Hampton Roads Chart 12245 BookletChart

Commemorative Edition – June, 2012

A reduced scale NOAA nautical chart for small boaters. When possible, use the full size NOAA chart for navigation.

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and

- Complete, reduced scale nautical chart
- Print at home for free
- Convenient size
- Up to date with Notices to Mariners
- United States Coast Pilot excerpts
- Compiled by NOAA, the nation's chartmaker



United States – East Coast VIRGINIA HAMPTON ROADS



NOAA is proud to join with the nation's ports, the U.S. Navy, and OpSail, to celebrate the bicentennial of the War of 1812, a pivotal time in our nation's history.

This special commemorative BookletChart, which adds event berthing areas, historical background, and images to NOAA's regular BookletChart, can be downloaded for printing on any home printer. This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.

For the latest information, please check in regularly at nauticalcharts.noaa.gov/WarOf1812.



The chart on the cover is Coast Chart No. 31, Chesapeake Bay–York River, Hampton Roads, Chesapeake Entrance, published in 1863 by the U.S. Coast and Geodetic Survey, NOAA's predecessor organization. The hydrography was collected by the party under the command of Lieut. Comdg. J.J. Almy U.S.N. Assistant.



Norfolk, the U.S. Navy, and the War of 1812

In the eve of the United States' declaration of war against the United Kingdom in June 1812, Commodore John Rodgers advised removing U.S. frigates from Norfolk, Virginia, given the ease with which the British could blockade the port. What he foresaw came to pass, for Norfolk became a principal magnet for enemy attack. The importance of Norfolk and the Chesapeake Bay to the national economy and finances, combined with the bay's navigability and Norfolk's apparent vulnerability, made the city an attractive target to the enemy.

In the early years of the 19th century, Norfolk was a vibrant commercial port serving the tobacco economy of the Chesapeake Bay. Vessels built in Norfolk shipyards collected barrels of tobacco from wharves along the bay's numerous rivers and carried them to markets in Europe. Those ships returned with manufactures and luxury goods in their holds. Taxes on those imports, in turn, constituted a major portion of the revenue that supported the national government. The city's craftsmen and chandleries helped sustain the region's maritime economy. Norfolk's neighbor, the Gosport Navy Yard, one of the Navy's six principal yards, maintained some of the frigates and gunboats that served as the naval defense of the United States.

In the early months of 1813 a powerful British squadron took station in Lynnhaven Bay, between Norfolk and the mouth of Chesapeake Bay. This squadron dominated the bay, blockading it and launching a number of raids on bay towns. The squadron's arrival prevented the sailing of the U.S. frigate *Constellation*, fitting out at the Gosport Navy Yard. In fact, *Constellation's* destruction was one of the invaders' objectives.



Commodore John Rodgers commanded USS President on four cruises during the War of 1812. (Naval History & Heritage Command)

In June the Americans took advantage of a lull in the wind to attack one of the frigates of the British squadron. Fifteen gunboats, their crews reinforced by sailors from *Constellation* as well as from the Virginia militia, attacked the becalmed HM frigate *Junon*. The Americans inflicted considerable damage before withdrawing when a rising wind enabled ships of the British squadron to come to *Junon's* aid. A few days later, at the Battle of Craney Island, these American forces repelled a British assault aimed at Norfolk. As a result, the British postponed their plans to capture the city and instead turned their fury against the town of Hampton, where they committed excesses of rapine and pillage against the civilian population.



USS Constellation was one of six frigates authorized for construction under the Naval Act of 1794. In January 1813, she was dispatched to the Hampton Roads area. (Navy Art Collection, Naval History & Heritage Command)

In 1814 the British kept up their blockade of the Chesapeake Bay. They also continued contemplating the destruction of Norfolk and the Gosport Navy Yard, but shifted their focus from direct amphibious attack to landing troops on the Portsmouth side. American reinforcements to the city's defenses, however, dampened British enthusiasm for such an undertaking. The U.S. Navy, for its part, recognizing *Constellation* had little chance of breaking through the blockade, transferred some of the warship's crew to the forces fighting on the Canadian frontier and others to the Gosport Navy Yard flotilla. With 21 gunboats manned by spring 1814, the flotilla acted as a worrisome threat to the British blockading squadron.

