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.

Nautical Miles
Yards

NOTE S
Regulations for ocean dumping sites are contained in 40 CFR, Parts 220-229. Additional information concerning the regulations and requirements for use of the sites may be obtained from the Environmental Protection Agency (EPA). See U.S. Coast Pilots appendix for addresses of EPA offices.

SAFETY MENTAL INFORMATION
Consult U.S. Coast Pilots 3 and 4 for important supplemental information.

HYDROGRAPHY
The most recent basic hydrographic survey used in the compilation of hydrography in the grassed area of Nautilus Shoal was accomplished by the USC&GS Pierce, commanded by Commander Carl W. Fisher in 1977.

Formerly C&GS 1222, 1st. Ed., Mar. 1913 Q-1952-784

NOTE X
TERRITORIAL SEA AND CONTIGUOUS ZONE
The lines delimiting the territorial sea and contiguous zone represent an interdepartmental committee's interpretation of legal principles as applied to geographic features. Lines are subject to revision when required by correction of the geographic information shown or by reinterpretation of the legal principles involved. Where differences occur between adjacent or overlapping charts, the lines shown on the most recent chart issue take precedence.

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

SOUNDINGS IN FEET

Nautical Chart Catalog No. 1 - Panels D, E

76°25' (CONTINUED ON CHART 12238) 20' 15' 10' (LORAN CHART 12227) 05' 00' 76° 55' 50' 45' 40' 35' 75°30'

37°30' 37° 36°30' 36° 65' 60' 55' 50' 45' 40' 35'

CONTINUED ON CHART 12261 CONTINUED ON CHART 12256

## LORAN-C GENERAL EXPLANATION

LORAN-C FREQUENCY ..... 100kHz
PULSE REPETITION INTERVAL
Group ..... 99,600 Microseconds
STATION TYPE DESIGNATORS: (Not individual station designators)
M ..... Master
V ..... Secondary
W ..... Secondary
X ..... Secondary
EXAMPLE: 9960-X

RATES ON THIS CHART
9960-W 9960-X 9960-Y 9960-Z

The Loran-C lines of position overprinted on this chart have been prepared for use with ground wave signals and are not to be used with sky wave or mixed hyperbolic propagation delays which have not yet been verified by observed data. Mariners are cautioned not to rely entirely on the lattices in inshore waters. Sky wave corrections are not provided.

MICROSECONDS
LORAN LINEAR INTERPOLATOR

NOTE B
LORAN-SPIT CHANNEL
Depths entering from seaward
Series of Non-Dec 1979, June 1979 and June 1980
Left outside quarter ..... 40.5 ft.
Left-inside quarter ..... 42.6 ft.
Right-fpside quarter ..... 41.5 ft.
Right-outside quarter ..... 44.8 ft.
The use of this channel should be restricted to vessels of 40 feet draft or less. Vessels drawing more than Chesapeake Bay Lines or vessels of other watercraft shall cross the channel at right angles to the channel axis and shall not, in the direction of its axis, only vessel having entered the channel shall follow the course thereof for its entire length.

CAUTION
Mariners are warned to stay clear of the protective riprap surrounding navigational light structures.

NOTE A
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 3 and 4, or weekly Notice to Mariners which include new or revised regulations. Information concerning the regulations may be obtained at the Office of the District Engineer, Corps of Engineers in Norfolk, Virginia.
Anchorage regulations may be obtained at the Office of the Commander, 5th Coast Guard District in Portsmouth, Virginia.
Refer to section numbers shown with area designation.

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 privately maintained buoys are not all listed in the U.S. Coast Guard Light List.

TUNNEL VISION, CHANNEL DEPTHS
THESE DEPTHS FROM SURVEYS BY THE CORPS OF ENGINEERS REPORTED TO FEBRUARY 1982

| NAME OF CHANNEL | CONTROLLING DEPTHS FROM CENTERLINE (MLW) LEFT OUTSIDE QUARTER | LEFT INSIDE QUARTER | RIGHT INSIDE QUARTER | RIGHT OUTSIDE QUARTER | DATE OF SURVEY | PROJECT DIMENSIONS WIDTH (FEET) | LENGTH (STATUTE MILES) | DEPTH (FEET) |
|---|---|---|---|---|---|---|---|---|
| THIMBLE SHOAL CHANNEL | 41.1 | 41.1 | 41.4 | 41.4 | 11-27-81 | 1000 | 9.9 | 45 |
| NORTH NORFOLK CHANNEL | 42.6 | 42.6 | 41.5 | 44.8 | 4-28-82 | 800 | 9.9 | 42 |
| SOUTH NORFOLK CHANNEL | 42.6 | 42.6 | 41.5 | 44.8 | 4-28-82 | 800 | 9.9 | 42 |

* THE CHANNEL IS RESTRICTED TO VESSELS AND TOWS DRAWING LESS THAN 25 FEET, THERE IS NO RESTRICTION ON TIDE.
NOTE CONCERNING THE CHANNELS AND CHANNELS SUPPLEMENT TO THIS ABOVE INFORMATION

PRODUCED BY COMPUTER ASSISTED METHODS

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

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

CAUTION
Temporary changes or defects in aids to navigation are not indicated on this chart.
Buoys are frequently
During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

For Symbols and Abbreviations see Chart No. 1.
COLREGS: International Regulations for Preventing Collisions at Sea, 1972.
Demarcation lines are shown thus.

