

NOAA Office of Coast Survey

Survey of Togiak and Bristol Bay 2023

LT Caroline Wilkinson
Navigation Manager, Alaska



NOAA
Coast Survey



National Ocean Service (NOS)

National Environmental Satellite, Data, and Information Service (NESDIS)

Office of Marine & Aviation Operations (OMAO)

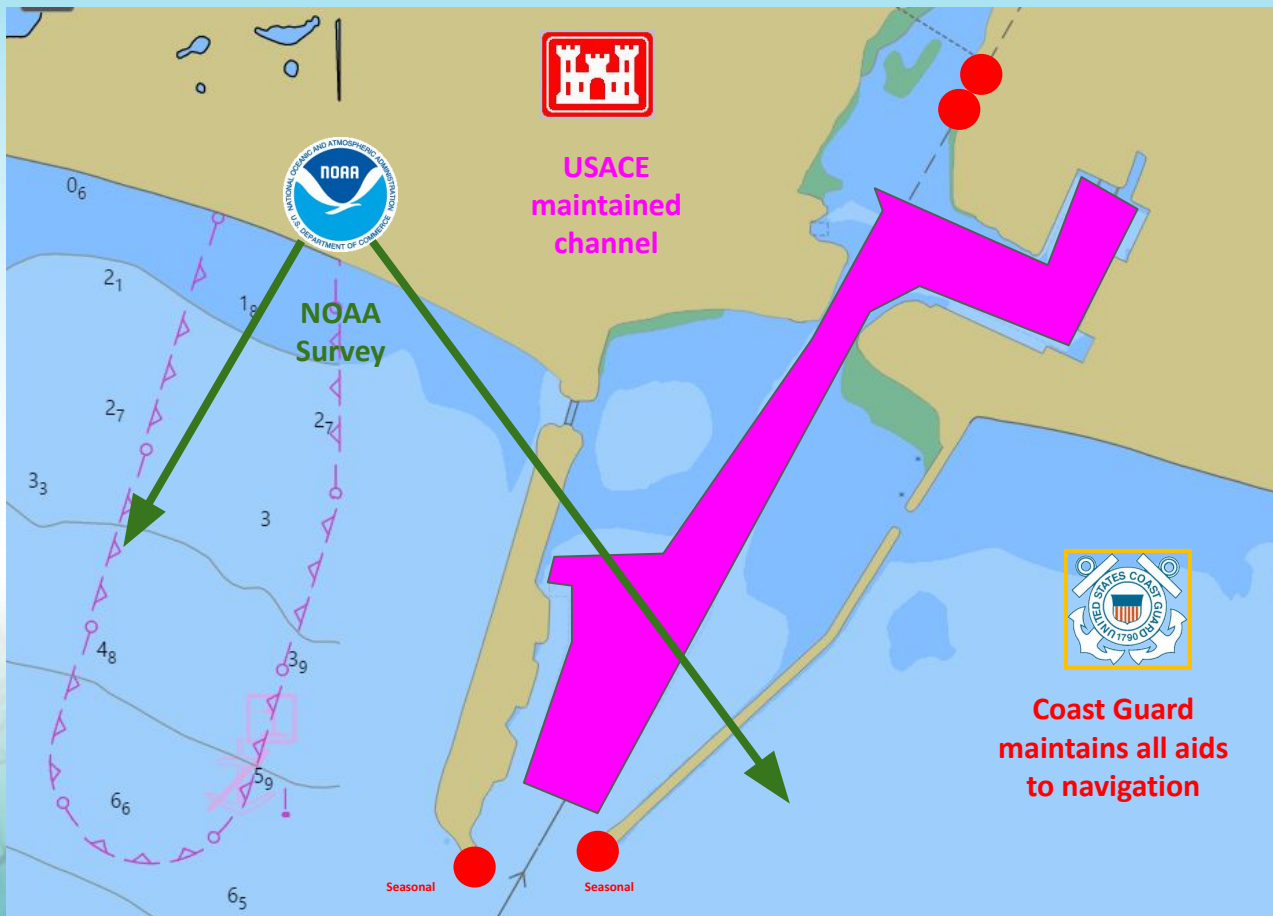
National Weather Service (NWS)

National Marine Fisheries Service (NMFS)

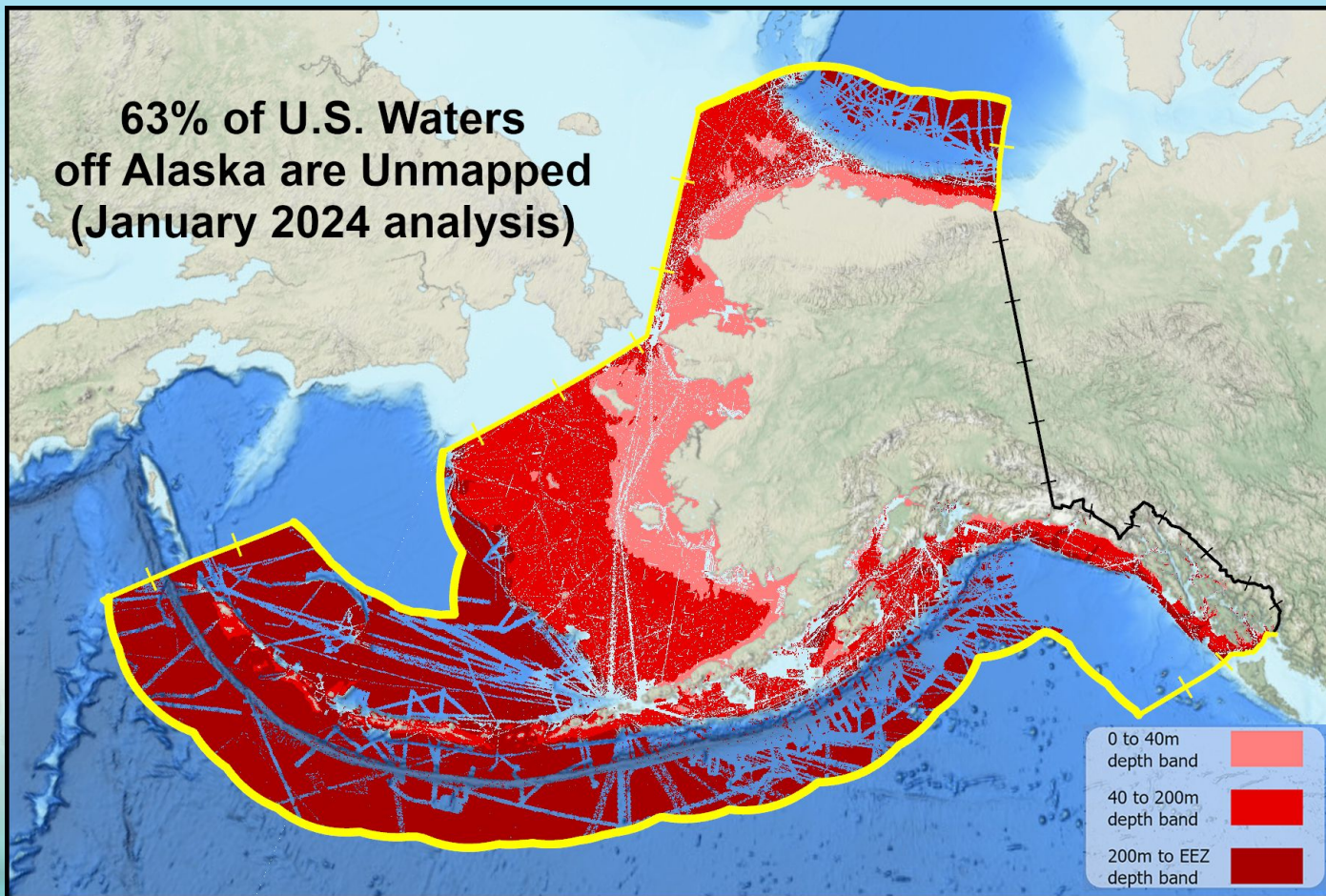
Office of Oceanic & Atmospheric Research (OAR)



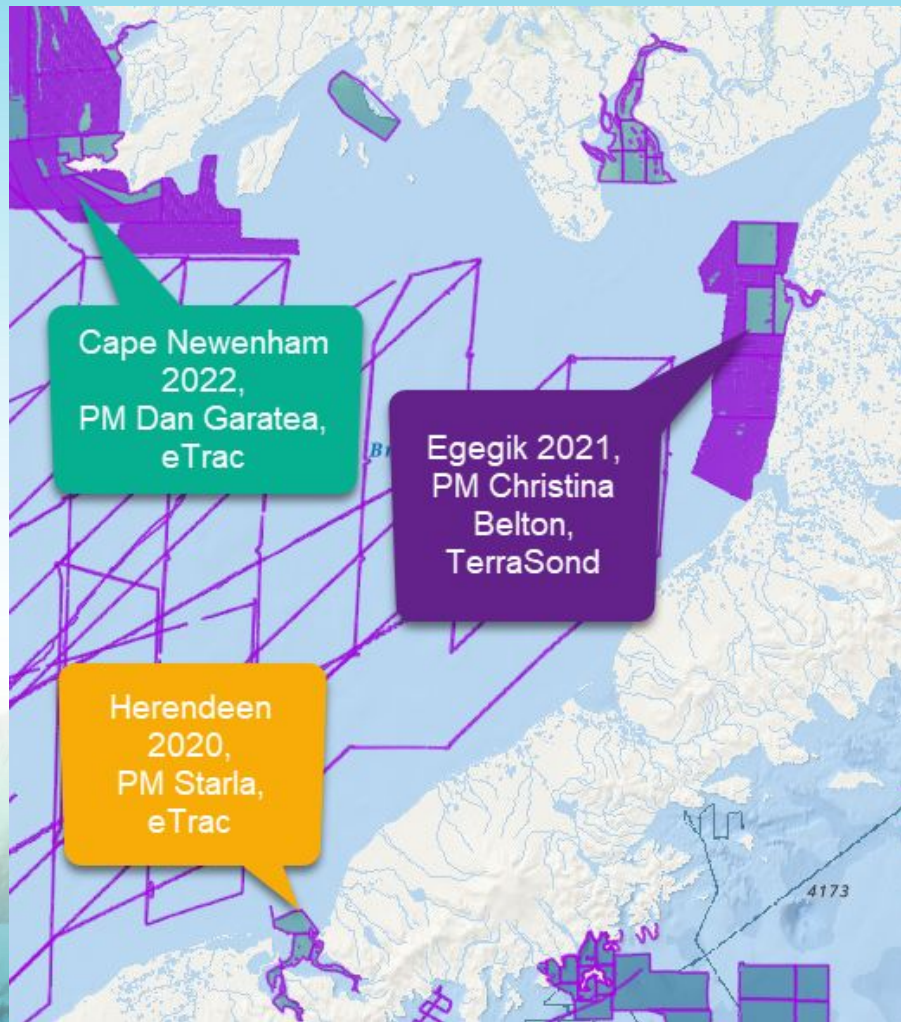
U.S Mapping and Charting Responsibilities