With the war's end in February 1815, the Navy Department ordered the laying up of all but two of the gunboats at Norfolk. The people of Norfolk were now at peace and safe from attack, thanks to a determined and able defense against a capable and powerful foe.

Virginia and the U.S. Coast Survey

In 1807, losing ships to accidents in U.S. coastal waters was a common occurrence. The young nation needed nautical charts, so President Thomas Jefferson signed a law authorizing the Survey of the Coast. The Survey would measure water depths, establish a spatial reference system from which we determine location, and produce the nation's navigational charts.

At the same time, relations between the United States, England, and France grew contentious, and Jefferson instituted an economic embargo against the countries. The unsettled international climate, with the U.S. effectively terminating the American merchant marine and international trade, delayed the Survey for the rest of the Jefferson Administration.

Jefferson's successor, James Madison, reinstituted the Survey and sent Hassler to Great Britain in late 1811 to procure survey instruments. President Madison declared war on Great Britain eight months after Hassler's arrival in London, and Hassler was unable to return to the U.S. until 1817. When he came back, he brought equipment and some of the best experts in Europe with him.

By 1850, the U.S. Coast Survey was in full operation. Surveyors were working on every part of the U.S. coastline, and Norfolk had a chart of its harbor by 1855.

Coast Survey's mapping in Virginia was not limited to nautical charts, however. In June 1861, a Coast Survey cartographer, Edwin Hergesheimer, prepared a unique map that showed the proportions of the slave populations of each of the Virginia counties, based on the 1860 Census. The Survey followed it up in September 1861 with a larger map showing slave proportions for all of the Southern slave-owning states. These maps are arguably some of the country's most important maps, used to educate people in Northern states about slavery as the Civil War intensified.



Map of Virginia showing the distribution of its slave population from the Census of 1860 (American Geographical Society Library, University of Wisconsin-Milwaukee Libraries)

Today, Americas's coastal waters remain as central to the nation's prosperity as they were 200 years ago. Mariners still rely on NOAA's Coast Survey navigational charts, constantly updated with the accuracy and precision needed to protect life and property. Over 30,000 historical maps and charts are online for your exploration, at nauticalcharts.noaa.gov/history

NOAA's Navigation Services serve American communities coast to coast



President Thomas, Jefferson founded the U.S. Coast Survey in 1807 and tasked it with creating charts of the nation's coastal waters so America's young shipping industry could thrive. Today, America's coastal waters remain as central to the nation's prosperity as they were 200 years ago, and NOAA's Coast Survey is still making the nation's charts.

The nation's economy depends on a robust and reliable marine transportation system. From America's agricultural communities – whose farm exports reached a record \$136.3 billion in 2011 – to the 13 million people with jobs that rely on commercial ports, to the 10 million Americans who take a cruise every year, businesses and families everywhere rely on a safe, efficient, and dependable marine transportation system. The ships and ports that are charged with the safe transport of people and products, in turn, rely on the critical informational infrastructure and services provided by NOAA's Navigation Services.



Stay safe with NOAA nautical charts

Recreational boaters, unlike commercial mariners, are not required to carry nautical charts. As coastal waterways grow more crowded, however, smart boaters use the latest nautical charts, updated by NOAA with the precision and accuracy that mariners rely on. Obtaining the latest chart is easier than ever. It can be as easy as clicking a link. www.nauticalcharts.noaa.gov/staff/charts.htm

Plan for fun and safety at the Bicentennial War of 1812 events

Special commemorative charts and posters: www.nauticalcharts.noaa.gov/WarOf1812/ Event calendars and websites: www.ourflagwasstillthere.org/events.html nowCoast marine observations: nowcoast.noaa.gov Marine weather forecasts: www.nws.noaa.gov/om/marine/home.htm Tides and Currents: http://www.ourflagwasstillthere.org/events.html Buoy observations: www.ndbc.noaa.gov

NOAA's mission is to understand and predict changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and to conserve and manage our coastal and marine resources.

