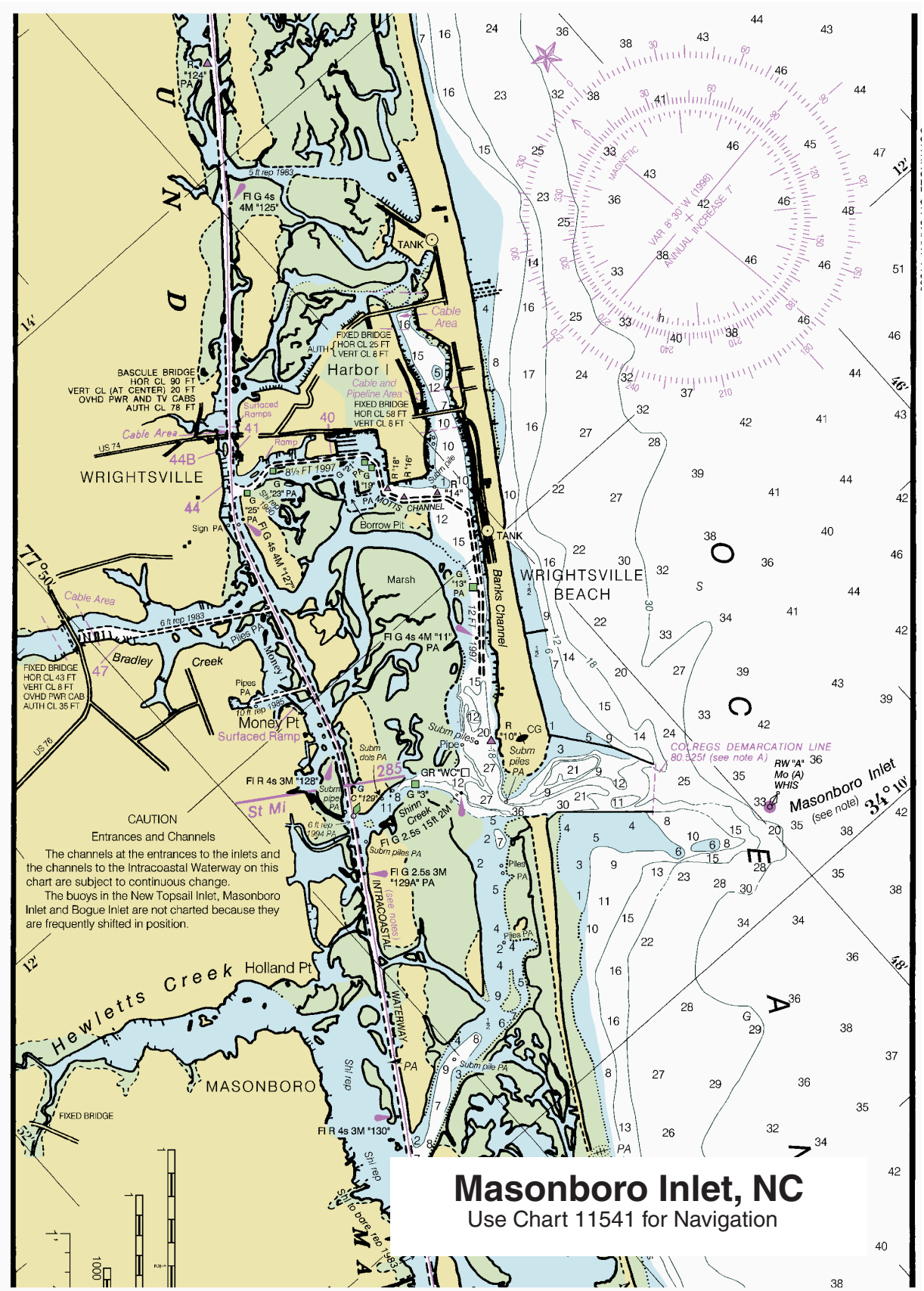

Masonboro Inlet, NC


Masonboro Inlet, NC
Use Chart 11541 for Navigation
WRIGHTSVILLE
WRIGHTSVILLE BEACH
Harbor I
Borrow Pit
Marsh
Banks Channel
Money Pt
Bradley Creek
Holland Pt
Hewletts Creek
MASONBORO
Masonboro Inlet
(see note)
COLREGS DEMARCATION LINE
80.325f (see note A)
CAUTION
Entrances and Channels
The channels at the entrances to the inlets and the channels to the Intracoastal Waterway on this chart are subject to continuous change.
The buoys in the New Topsail Inlet, Masonboro Inlet and Bogue Inlet are not charted because they are frequently shifted in position.
INTRACOASTAL WATERWAY
BASCULE BRIDGE
HOR CL 90 FT
VERT CL (AT CENTER) 20 FT
OVHD PWR AND TV CABS
AUTH CL 78 FT
FIXED BRIDGE
HOR CL 25 FT
VERT CL 8 FT
FIXED BRIDGE
HOR CL 58 FT
VERT CL 8 FT
FIXED BRIDGE
HOR CL 43 FT
VERT CL 8 FT
OVHD PWR CAB
AUTH CL 35 FT
FIXED BRIDGE
Cable Area
Cable and Pipeline Area
Surfaced Ramps
Surfaced Ramp
TANK
US 74
US 76
Fl G 4s 4M "125"
Fl G 4s 4M "127"
Fl G 4s 4M "11"
Fl R 4s 3M "128"
Fl R 4s 3M "130"
Fl G 2.5s 15R 2M
Fl G 2.5s 3M "129A" PA
GR "WC"
RW "A" Mo (A) WHIS
34° 10'
77° 50'

small-craft facilities tabulation on chart 11541 for services and supplies available.)