**63% of U.S. Waters
off Alaska are Unmapped
(January 2024 analysis)**







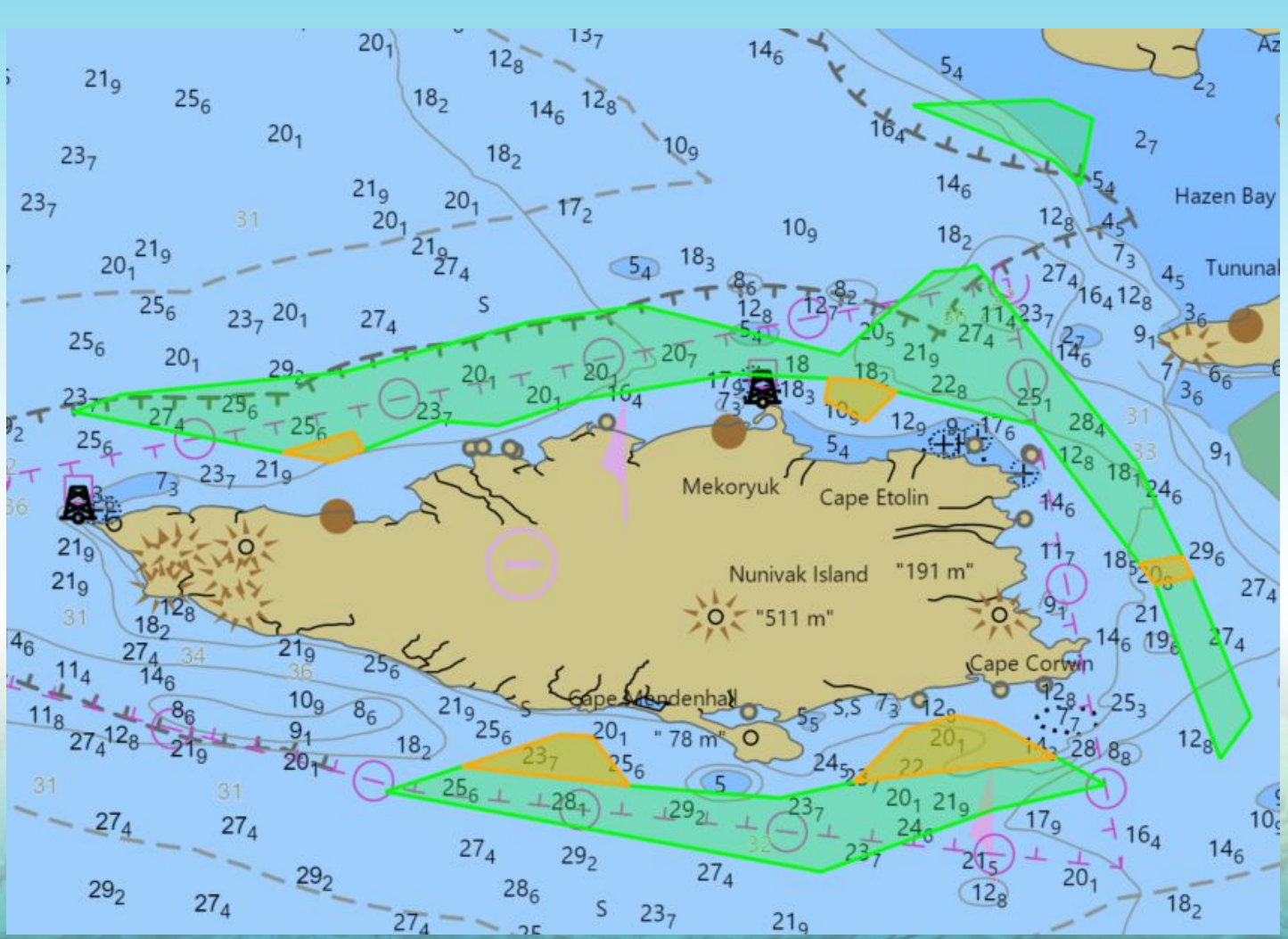


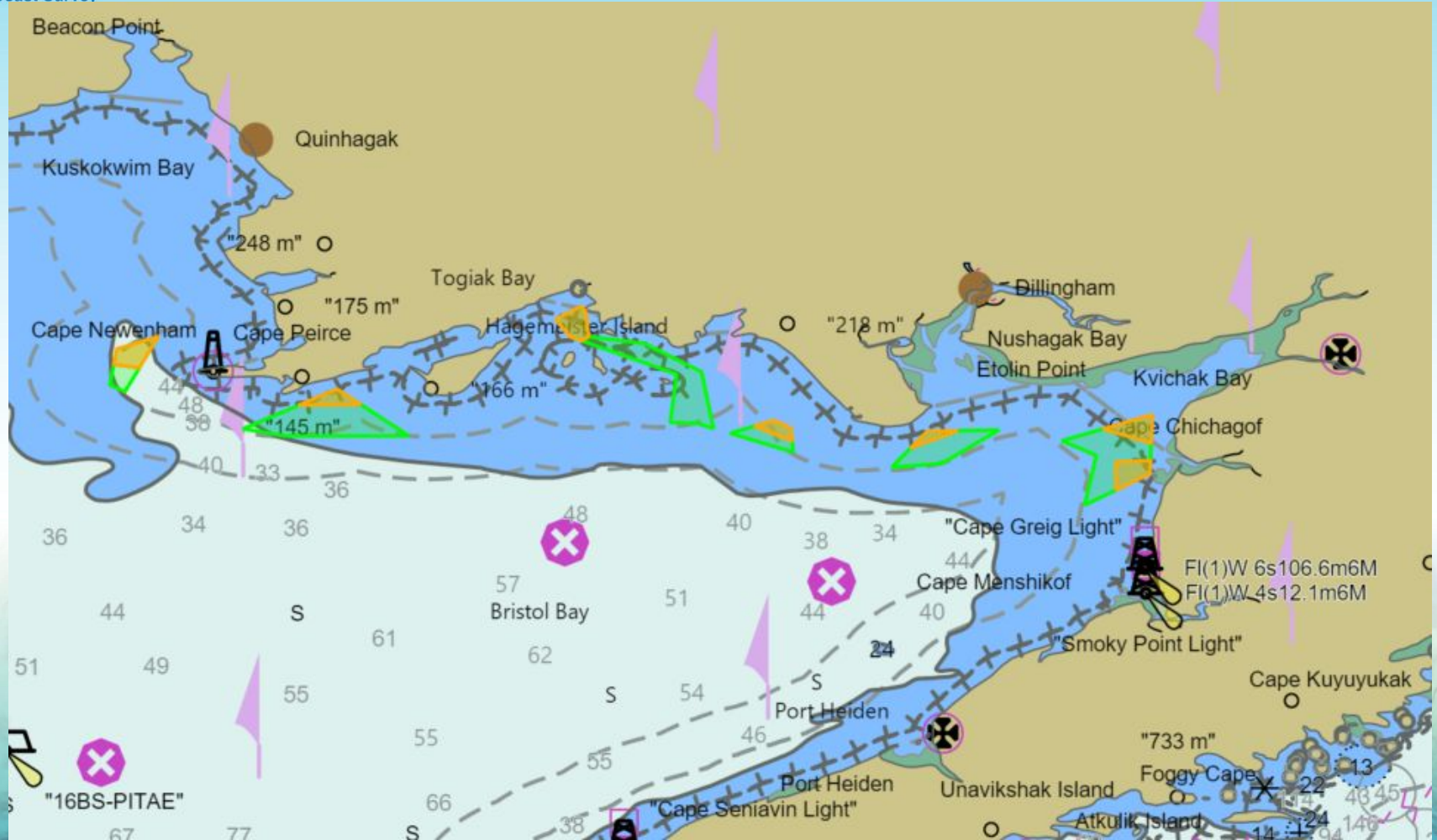
**BEST PRACTICES FOR WESTERN ALASKA
TANKER LIGHTERING OPERATIONS**

2024 SEASON

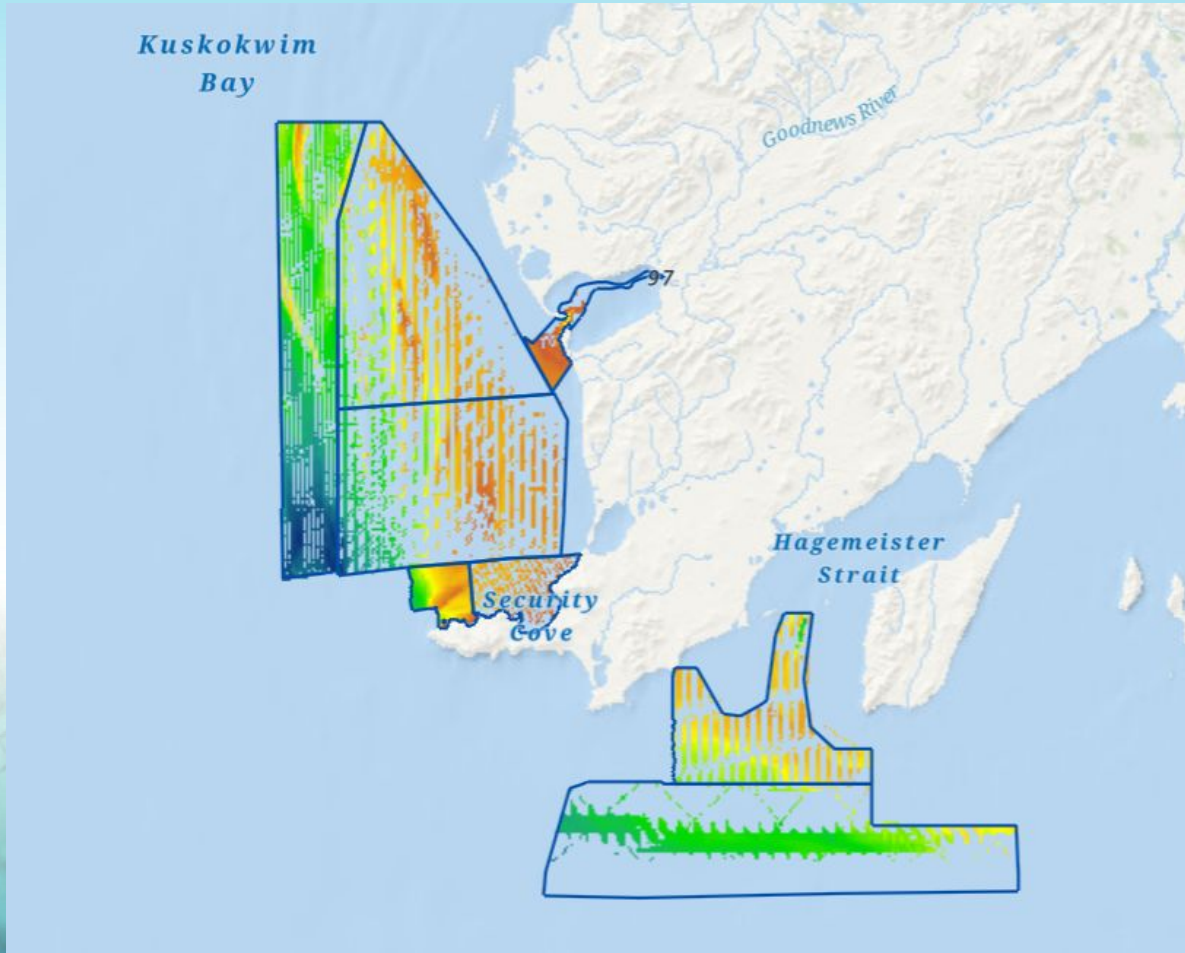
DRAFT

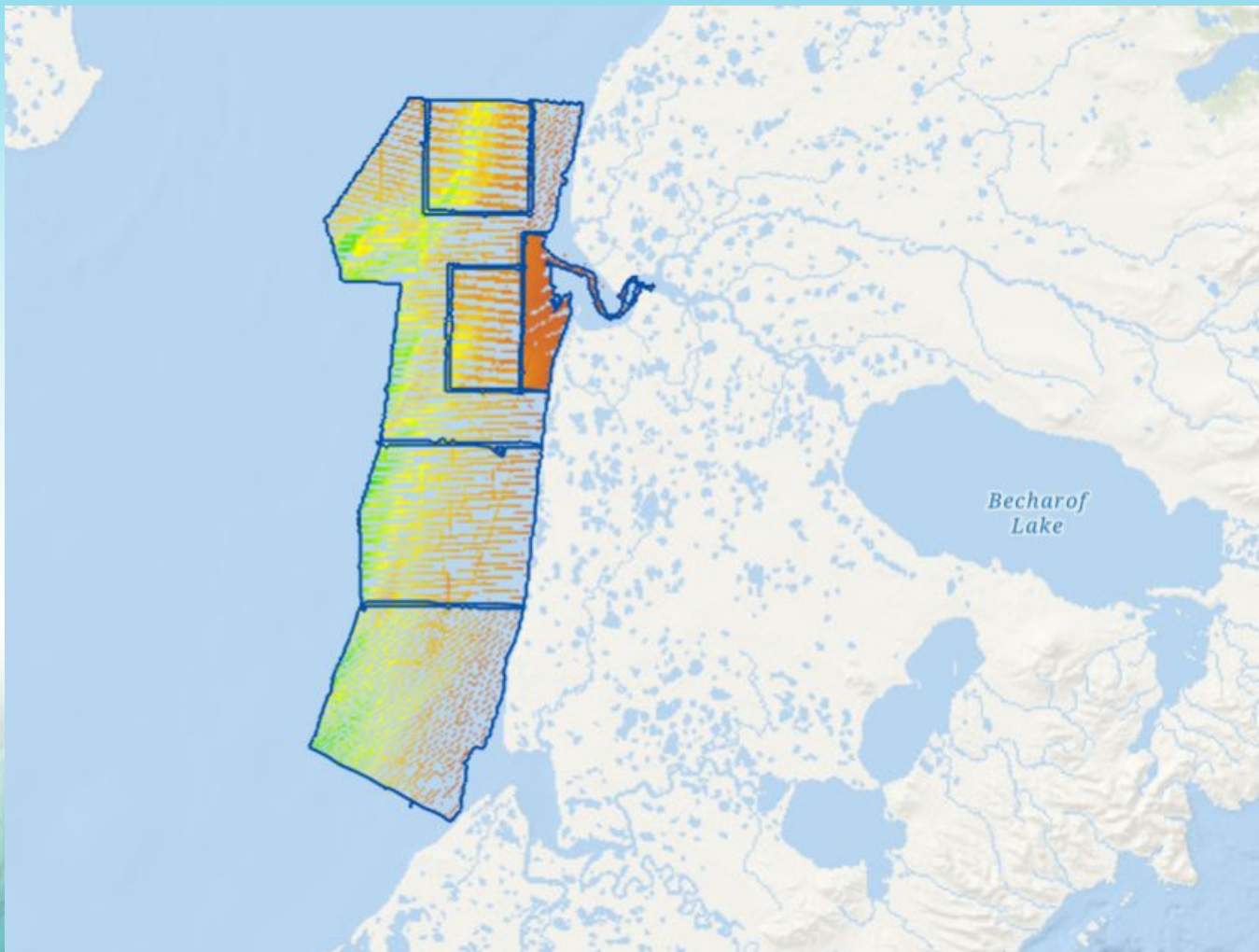




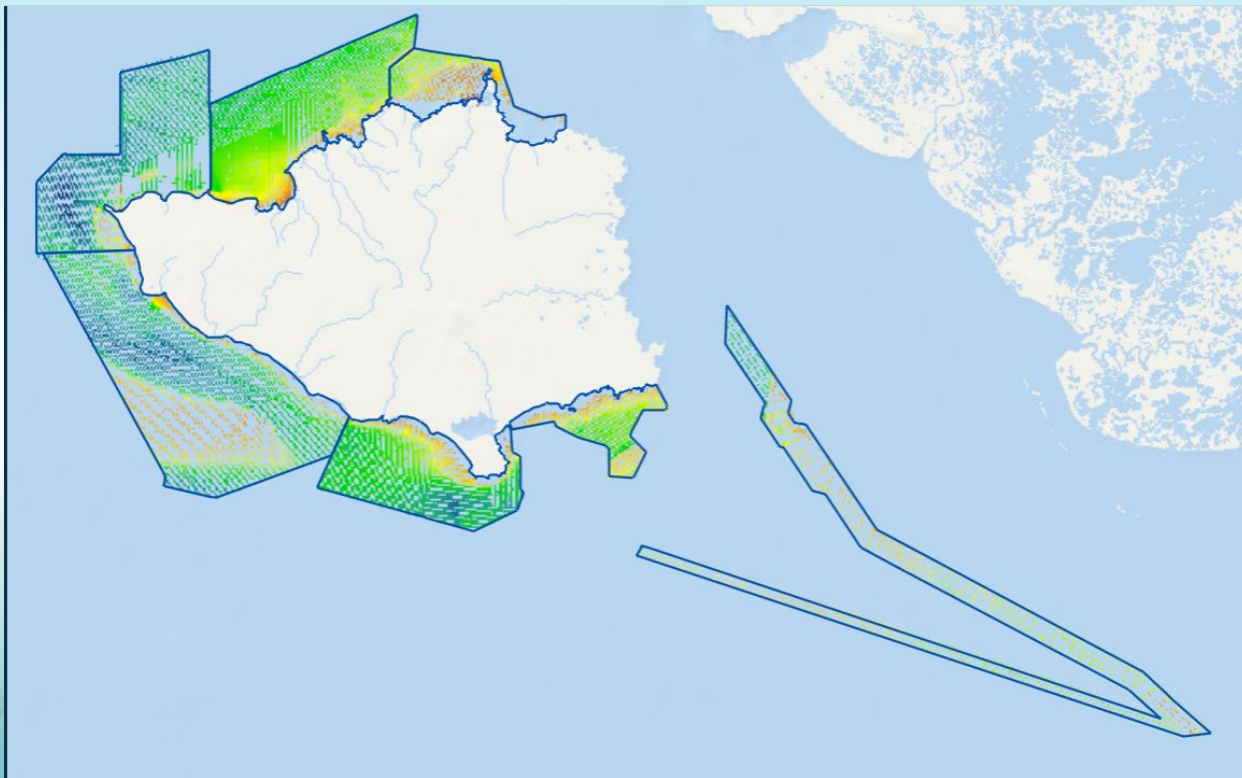