Visit us online at www.noaa.gov, or on Facebook at www.facebook.com/usnoaagov. Follow NOAA's Office of Coast Survey on Twitter @nauticalcharts.



This BookletChart is published by National Oceanic and Atmospheric Administration National Ocean Service Office of Coast Survey

nauticalcharts.noaa.gov

What are nautical charts?

Nautical charts are a fundamental tool of marine navigation. The show water depths, obstructions, buoys, and other aids to navigation. The information promotes safe and efficient navigation.

Chart carriage is mandatory on the commercial ships that carry goods to and from America's shores. They are also used on every Navy and Coast Guard ship, fishing boats, and passenger vessels. Smart recreational boaters also carry nautical charts.

What is a BookletChart?

The BookletChart helps recreational boaters locate themselves on water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. (This special commemorative edition also contains event and historical information not available on full-scale charts.) The bar scales are reduced, but accurately measure distances. (See the note at the bottom of page X for the reduction in scale applied to this chart.Whenever possible, use the official full-scale NOAA nautical chart for navigation. Check your local marine store, or go to nauticalcharts.noaa.gov for a list of chart agents. This BookletChart does not fulfill chart carriage requirements forregulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial-Intelligence Agency Weekly Notice to Mariners and, where applicable, the Canadian Coast Guard Notice to Mariners. NOAA has made additional chart corrections in advance of their publication in a Notice to Mariners. Coast Pilot excerpts are not updated from the time of publication.

Excerpts from U.S. Coast Pilot 3, chapter 9

Thimble Shoal Light (37°00'52"N., 76°14'23"W.), 55 feet above the water, is shown from a red conical tower on a brown cylindrical pier on the eastern edge of the shoal.

A **bridge-tunnel complex** crosses Chesapeake Bay from Willoughby Spit to Hampton.

Old Point Comfort is the site of historic **Fort Monroe**. The Chamberlin Hotel is an excellent landmark. **Old Point Comfort Light** (37°00'06"N., 76°18'23"W.), 54 feet above the water, is shown from a white tower. Only Government craft can tie up at the wharf on the south waterfront of Old Point Comfort.

A naval **restricted area** extends eastward and southward of Old Point Comfort, and a **danger zone** of an army firing range extends to seaward from a point 1.5 miles northward of the point.

Hampton Bar begins about 200 yards southwestward of Old Point Comfort and extends 2 miles southwestward; depths on the bar are 2 to 6 feet. The bar is marked by two lights and by a buoy and daybeacon along its southern edge.

A dredged channel, marked by a light and daybeacons, leads along the west side of Old Point Comfort to the fish wharves at **Phoebus** and has a federal project depth of 12 feet. (See Notice to Mariners and latest edition of the charts for controlling depths.) The wharves have depths of 8 to 12 feet at their outer ends, but are in poor condition. Small craft can anchor in depths of 8 to 20 feet along the sides of the channel. The Fort Monroe yacht piers are on the east side of the channel 0.4 mile above Old Point Comfort.

Hampton River, 1.5 miles westward of Old Point Comfort, is entered by a marked channel through Hampton Bar and Flats to a point just below the highway bridge at Hampton. Federal project depths are 12 feet. (See Notice to Mariners and latest edition of the charts for controlling depths.)

Sunset Creek, on the west side just above the Hampton River mouth, is entered by a marked dredged channel leading westward from the channel in the river and has a federal project of 12 feet. (See Notice to Mariners and latest editions of the charts for controlling depths.)

The principal commercial wharves at Hampton, just below the bridge, have depths of 7 to 12 feet at their faces. The public landing 500 yards below the bridge has depths of 8 feet at the face; small boats anchor between the public landing and the bridge. The wharves along Sunset Creek have depths of 4 to 9 feet at their outer ends.

