



*Julie Thomas, Chair*  
*Sean M. Duffy, Sr., Vice-Chair*  
October 19, 2023

Dr. Richard W. Spinrad  
Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator  
U.S. Department of Commerce  
1401 Constitution Avenue, NW  
Washington, D.C. 20230

Dear Dr. Spinrad,

What an incredible introduction to our meeting to have you, Nicole LeBoeuf and Rachel Dempsey, Senior National Oceanic and Atmospheric Administration (NOAA) speakers, open our September 2023 Hydrographic Services Review Panel meeting (HSRP). We appreciate your long history with the HSRP and your continued commitment and engagement. During our meeting, many topics you addressed resonated with the panel. We discussed data preservation, curation and distribution. A Climate Ready Nation is foremost on our minds. We intend to delve further into this issue during our next meeting in Long Beach, CA. It was particularly enlightening to meet Ms. Dempsey whose dedication to NOAA's resilience, collaboration and economic growth are evident.

RDML Benjamin Evans, Director, Office of Coast Survey (OCS), Director Juliana Blackwell, National Geodetic Survey (NGS), and Derrick Snowden, Acting Director, Center for Operational Oceanographic Products and Services (CO-OPS), provided detailed updates on their respective divisions. There continued to be a robust discussion concerning the problems of workforce retention, the lack of new talent, the reduction in academic programs, and the inability to attract college-aged students into the challenging maritime and geodesy fields. Capt. Andy Armstrong highlighted the creation of the Center of Excellence for Operational Ocean and Great Lakes mapping, and the future goals of the new Center.

The following informational panels were a key part of the meeting. The HSRP acknowledges the participants who contributed their time and knowledge.

- Digital Twin Application – How can NOAA maximize the benefits of this technology?
- Geodesy Community of Practice: Addressing the Geodesy Crisis – Focused on existing and emerging efforts to address this issue.
- Opportunities in Modeling Efforts in CO-OPS, NGS and OCS – Overview of model development within these three offices.
- Coastal Resilience Planning in the United States – Importance of using NOAA's flooding, inundation and sea level data, products and services
- Making Sense of Sensors – Encourage practical alignments of navigation sensors and advancements.
- Hydrographic and Topographic Data Quality and Accuracy – Focus on foundational elements of the digital infrastructure, metadata requirements, data analytics, and improved modeling.

Following are HSRP recommendations from the meeting:

- 1) Increase funding for core products and services. The National Ocean Service is a leader in precise water level information, geodetic measurements, mapping and nautical charting. The recent increase in funding for coastal resilience projects will increase the demand for the National Ocean Service's core products and services. Continue to focus on these efforts, delivering high quality data to its users. An example is the

National Bathymetry Source (NBS) which primarily supports the Electronic Navigational Charts (ENC) production, and with additional resources has potential to offer further value to NOAA and external users. It is recommended that NOAA communicate, educate and advocate for the benefit of these products, in addition to recognizing that additional external sources are also important for non-navigation users.

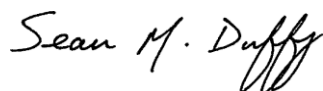
- 2) As mentioned above, it is recognized that not only is there a lack of workforce in the geodesy realm, but also across the maritime operations and functions. The new Center of Excellence at the University of New Hampshire provides an opportunity to address some of the NOAA career development and training issues for hydrographic surveyors and ocean mappers. The HSRP recommends early engagement with the industry and trade organizations to support similar efforts across the broader mapping community. NOAA should continue to engage with other federal agencies to address the issues at the highest levels of government.
- 3) There should be coordination and support across NOAA offices to establish metadata standards for all data, including bathymetry, modeling for coastal resilience, benthic habitat mapping and support protecting marine areas. Such metadata standards will ensure data interoperability and use accuracy. Resourcing and funding are required for data stewardship, which is critical to support data archives and disseminating the data into the hands of the users.
- 4) Supporting underserved communities is critical. Many remote, underserved communities lack the foundational data and geodetic infrastructure to support informed coastal resilience decision-making. The HSRP suggests increasing foundational data programs in remote, underserved communities with sustained funding.
- 5) The HSRP requests that the NOAA's leadership evaluate the role of the Digital Twin in supporting activities in managing foundational data, supporting and optimizing economic activity at the ports, managing NOAA assets, improving safety protocols in port operations, supporting coastal resilience, coastal and ocean mapping, modeling and predictions. Importantly, NOAA needs to ensure that it has the necessary Information Technology (IT) infrastructure to support Digital Twin implementation to facilitate sharing its massive, broad databases more easily, quickly and directly with the public.

The HSRP had many in-depth discussions concerning these recommendations. We appreciate NOAA addressing the issues. The HSRP looks forward to a productive year and to further communication with you and NOS leadership.

Sincerely,



Julie Thomas  
Chair, HSRP



Sean M. Duffy, Sr.  
Vice Chair, HSRP

Attachments:

Geodesy Crisis Issue Paper

HSRP Priorities Matrix March 2023

HSRP Meeting Minutes, Silver Spring September 2023