Cape Newenham, AK

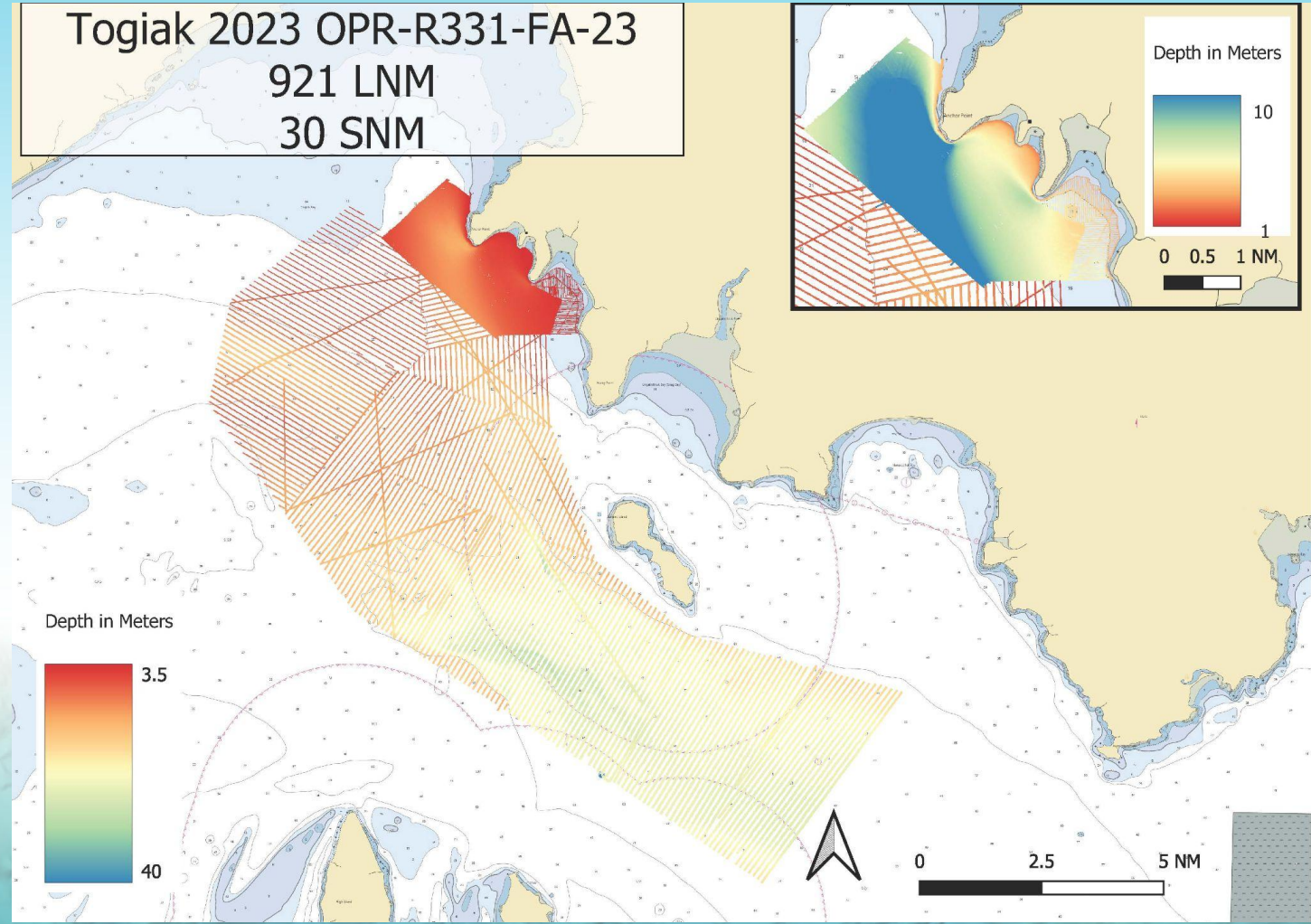


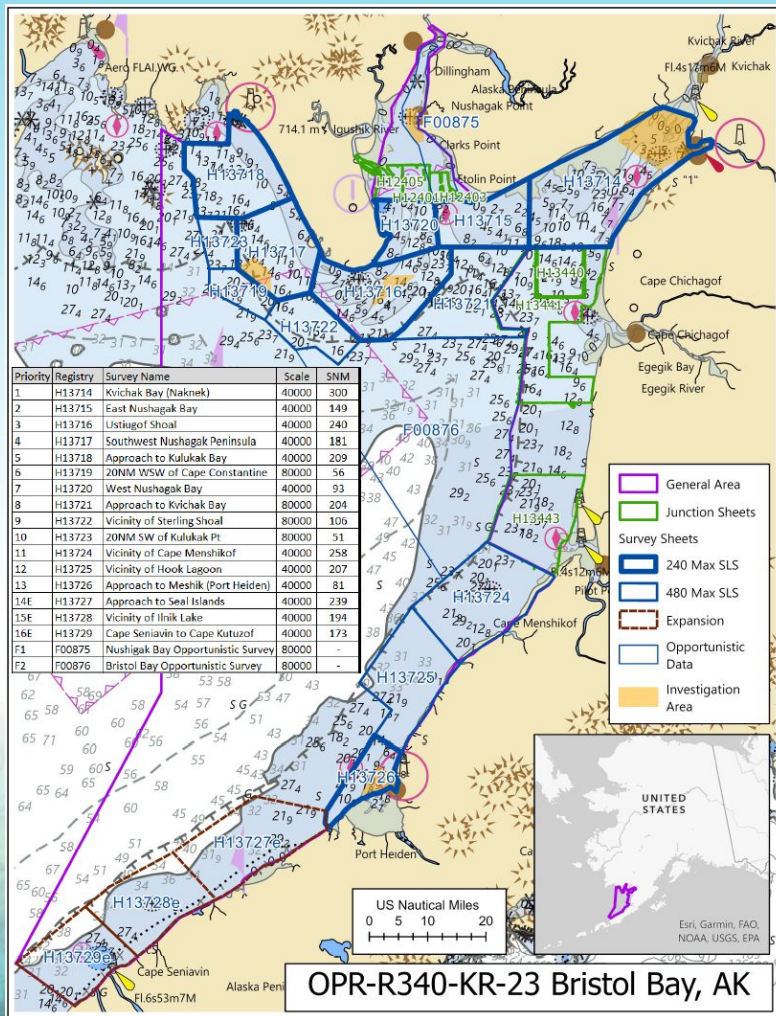


Nunivak Island, AK

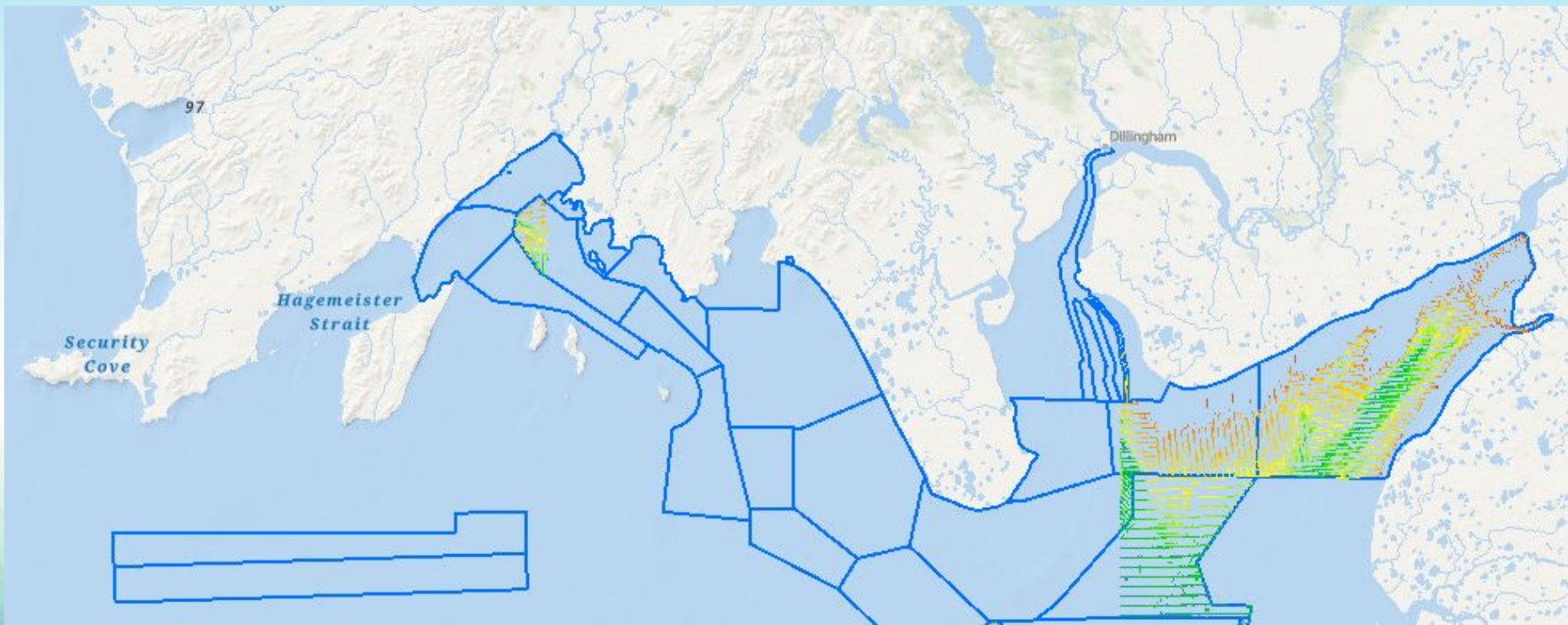


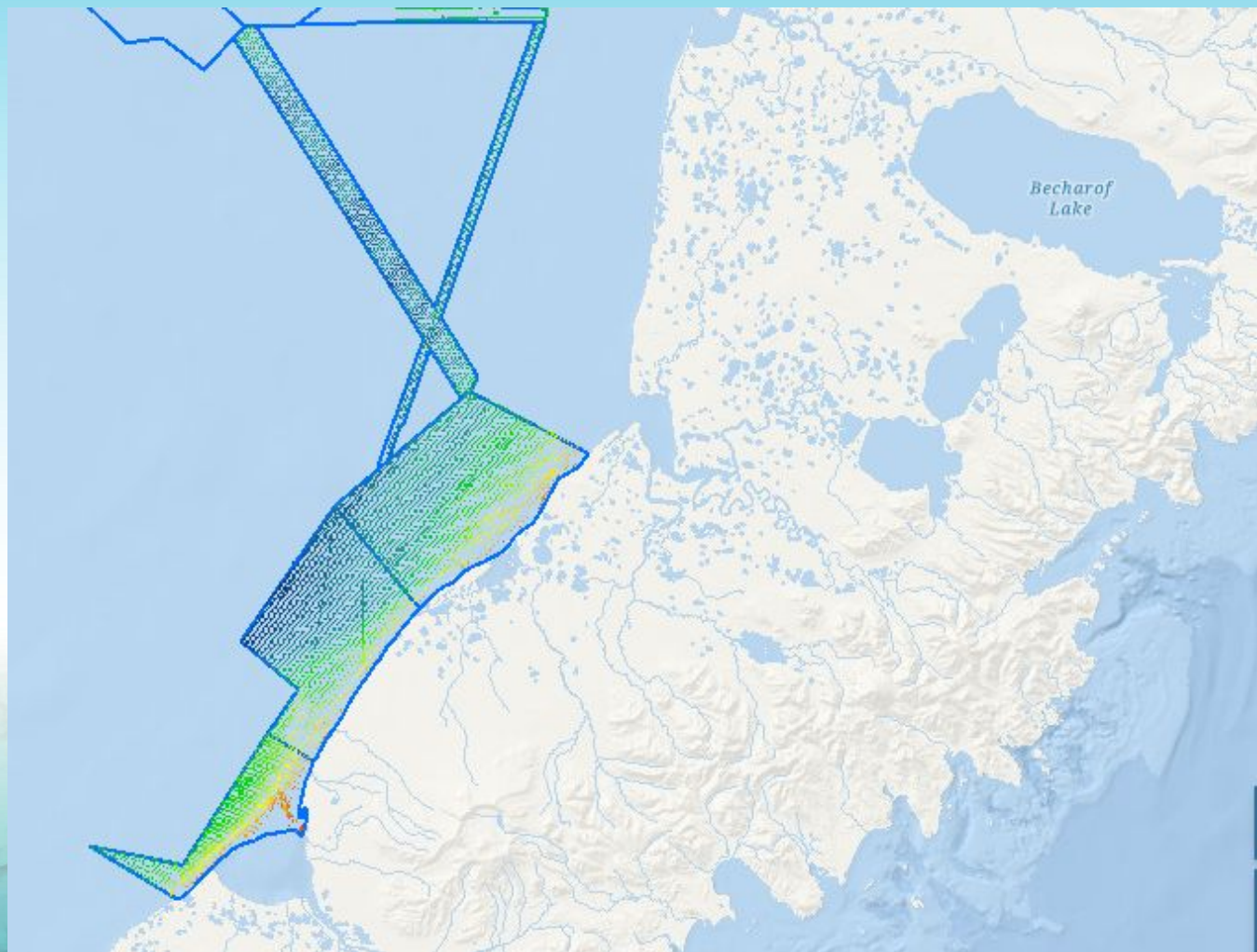
Togiak 2023 OPR-R331-FA-23
921 LNM
30 SNM





OPR-R340-KR-23 Bristol Bay, AK

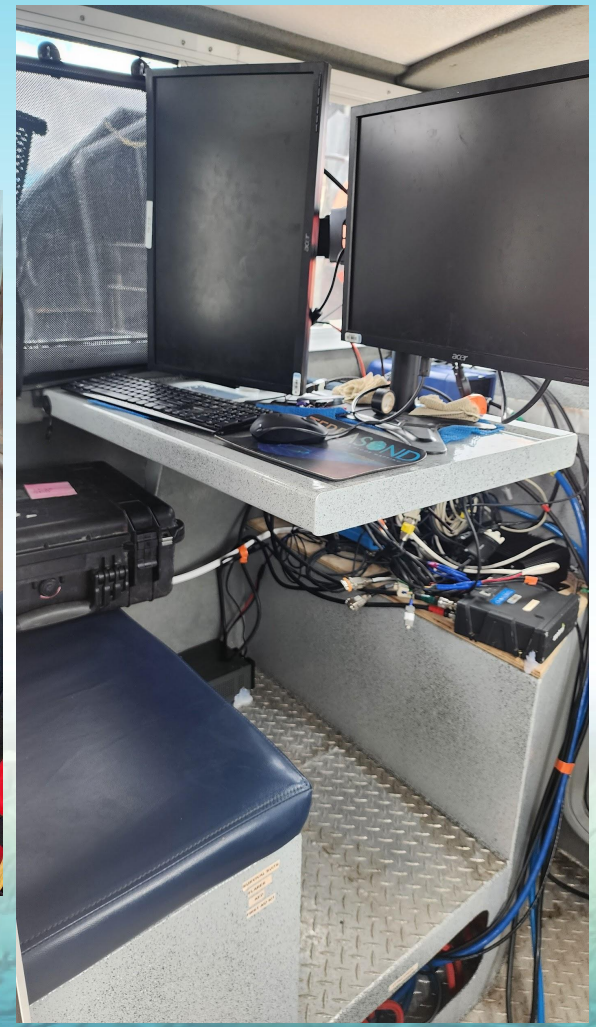
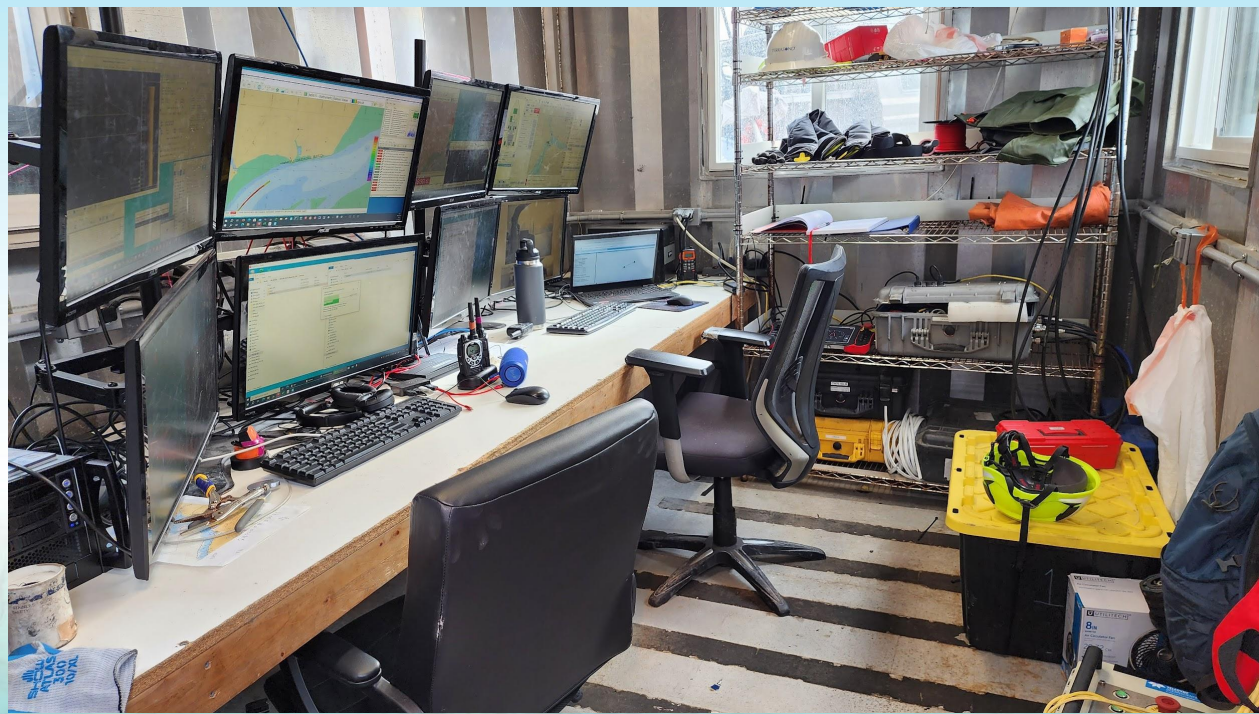


