

**PORTS® Interactive Voice Response System
Toll-Free Numbers**

**Narragansett Bay PORTS®
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**Chesapeake Bay PORTS®
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**Houston / Galveston PORTS®
866-HG-PORTS (866-447-6787)**

**San Francisco Bay PORTS®
866-SB-PORTS (866-727-6787)**

**Port of Anchorage PORTS®
866-AK-PORTS (866-257-6787)**

Internet

<http://co-ops.nos.noaa.gov>

Center for Operational Oceanographic Products and Services
PORTS®

FOR MORE INFORMATION, CALL OR WRITE:

**National PORTS® Program
CENTER FOR OPERATIONAL OCEANOGRAPHIC
PRODUCTS AND SERVICES**

NOAA/NOS - N/OPS
SSMC4, Sta. 6616
1305 East-West Highway
Silver Spring, MD 20910
301-713-2981
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ports@mail.nos.noaa.gov

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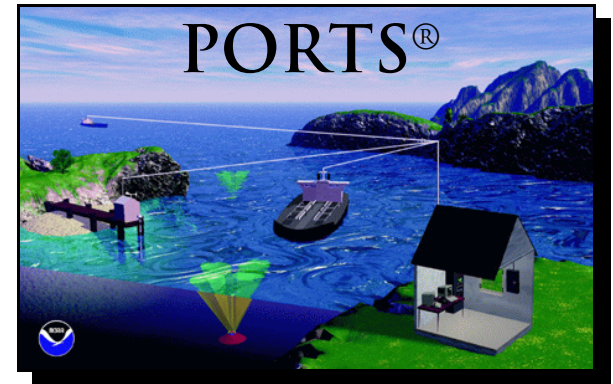
**National Oceanic and Atmospheric Administration
CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES**

NOAA/NOS - N/OPS
SSMC4, Sta. 6616
1305 East-West Highway
Silver Spring, MD 20910-3281



**National Oceanic and Atmospheric Administration
National Ocean Service
CENTER FOR OPERATIONAL OCEANOGRAPHIC
PRODUCTS AND SERVICES**

Physical Oceanographic Real-Time System®

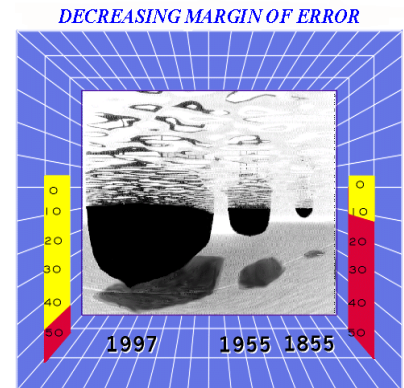


<http://co-ops.nos.noaa.gov>

The National Ocean Service, (NOS) is responsible for providing real-time data and other navigation products to promote safe and efficient navigation within U.S. waters. The need for these products is great and rapidly increasing. Maritime commerce has tripled in the last 50 years and is continuing to grow. Ships are getting larger, drawing more water, and pushing the channel depth limits to

derive benefit from the last inch of cargo draft.

Ninety-eight percent by weight of the Nation's international trade moves through U.S. ports and harbors, with fifty percent of these goods being hazardous materials.



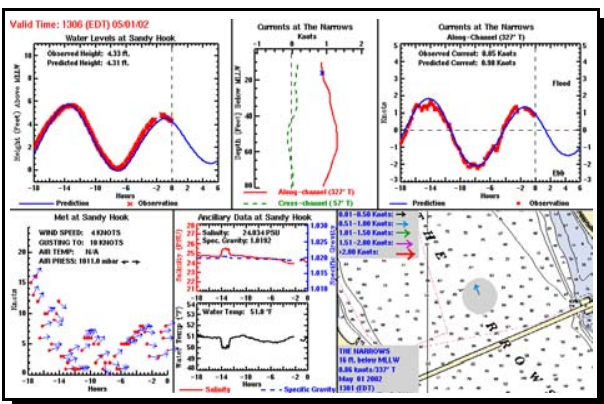
Draft Over the Years

A major challenge facing the Nation is to improve the economic efficiency and competitiveness of U. S. maritime commerce, while reducing the risks to life, property, and the coastal environment. With increased marine commerce comes increased risks to the coastal environment making marine navigation safety a serious national concern. For example, from 1980 to 1988, tankers in the United States were involved in 468 groundings, 371 collisions, 97 ramblings, 55 fires and explosions, and 95 deaths.