Marine supplies, gasoline, diesel fuel, and a pumpout station are available at Hampton. A yacht club and several marinas here have berthing space. **Jones Creek**, on the east side of Hampton River 300 yards above the mouth, has depths of 8 to 11 feet. The bulkheads have depths of 3 to 10 feet alongside and are controlled by the Veterans Hospital on the south and Hampton Institute on the north.

Newport News Middle Ground Light (36°56'43"N., 76°23'29"W.), 52 feet above the water, is shown from a red conical tower on a red cylindrical pier in 15 feet of water near the western end of the shoal.

Newport News Creek, just west of Newport News Point, is a city-owned smallboat harbor used by fishing boats, pleasure craft and petroleum barges. In 2010, the controlling depth was 11 feet (12 feet at midchannel) in the dredged channel to the head of the project. Vessels entering the creek should not cut between Buoy 1 and the bridge-tunnel interchange as the bridge-tunnel interchange is surrounded by shoal riprap. In 2007, a rocky bottom with a depth of 6 feet was reported just SSE of Newport News Point at 36°57'30"N., 76°24'37"W.; caution is advised. Fuel, supplies, and slips are available, and repairs can be made. A 75-ton marine railway and a 40-ton mobile hoist are available.

The 45-foot-wide small-boat openings in the south approach bridge to Hampton Roads Tunnel have clearances of 10 feet.

Willoughby Bank, with depths of 3 to 7 feet, extends east-northeastward along the edge of the main channel for about 2.5 miles from Fort Wool.

Willoughby Bay, on the inner side of Willoughby Spit, has general depths of 7 to 12 feet. On the south side of the bay are the prominent buildings of the Norfolk Naval Base and the Naval Air Station. A marked channel with a Federal project depth of 10 feet, 0.4 mile westward of Fort Wool, leads to a small-boat harbor behind the hook of Willoughby Spit. (See Notice to Mariners and latest editions of the charts for controlling depths.) Some supplies, fuel, and berthing are available. Repairs can be made; largest marine railway, 40 feet.

The western and southern part of Willoughby Bay is a **restricted area**. The northern part of the bay is a **small-craft anchorage**.

A **safety zone** is in effect in the Elizabeth River when a naval aircraft carrier transits the river to or from the Norfolk Naval Shipyard.

Sewells Point Spit, covered 3 to 6 feet, extends north-northeastward from the point for 1.4 miles to the outer end of Willoughby Channel.

A channel, marked by lights and daybeacons, extends eastward and southward through Sewells Point Spit for about 1.2 miles to an enclosed boat basin used by small navy boats. In 1988, the channel had a controlling depth of 9.5 feet; depths of 7 to 10 feet were available in the basin.

The approach to the naval piers is a restricted area.

NOTE B HAMPTON ROADS TUNNEL APPROACH SPANS HOR CL 45 FT VERT CL 10 FT

Corrected through NM Aug. 30/08 Corrected through LNM Aug. 26/08

HEIGHTS Heights in feet above Mean High Water.

Mercator Projection Scale 1:20,000 at Lat. 36°57'

North American Datum of 1983 (World Geodetic System 1984)

SOUNDINGS IN FEFT AT MEAN LOWER LOW WATER

CAUTION Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

SUPPLEMENTAL INFORMATION Consult U.S. Coast Pilot 3 for important supplemental information.

AIDS TO NAVIGATION Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

RACING BUOYS

Racing buoys within the limits of this chart are not shown hereon. Information may be obtained from the U.S. Coast Guard District Offices as racing and other private buoys are not all listed in the U.S. Coast Guard Light List.

PLANE COORDINATE GRID

(based on NAD 1927) The Virginia State Grid (South Zone) is indicated by dashed ticks at 10,000 foot intervals.

NOAA WEATHER RADIO BROADCASTS

The NOAA Weather Radio station is ted below provides continuous weather broadcasts. The reception range is typically 20 to 40 nautcal miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Norfolk, VA	KHB-37	162.55 MHz
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AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, U.S. Coast Guard, and National Geospatial-Intelligence Agency.