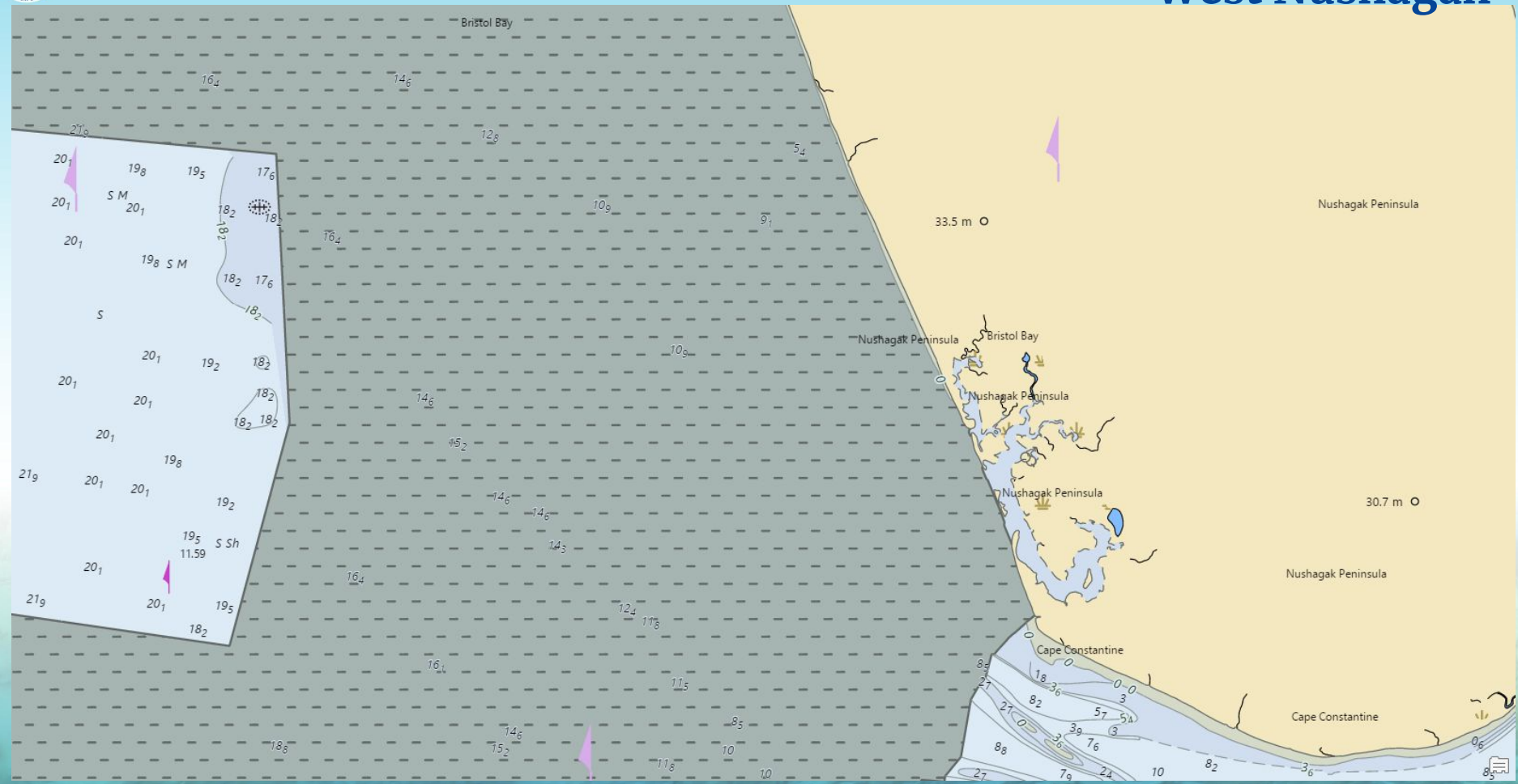






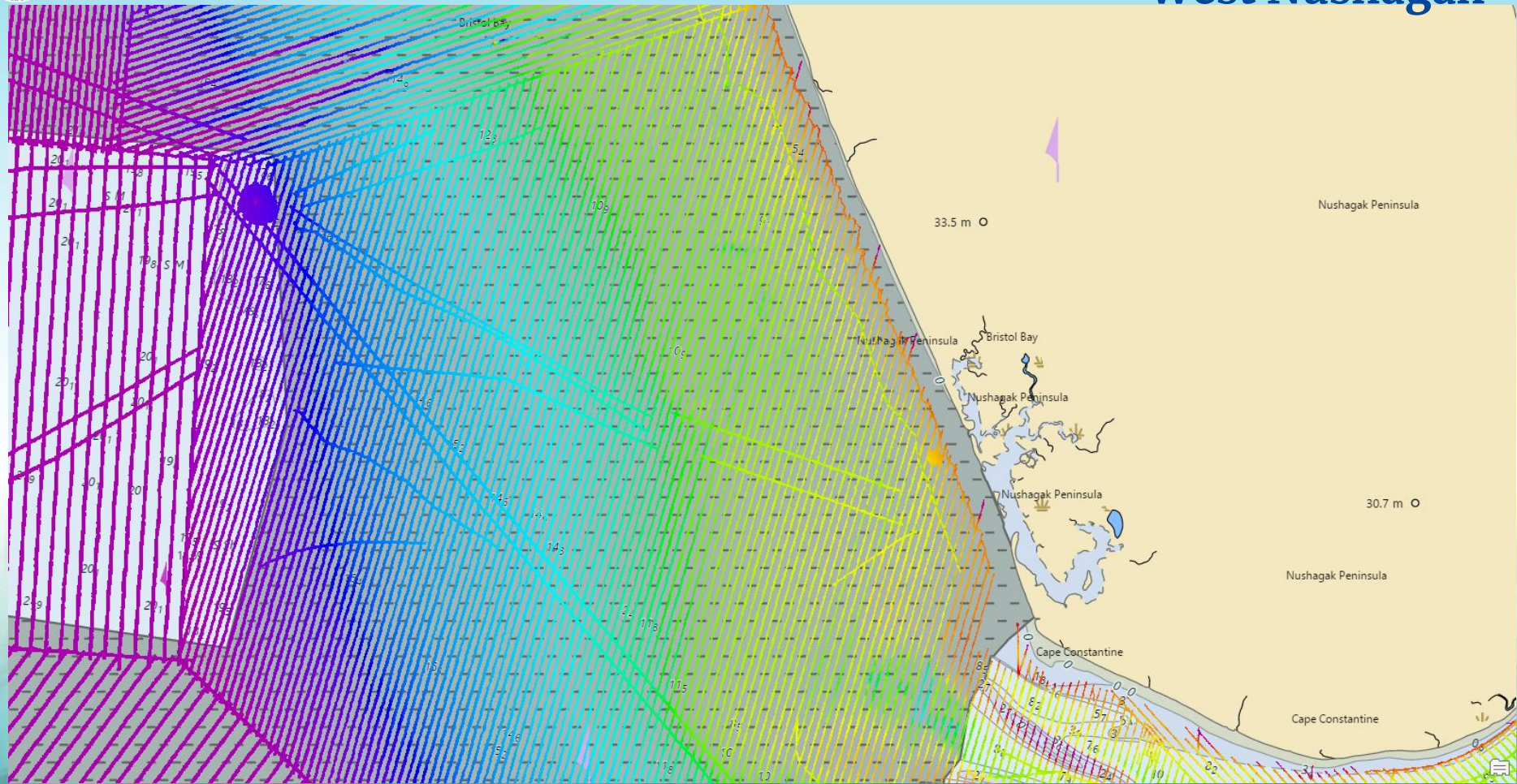




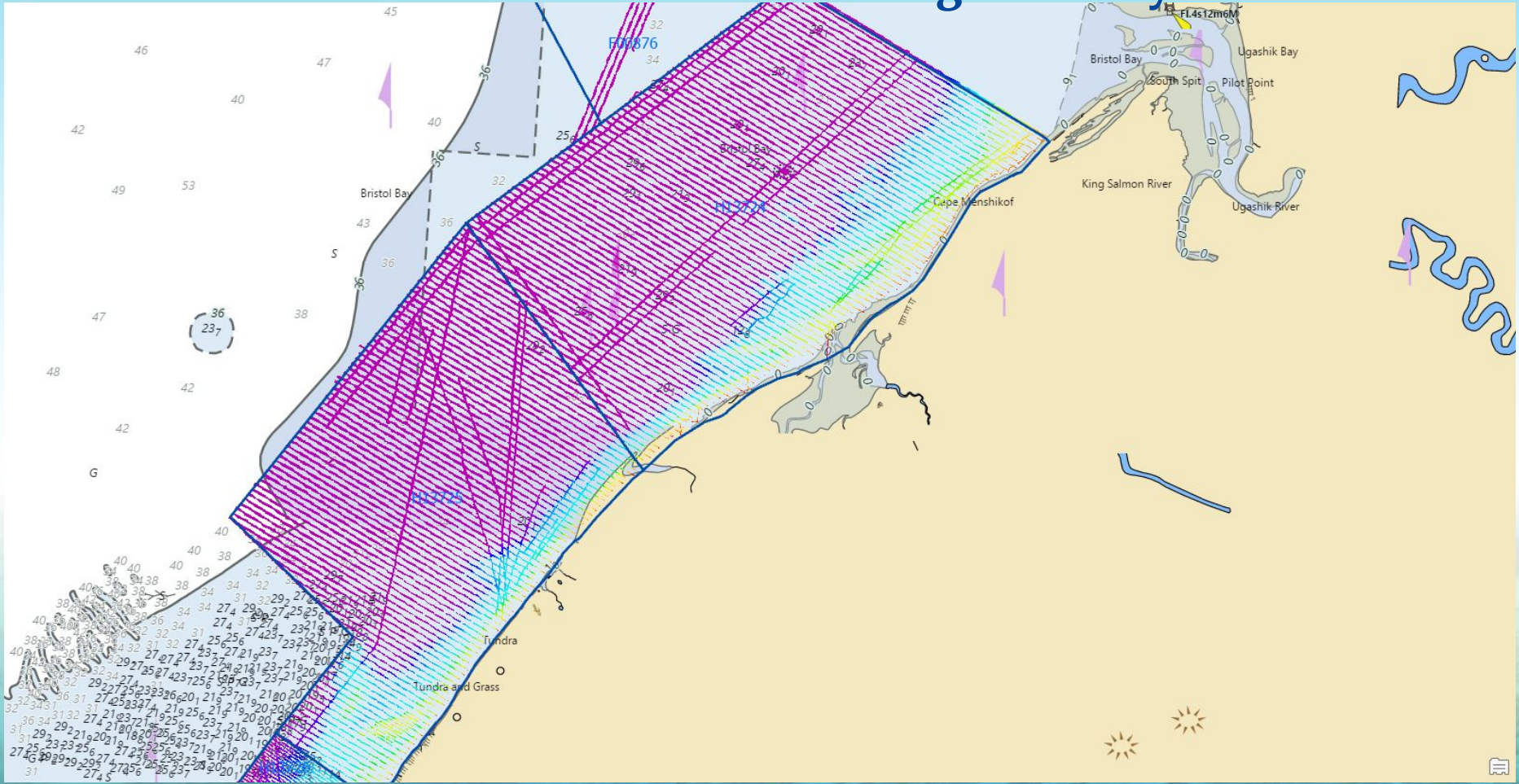


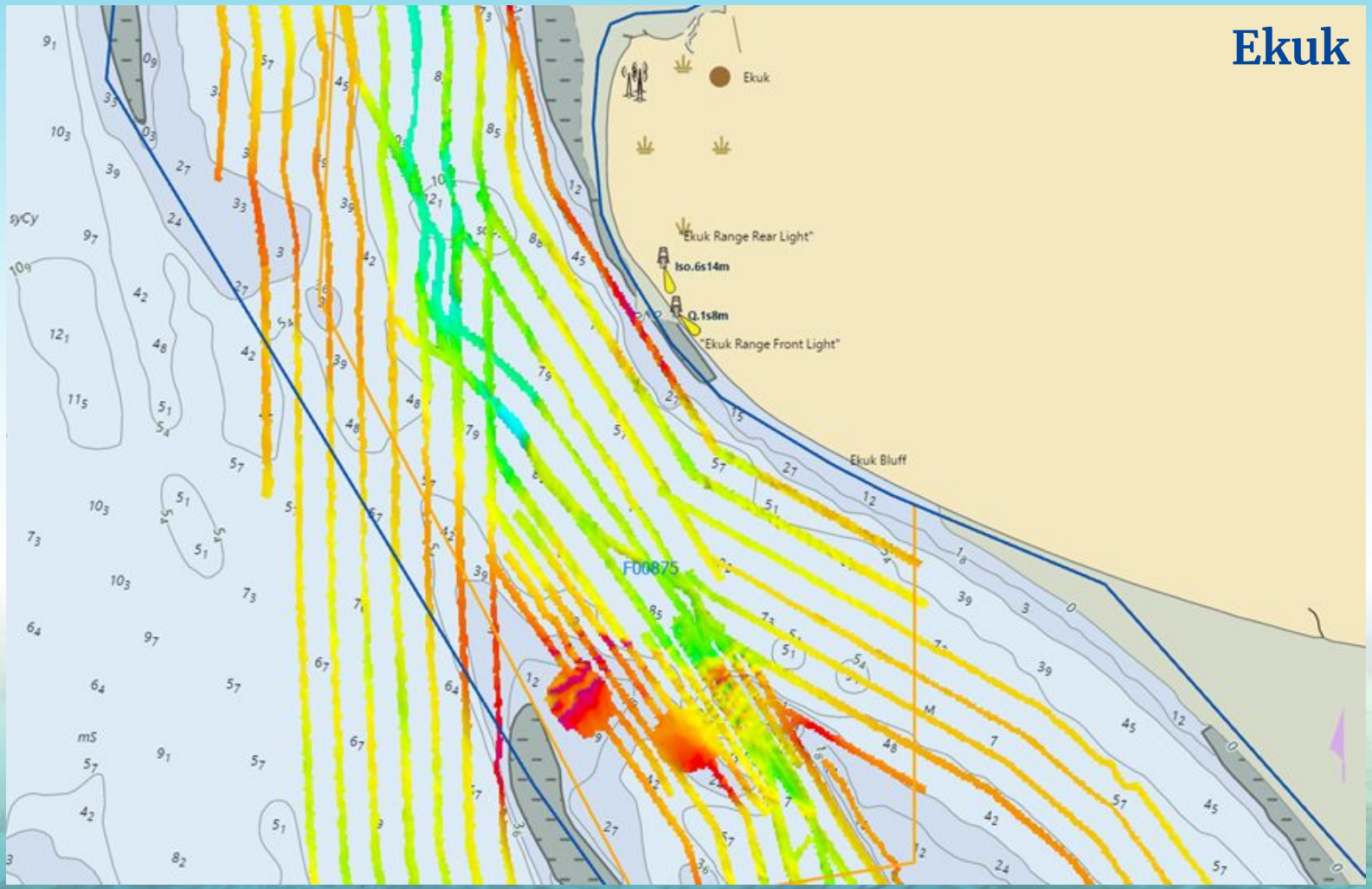


West Nushagak

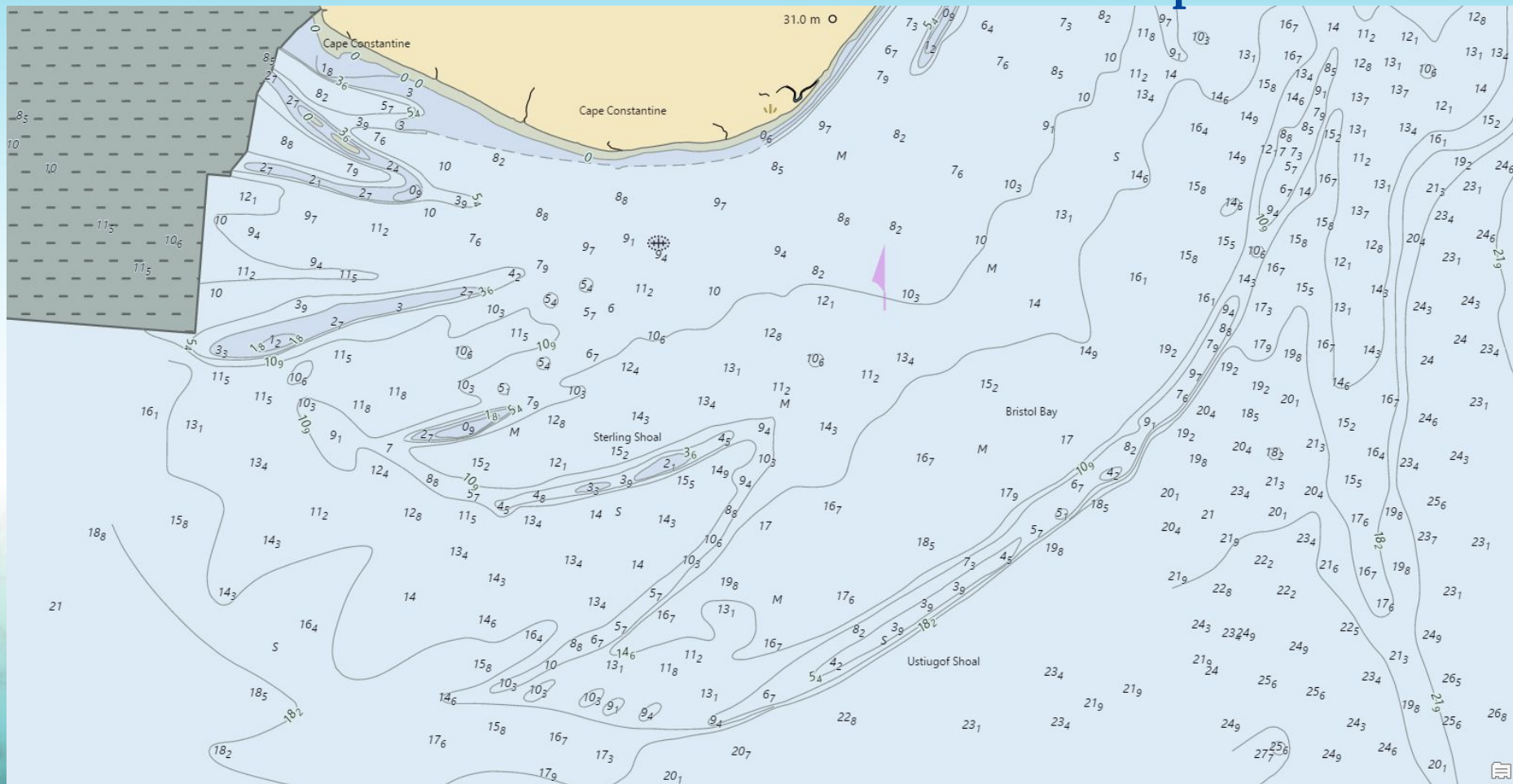