(100) Other marinas along the Intracoastal Waterway at Wrightsville are discussed in chapter 12.

(101) **Charts 11539, 11534.–Carolina Beach Inlet** is about 7 miles south of Masonboro Inlet. A lighted whistle buoy marks the approach to the inlet. The inlet is marked by unlighted buoys and is used as an access to the Intracoastal Waterway. The inlet is subject to continual change and should be used only with local knowledge. In January 1989, a 1-foot shoal was reported in the approach to the inlet in about 34°04'26"N., 77°51'53"W.

(102) **Carolina Beach** is a resort about 3 miles southward of Carolina Beach Inlet and 12 miles northward of Cape Fear. A dredged channel connects the landlocked basin at the town with Myrtle Grove Sound and the Intracoastal Waterway. In March-April 1996, the controlling depth was 6 feet. Daybeacons mark the channel.

(103) A marina at the mouth of the basin can provide berthage, electricity, gasoline, diesel fuel, water, ice, and some marine supplies; a launching ramp is also available. A 50-ton marine railway that can handle boats to 60 feet and a 10-ton mobile lift are available for hull and engine repairs. Depths of 8 feet are reported alongside the marina.

(104) Some of the more prominent landmarks that can be seen from seaward along this section of the coast are: a group of four loran towers centered in 34°03.8'N., 77°54.8'W., about 2 miles north-northwestward of Carolina Beach; a water tank at Carolina Beach; a tank and radar domes at **Kure Beach,** 3.8 miles and 5 miles southward of the loran towers, respectively; and the stack, microwave tower, and buildings of the nuclear powerplant on the west side of the Cape Fear River, 7.4 miles southwestward of the loran towers.

(105) **New Inlet,** about 17.5 miles south of Masonboro Inlet and 4.7 miles north-northeast of Cape Fear, is constantly changing and was reported closed in July 1983.

(106) **Chart 11536.–Cape Fear** is a low, sharp, sandy point 85 miles southwestward of Cape Lookout at the southern extremity of **Smith Island.** This island, on the eastern side of the entrance of Cape Fear River, is mostly low and marshy, but on the western side has a thick growth of trees and a 99-foot-high octagonal tower of an abandoned light.

(107) **Frying Pan Shoals,** extending south-southeastward from Cape Fear, are bare in spots near the shore and have general depths of 2 to 12 feet in an unbroken line to a point 10 miles from the cape; for 6 miles farther the shoals are broken with depths ranging from 10 to 20 feet. Broken ground with depths of 5 to 7 fathoms extends from the shoals proper almost to Frying Pan Shoals Light. A natural channel, known as **Frying Pan Shoals Slue,** cuts through the shoals about 11.5 miles southward of Cape Fear. The slue is marked at the northeastern approach by a lighted whistle buoy, about midway of its length by two buoys, and at its southwestern approach by a lighted buoy. A depth of about 20 feet can be carried through the channel with the aid of the chart. The channel is used by fishing boats and other small craft.

(108) **Frying Pan Shoals Light** (33°29'06"N., 77°35'24"W.), 118 feet above the water, is shown from a dark green tower on the corner of a four-legged metal structure painted yellow with the words FRYING PAN on the north, east, and south sides in 46 feet of water about 28.5 miles southeastward of Cape Fear. A fog signal is at the light.

(109) A wreck, covered 12 feet, is on Frying Pan Shoals about 16 miles west-northwestward of the light.

(110) **Chart 11537.–Cape Fear River,** 370 miles long and the approach to the city of Wilmington, empties into the sea immediately westward of Cape Fear. Barge traffic is active as far as **Fayetteville,** about 125 miles above the mouth.

(111) **Wilmington,** 24 miles above the mouth, on the east bank of Cape Fear River, is the leading port of North Carolina. It is 363 miles south of Norfolk, Va., and 315 miles north of Jacksonville, Fla., by coastwise routes. Exports are tobacco, woodpulp, bulk cement, fabricated metal products, and scrap metal. Imports are petroleum products, fertilizers, ferrous and non-ferrous ores, lumber, paper, salt, sulfur, textiles, iron and steel products, fabricated metal products, and bulk chemicals. There are many tourist attractions and points of historical interest in the city and vicinity, including the USS NORTH CAROLINA, a World War II memorial, which is berthed on the west bank of Cape Fear River opposite Wilmington.