POLLUTION REPORTS

Report all spills of oil and hazardous sub-stances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

CAUTION

CAUTION Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117. Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution. Station positions are shown thus: O(Accurate location) o(Approximate location)

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

g its length that are labeled A through E. The pipeline rise et of the seabed at the stitch points and dives to depths of veen stitch points C to E. s are shown as: $\longrightarrow \bigcirc_{(A)}$

Pilot 3, Chapter 9, chart 12245 for additional information

NOTE D EMERGENCY RESTRICTED AREA

For the latest information regarding the regulations of any emergency restricted area, contact the Army Corps of Engineers, Norfolk District, Regulatory Branch at (757) 201-7653/7652.

NOTE A

Note A Straight of the second Office of the District Engineer, Corps of Engineers in Refer to charted regulation section numbers.

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.533* northward and 1.204" eastward to agree with this chart.

Additional information can be obtained at nauticalcharts.noaa.gov.

SOURCE DIAGRAM

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Amy Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, <u>United States Coast Pilot</u>.

CAUTION

FISH TRAP AREAS AND STRUCTURES Mariners are warned that numerous uncharted duck blinds and fishing structures, some submerged, may exist in the fish trap areas. Such structures are not charted unless known to be permanent.

Such structures are not charted unless known to be permanent. Regulations to assure clear passage to and through dredged and natural channels, and to established landings, are prescribed by the Corps of Engineers in the Code of Federal Regulations. Definite limits of fish trap areas have been established in some areas, and those limits are shown thus: Where definite limits have not been prescribed, the location of fishing structures is restricted only by the regulations.

This nautical chart has been designed to promote safe navigation. The National Crean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

PLACE		Height referred to datum of soundings (MLLW)		
NAME	(LAT/LONG)	Mean Higher High Water	Mean High Water	Mean Low Water
Old Point Comfort Hampton Roads (Sewells Pt) Newport News	(37°00'N/76°19'W) (36°57'N/76°20'W) (36°58'N/76°26'W)	feet 2.8 2.8 2.9	feet 2.6 2.5 2.7	feet 0.1 0.1 0.1
Dashes () located in datum column tide predictions, and tidal current pred	is indicate unavailable datu ictions are available on the	m values for a tide Internet from http	e station. Real-tir ://tidesandcurren	me water levels ts.noaa.gov.

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

409	to Navigation (lights an	e white unies	ss otherwise indicated):					
	AERO aeronautical	Gg	reen	Mo morse code	R TR radio tower			
	Al alternating	IQ in	nterrupted quick	N nun	Rot rotating			
	B black	lso i	sophase	OBSC obscured	s seconds			
	Bn beacon	LT F	IO lighthouse	Oc occulting	SEC sector			
	C can	Mina	autical mile	Or orange	St M statute miles			
	DIA diaphone	m m	ninutes	Q quick	VQ very quick			
	F fixed	MICF	RO TR microwave tower	R red	W white			
	FI flashing	Mkr	marker	Ra Ref radar reflector	WHIS whistle			
				R Bn radiobeacon	Y yellow			
lotto	om characteristics:							
	Blds boulders	Co coral	gy gray	Oys oysters	so soft			
	bk broken	G gravel	h hard	Rk rock	Sh shells			
	Cy clay	Grs grass	M mud	S sand	sy sticky			
Aisc	ellaneous:							
	AUTH authorized	Ob	ostn obstruction	PD position doubtful	Subm submerged			
	ED existence doubtf	ul PA	position approximate	Rep reported				
	.21. Wreck, rock, obstruction, or shoal swept clear to the depth indicated.							
	(2) Bocks that cover and uncover with beights in feet above datum of soundings							

PRINT-ON-DEMAND CHARTS

This chart is available in a version updated weekly by NOAA for Notices to Mariners and critical corrections. Charts are printed when ordered using Print-on-Demand technology. New Editions are available 5-8 weeks before their release as traditional NOAA charts. Ask your chart agent about Print-on-Demand charts.

Table of Selected Chart Notes





Joins Page 13 This BookletChart was reduced to 70% of the original chart scale. The new scale is 1:28571. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.

