

TRB Fall Marine Board Meeting NOAA Update

November 6, 2019



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National Oceanic and Atmospheric Administration



NOAA & the Blue Economy

1. Infrastructure for Expanding the U.S. Blue Economy: Ocean Mapping

- ocean mapping and dissemination of that information to the public

2. Seafood Production and Competitiveness

- NOAA Aquaculture Program provides the science, services, and policies to support the significant expansion and sustainability of U.S. marine aquaculture.

3. Maritime Commerce

- NOAA provides nautical charts, ocean and coastal mapping, marine weather forecasts, oceanographic services and other foundational data necessary for safe and efficient navigation.

4. Tourism and Recreation

- Health and effective management the federal system of marine sanctuaries, monuments, and other protected areas



Innovation areas

- Ocean Mapping Plan
- Coastal Mapping Program
- Office of Response and Restoration
- NWS Ocean Prediction Center
- NOAA UaX's

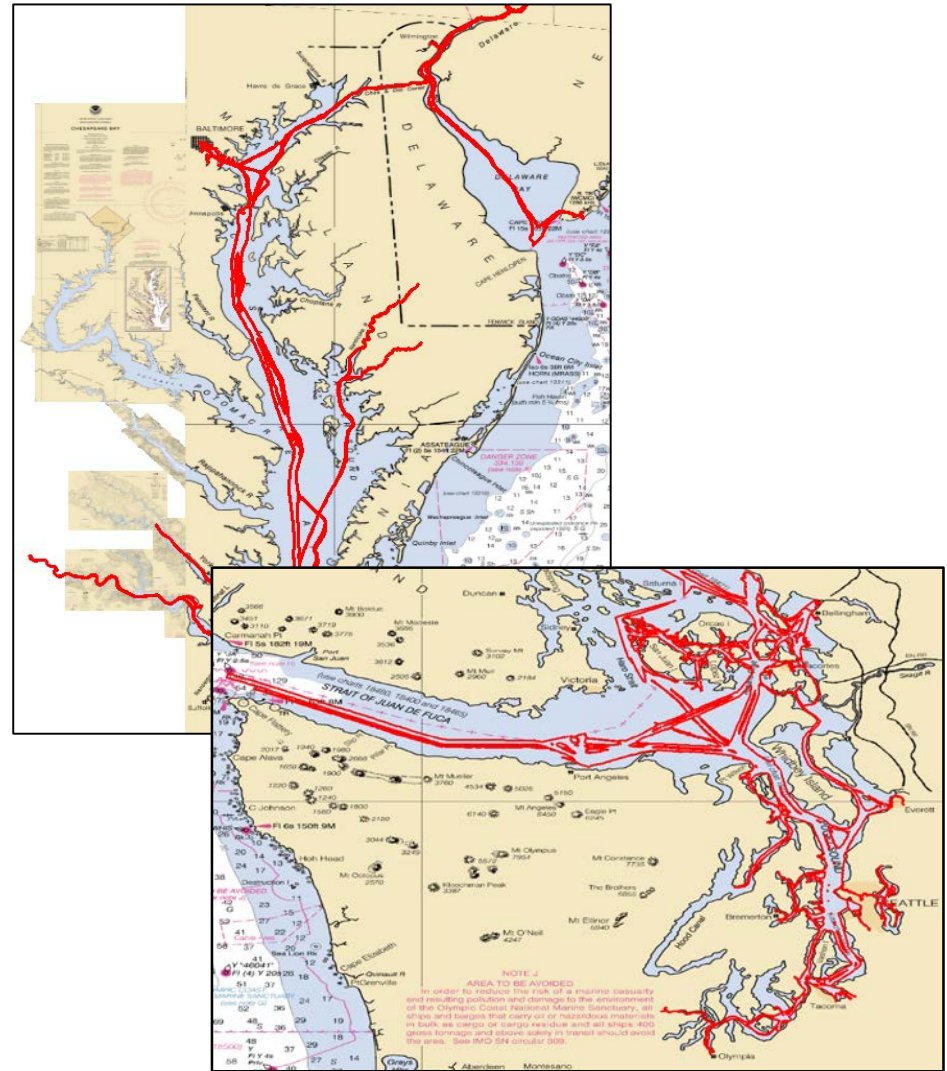


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Ocean Mapping Plan

- More than 50% of the United States is in our oceans and Great Lakes and 57% of that area is unmapped.
- The completion of this work will increase the accuracy of NOAA's ENC's
- Support and inform decisions on emergency planning, climate adaptation and resilience,