(112) **Prominent features.–Oak Island Light** (33°53'36"N., 77°02'06"W.), 169 feet above the water, is shown from a 155-foot cylindrical tower, upper part black, middle white, and lower part gray, on Oak Island on the western side of Cape Fear River entrance. It is the most conspicuous object in the approach. The abandoned lighthouse, known as "Old Baldy", on the west side of Smith Island, and the buildings of the **Oak Island Coast Guard Station**, westward of Fort Caswell, are also conspicuous.

(113) Water tanks at Yaupon Beach, Southport and at Kure Beach and two silver radar domes about 1.3 miles southward of the tank at Kure Beach are visible well to seaward. The floodlights at the buildings on the beach about 1 mile westward of Oak Island Light are reported to be highly visible at night. The lights on the stack, microwave tower, and on the buildings of the nuclear powerplant, on the west side of Cape Fear River 2.5 miles above Southport, are prominent at night.

(114) Frying Pan Shoals Light structure is reported to be a good radar target in the approach to Cape Fear River. It is also reported that under ideal conditions the configuration of Cape Fear and Oak Island Light prove of some value as radar targets when closer in; these targets, however, should not be relied upon too strongly.

(115) **COLREGS Demarcation Lines.**–The lines established for Cape Fear River are described in **80.530**, chapter 2.

(116) **Channels.–**A Federal project provides for a channel 40 feet deep over the ocean bar, thence 38 feet for 24 miles to Wilmington including the turning basin off the southerly part of the city; thence in Northeast Cape Fear River 32 feet to and including a turning basin 0.4 mile above the mouth, thence 32 feet to Hilton Bridge about 1.2 miles above the mouth, and thence 25 feet to the upstream limit of the Federal project about 1.5 miles above the bridge, including a turning basin about 1 mile above the bridge. (See Notice to Mariners and latest editions of charts for controlling depths.) The channel is well marked with lighted ranges and other aids.

(117) **Western Bar Channel,** close to **Fort Caswell** on the western side of the entrance to Cape Fear River, is used considerably by small craft bound westward along the coast. This unmarked channel had a reported depth of 8 feet in July 1983, and the best water was about 50 yards offshore. The channel is not

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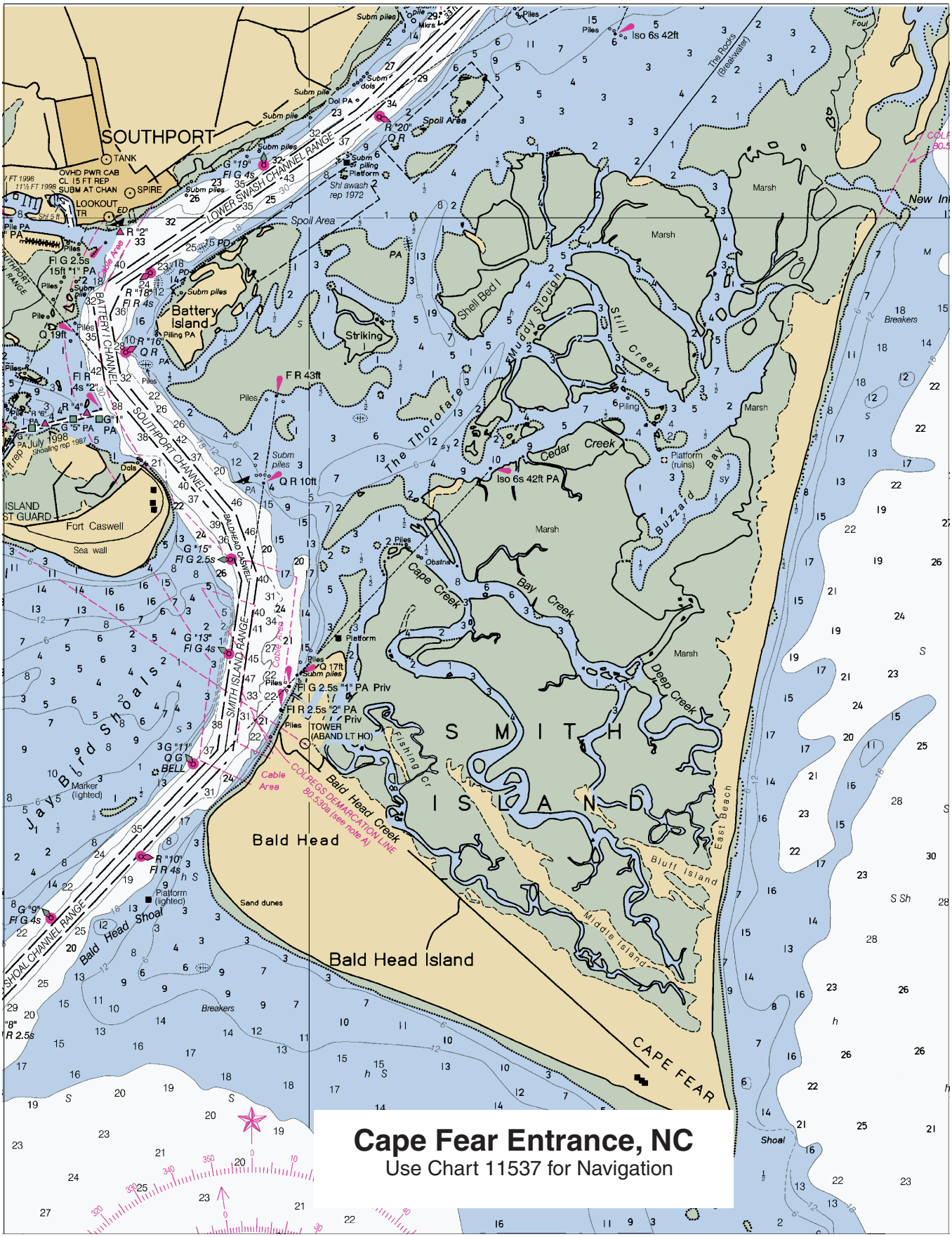
Cape Fear Entrance, NC