Ugashik Bay to Port Heiden



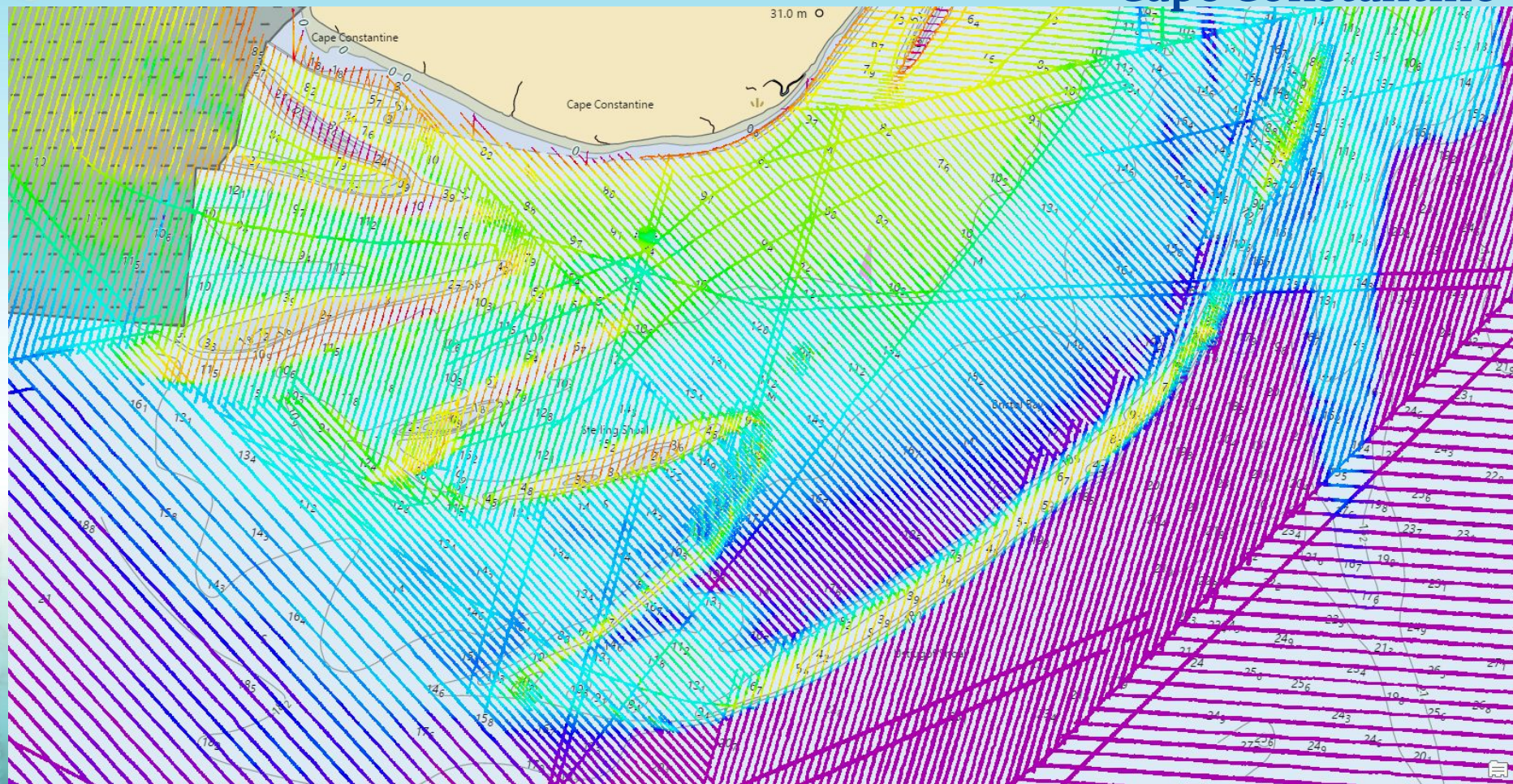


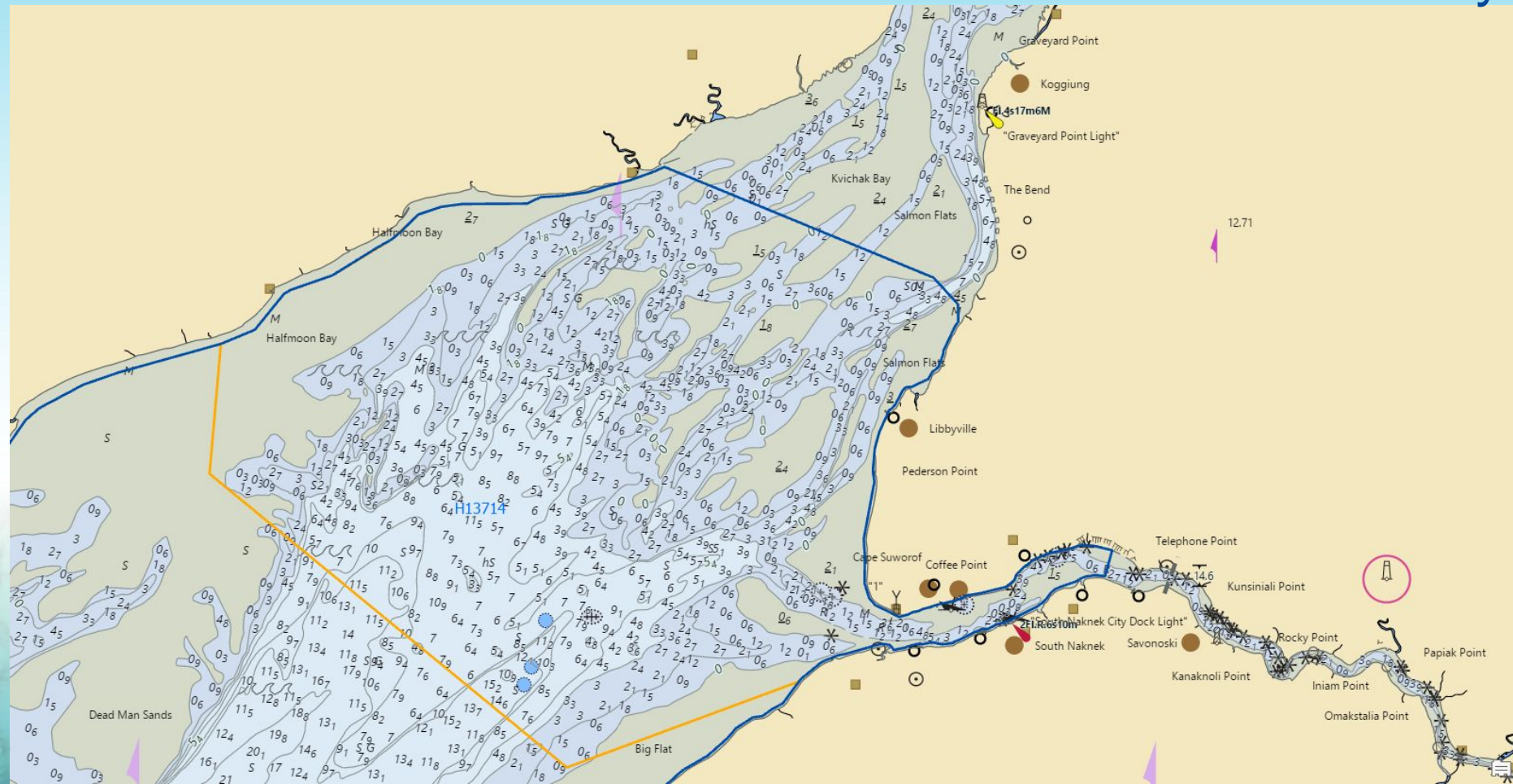
Cape Constantine



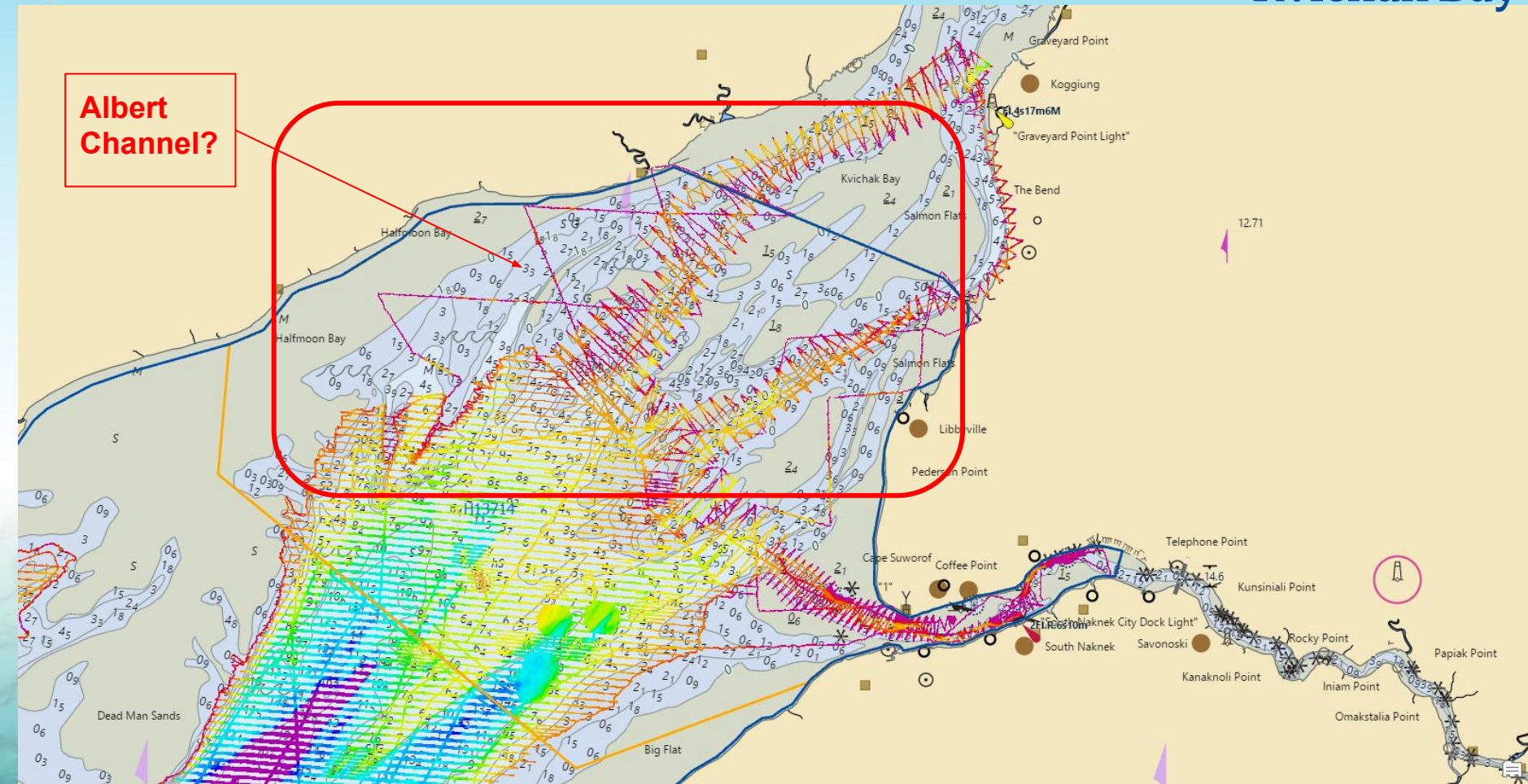


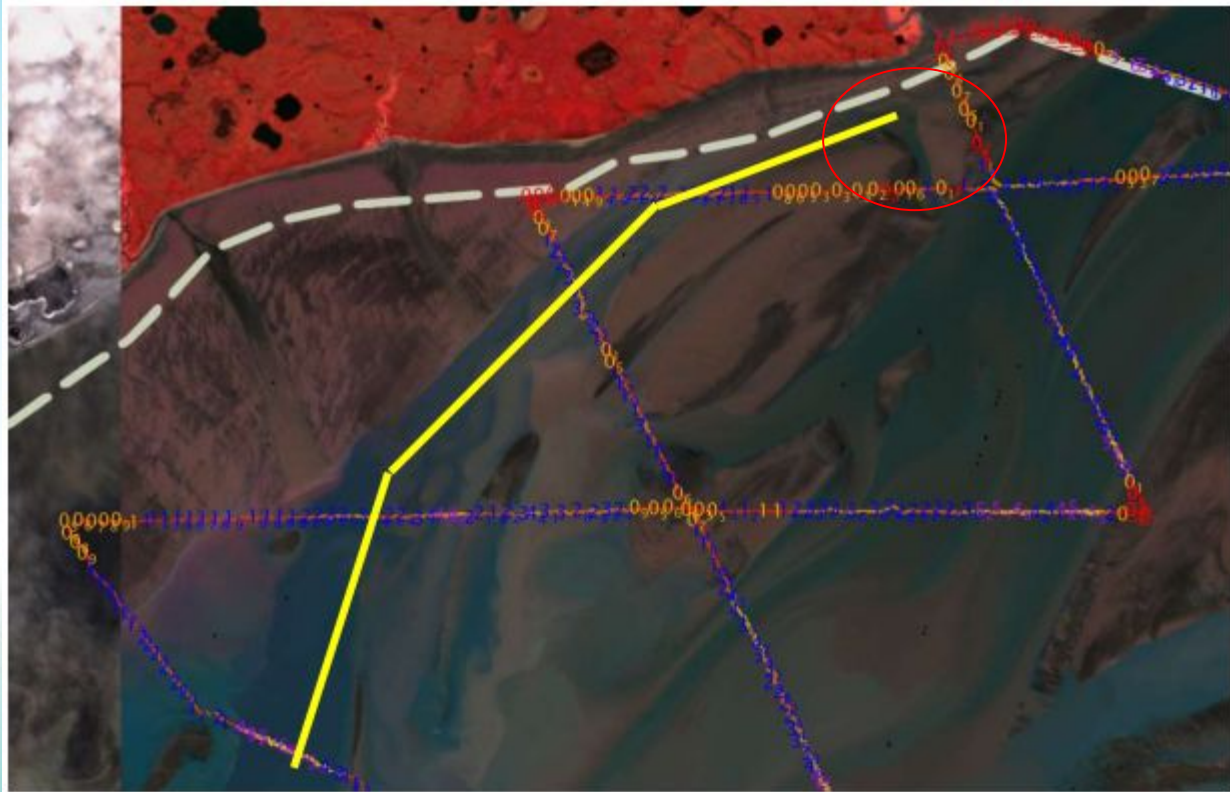
