

NOAA Hydrographic Services Review Panel

Public Meeting, September 27 - 29, 2023, Hotel Silver Spring, Silver Spring, MD

All topics, times and speakers are subject to change, please consult the latest online agenda.

HSRP meeting documents/website: <https://www.nauticalcharts.noaa.gov/hsrp/>

Please RSVP: This is a public meeting and we would appreciate knowing that you will attend for planning needs. To attend in person, advance registration is requested. Seating is first come, first served.

Please register in advance:

In person-registration:

https://docs.google.com/forms/d/e/1FAIpQLSc50TPXbEeh1q8ZbSVG6LTLchMiAZJV-GxfEQ_sFqKTuvAAQg/viewform

Webinar registration: <https://attendee.gotowebinar.com/register/7026716459954703189>

ASL interpreters will be visible on the GoToWebinar platform

<https://attendee.gotowebinar.com/register/7026716459954703189> in addition closed captions will be available at this link: <https://das.1capapp.com/event/18097> You will need to click this link each day to view the closed captions in a separate window.

Meeting Logistics: **Hotel Silver Spring**, 8727 Colesville Rd, Silver Spring, MD 20910

Pinnacle Grand Ballroom (2nd floor)

Dress for all events: Business (Day 1); Business casual (Day 2-3)

Uniform: Summer White or service equivalent (Day 1), Khaki (Day 2-3)

Parking: Town Square Garage (Garage 61) - \$1.25/hr

Hotel Parking: \$20 for non overnight guests; \$30 for overnight guests.

**All times are Eastern Standard Time (EST). Topics, times, and speakers are subject to change.*

Wednesday, September 27	Thursday, September 28	Friday, September 29
<ul style="list-style-type: none"> - 9:00 Opening Session - Leadership welcome - 10:30 Opportunities and Challenges for NOPS - 11:30 CMTS update 	<ul style="list-style-type: none"> - 9:00 Recap on prior day - 9:15 Modeling Session - 11:00 HSRP Working group discussion 	<ul style="list-style-type: none"> - 9:00 Recap on prior day - 9:45 HSRP Working groups - 10:45 Public Comment period - 11:00 Recommendations / letter; wrap up; Round Robin / closing comments - 12:30 Meeting concludes
<ul style="list-style-type: none"> - 11:45-1:00 LUNCH on your own (HSRP members working lunch) 	<ul style="list-style-type: none"> - 11:45-1:30 LUNCH on your own (HSRP members working lunch) 	
<ul style="list-style-type: none"> - 1:00 Digital Twin - 3:00 Geodesy updates - 4:00 Public Comment Period - 4:10 Wrap up - 5:30 Meeting concludes 	<ul style="list-style-type: none"> - 1:30 Coastal Resilience - 2:30 Public Comment Period - 3:00 Making Sense out of Sensors - 3:30 Data quality - 4:30 Wrap up - 5:30 Meeting concludes 	

Wednesday, September 27 – Day One

MEETING ROOM: Pinnacle Grand Ballroom, Hotel Silver Spring

HSRP PUBLIC MEETING DAY 1 CONVENES

**All times are Eastern Standard Time (EST).*

9:00 – 10:30 Opening and Welcome

- **Julie Thomas**, Chair, National Oceanic and Atmospheric Administration (NOAA) Hydrographic Services Review Panel (HSRP) Federal Advisory Committee, member round robin
- **Senator Ben Cardin**, U.S. Senate (D-MD) - letter
- **Dr. Richard W. Spinrad, Ph.D.**, Under Secretary of Commerce for Oceans and Atmosphere & NOAA Administrator
- **Nicole LeBoeuf**, Assistant Administrator for Ocean Services and Coastal Zone Management, National Ocean Service (NOS), NOAA
- **Rachael Dempsey**, Deputy Assistant Administrator, Navigation Observation and Positioning, NOS, NOAA
- **Rear Admiral Benjamin Evans**, Director, Office of Coast Survey (OCS), NOS, NOAA, and HSRP Designated Federal Officer (DFO)

10:30 – 10:45 Break

10:45 – 11:30 Opportunities and Challenges for the NOS's Navigation Observations and Positioning Portfolio

National Ocean Service's Office Directors describe recent activities within their offices such as the update to the National Spatial Reference System (NSRS), datums, Bipartisan Infrastructure Law projects, surveying, charting, uncrewed systems, remote sensing and lidar, photogrammetry, positioning, sea level rise and water levels in support of "seamless data" .