SOUTHPORT
Battery Island
Fort Caswell
Sea wall
Striking
Shell Bed I
Muddy Slough
Still Creek
The Thoroughfare
Cedar Creek
Buzzard Bay
Cape Creek
Bay Creek
Deep Creek
Fishing Cr
S M I T H
I S L A N D
Bald Head
Bald Head Creek
Bald Head Island
Bluff Island
Middle Island
East Beach
CAPE FEAR
Jay Bird Shoals
Bald Head Shoal
SMITH ISLAND RANGE
SOUTHPORT CHANNEL
BALDHEAD CASWELL
LOWER SWASH CHANNEL RANGE
SHOAL CHANNEL RANGE
BATTERY CHANNEL
COLREGS DEMARCATION LINE 80.530a (see note A)
Cable Area
Anchorage Area
Marsh
Breakers
Sand dunes
Spoil Area
Platform (lighted)
Platform (ruins)
TOWER (ABAND LT HO)
Iso 6s 42ft
Iso 6s 42ft PA
F R 43ft
Q R 10ft
Fl G 2.5s "1" PA Priv
Fl R 2.5s "2" PA Priv
Fl G 2.5s 15ft "1" PA
Q 19ft
Q 17ft
R "10" Fl R 4s
G "9" Fl G 4s
G "11" Q G BELL
G "13" Fl G 4s
G "15" Fl G 2.5s
G "19" Fl G 4s
R "18" Fl R 4s
R "20" Q R
Cape Fear Entrance, NC
Use Chart 11537 for Navigation

stable, and local knowledge is advised for boats drawing over 6 feet. Abreast **Oak Island Coast Guard Station**, the shore should not be approached closer than 0.3 miles. A dredged channel from Cape Fear River to the Coast Guard wharf had a reported midchannel controlling depth of 4½ feet in July 1998. The channel is marked by daybeacons and lights.

(118) A ferry, operated by the N.C. State Highway Commission, crosses the river from Price Creek about 4.5 miles above the mouth to Federal Point on the east side of the river about 3 miles south-southwest of **Kure Beach.** The channels leading to the ferry terminals are marked by pilings with reflectors and are maintained by the Highway Commission. In 1991, Price Creek ferry channel had a reported controlling depth of 10 feet. In August 1985, Federal Point ferry channel had a reported controlling depth of 7 feet.

(119) An overhead power cable with a clearance of 165 feet over the main channel crosses Cape Fear River about 18.8 miles above the mouth.

(120) U.S. Route 74/76 highway lift bridge with a clearance of 65 feet down and 135 feet up crosses Cape Fear River at Wilmington, about 23.5 miles above the mouth. The bridgetender monitors VHF-FM channel 16 and works on channels 13 and 18; telephone 910-251-5773. (See **117.1 through 117.49**, chapter 2, for drawbridge regulations.) Bridges crossing Cape Fear River above Wilmington are discussed later in this chapter.

(121) **Anchorages.–**Fair anchorage is available in the Cape Fear River abreast the town of Southport. The holding ground is good, but because of strong tidal currents vessels should anchor with a good scope of chain. This anchorage is sometimes used as a harbor of refuge in the winter by coasting vessels.

(122) Vessels awaiting entrance to the river may find good holding ground in about 7 fathoms within 0.6 mile southeastward of the sea buoy (Cape Fear River Entrance Lighted Whistle Buoy CF). The area to the northwestward of the sea buoy is reported to be rocky and foul, and some vessels have lost anchors or broken flukes in the area.

(123) **Dangers.–**Frying Pan Shoals are the principal danger in the approaches to Cape Fear River. Isolated wrecks, some marked, and obstructions with varying depths over them are in the approaches.

(124) In April 1984, shoaling to 28 feet was reported in about 33°43.5'N., 78°01.5'W.

(125) **Bald Head Shoal** and **Jay Bird Shoals (Middle Ground)** are dangerous shoals on either side of the bar channel.

(126) **Caution** should be exercised in Cape Fear River at times when tides are higher than normal and after heavy rains as logs and floating debris may be encountered.

(127) A **restricted area** of the Sunny Point Army Terminal is 9 miles above the mouth of Cape Fear River. (See **334.450**, chapter 2, for limits and regulations.)

(128) **Routes.–**On the approach to Cape Fear River from northward, the safer course, and the one generally used by deep-draft vessels, is outside of Frying Pan Shoals Light.