Cape Constantine

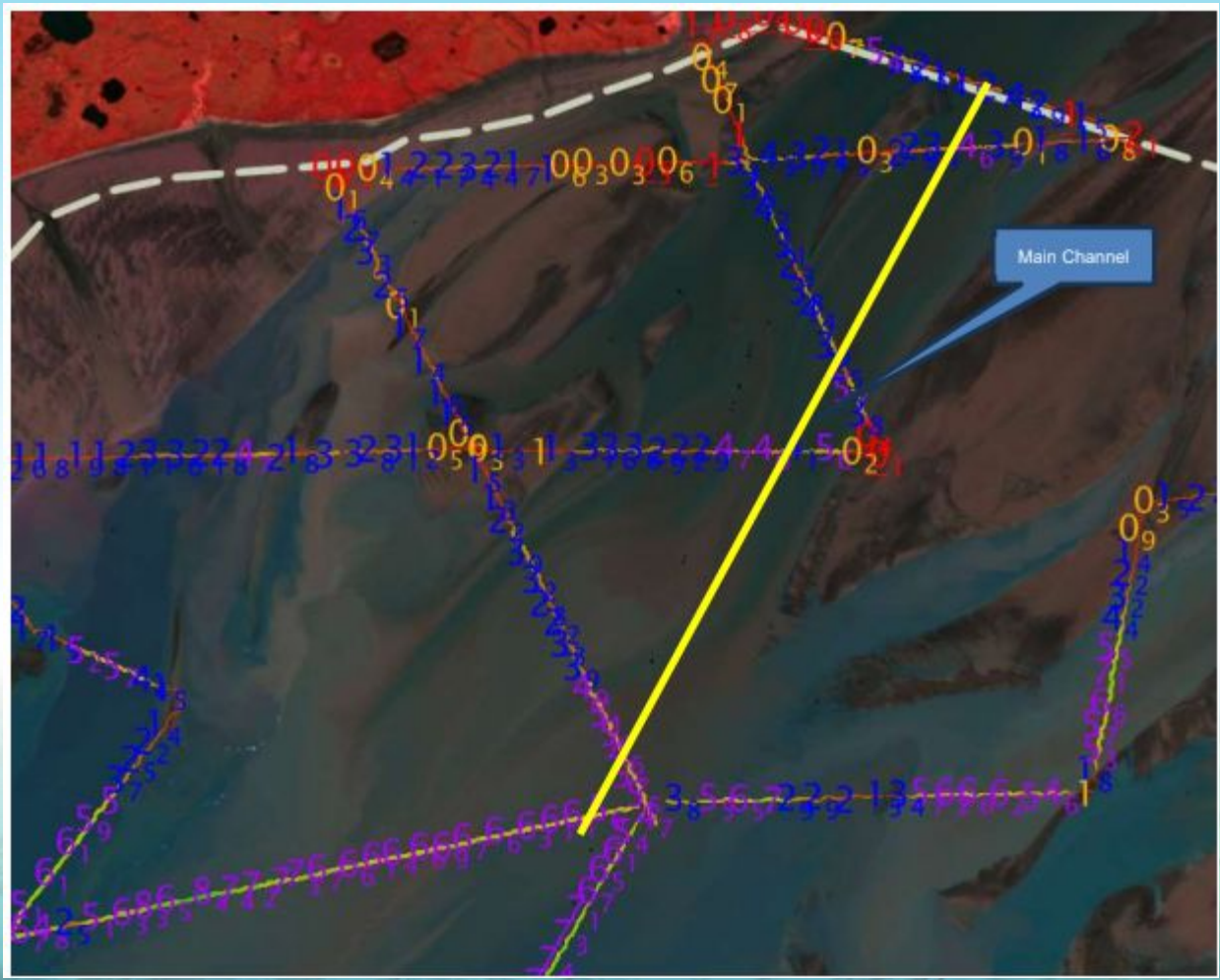


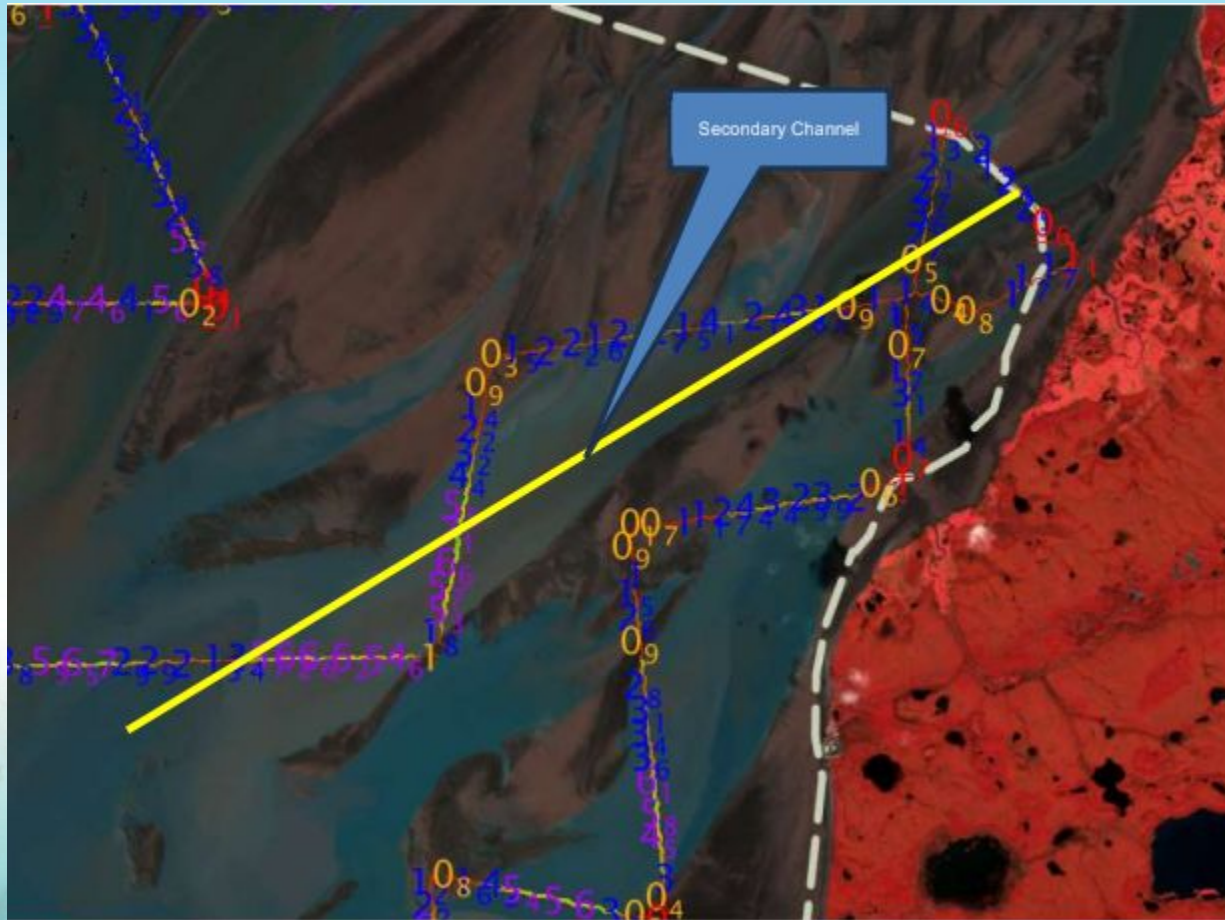


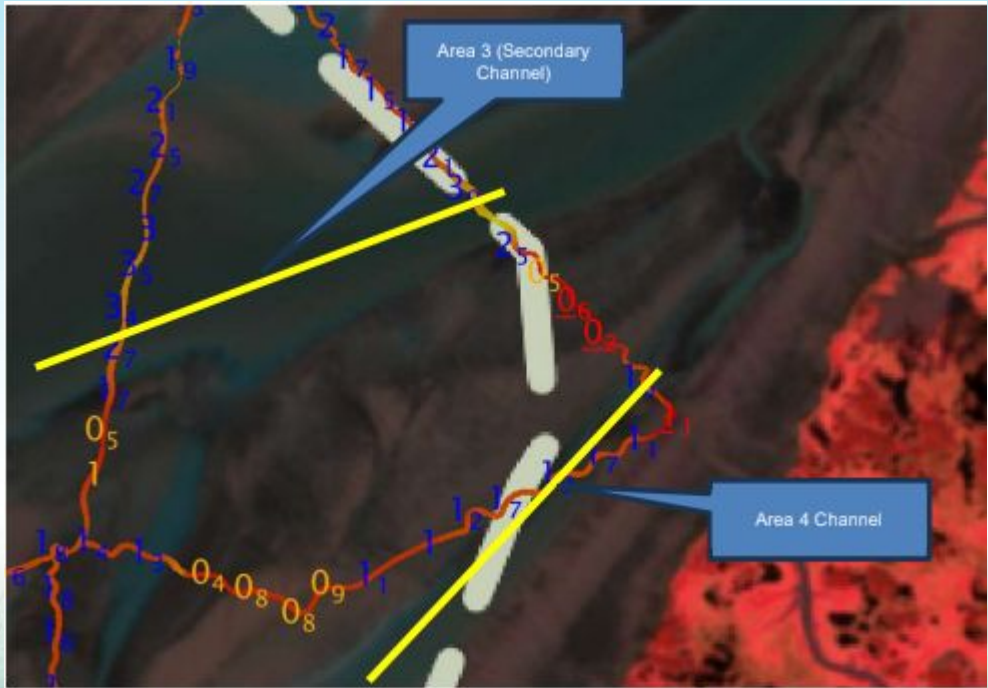
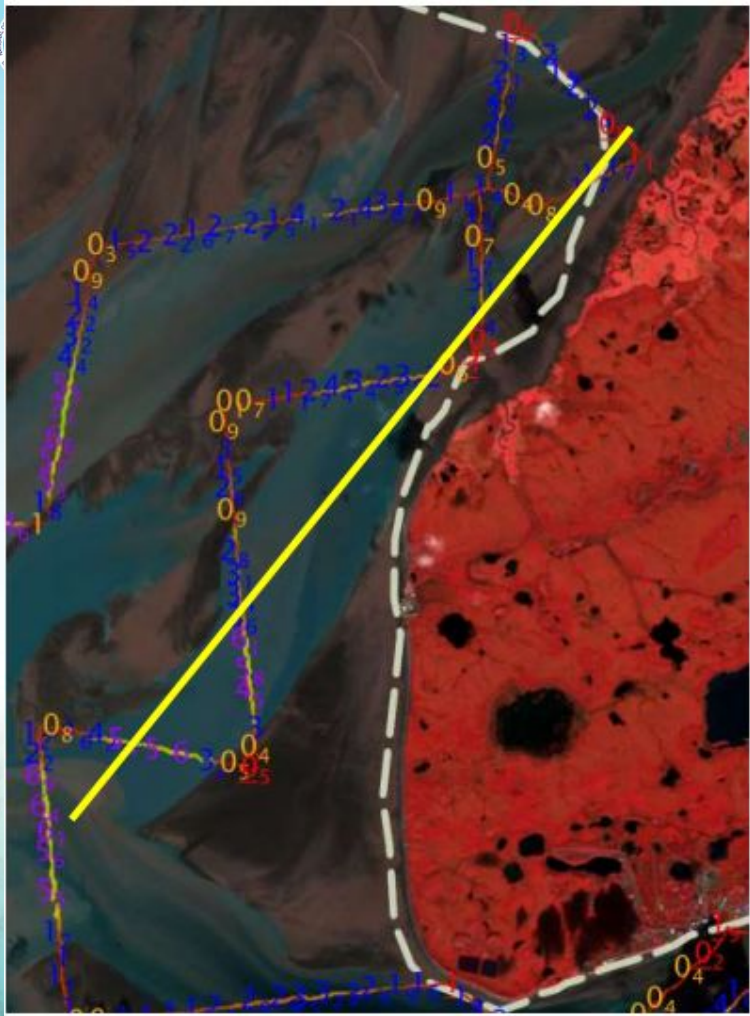
Albert
Channel?