- **Rear Admiral Benjamin Evans**, Director, OCS and HSRP DFO
"OCS Strategic Planning, Updates and Outlook." Coast Survey's vision and initiatives for developing data based products and services
- **Juliana Blackwell**, Director, National Geodetic Survey (NGS)
"NGS Program Updates and Outlook." A review of recent NGS accomplishments and a look at what lies ahead
- **Derrick Snowden**, acting Director, Center for Operational Oceanographic Products and Services (CO-OPS)
"CO-OPS Program Updates and Outlook." A review of recent accomplishments and FY24 look ahead
- **Capt. Andy Armstrong**, Co-Director, Center for Coastal and Ocean Mapping/NOAA-University of New Hampshire Joint Hydrographic Center (CCOM/JHC)
"Joint Hydrographic Center Research Projects." An overview of recent progress on select research tasks and a preview of 2024 research priorities for the CCOM/JHC

11:30 – 11:45 U.S. Committee on the Marine Transportation System Update

- **Brian Tetreault**, acting Executive Director, and U.S. Army Corps of Engineers, Senior Advisor, U.S. Committee on the Marine Transportation System
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11:45 – 1:00 Lunch on your own

1:00 – 2:45 Digital Twin Application to NOAA

Digital Twin applications have reproduced quickly over the last handful of years, with industries from manufacturing to supply chain to health care capitalizing on the value of this geospatial tool. But among the most promising applications of Digital Twin for NOAA is in managing coastal mapping data, coastal resilience, maritime navigation, and fleet management. Artificial Intelligence (AI), deep learning, data analytics and modeling fields play a great role in maximizing the benefits of Digital Twin by converting the tremendous amount of data within a Digital Twin to knowledge.

Moderators: Dr. Qassim Abdullah, Capt. Anuj Chopra, HSRP members, **Galen Scott**, NGS

- **Dr. Qassim Abdullah**, HSRP Member, *“Introduction to Digital Twin”*
- **Capt. Anuj Chopra**, HSRP Member, *“The Economic Value of Digital Twin”*
- **Marten Hogeweg (remote)**, Senior Project Manager, ESRI Inc., *“GIS, a Foundational Building Block of a Digital Twin of the Ocean”*
- **Inching Towards Digital Twin Through Digital Transformation**
 - **Kat Rovang**, Senior Geoscientist, Fugro, *“Connecting the data – A collaborative approach to Geo-data information and environmental digital twins”*
 - **Kim Valentine (remote)**, NOAA Geospatial Information Officer, *“NOAA's Digital Data Landscape - Transforming Data into Actionable Information”*
- **NOAA AI-Based Earth and Space Observations Digital Twin Prototype**
 - **Lynn Mayo (remote)**, Joint Venture Program Manager NOAA, National Environmental Satellite, Data, and Information Service (NESDIS), *“Overview of NOAA NESDIS Joint Venture initiatives”*
 - **Dr. Lynn Montgomery (remote)**, Staff AI Research Engineer, Lockheed Martin, *“NOAA AI-Based Earth and Space Observations Digital Twin Prototype”*
- **Discussion**

2:45 – 3:00 Break

3:00 – 4:00 Geodesy Community of Practice: Addressing the Geodesy Crisis

The U.S. is facing a [Geodesy Crisis](#) with a severe decline in geodesy professionals creating a risk to national security and putting the U.S. at a global competitive disadvantage. NGS, National Aeronautics and Space Administration (NASA) and National Geospatial Intelligence Agency (NGA) have established a Geodesy Community of Practice and are working together on a national strategy to address the geodesy crisis. This panel session will provide an overview of existing and emerging efforts to address geodesy hard questions, rebuild the talent pipeline, and collaborate on geodetic infrastructure, software, equipment, and field work. The goal of this session is to raise awareness and discuss how HSRP members can engage in and support these efforts to address an issue of critical national importance.