(129) From southward, deep-draft vessels should set a course to pass outside the broken ground extending offshore between Cape Romain and Winyah Bay. When clear of this broken ground, the course can be shaped for Cape Fear River Entrance Lighted Bell Buoy 2CF. When approaching from southward an overrun of as much as 0.5 knot may be expected except during northeasterly winds.

(130) **Tides and currents.–**The mean range of tide at the entrance is 4.3 feet; at Southport 4.1 feet, and at Wilmington, 4.1 feet. Daily predictions for Wilmington are given in the Tide Tables; predictions for a number of places on the river and in the vicinity are also in the tables.

(131) The tidal currents on the bar run with considerable velocity and as a rule set nearly in the direction of the channels, but on the last of the flood and first of the ebb they set to the eastward across the channel and on the beginning of the flood they set to the westward. In the river their set is generally in the direction of the channel. The relative velocities of flood and ebb depend upon the stage of the river. During freshets the flood at times is completely overcome by the river current and the ebb is greatly increased. At low-river stages, a strong flood is felt for a considerable distance above Wilmington, where it runs 5½ hours to nearly 7 hours of ebb; downriver from Wilmington, the periods of flood and ebb become more nearly equal. Current predictions for a number of locations in Cape Fear River may be obtained from the Tidal Current Tables.

(132) **Weather, Wilmington and vicinity**. A maritime location makes Wilmington's climate unusually mild for its latitude. Warm, humid summers are tempered by sea breezes while cold, winter outbreaks are moderated by winds off a relatively warm ocean. The average temperature in Wilmington is 64°F (17.8°C). The average high is 74°F (23.3°C) and the average low is 53°F (11.7°C). July is the warmest month with an average high of 90°F (32.2°C) and an average low of 72°F (22.2°C). January is the coolest month with an average high of 56°F (13.3°C) and an average low of 36°F (2.2°C). The warmest temperature on record is 104°F (40°C) recorded in June 1952 while the coldest temperature on record is 0°F (-17.8°C) recorded on Christmas morning, 1989. Each month, June, July, and August, has had maximum temperatures in excess of 100°F (37.8°C) and each month, October through April, has recorded temperatures below freezing. During any given year, 46 days will have maximums above 90°F (32.2°C) while 42 days will have minimums below 32°F (0°C).

(133) Sea fog is likely from November through April with southerly or southeasterly winds. It may hang on for several days until a west wind brings clearing. After a warm day with a large nighttime drop in temperature, fog may settle on the river, but will usually burn off in the forenoon. It may be thick on the bar and outside, while clear on the river from 2 or 3 miles (3.2 to 4.8 km) above the entrance. Rainy days are common throughout the year with a slight maximum in summer. However, summer precipitation is often in the form of a brief, heavy shower or thunderstorm in the late afternoon. Average annual precipitation in Wilmington is 55 inches (1,397 mm) and precipitation falls an average 153 days each year. July is the wettest month averaging nearly 8 inches (203.2 mm), mostly from thunderstorms. April is the driest month averaging under 3 inches (76.2 mm). Average annual snowfall is less than 2 inches (51 mm) but snow has fallen in each month, November through April. The greatest snowfall during any 24-hour period occurred in December 1989 when nearly 10 inches (254 mm) fell.

(134) Since 1842, 66 tropical storms have come within 50 miles (93 km) of Wilmington, North Carolina, 26 of these storms since 1950. The most noteworthy in recent time was Hurricane Bonnie which made landfall at Cape Fear with 115-knot maximum winds early in the afternoon of August 26th 1998. The storm center shifted northeastward up the coastline and finally moved inland over neighboring Pender and Onslow Counties. Due to the

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slow forward speed (less than 10 knots most of the time), rainfall amounts were staggering and isolated reports in excess of 20 inches (508 mm) were noted. Wind damage inland was minimal but coastal damage from Surf City to Cape Lookout was major due to a combination of the storm's slow forward speed and the occurrence of two abnormally high tides. Bonnie took almost the same path as Hurricane Bertha had taken only two years prior. Hurricane Bertha made landfall northeast of Wilmington in Pender County with 90-knot winds on July 12th, 1996. Six weeks later, Hurricane Fran made landfall at Cape Fear on September 2nd packing 100-knot winds. (See Page T-3 for the Wilmington climatological table.)

(135) **Freshets** occur any time from November through April, but no appreciable rise in the water level has been reported at Wilmington. They do have a marked effect on the tidal currents and sometimes overcome the flood current entirely in the river almost to the entrance. The velocity of the ebb current is greatly increased during freshets.