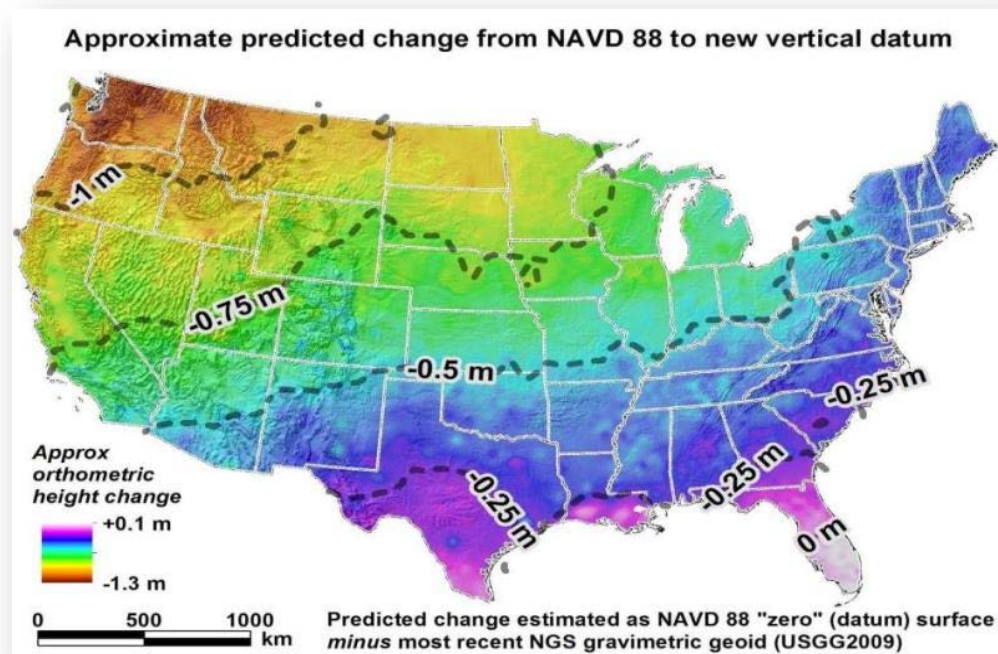
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Coastal Mapping Program

The new **vertical (geopotential)** datum will change heights on average 50 centimeters (20"), with a 1-meter (39") tilt towards the Pacific Northwest.

In Addition.... The new **geometric** datum will change latitude, longitude, and ellipsoid height by between 1 and 2 meters.



UPDATE: NGS is currently looking to partner with different entities to perform pilot tests for how the new datums will affect different geospatial products and services.



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NOAA Office of Response and Restoration

Optimizing Remote Sensing to Characterize Oil Spill Slicks

- **Characterizing oil in the environment – especially via remote platforms**
 - Remote sensing platforms, sensors and samplers
 - AUVs and ROVs
- Enhancing oil spill modeling tools, emphasis on shallow surface mixing layer
- Advancing understanding oil exposure and toxicity
- **Rapid data processing and display**