- **Brad Kears**, Deputy Director, NGS, NOS, NOAA
- **Scott Spaunhorst**, Technical Executive, Office of Geomatics, NGA
- **Benjamin Phillips (remote)**, Lead, NASA’s Earth Surface and Interior Focus Area
- **Discussion**

4:00 – 4:10 Public comment period – comments directed to the HSRP members

4:10 – 5:30 Wrap up

- **Julie Thomas**, Chair and **Rear Admiral Benjamin Evans**, OCS, NOS, NOAA and HSRP DFO

HSRP PUBLIC MEETING DAY 1 ADJOURNS

Thursday, September 28 – Day Two

MEETING ROOM: Pinnacle Grand Ballroom, Hotel Silver Spring

HSRP PUBLIC MEETING DAY 2 CONVENES

**All times are Eastern Standard Time (EST).*

9:00 – 9:15 Recap and discussion of Day 1 and round robin with all members

- **Julie Thomas**, HSRP Chair and **Rear Admiral Benjamin Evans**, OCS, NOS, NOAA and HSRP DFO

9:15 – 10:45 NOAA/NOS Opportunities in Modeling Efforts in CO–OPS, NGS and OCS

Moderator and Introduction: Julie Thomas, HSRP Chair, and **Dr. Shachak Pe’eri**, NGS

- **Patrick Burke**, Director, Oceanographic Division, CO-OPS, NOS, NOAA, *“Update on CO-OPS Operational Forecast System”*
- **Dr. Greg Seroka**, Physical Scientist, and **Dr. Saeed Moghimi**, Lead, NOS Storm Surge Modeling Team, OCS, NOS, NOAA, *“Update on STOFS 2D/3D Models”*
- **Dr. Ayumi Fujisaki-Manome**, Associate Research Scientist, Geospatial Data Sciences, Cooperative Institute for Great Lakes Research University of Michigan, *“UFS Coastal Applications Team”*
- **Dr. Shachak Pe’eri**, Division Chief, Geosciences Research Division, and **Stephen White**, Staff Cartographer, NGS, NOS, NOAA, *“VDatum, Uncertainty and Pacific Efforts”*
- **Discussion**

10:45 – 11:00 Break

11:00 – 11:45 HSRP working group discussion – priorities, issue papers, comments

- **HSRP Planning and Engagement working group (P&E WG) discussion**, Julie Thomas and **Nathan Wardwell**, Chairs; HSRP discussion and comments on topics such as the HSRP issue papers for geodesy crisis and other topics
- **Dr. Qassim Abdullah**, HSRP Member, Digital Twin Issue paper
- **Gary Thompson**, HSRP member, Geodesy issue paper discussion

11:45 – 1:00 Lunch on your own

1:00 – 2:30 Coastal Resilience Planning in the U.S. Using NOAA’s Flooding, Inundation, Sea Level Data, Products and Services

Foundational geospatial data is critical to understanding the impacts of flooding, inundation, and sea level rise on coastal communities. NOAA’s navigation services offices are mandated to measure and monitor water levels and shorelines to provide accurate data to decision-makers. You will hear from Office Directors about how the geospatial data used to meet mission requirements to support community resilience.

Moderator: Rachael Dempsey, Deputy Assistant Administrator for Navigation, Observations and Positioning, NOS, NOAA

Speakers:

- **Nicole Elko (remote)**, HSRP member, *“Coastal Resilience Regional Needs Learned by the HSRP from Previous Meetings”*
- **Mark Osler**, Senior Advisor for Coastal Inundation and Resilience Science and Services, NOS, *“Big Picture of Coastal Resilience Across the U.S. Government”*
- **Comments from Rear Admiral Benjamin Evans, Juliana Blackwell, and Derrick Snowden**, Navigation Office Directors: *“Discussion and Impressions on Coastal Resilience Efforts for OCS, NGS and CO-OPS”*

2:30 – 2:45 Public comment period - comments directed to the HSRP members

2:45 – 3:00 Break

3:00 – 3:30 Making Sense of Sensors

Coordination across government agencies to incorporate advancements in technology while reducing metric confusion or “datum dizziness” through open dialogue and to encourage practical alignments of navigation sensors, such as updates on advancements in air gap capabilities to include - “interactive air gaps” and a collaborative effort specific to the Mississippi River - Measuring for the Future: A “Sentinel” Waterway Monitoring System for the Mississippi River Basin - multi-disciplinary industry members with alignment of government agencies including NOAA, USACE, USCG, and USGS.