AUTHORITIES
Hydrography and topography by the National Ocean Survey with additional data from the Corps of Engineers and U.S. Coast Guard.

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.
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 these limits are shown thus.
Where definite limits have not been prescribed the location of fishing structures is restricted only by the regulations.

NOTE C
Chesapeake Bay Bridge & Tunnel
Trestles A and B – In each trestle section the fixed navigation openings for small craft consists of a group of 3 spans. A fixed green light marks centerline of the 3 spans. A fixed red obstruction light is shown from each side of the channel openings.
North Channel & Fisherman Inlet Bridges – A fixed light marking channel limits. Fixed red obstruction lights mark each pier in Trestles C and D.

LYNNHAVEN INLET
Lynnhaven Inlet is subject to continual change.

HEIGHTS
Heights in feet above Mean High Water.

NOTE F
CAUTION
The Chesapeake Bay Bridge Tunnel complex has on several occasions suffered damage from vessels due to adverse weather conditions. Vessels drawing more than three knots can be expected in the area. Mariners transiting this area are urged to be particularly alert in regards to the weather situation. The National Weather Service broadcasts a special broadcasting on 162.55 MHz. The Local Marine operator also transmits weather information on 2182 kHz at 0700, 1200, and 1700 local time on 2538 and 2450 kHz. Transmitting schedules are subject to change, see Notice to Mariners. Maneuvering in close proximity of the bridge-tunnel complex is discouraged.

NOTE D
DANGER AREA
Area is open to unrestricted surface navigation but all vessels are cautioned neither to anchor, dredge, trawl, lay cables, bottom, nor conduct any other similar type of operation because of residual dangerous per from mines on the bottom.

NOTE G
TRAFFIC SEPARATION SCHEME
The RECOMMENDED route for entering and departing from Chesapeake Bay is marked by a tinted purple line centered on a line of laneway buoys which separate the courses of inbound and outbound vessels. Vessels should leave all buoys on the right when in the laneway and when crossing a tinted purple band. Traffic within the precautionary area may consist of vessels operating between Thimble Shoal and Chesapeake Channels and one of the established traffic lanes. Mariners are advised to exercise extreme care in navigating within this area.
The traffic separation scheme has been designed to aid in the prevention of collisions at the approaches to Chesapeake Bay but is not intended in any way to supersede or alter the applicable Rules of the Road.

NOAA VHF-FM WEATHER BROADCASTS
The National Weather Service stations listed below provide continuous marine weather broadcasts. The range of reception is variable but for most stations is usually 20 to 40 miles from the antenna site.

| | | |
|---|---|---|
| Norfolk, Va | KHG-37 | 162.55 MHz |
| Heathsville, Va | KHG-38 | 162.40 MHz |

CAUTION
Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and Defense Mapping Agency Hydrographic/Topographic Center Publication No. 117.
Note: Bearings-Radar bearings to commercial broadcasting stations are subject to error and should be used with caution.
Station positions are shown thus:
(Quincunx location) o(Approximate location)

STORM WARNINGS
The National Weather Service displays storm warnings at the following approaches locations:
Chesapeake Light (36°54.2'-75°42.8')
Thimble Shoal Channel Light (36°58.6'-76°06.4')
Fort Story Signal Building Cape Henry (36°55.6'-76°00.4')
Cape Henry Light (36°55.9'-76°00.8')
Gulper (37°11.2'-75°39.9')
Little Creek Va. (36°56.0'-76°10.0')

TIDAL INFORMATION

| Place | Mean Time Differences (Height Ratios are to Datum of soundings) High Water | Low Water | Mean | Extreme Range |
|---|---|---|---|---|
| Great Machipongo Inlet | 3.9 | 1.9 | 0.0 | −2.5 |
| Old Plantation Light | 3.0 | 1.5 | 0.0 | −2.5 |
| Old Point Comfort | 2.2 | 1.3 | 0.0 | −3.5 |
| Tue Marshes Light | 1.5 | 0.8 | 0.0 | −3.0 |
| Wolf Trap Light | 1.6 | 0.8 | 0.0 | −3.0 |

USCG

LOCAL MAGNETIC DISTURBANCE
Differences of as much as 6° from the normal variation have been observed up to 17 nautical miles offshore from Cape Henry to Currituck Beach Light.