(136) **Pilotage, Wilmington.**–Pilotage is compulsory from the bar to the limit of navigation on the Cape Fear River (which is above Wilmington), for all foreign vessels and U.S. vessels under register in the foreign trade. Pilotage is optional for U.S. coastwise vessels which have on board a pilot licensed by the Federal Government. Pilotage is available from the Wilmington Cape Fear Pilots Association, P.O. Box 10070, Southport, NC 28461, telephone 919-457-6909 (Southport) or 919-763-4931 (Wilmington), FAX 919-457-9291, cable address CAPFRPILOT. The Association maintains three pilot boats, CAPE FEAR PILOT, 44 feet long, CAPE FEAR PILOT III, 50 feet long, and CAPE FEAR PILOT IV, 31 feet long; each boat has a dark hull and white house with the word "PILOT" on the sides. Pilots board vessels day or night about 1 mile seaward of Cape Fear River Entrance Lighted Whistle Buoy CF (33°48.2'N., 78°05.2'W.); the buoy is equipped with a racon. Vessels drawing more than 34 feet are taken in on a rising tide; boarding times may be obtained through the pilots or the vessels agents. Vessels should maintain a speed of about 6 to 8 knots and provide a pilot ladder 1 meter above the water. The pilots monitor VHF-FM channels 16 and 18A and use channels 18A and 12 for working. Arrangements for pilots can be made through ships' agents or direct to the Association. Use telephone or FAX or cable address (above) or VHF-FM channels 16 or 18A, or via the marine operator on channel 26. At least 2 hours advance notice of arrival is requested.

(137) **Towage.**–Vessels seldom find it necessary to employ tugs between the sea buoy and the turning basin off the southerly part of Wilmington, but tugs are generally used to assist in docking and movement within the port or to upriver facilities. Inbound vessels are usually met by the tugs just below the terminal they are bound for or off the State Ports Authority Terminal wharf. Tugs up to 3,800 hp are available.

(138) **Quarantine, customs, immigration, and agricultural quarantine.**–(See chapter 3, Vessel Arrival Inspections, and appendix for addresses.)

(139) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.) A county hospital is at Wilmington.

(140) Wilmington is a **customs port of entry.**

(141) **Coast Guard.**–A **Marine Safety Office** is in Wilmington. (See appendix for address.)

(142) **Harbor Regulations.**–There are no formal harbor regulations at Wilmington or Southport. The State Ports Authority Terminal in Wilmington is administered by the North Carolina State Ports Authority. The Operations Manager maintains an office at the State Ports Authority Terminal.

(143) **Wharves.**–Only the major port facilities at Wilmington are described. These include North Carolina State Ports Authority Terminal wharf, the port's only general cargo facility, several oil terminals, and bulk-handling facilities for cement, asphalt products, molasses, liquid chemicals, sulfur, fertilizers, and liquid sugar. Most of the piers and wharves have railroad and highway connections, and water and electricity. Cargo is generally handled by ship's tackle; special handling equipment, if available, is mentioned in the description of the particular facility. The alongside depths given for each facility described are reported depths. (For information on the latest depths, contact the operator.) There are many smaller facilities at Wilmington which are used by barges and small vessels, as vessel repair berths, and for scrapping operations; these facilities are not described. For a complete description of the port facilities, refer to Port Series No. 12, published and sold by the U.S. Army Corps of Engineers. (See appendix for address.)

(144) **East side of Cape Fear River:**

(145) **Gold Bond Building Products Wharf** (34°10'25"N., 77°57'27"W.): 30-foot face, 810 feet of berthing space with anchors; 35 feet alongside; deck height, 11 feet; electric conveyor, unloading rate 1,000 tons per hour; handles gypsum.

(146) **Exxon Co. USA Wharf** (34°10'35"N., 77°57'26"W.): 82-foot T-head pier, 836 feet with dolphins; 40 feet alongside; deck height, 13 feet; handles petroleum products and bunkering vessels; owned and operated by Exxon Co. USA.

(147) **Mobile Oil Corp. Wharf**: about 0.35 mile north of Exxon Co. USA Wharf; 40-foot T-head pier, 240 feet with dolphins; 34 feet alongside; deck height, 11 feet; handles petroleum products and asphalt; owned and operated by Mobil Oil Corp. and American Oil Corp.

(148) **Petroleum Fuel and Terminal Co. Wharf**: about 0.3 mile northward of Mobil Oil Corp. Wharf; 120-foot T-head pier, 800 feet with mooring dolphins, 32 feet alongside; deck height, 10 feet; handles petroleum products and petrochemicals; bunkering vessels; owned and operated by Petroleum Fuel and Terminal Co., and Carolina Power and Light Co.

(149) **North Carolina State Ports Authority Fuel Wharf**: about 0.25 mile northward of Petroleum Fuel and Terminal Co. Wharf; 122-foot T-head pier, 350 feet with dolphins; 34 feet alongside; deck height, 16 feet; handles petroleum products and petrochemicals; operated by Koch Fuels, Inc.

(150) **North Carolina State Ports Authority**: Berths 6, 7, and 8 (34°11'38"N., 77°57'20"W.): 1,640-foot face; 38 feet alongside; deck height, 12 feet; four 40-ton container cranes; traveling, revolving gantry cranes to 225 tons; 140-ton mobile crane; handles general and containerized cargo, heavy-lift items, and various dry bulk commodities.

(151) **North Carolina State Ports Authority**: Berths 1, 2, 3, 4, and 5: 2,900-foot face; 38 feet alongside; deck height, 12 feet; use of cargo handling equipment from Berths 6, 7, and 8; handles general and containerized cargo, heavy-lift items, and various dry bulk commodities; operated by North Carolina State Ports Authority and Cargill, Inc.