Moderator: Sean Duffy, HSRP Co-Chair, and **Chris DiVeglio**, PORTS Program Manager, CO-OPS, NOS

Speakers:

- **Dr. Thomas Butkiewicz**, University of New Hampshire, *“Interactive Air Gap Visualizations for Precision Navigation on the Lower Mississippi River”*
- **Dr. Heidi Mehl**, The Nature Conservancy, *“Comprehensive Monitoring System for the Mississippi River”*

3:30 – 4:30 Hydrographic and Topographic Data Quality and Accuracy

Over the last couple of decades there has been significant development of new technology for the acquisition and processing of digital data, and there has also been the parallel transition to electronic charting and other digital services. However, for bathymetry this has resulted in a shift from the chart as the single authoritative product to multiple digital options for the increased range of users. This panel focuses on foundational elements of the digital infrastructure, and establishing the metadata requirements from acquisition, to better utilize the new processes of data analytics, AI, and improved modeling to support new authoritative products and services.

Moderators and Introduction: Lindsay Gee, HSRP Member, CDR Briana Hillstrom, Chief Hydrographic Surveys Division, OCS, NOS, NOAA

Speakers:

- **Katrina Wyllie**, Team Lead, Operations Branch, National Bathymetric Source (NBS), OCS, NOS, *"The National Bathymetric Source: Quality Metadata."*
- **Brian Meyer**, Physical Scientist, NESDIS/NCEI, Geomagnetism Team, NOAA Center for Artificial Intelligence, Extended Continental Shelf, NOAA Science and Technology Synergy Committee, *"All Things Bathymetry at NCEI, Archive to Distribution"*
- **William Gavin**, Geographer and eHydro Project Manager, USACE, *"eHydro: Data Standards and Sharing"*
- **Shannon Hoy**, Office of Ocean Exploration, OAR, NOAA, and **Dr. Vicki Ferinni**, Research Scientist, Lamont-Doherty Earth Observatory, Columbia University, **(Presented by Lindsay Gee)** *"Perspectives on Non-navigation/Charting Bathymetry Quality Standards and Metrics: Considerations from Ocean Exploration, Academia and the University Fleet, and Global Multi-Resolution Topography"*
- **Leslie Ruta**, Port of Corpus Christi, *"How the Port of Corpus Christi Uses Survey/Facility Inspections to Collect Data and Make Decisions and Future Plans for an Active Digital Twin for Asset Management"*

Commenters:

- **Julie Thomas**, HSRP Chair, *"Comments on the Port of Los Angeles/Long Beach Precision Marine Navigation Project"*
- **Dr. Quentin Stubbs**, Regional Navigation Manager, Customer Affairs Branch, OCS, NOS, NOAA, *"Texas Regional/ Local Translator/ Interpreter Between Data Users and Producers"*

4:30 – 5:30 Wrap up

Sean Duffy, HSRP Co-Chair and **Rear Admiral Benjamin Evans**, OCS, NOS, NOAA and HSRP DFO

HSRP DAY 2 and PUBLIC MEETING CONCLUDES

Friday, September 29 – Day Three

MEETING ROOM: Pinnacle Grand Ballroom, Hotel Silver Spring

HSRP PUBLIC MEETING DAY 3 CONVENES

**All times are Eastern Standard Time (EST).*

9:00 – 9:45 Public meeting reconvenes and day 2 recap:

Julie Thomas, HSRP Chair and Rear Admiral Benjamin Evans, OCS, NOS, NOAA and HSRP DFO

9:45 – 10:45 HSRP discussions

- **Technology Working Group**, Dr. Qassim Abdullah, Capt. Anuj Chopra, Chairs
- **Arctic Working Group**, Nathan Wardwell, Chair
- **Planning and Engagement Working Group**, Julie Thomas and Nathan Wardwell, Chairs
Priorities, recommendations, ongoing interests, issue papers, priority matrix, future meetings
- **Discussion**, Julie Thomas and Nathan Wardwell

10:45 – 11:00 Public comment period – comments directed to the HSRP members

11:00 – 11:15 Break

11:15 – 12:15 HSRP Round Robin Recap and member discussion on recommendation letter – Julie Thomas, HSRP Chair and Sean Duffy, HSRP Co-Chair

12:15 – 12:30 Closing comments – Julie Thomas HSRP Chair, and Rear Admiral Benjamin Evans, OCS, NOS, NOAA and HSRP DFO

12:30 Meeting concludes

HSRP DAY 3 and PUBLIC MEETING CONCLUDES