In order to provide for the Nation's economic prosperity and environmental well being, NOS has developed the Physical Oceanographic Real-Time System (PORTS®).

PORTS®

PORTS® is a decision support tool, which improves the safety and efficiency of maritime commerce and coastal resource management through the integration of real-time environmental observations, forecasts and other geospatial information. PORTS® measures and disseminates observations and predictions of water levels, currents, salinity, and many meteorological parameters (e.g., winds, atmospheric pressure, visibility, etc.) needed by the mariner to navigate safely.



PROGRAM OBJECTIVES

The objectives of the PORTS® program are to: promote navigation safety, improve the efficiency of U.S. ports and harbors, and ensure the protection of coastal marine resources.

Navigation Safety: The real-time tide and current data provided through PORTS® represent one component of NOS' integrated program to promote safe navigation. PORTS® data, when combined with up to date nautical charts and precise positioning information, can provide the mariner with a clearer picture of the potential dangers that can threaten navigation safety. NOS fulfills its navigation safety mission in close concert with other Federal agencies, such as the U.S. Coast Guard (USCG).

Improved Economic Efficiency: Our nation's waterfronts, ports and harbors have historically been centers of rapid industrial and urban growth, and have advanced critical national objectives by promoting energy exploration, fishery production, commerce, and recreation. In 1991 alone, the commercial shipping industry supported 1.5 million jobs, provided \$52 billion in personal income, and generated approximately \$20 billion in Federal, state and local taxes.

Increasingly, shipping companies are implementing new navigation systems aboard ships to maximize cargo load while reducing uncertainties in underkeel clearances. These new systems require the availability of real-time tide/current and other information. One additional foot of draft may account for between \$36,000 and \$288,000 of increased profit per transit. Knowledge of the currents, water levels, winds, waves, visibility, and density of the water can increase the amount of cargo moved through a port and harbor by safely utilizing every inch of dredged channel depth.

Coastal Resource Protection: Most ports are at the mouth of major estuaries which provide critical habitat for many important biological resources. For example, coastal waters provide nurseries and spawning grounds for 70 percent of the U.S. commercial and recreational fisheries. Commercial fishing employs over 350,000 people in vessel and

shore-related fisheries work. An additional seventeen million people participate in recreational saltwater fishing, spending \$7.2 billion annually. Activities at these ports can greatly affect these critical resources. Dredging is but one such activity.

In addition, prevention of maritime accidents is the most cost effective measure that can be taken to protect fragile coastal ecosystems. In 1996 alone, NOS' Hazardous Materials Response and Assessment Division responded to 69 spills including the release of 1.9 million gallons of caustic soda in Florida and a spill of 825,000 gallons of diesel fuel in Rhode Island. One major oil spill (e.g., EXXON VALDEZ) can cost billions of dollars and destroy sensitive marine habitats critical to supporting coastal marine ecosystems. PORTS® provides information to make navigation safer, thus reducing the likelihood of a maritime accident, and also provides the information necessary to mitigate the damages from a spill, should one occur.

PORTS® provides accurate real-time oceanographic information, tailored to the specific needs of the local community. PORTS® systems come in a variety of sizes and configurations, each specifically designed to meet local user requirements. The largest of NOS' existing PORTS® installations is comprised of over 26 separate instruments. The smallest consist of a single water level gauge and associated meteorological instruments (i.e., winds, barometric pressure, etc.). Regardless of its size, each PORTS installation provides information that allows the mariners to maintain an adequate margin of safety for the increasingly large vessels visiting U.S. ports, while allowing port operators to maximize port throughput.

PORTS® are installed and operational in Narragansett Bay, New York/New Jersey Harbor, Chesapeake Bay, Tampa Bay, Houston/Galveston, Los Angeles/Long Beach, San Francisco Bay, Anchorage, and Soo Locks, Michigan. A major new system is being implemented in the Delaware River and Bay and numerous enhancements are planned for the Chesapeake Bay PORTS®. In addition, systems in New Haven and Tacoma are expected to come online in the near future.