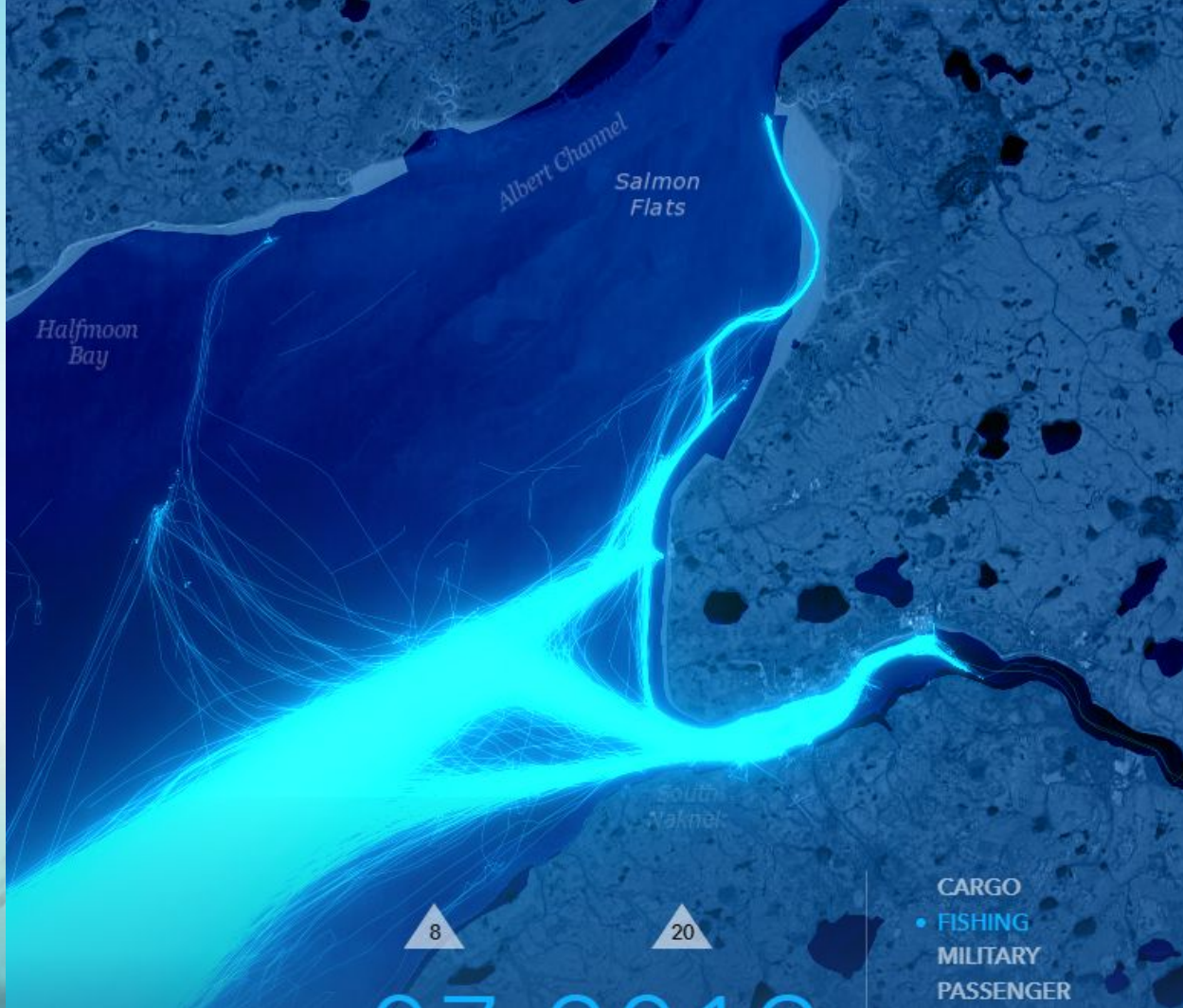


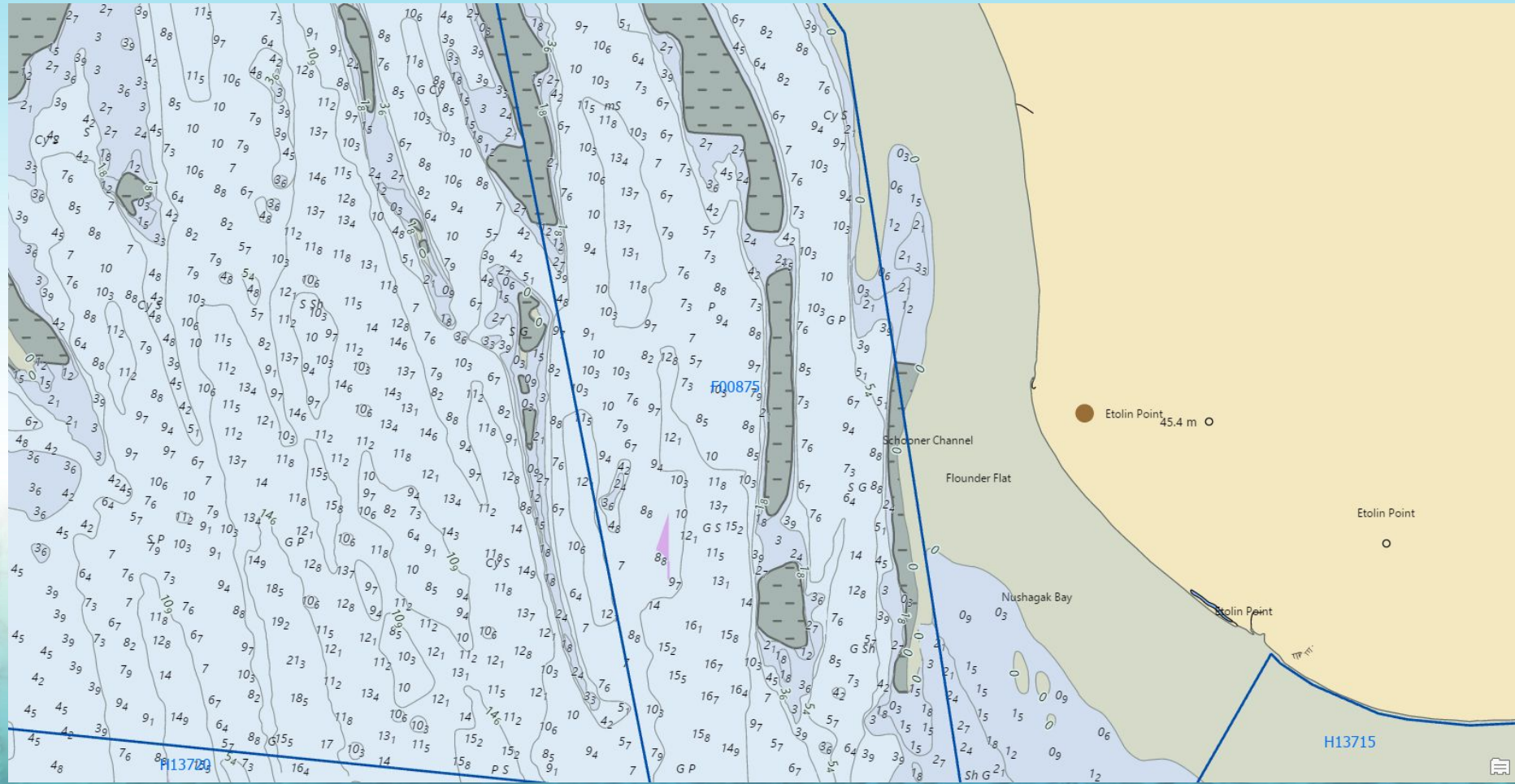


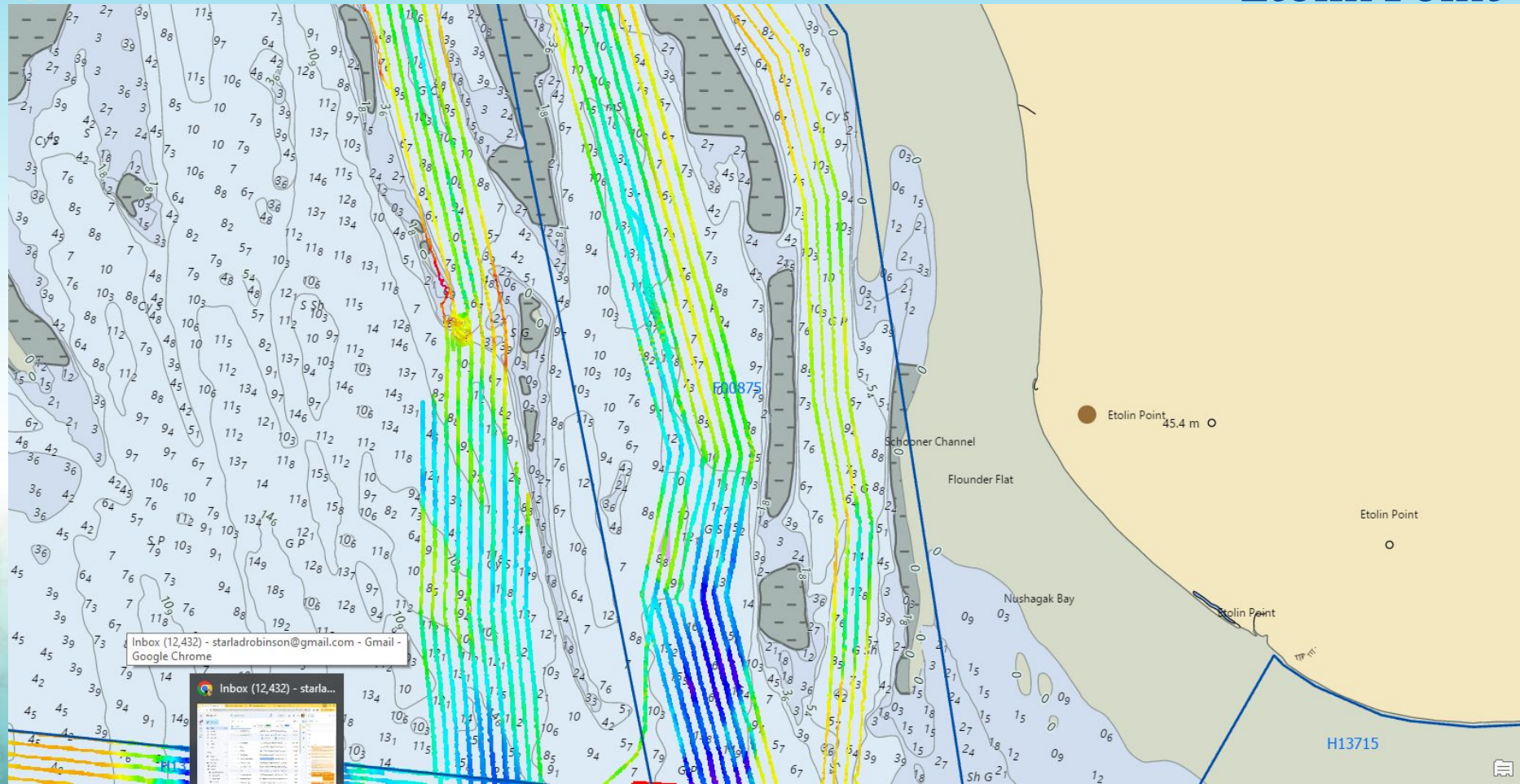


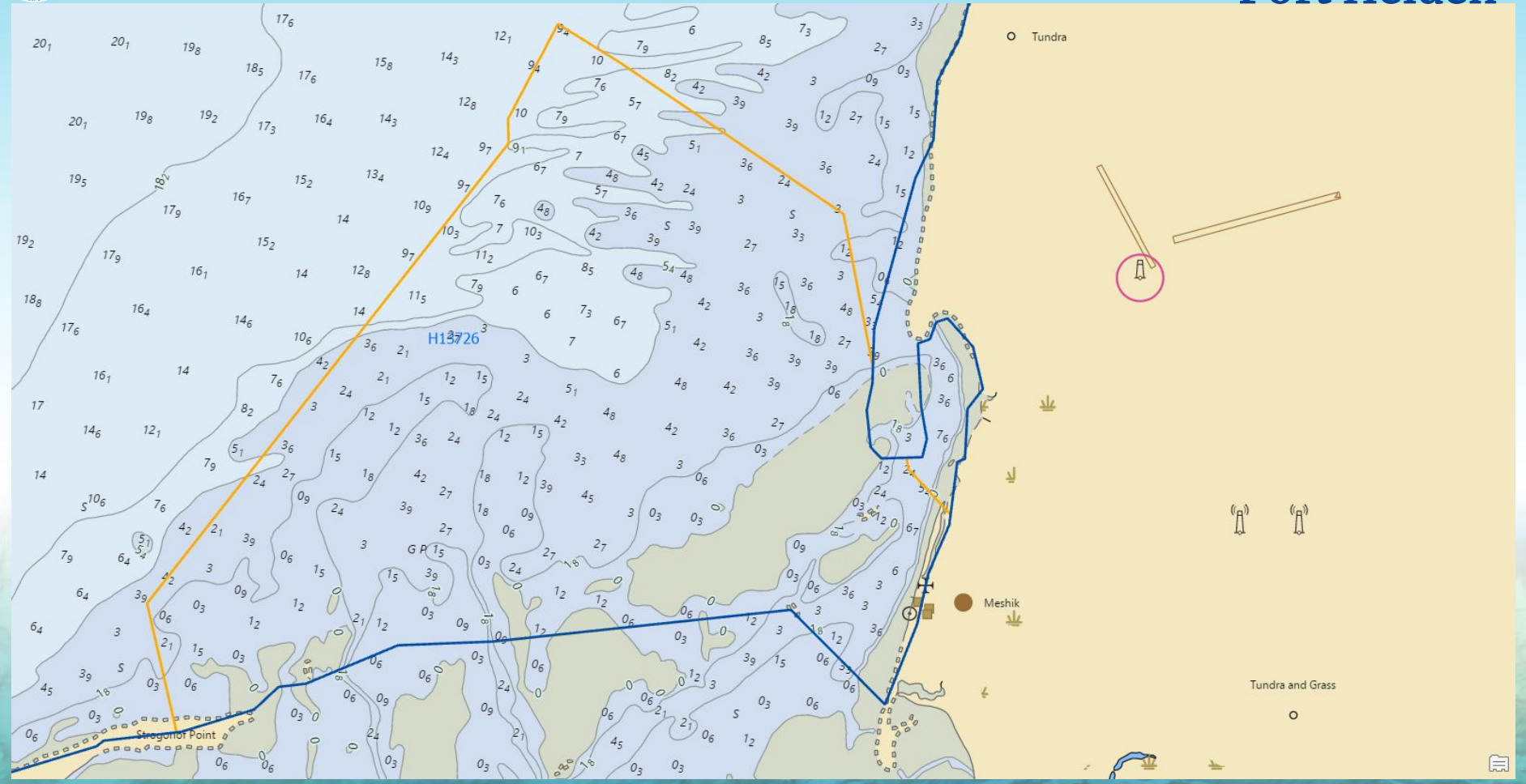


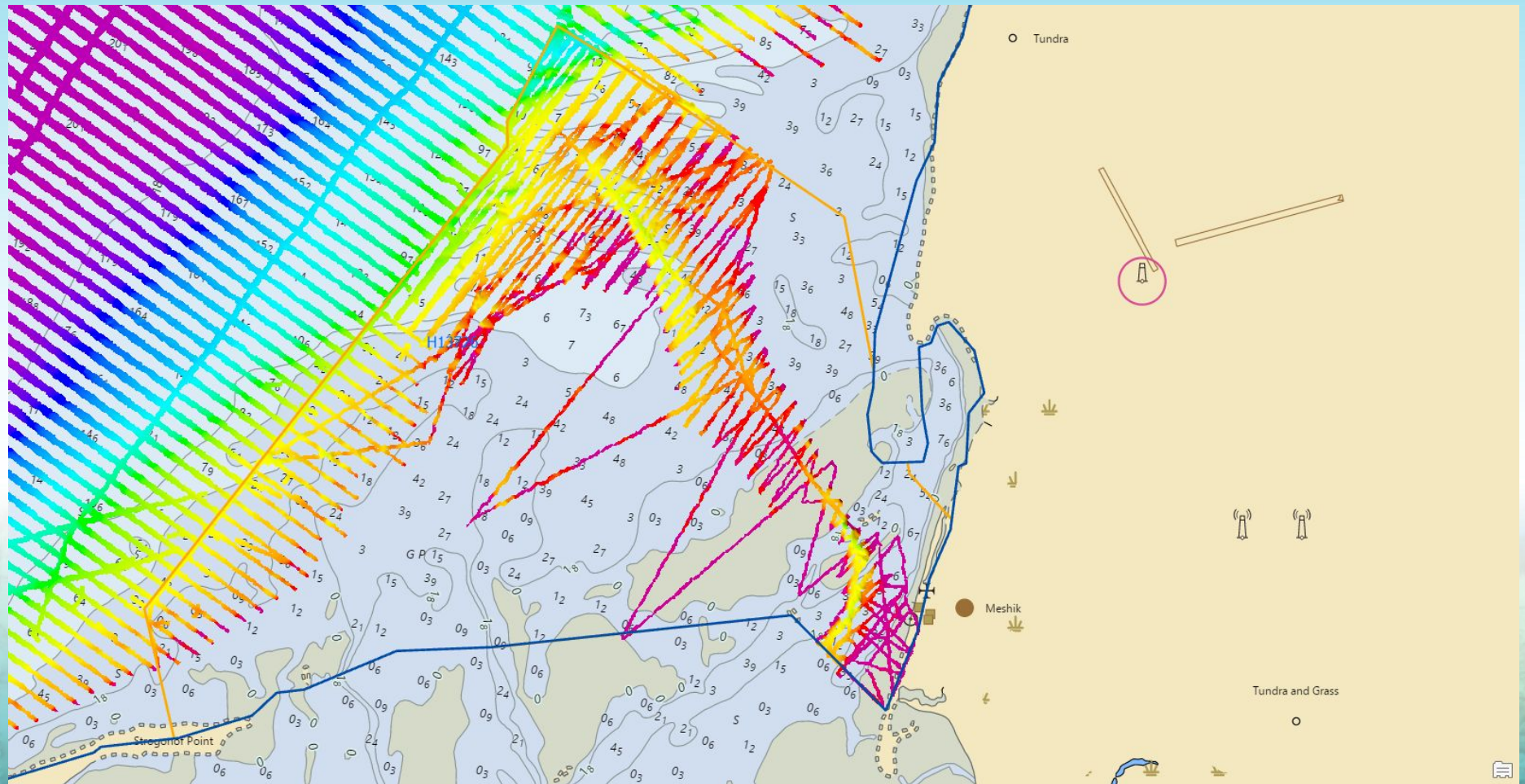


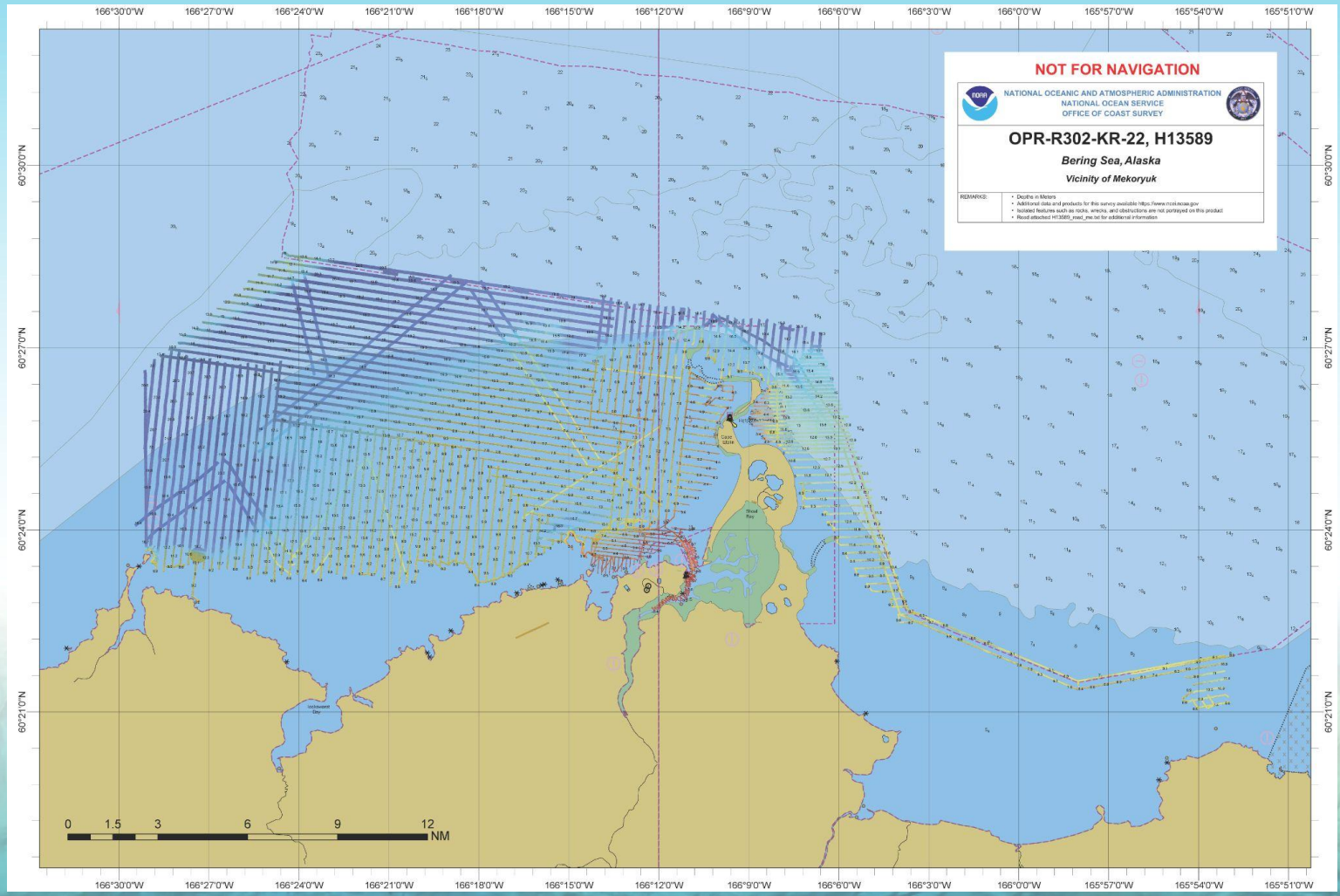












Bathymetric Data Viewer

Layers

Bathymetric Surveys

- Multibeam Survey Tracklines ?
- Multibeam Survey Footprints ?
- Multibeam Bathymetry Mosaic ?
- NOAA NOS Hydrographic Data: ?
 - All Surveys with Digital Data
 - Surveys with Bathymetric Attributed Grids (BAGs)
 - Surveys without Digital Data
- BAG Color Shaded Relief ?
- Single-Beam Surveys ?
- Single-Beam Sounding Density ?

?

