



An Introduction to NOAA's Hydrographic Services Review Panel

A Federal Advisory Committee to the NOAA Administrator

NOAA's National Ocean Service is home to several historic and core Federal programs and services that build and maintain the Nation's nautical charts, coastal water level observation network, and geographic/geodetic positioning framework (called the National Spatial Reference System). The work includes conducting hydrographic surveys and shoreline mapping/imagery, which are essential components for building the Nation's nautical chart suite. A major mission is the protection of life and property and supporting safe and efficient marine commerce. Demand for these services is increasing as the size of vessels continues to increase, challenging available depths in the Nation's increasingly congested ports and harbors. While historically these programs have primarily focused on providing marine navigation services, today this expertise is increasingly being sought by many other sectors, including state and local governments and emergency planners, to provide highly accurate and consistent data and services to inform decision making and planning relating to coastal flooding, inundation, storm surge and sea level rise. The primary statutory authorities for these programs are the Coast and Geodetic Survey Act and the Hydrographic Services Improvement Act or HSIA (as amended).

NOAA's Hydrographic Services Review Panel (HSRP) is the Federal Advisory Committee established by Congress to advise the NOAA Administrator on these essential Federal programs. The Panel advises NOAA on topics such as hydrographic survey priorities; technology and innovation; research and development; and the acquisition, dissemination, and archiving of data and information. The Panel's membership includes national experts from industry and academia and provides an independent perspective on current, emerging and critical issues associated with these programs. Most recently, the Panel completed a series of six issue papers (attached), which provide background and context on important issues to transition personnel and incoming leadership. [The issue papers can be found here, http://www.nauticalcharts.noaa.gov/ocs/hsrp/recommendations.htm](http://www.nauticalcharts.noaa.gov/ocs/hsrp/recommendations.htm)

1. Hydrography: A Core NOAA Mandate.

NOAA's leadership and the National Ocean Service should emphasize the importance of hydrography within NOAA and to the Department of Commerce, Office of Management and Budget, and the Congress. Funding for NOAA's Office of Coast Survey should be at levels that will decrease the hydrographic survey and charting backlog, maintain NOAA's status as a world leader in hydrography, and sustain U.S. economic growth.

2. The NOAA Hydrographic Survey Fleet: A Critical National Asset.

The most pressing need for recapitalization of the NOAA fleet is replacement of two of the oldest vessels, the hydrographic survey ships *Rainier* and *Fairweather*. The HSRP recommends that the acquisition or construction of an Arctic-capable hydrographic survey vessel that carries multiple launches be given the highest priority for new funding for NOAA fleet recapitalization.

3. Charting the U.S. Maritime Arctic.

Globalization and climate change are causing extraordinary impacts on the maritime Arctic. Dramatic Arctic sea ice retreat is leading to longer ice-free seasons and an increase in vessel traffic and other marine operations. One of the nation's strategic challenges is the lack of maritime infrastructure in the Arctic. Expanded hydrographic surveying and charting and increased geodetic and oceanographic observations are critical needs in this frontier region.

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

NOAA should provide consistent, on-going funding for seaport information systems, such as the Physical Oceanographic Real Time System or PORTS®. PORTS® integrates and provides critical environmental data (water levels, waves, currents, winds . . .) to inform decision making in increasingly congested ports and harbors. Independent studies have shown that PORTS® reduces vessel groundings and improves the efficiency of marine operations.

5. All U.S. Latitudes, Longitudes and Elevations to Change in 2022.

The replacement of NAD83 and NAVD88 datums will dramatically increase the accuracy of mapping and surveying. It will allow for vertical positioning at the 2 cm level, impacting all public and private sectors from professional applications and services to recreational users who use maps, charts and satellite positioning systems such as GPS (Global Positioning System). National Geodetic Survey estimates that an additional \$522 million in annual economic benefits could be generated by the implementation of a new vertical reference system, allowing users to determine more precise elevations using the GPS (global positioning system), with approximately \$240 million saved from improved floodplain management alone.

6. The Hampton Roads Regional Pilot Project: Whole of Government / Whole of Community Approach and Response to the Challenge of Increased Coastal Flooding.

Coastal communities are increasingly experiencing flooding that causes significant economic loss and impedes the movement of people and commerce. For example, at projected rates of sea level rise, by 2040 one of the main highways to

the world's largest naval base will be flooded every high tide. In light of the increasing incidents and severity of coastal flooding, NOAA should apply its unique coastal mapping, observing and positioning expertise that provides coastal intelligence to aid decision makers in adaption planning and building stronger coastal resilience.