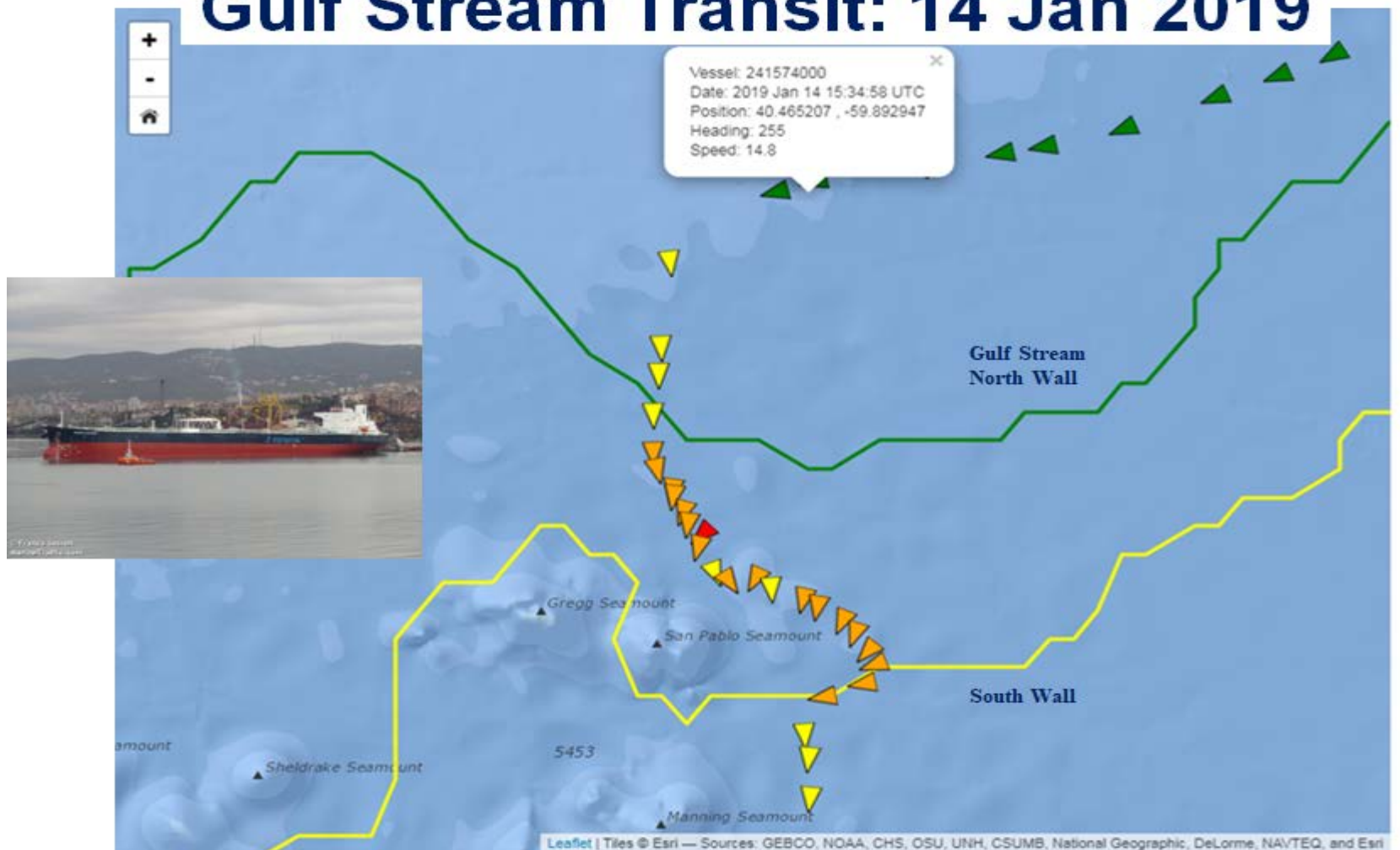
NWS – Ocean Prediction Center

- Working to know how waves, wind, and currents interact
- Issues:
 - Wave, wind, and current interaction
 - Impacts: loss of time, damaging waves, and increase in cost
 - Positive side: if location is known, ships can get a “boost”



NWS – Ocean Prediction Center

Gulf Stream Transit: 14 Jan 2019



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NOAA's Unmanned Systems for Hydrography

- The research to operations portion of autonomous vehicles on our ships.



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DRiX



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- There are nearly two million square nautical miles in need of mapping in the U.S.
- NOAA's OMAO, in conjunction with the OCS and the Center for Coastal and Ocean Mapping at the University of New Hampshire, have been collaborating on operational tests of the unmanned maritime system DRiX developed by iXBlue.
- Recently, [NOAA Ship Thomas Jefferson integrated a DRiX](#) into their operations with the goal of testing its unique deployment and recovery solution designed for the ship's launch davit.

DRiX



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General Updates



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Sunset of NOAA Raster Charts

- Communication with major stakeholders (2019-2020)
- Need to work with USCG and NGA on new rulemaking.
- Need to work with POD and other distribution entities on alternatives to raster and paper products and/or raster/paper derived from ENC data.



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Sunset of NOAA Raster Charts - Schedule

2019 - 2020

- Consult and coordinate with nautical chart data providers,, print-on-demand agents, chart users, and other stakeholders.
- Complete development of policies and procedures for the orderly cessation of raster chart production.

2020 - 2023

- Systematically cancel NOAA raster charts.

2024

- Cancel remaining NOAA raster charts.
- Make final modifications to the chart production system and documentation for ENC-only production.
- Make final changes to NOAA websites and other chart related informational and education materials, as required.