CAPE CHARLES
CAPE HENRY
For detailed information see large scale charts

NOAA

UNITED STATES — EAST COAST
VIRGINIA
# CHESAPEAKE BAY ENTRANCE

Mercator Projection
Scale 1:80,000 at Lat. 37°05'
North American 1927 Datum
SOUNDINGS IN FEET
AT MEAN LOW WATER

NEECHO 82-2-3 MCS Line 3 NECH82-2
14 MAY 1982
MULTICHANNEL AND SPARKER
RUSTY TIREY — CHIEF SCIENTIST

CHESAPEAKE BAY
ATLANTIC OCEAN
NORFOLK
PORTSMOUTH
HAMPTON ROADS
CAPE HENRY
CAPE CHARLES
OUTLET BAY
SOUTH BAY
SAND SHOAL INLET
SHIP SHOAL INLET
GREAT MACHIPONGO INLET
OYSTER
CHESAPEAKE BEACH
Old Town Neck
Guinea Neck
Willoughby Bay
Lynnhaven Inlet
Smith Island Bay
Hog Island Bay
The Deeps
Spiderweb Bay
Cobb Island
Sand Shoal Channel
Thimble Shoal Channel
Chesapeake Channel
Middle Ground Shoal
Wolf Trap Shoal
Pocahontas Island
Craney Island
Lamberts Point
Newport News
Hampton
Willoughby Spit
Ocean View
Virginia Beach
Cape Henry Memorial
Fort Story
Old Cape Henry Light
Thimble Shoal Light
Chesapeake Light
Wolf Trap Light
Tue Marshes Light
Old Plantation Light
Great Machipongo Inlet
Cobb Island Range Front
Cobb Island Range Rear
Sand Shoal Inlet Range Front
Sand Shoal Inlet Range Rear
Sand Shoal Channel Range Front
Sand Shoal Channel Range Rear
Thimble Shoal Channel Range Front
Thimble Shoal Channel Range Rear
Chesapeake Channel Range Front
Chesapeake Channel Range Rear
Cape Charles Harbor Range Front
Cape Charles Harbor Range Rear
Cape Charles Light
Cape Henry Light
Old Cape Henry Light
Fort Story Signal Building
Little Creek Va.
Gulper
Chesapeake Light
Thimble Shoal Channel Light
Wolf Trap Light
Tue Marshes Light
Old Plantation Light
Great Machipongo Inlet
Old Point Comfort
Wreck Shoal
Middle Ground Shoal
Willoughby Bank
Fishermans Island
Fisherman Inlet
Fisherman Island
Cape Charles
Cape Henry
Norfolk
Portsmouth
Hampton Roads
Chesapeake Bay
Atlantic Ocean
Virginia
Maryland
Delaware
New Inlet
Smith Island
Hog Island
Cobb Island
Old Town Neck
Guinea Neck
Willoughby Bay
Lynnhaven Inlet
Spiderweb Bay
Outlet Bay
South Bay
Sand Shoal Inlet
Ship Shoal Inlet
Great Machipongo Inlet
Oyster
Chesapeake Beach
Old Town Neck
Guinea Neck
Willoughby Bay
Lynnhaven Inlet
Smith Island Bay
Hog Island Bay
The Deeps
Spiderweb Bay
Outlet Bay
South Bay
Sand Shoal Inlet
Ship Shoal Inlet
Great Machipongo Inlet
Cobb Island
Sand Shoal Channel
Thimble Shoal Channel
Chesapeake Channel
Middle Ground Shoal
Wolf Trap Shoal
Pocahontas Island
Craney Island
Lamberts Point
Newport News
Hampton
Willoughby Spit
Ocean View
Virginia Beach
Cape Henry Memorial
Fort Story
Old Cape Henry Light
Thimble Shoal Light
Chesapeake Light
Wolf Trap Light
Tue Marshes Light
Old Plantation Light
Great Machipongo Inlet
Old Point Comfort
Wreck Shoal
Middle Ground Shoal
Willoughby Bank
Fishermans Island
Fisherman Inlet
Fisherman Island
Cape Charles
Cape Henry
Norfolk
Portsmouth
Hampton Roads
Chesapeake Bay
Atlantic Ocean
Virginia
Maryland
Delaware
New Inlet
Smith Island
Hog Island
Cobb Island
Old Town Neck
Guinea Neck
Willoughby Bay
Lynnhaven Inlet
Spiderweb Bay
Outlet Bay
South Bay
Sand Shoal Inlet
Ship Shoal Inlet
Great Machipongo Inlet
Oyster
Chesapeake Beach



CAUTION
This chart has been corrected from the Notice to Mariners published weekly by the Defense Mapping Agency Hydrographic /Topographic Center and their Local Notice to Mariners issued periodically by each U.S. Coast Guard district for the print date shown in the lower left hand corner.

SOUNDINGS IN FEET

Nautical Miles
Yards

Published at Washington, D. C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

This nautical chart has been designed to promote safe navigation. The National Ocean Survey encourages users to submit corrections, additions, or comments for improving this chart to the Director, National Ocean Survey, NOAA, Rockville, Maryland 20852.

FATHOMS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
METERS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

NEECHO NECH 82-2 (682040)
Chesapeake Bay
May 12-16, 1982
Chief Scientist: R.Tirey
TK#0500 (line 3)

(Chesapeake Bay Entrance)
SOUNDINGS IN FEET - SCALE 1:80,000