(152) **North Carolina State Ports Authority**: Berths A and B; adjoining Berths 1, 2, 3, 4, and 5 to northward; 1,213-foot face; 38 feet alongside; deck height, 12 feet; use of cargo handling

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equipment from Berths 6, 7, and 8; general and containerized cargo, heavy-lift items, and various dry bulk commodities.

(153) **Paktank Corp. Wharf**: 0.1 mile northward of the northern end of States Ports Authority Berths A and B; 70-foot T-head pier, 1,010 feet with mooring dolphins; 38 feet alongside; deck height, 12 feet; handles liquid chemicals.

(154) **Chevron U.S.A. Wharf**: about 0.25 mile northward of the northern end of State Ports Authority Berths A and B; 35-foot T-head pier, 240 feet with dolphins; 24 feet alongside; deck height, 10 feet; handles asphalt.

(155) **Amerada Hess Corp. Wharf**: about 0.6 mile northward of the northern end of State Ports Authority Berths A and B; 60-foot T-head pier, 550 feet with mooring dolphins; 34 feet alongside; deck height, 8 feet; handles petroleum products.

(156) **Cape Fear Terminal Wharf**: about 0.85 mile northward of the northern end of State Ports Authority Berths A and B; three T-head piers, 30, 151, and 60 feet long, 620 feet total with dolphins; 34 feet alongside; deck height, 10 feet; handles petroleum products and petrochemicals; various operators.

(157) **Cape Fear Technical Institute Wharf** (34°14'23"N., 77°57'09"W.): 233-foot face, 322 feet usable with dolphin; 20 feet alongside; deck height, 10 feet; mooring of the institute's training vessels.

(158) **East side of Northeast Cape Fear River**:

(159) **Seaboard System Railroad Co. Diesel Fuel Wharf** (34°14'30"N., 77°57'10"W.): at the mouth of the river; 198-foot face, 450 feet with mooring dolphins; 28 feet alongside; deck height, 11 feet; handles diesel fuel and liquid fertilizer; operated by Seaboard System Railroad and Trans Carolina Terminal Corp.

(160) **Almont Shipping Co., North Berth**: about 0.25 mile north of Seaboard System Railroad Co. Diesel Fuel Wharf; 523-foot face, 600 feet with dolphins; 35 feet alongside; deck height, 10 feet; traveling gantry crane with clamshell bucket, electric belt conveyor, unloading rate 450 tons per hour; handles fertilizer, iron and chrome ores.

(161) **West side of Northeast Cape Fear River**:

(162) **Horton Iron and Metal Co. Pier**: about 1.6 miles above Point Peter (34°14'27"N., 77°57'20"W.); 235-foot face, 27 feet alongside; north and south sides 750 feet long with 400 feet of berthing space, 27 feet alongside; deck height, 10 feet; cranes to 50 tons; handles scrap metal.

(163) **W.R. Grace and Co. Wharf**: about 2.3 miles above Point Peter; 45-foot T-head pier, 790 feet with mooring dolphins; 25 feet alongside; deck height, 12 feet; handles anhydrous ammonia and liquid fertilizer

(164) **West side of Cape Fear River below Wilmington**:

(165) **Pfizer Inc. Pier**: 5.7 miles above the mouth of Cape Fear River, and about 400 yards above the Southport ferry slip; 200-foot face, 670 feet with dolphins; 35 feet alongside; handles petroleum products and other liquid cargo.

(166) **Military Ocean Terminal** (Wharf No. 1, No. 2, and No. 3): at Sunny Point, about 9 miles above the mouth; three identical 2,000-foot long wharves, about 0.4 miles apart; 20 to 34 feet alongside; deck heights, 16 feet; open storage areas; cranes up to 40 tons; truck unloading and railroad trackage at each wharf; highway connections; terminal railroad connects with Seaboard System Railroad; handles military supplies.

(167) **Supplies**.–All manner of marine supplies and provisions are obtainable at Wilmington. Potable water is available at most of the berths. Bunker C oil is available to oceangoing vessels at Exxon Company U.S.A. Wharf, Petroleum Fuel and Terminal Co. Wharf, Amerada Hess Corp. Wharf, and by barge. Diesel oil is available by truck.

(168) **Repairs**.–There are several machine shops at Wilmington, on and off the waterfront, that can fabricate shafts, perform welding, and repair shafts and propellers. The largest propeller that can be repaired is 8 feet in diameter; the largest shaft that can be produced is 36 inches by 21 feet.

(169) **Small-craft facilities.**–Berths and other facilities for small craft are limited at Wilmington due to the heavy commercial traffic. Extensive small-craft facilities are at Southport, which is mentioned later in the chapter. Municipal ramps are eastward of the channel just north of U.S. Route 74/76 highway lift bridge.

(170) **Communications.**–Wilmington is served by U.S. Routes 17, 117, 74–76, 421, and State Routes 132 and 133, and has railroad connections with the Seaboard System Railroad. A commercial airline serves the local airport.