5., Feb 1893 C-1942-565 KAPP 584



Joins Page 9



This BookletChart has been updated with: Coast Guard Local Notice To Mariners: 4911 12/6/2011, NGA Weekly Notice to Mariners: 5011 12/10/2011, Canadian Coast Guard Notice to Mariners: n/a .



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Joins Page 12



Joins Page 13







EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.

Channel 9 – Communications between boats and ship-to-coast.

Channel 13 – Navigation purposes at bridges, locks, and harbors. **Channel 16** – Emergency, distress and safety calls to Coast Guard

and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.

Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.

Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Mobile Phones — Call 911 for water rescue.

Coast Guard Search & Rescue: Sector Hampton Roads (emergency/primary) 757–668–5555 Sector Hampton Roads (toll free) 877–722–5727

Virginia Marine Police 800-541-4646

NOAA Weather Radio (MHz) — 162.400, 162.425, 162.450, 162.475, 162.500, 162.525, 162.550

Getting and Giving Help — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- 1. Make sure radio is on.
- 2. Select Channel 16.
- 3. Press/Hold the transmit button.
- 4. Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- 6. Release transmit button.
- 7. Wait for 10 seconds If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!

NOAA CHARTING PUBLICATIONS

Official NOAA Nautical Charts – NOAA surveys and charts the national and territorial waters of the U.S., including the Great Lakes. We produce over 1,000 traditional nautical charts covering 3.4 million square nautical miles. Carriage of official NOAA charts is mandatory on the commercial ships that carry our commerce. They are used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters. NOAA charts are available from official chart agents listed at: www.nauticalcharts.noaa.gov

Official Print-on-Demand Nautical Charts – These full-scale NOAA charts are updated weekly by NOAA for all Notice to Mariner corrections. They have additional information added in the margin to supplement the chart. Print-on-Demand charts meet all federal chart carriage regulations for charts and updating. Produced under a public/ private partnership between NOAA and OceanGrafix, LLC, suppliers of these premium charts are listed at www.oceangrafix.com

Official Electronic Navigational Charts (NOAA ENCs®) – ENCs are digital files of each chart's features and their attributes for use in computer-based navigation systems. ENCs comply with standards of the International Hydrographic Organization. ENCs and their updates are available for free from NOAA at www.nauticalcharts.noaa.gov

Official Raster Navigational Charts (NOAA RNCs[™]) – RNCs are geo-references digital pictures of NOAA's charts that are suitable for use in computer-based navigation systems. RNCs comply with standards of the International Hydrographic Organization. RNCs and their updates are available for free from NOAA at www.nauticalcharts.noaa.gov

Official BookletCharts[™] – BookletCharts[™] are reduced scale NOAA charts organized in page-sized pieces. The "Home Edition" can be

downloaded from NOAA for free and printed from www.nauticalcharts.noaa.gov/bookletcharts

Official PocketCharts[™] – PocketCharts[™] are for beginning recreational boaters to use for planning and locating, but not for real navigation. Measuring a convenient 13" by 19", they have a ¹/₃ scale chart on one side and safety, boating and educational information on the reverse. they can be purchased at retail outlets and on the Internet.

Official U.S. Coast Pilot® – The Coast Pilots are nine text volumes containing information important to navigators such as channel descriptions, port facilities, anchorages, bridge and cable clearances, currents, prominent features, weather, dangers, and Federal Regulations. They supplement the charts and are available from NOAA chart agents or may be downloaded for free at www.nauticalcharts.noaa.gov

Official On-Line Chart Viewer – All NOAA nautical charts are viewable here on-line using any Internet browser. Each chart is up-todate with the most recent Notices to Mariners. Use these on-line charts as a ready reference or planning tool. www.nauticalcharts.noaa.gov/viewer

Official Nautical Chart Catalogs – Large format, regional catalogs are available for free from official chart agents. Page size, state catalogs are posted on the Internet and can be printed at home for free. www.nauticalcharts.noaa.gov/mcd/ccatalogs.htm

Internet Sites

www.nauticalcharts.noaa.gov www.noaa.gov www.tidesandcurrents.noaa.gov www.nos.noaa.gov