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Sunset of NOAA Raster Charts

Transforming the NOAA ENC® Implementing the National Charting Plan



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Sunsetting Traditional NOAA Paper Charts

End of Paper and Raster Nautical Chart Production
Introduction of NOAA Custom Charts



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October 28, 2019

5 Things to Know about the End of Traditional NOAA Paper Nautical Chart Production

- 1. A five-year process to end all traditional paper nautical chart production** will shut down all other raster chart products and services associated with traditional NOAA paper nautical charts, including:
 - Print-on-demand (POD) paper nautical charts
 - NOAA raster navigational charts (NOAA RNC™)
 - NOAA RNC tile service
 - Full-size chart PDFs
 - BookletChart™ PDFs
 - Online RNC viewerThe expected cancellation date of these products and services is January 2025.
- 2. NOAA is seeking feedback from chart users** and companies that provide products and services based on NOAA raster and electronic navigational chart (NOAA ENC®) products. This information will shape the manner and timing in which the product sunseting process will proceed. Comments may be submitted with the ASSIST feedback tool at <https://nauticalcharts.noaa.gov/customer-service/assist>. A Federal Register Notice soliciting comments will also be released shortly.
- 3. NOAA is undertaking a three-pronged sunseting process** to ease the transition to ENC-based products while continuing to support safe navigation:
 - Improving data consistency and providing larger scale coverage of NOAA's primary chart product, the ENC.
 - Providing access to paper chart products based on ENC data, either through the NOAA Custom Chart web app or third-party commercial data providers.
 - Shutting down all traditional paper and associated raster chart production.Efforts to improve ENCs and develop the NOAA Custom Chart web app have been ongoing for several years now. The cancellation of some paper and raster charts may start as early as mid to late 2020. NOAA does not have the resources to continue maintaining both traditional paper nautical charts and ENCs.
- 4. Paper Charts from ENC data** can now be created with the NOAA Custom Chart web app at <https://devgis.charttools.noaa.gov/pod>. Users can create charts from the latest NOAA ENC data, then download, view, and print the output to get a paper or digital backup for GPS-enabled chart displays or other electronic chart systems.
- 5. Historical editions of nautical charts** - suitable for framing - back to the mid-1800s, may be downloaded for free at <https://historicalcharts.noaa.gov>.



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October 21, 2019

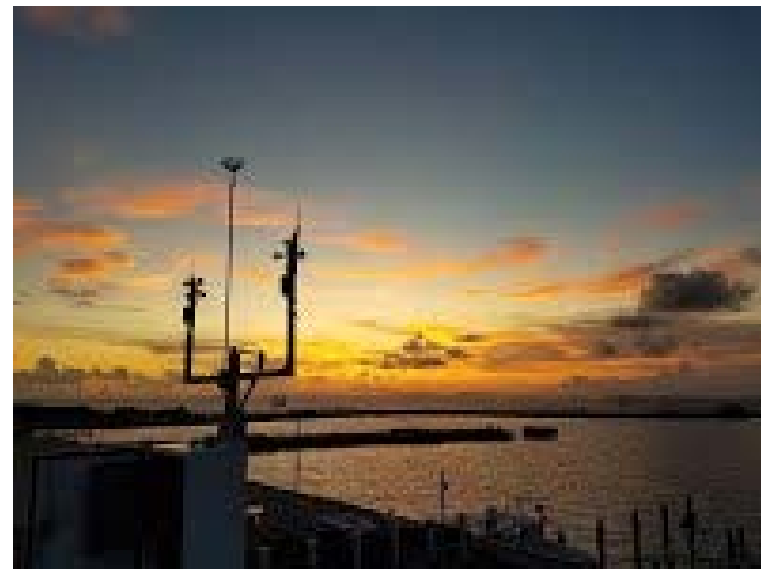


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NOAA CO-OPS – AIR GAP

- Currently, CO-OPS monitors 18 operational air gap sensors in various PORTS.
- This summer, an internal 'Air Gap reliability working group' made recommendations to our executive leadership on to reduce/prevent air gap data outages.
- These recommendations are already being turned into action items at CO-OPS.



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NOAA CO-OPS

- The need and interest in real time visibility data is also growing.
- CO-OPS has 14 real time visibility stations that are part of PORTS regions.
- Several seaports along the Gulf Coast cite delays and impacts tied to 'fog days' at certain times of the year.
- A recently approved PORTS expansion project for Corpus Christi includes the installation of up to 7 visibility sensors.



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NOAA Water Team

- Third annual NOAA Water Team meeting, held this year at the National Center for Weather and Climate Prediction in College Park, MD.
- The purpose of the NOAA Water Team is to work across NOAA and with a diverse set of external stakeholders to implement the objectives and outcomes that are in the [2016 NOAA Water Initiative Vision and Five Year Plan](#).