(171) **Southport,** on the west bank of Cape Fear River 3 miles above the mouth, is a town where marine supplies can be obtained. Along its waterfront there are several fish wharves, service wharves, a yacht basin, and a small-boat harbor, as well as restaurants and motels. Berthage with electricity, gasoline, diesel fuel, water, ice, and marine supplies are available at these facilities.

(172) The Wilmington Cape Fear Pilots Association maintains an office and a lookout tower (33°55.0'N., 78°01.2'W.) adjacent to the town pier, which had 18 feet reported alongside in July 1983. A yacht basin is on the north side of the Intracoastal Waterway about 0.2 mile westward of the lookout tower. In March 1998, the controlling depth was 11 feet in the basin, except for depths of 5 to 9½ feet near the pier at the head. The small-boat harbor, 0.45 mile westward of the lookout tower, has a 30-ton mobile hoist and facilities for hull, engine, and electrical repairs. In April 1998, depths of 3 to 5 feet were in the small-boat harbor with lesser depths in the east part and along the edges. A storm barrier on the south bank of the Intracoastal Waterway protects the harbor.

(173) From Southport the Intracoastal Waterway leads northward and follows the main ship channel in Cape Fear River to a point about 11.5 miles above the mouth of the river where it leaves the main ship channel and leads northeasterly to the west end of a landcut, known as **Snows Cut**, thence through the landcut to Myrtle Grove Sound.

(174) A dredged channel in Cape Fear River above Wilmington leads northwesterly for 3.5 miles to a turning basin at **Navassa,** thence to **Fayetteville,** the head of navigation, 100 miles above Wilmington. Three locks and dams are between Navassa and Fayetteville. A copy of the operating schedule for the locks is available from the U.S. Army Corps of Engineers, Wilmington District. (See appendix for address.) In 1975, the midchannel controlling depths were 11 feet to the turning basin at Navassa with 10 feet in the turning basin, thence in August 1976, 9 feet to **Acme** about 26 miles above the confluence of Cape Fear and Northeast Cape Fear Rivers, thence in August 1977, 4 feet to Fayetteville. The locks have a usable length of 200 feet, a width of 40 feet, and a depth over miter sills of 9 feet.

(175) U.S. Route 421 highway bridge over Cape Fear River opposite Wilmington has a fixed span with a clearance of 55 feet. An overhead power cable 0.25 mile above the Route 421 bridge has a clearance of 125 feet. The Seaboard System Railroad (SCL) bridge at Navassa has a bascule span with a clearance of 6 feet.

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(See **117.1 through 117.49**, chapter 2, for drawbridge regulations.) The least known high water clearance of the fixed bridges crossing Cape Fear River between Navassa and Fayetteville is 13 feet.

(176) **Black River** flows into Cape Fear River about 12 miles above Wilmington. It has been reported that drafts of not more than 3 feet can be taken to **Still Bluff,** about 10.4 miles above the mouth.

(177) **Northeast Cape Fear River** empties into Cape Fear River from northward at Point Peter (34°14'27"N., 77°57'20"W.), near the northern end of Wilmington. Above the turning basin, about 2 miles above the mouth, it is reported that natural depths of 6 feet can be taken for 42 miles, and thence 3 feet for 7 miles to **Crooms Bridge. Traffic on the river is mainly in petroleum products.**

(178) U.S. Route 117 highway bridge over Northeast Cape Fear River 0.6 mile above its mouth has a bascule span with a clearance of 26 feet. VHF-FM channels 16 and 13 are monitored at the bridge. In July 1978, a bascule highway bridge with a design clearance of 40 feet was under construction immediately upstream of the Route 17 bridge. When completed it will replace the existing bridge. The Hilton (Seaboard System Railroad (SCL)) bridge, about 1 mile above the mouth, has bascule span with a clearance of 4 feet. State Route 117 highway bridge at **Castle Hayne,** about 23.4 miles above the mouth, has a fixed span with a clearance of 23 feet at low water stage. The Seaboard System Railroad (SCL) bridge just above it has a swing span with a clearance of 7 feet at low water stage. (See **117.1 through 117.59 and 117.829**, chapter 2, for drawbridge regulations.) The twin fixed spans of the Interstate Route 40 bridge, close above the railroad bridge, have a clearance of 28 feet.

(179) **Smith Creek** empties into Northeast Cape Fear River from eastward about 1.5 miles above the river mouth. In July 1983, the reported controlling depth was 5 feet over the bar to the junction with Burnt Mill Creek, thence 1 foot to the walkway crossing the creek at the airport. The creek was foul with stumps, logs, and submerged piling from the entrance to its head. U.S. Route 117 highway bridge, 1.3 miles above the mouth, has a swing span with a channel width of 45 feet and a clearance of 3 feet. (See **117.1 through 117.59 and 117.841**, chapter 2, for drawbridge regulations.) The Seaboard System Railroad (SCL) bridge, about 2 miles above the mouth, has a fixed span with a clearance of 12 feet. An overhead power cable just above the bridge has a clearance of 30 feet.

(180) **Freshets.–**Low-water stages prevail in the rivers above Wilmington from 2 to 4 months during the summer, and freshets usually occur as often as once a month during the remainder of the year, but with no regularity.

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