

HYDROGRAPHIC SERVICES REVIEW PANEL

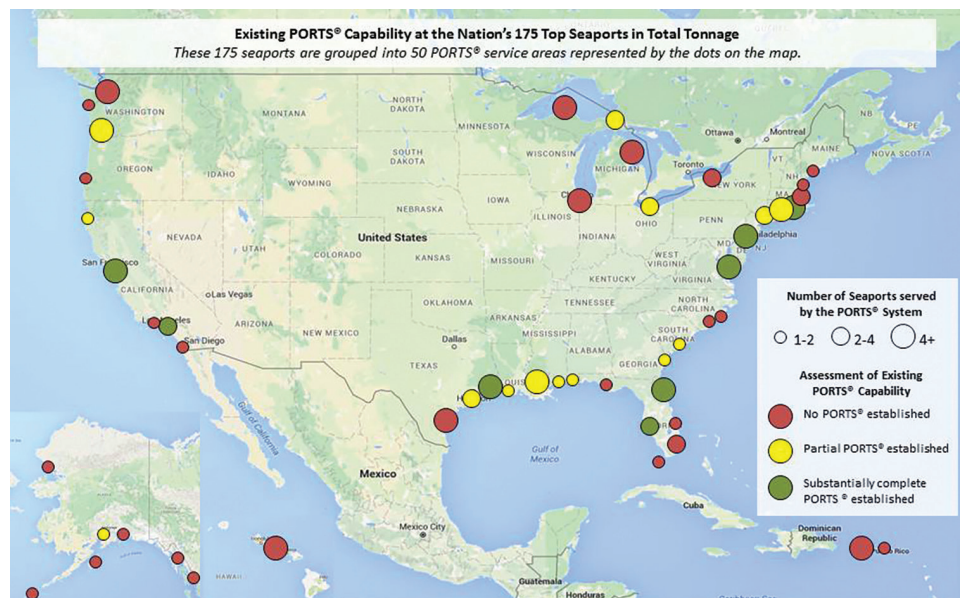
A federal advisory committee, advising the NOAA Administrator

PORTS®: Critical Data for Critical Decisions in U.S. Ports and Harbors

ISSUE AND STATUS

NOAA should continue to prioritize and support value-added seaport systems that increase the safety of navigation, such as the Physical Oceanographic Real Time System (PORTS®). Without such systems and the integration of their data into practical and reliable products for end users, U.S. seaports will encounter significant impediments to the safe, effective, and efficient transfer of people and goods. In order to operate safely, mariners must have a precise knowledge of the physical structure of land and water bodies and behavior of the port, including the real-time and predicted condition of the water and the surrounding environment. NOAA provides invaluable services to our nation's harbors through PORTS. PORTS and the data the system provides serve a multitude of end users, but funding is inadequate to guarantee maintenance and expansion. **NOAA should provide consistent, on-going funding for these systems that provide critical data for critical decisions and expand PORTS to other critical areas needed for safety of navigation.**

It is essential to the Nation's well being that our ports and harbors are safe, resilient, and secure. Our nation's ports and harbors are increasingly vital to our economy. The marine transportation system is the primary system by which goods enter and leave the United States. According to the U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division, *FT920 U.S. Merchandise Trade Selected Highlights, 2015*, during 2015, waterborne trade accounted for over 72% of all international trade by tonnage and 44% by value, moving \$2.9 trillion of goods. Annually, over 600 commercial vessels are involved in accidents on the nation's waterways and major seaports. Studies have shown that PORTS reduces the risk to life and property and facilitates the more efficient flow of international and interstate commerce.



Increased use of the Nation's waterways in the movement and goods and people in all major U.S. ports and harbors is becoming more complex as:

- vessels are becoming larger;
- waterway congestion is increasing;
- security requirements are becoming more stringent;
- climate change is forcing a need for resiliency planning;
- newly dredged channels are creating new hydraulic and bathymetric challenges;
- restricted waterways require precise data for safe navigation; and
- data needs to be made available on-shore, aboard ship, and on numerous devices.

CHALLENGES

Established in 1991, PORTS measures and disseminates observations and predictions of water levels, currents, salinity, bridge clearance, and meteorological parameters (e.g., winds, atmospheric pressure, air and water temperatures) that mariners need to navigate safely and efficiently. PORTS data provides users with the ability to more accurately understand the real-time operating environment, allowing them to make better informed decisions as they navigate through port approaches and within the seaports themselves. As of August 2016, 28 PORTS systems servicing 62 seaports have been installed throughout the country providing real-time integrated oceanographic and meteorological data to its users. Notably several studies suggest that these systems can cut incidents of vessel groundings in half. As larger ships and record cargo volumes increasingly stress our nation's port infrastructures, the mariner's need for improved and expanded PORTS installations has never been greater.

Additionally, PORTS data has applications well beyond marine commerce. PORTS data is used by a diverse user base including NOAA, USCG, USN, USACE, FEMA, state and municipality emergency managers, first responders, academia, coastal managers, recreational boaters, etc. The data improves weather and oil spill trajectory forecasts and informs decisions on preparedness, response, restoration, and adaptation to coastal storms, flooding erosion, and sea level rise among myriad other applications.

While the importance of and value provided by PORTS is widely lauded, the current funding scheme for the system is extremely vulnerable to the varied and complex funding methods. Specifically, the cost-sharing approach is impractical, untenable, and unsustainable as there is not often a readily identifiable and isolated beneficiary. There is certainly a diverse community of system beneficiaries, including the federal government itself, and it is increasingly difficult, if not impossible, to determine when and how to share costs fairly and effectively. Congress has recognized these difficulties and has, in both legislative and appropriations report language, strongly encouraged NOAA to request funding that covers the full costs of PORTS. In fact, the Hydrographic Services Improvement Act of 1998 expressly authorizes the NOAA administrator to "design, install, maintain, and operate real-time hydrographic monitoring systems to enhance navigation safety and efficiency."

RECOMMENDATIONS FOR FEDERAL ACTION

- Ensure reliable federal funding for installation, operation, and maintenance of PORTS.
- Identify users beyond the commercial maritime industry and determine all user needs.
- Identify and prioritize locations where new PORTS should be operated with a goal of having a national system in all significant U.S. ports.
- Review current PORTS installations with local stakeholders to determine current status, and both current and future needs, including installation of additional platforms.
- Ensure PORTS continually infuses new technology to address emerging needs and responsibly recapitalizes the observing system.
- Ensure PORTS and model forecasts are fully integrated, leverage local area modeling innovations, and PORTS data is integrated into climate change models.

The Hydrographic Services Review Panel was established as directed by the Hydrographic Services Improvement Act of 2002, Public Law 107-372.

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