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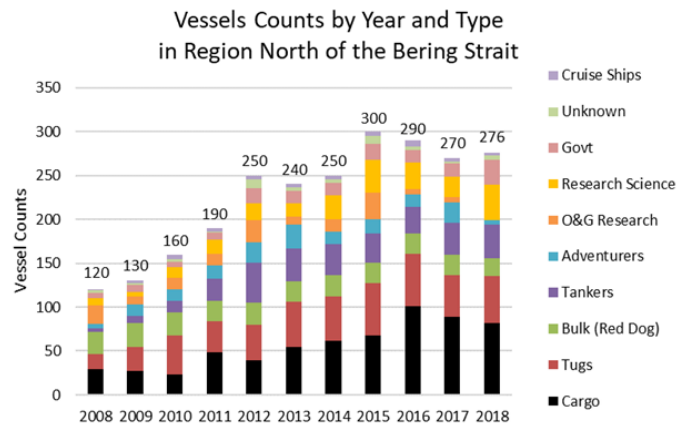
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- Next HSRP Meeting April 28-30, 2020 in Honolulu, HI.
- At the last HSRP there was specific discussion on the key navigation issues that Louisiana residents face on a daily basis, including
 - how to navigate safely and efficiently when traveling on the Mississippi River,
 - subsidence and sea level rise, and
 - how unmanned systems can be used to serve the marine navigation communities by conducting hydrographic and aerial surveying.

CMTS Updates - Arctic Report

A Ten-Year Projection of Maritime Activity in the U.S. Arctic Region, 2020-2030

- Four drivers of vessel activity in the U.S. Arctic:
 - Natural resource activities
 - Vessels used for infrastructure development
 - Vessels joining the Arctic Fleet
 - Vessels rerouted through the Arctic via the Bering Strait



Scenario	Projected Average Annual Growth Rate
Reduced Activity Scenario	0.30%
Most Plausible Scenario	2.58%
Optimized Growth Scenario	3.31%
Accelerated, but Unlikely Scenario	4.93%



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U.S. Committee on the

Marine Transportation System



CMTS Updates - Arctic Report

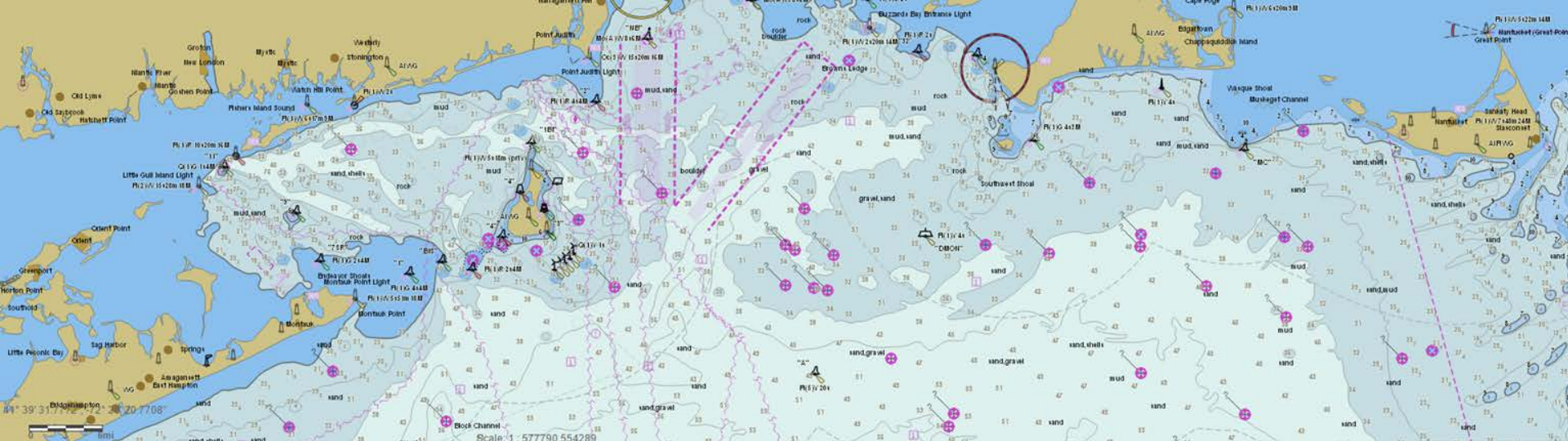
- Four scenarios project four levels of growth
 - The Most Plausible Scenario projects a 48% increase in vessels in the region
 - The natural logarithmic regression of historical data fits the Most Plausible Scenario, and suggests that growth will slow over the next decade
- Slower growth indicates that there is a limiting factor, which might result from:
 - Infrastructure
 - Investment
 - Regulatory and operational certainty



Sixth Biennial CMTS-TRB Research and Development Conference on “*Advancing the Marine Transportation System through Automation and Autonomous Technologies: Trends, Applications and Challenges*”

June 16-20, 2020 at the National Academy of Sciences, Washington D.C.





Questions?

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