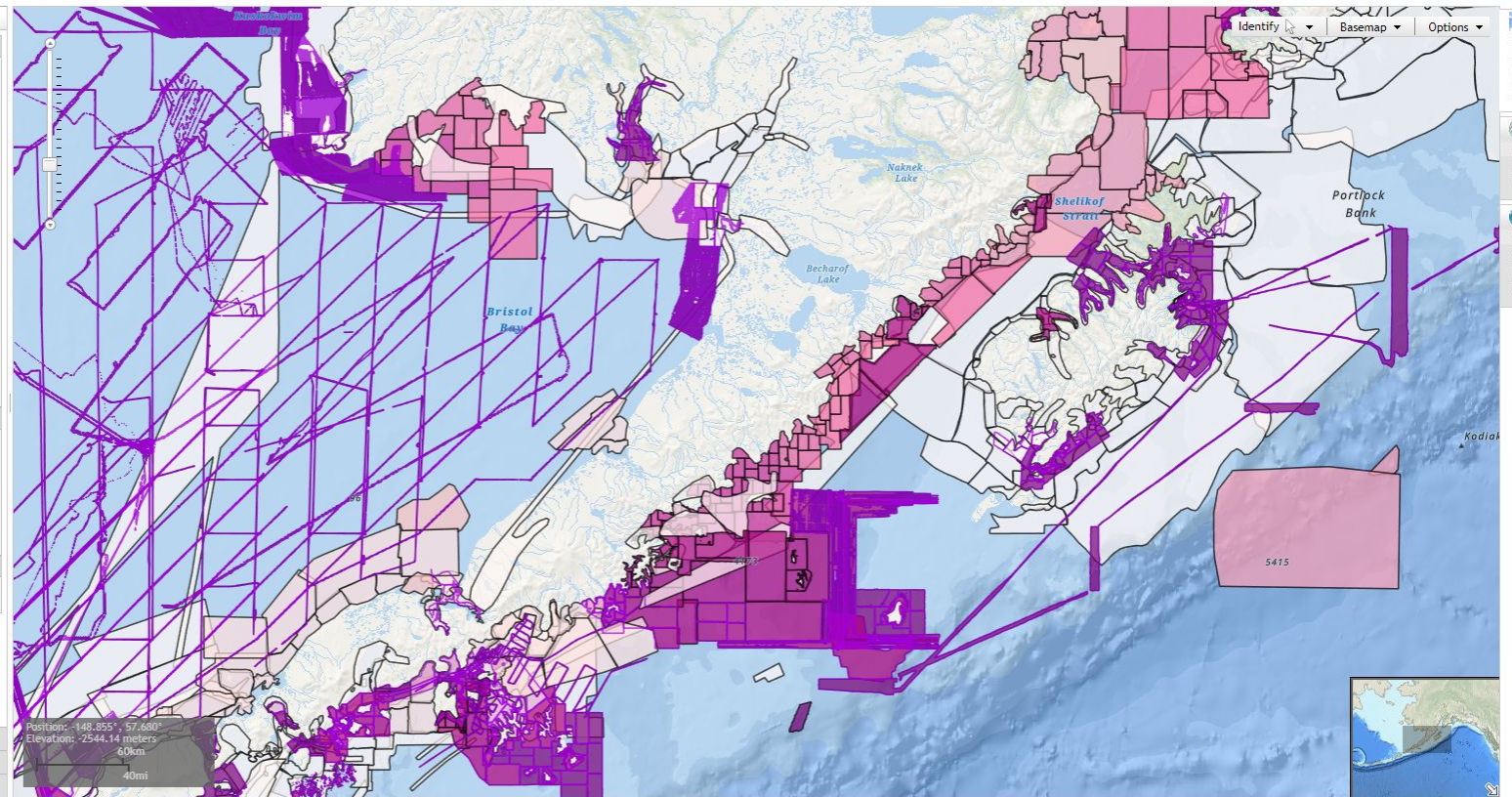
- Crowdsourced Bathymetry Files ?
- ?
- U.S. Bathymetry Coverage and Gap Analysis ?

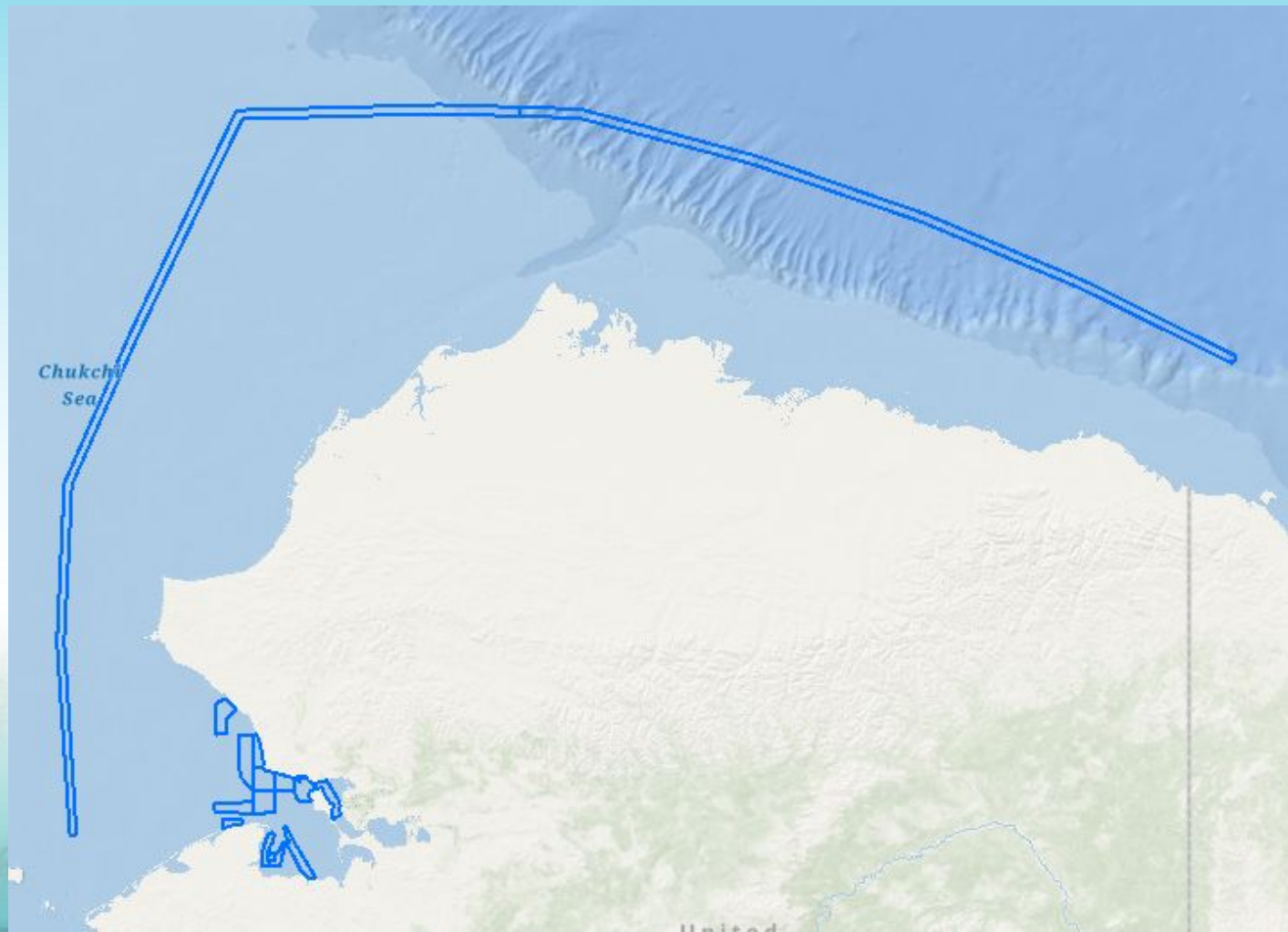
Digital Elevation Models

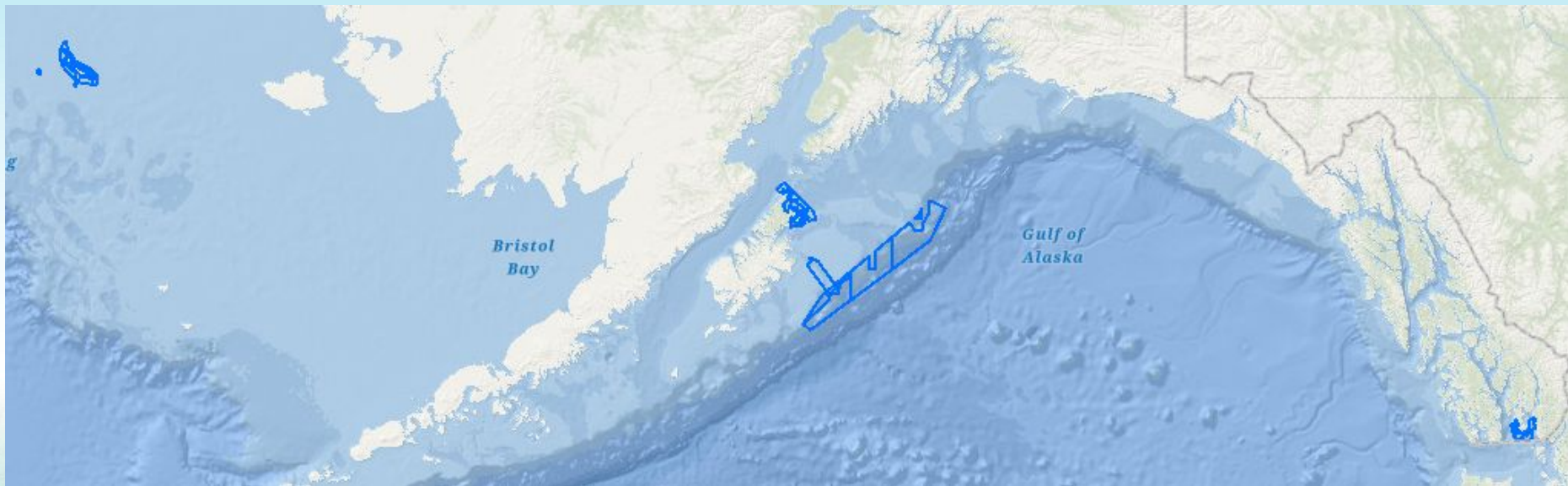
- DEM Footprints ?
- DEM Color Shaded Relief ?
- All DEMs
 - Continuously Updated Digital Elevation Model (CUDEM)
 - Coastal Relief Models (CRM)

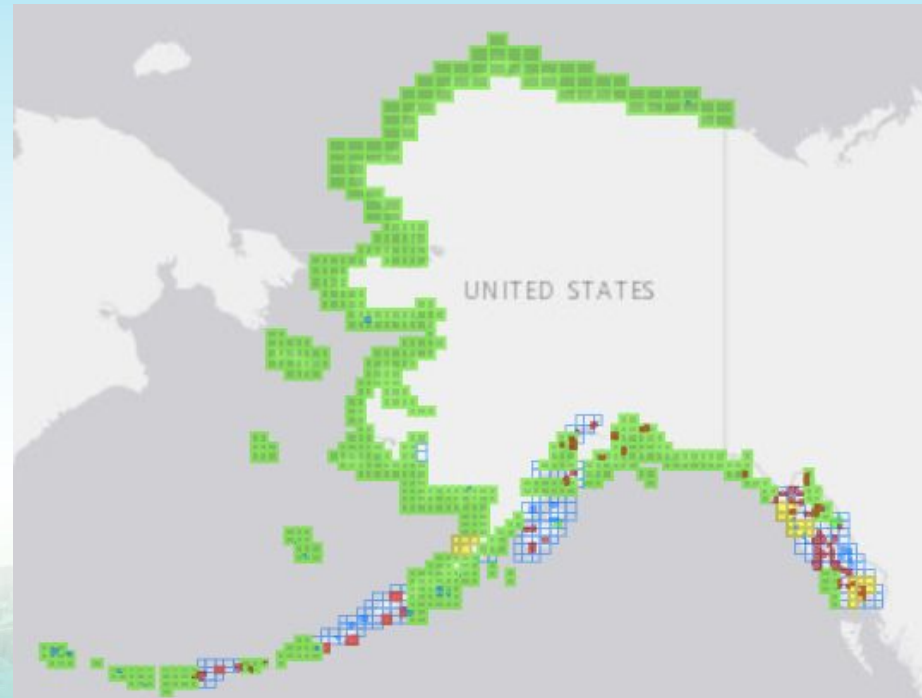
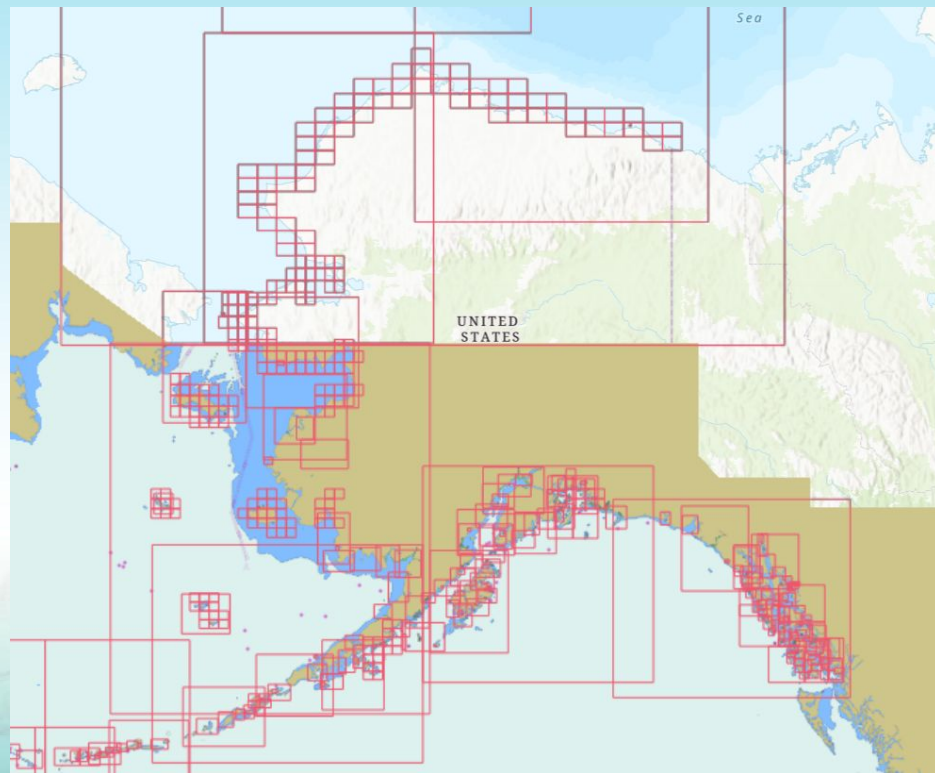
Coastal Lidar

- Topo-Bathy/Bathy Lidar Datasets ?









Raster Chart Status as of Jan 4, 2024

613

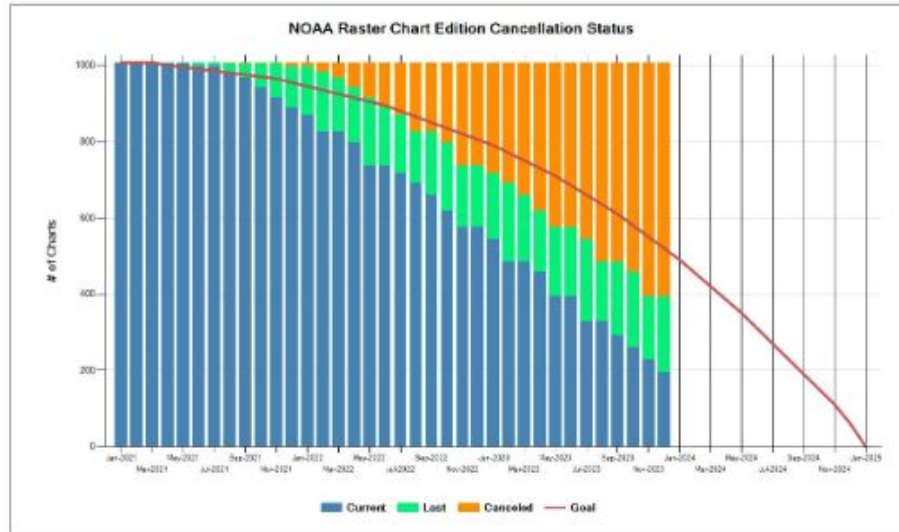
Canceled 645

Last Edition + 200

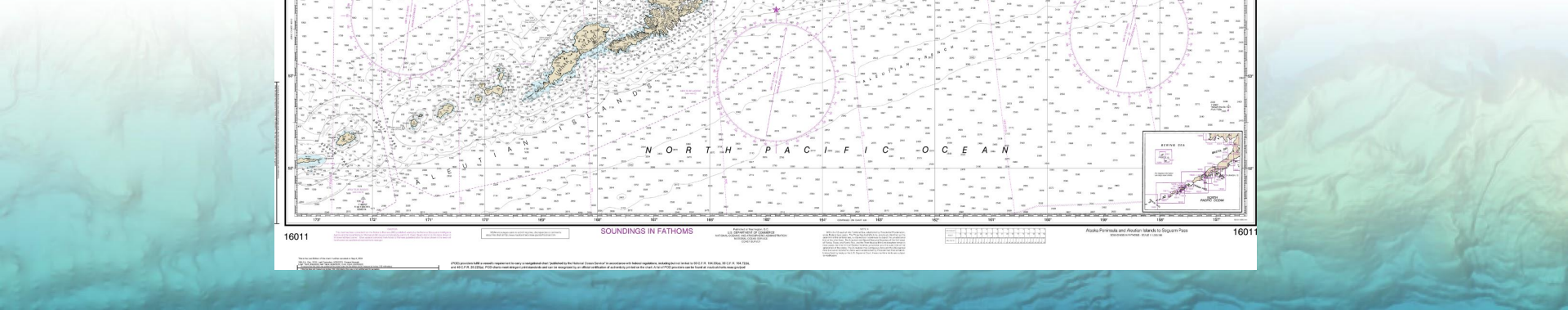
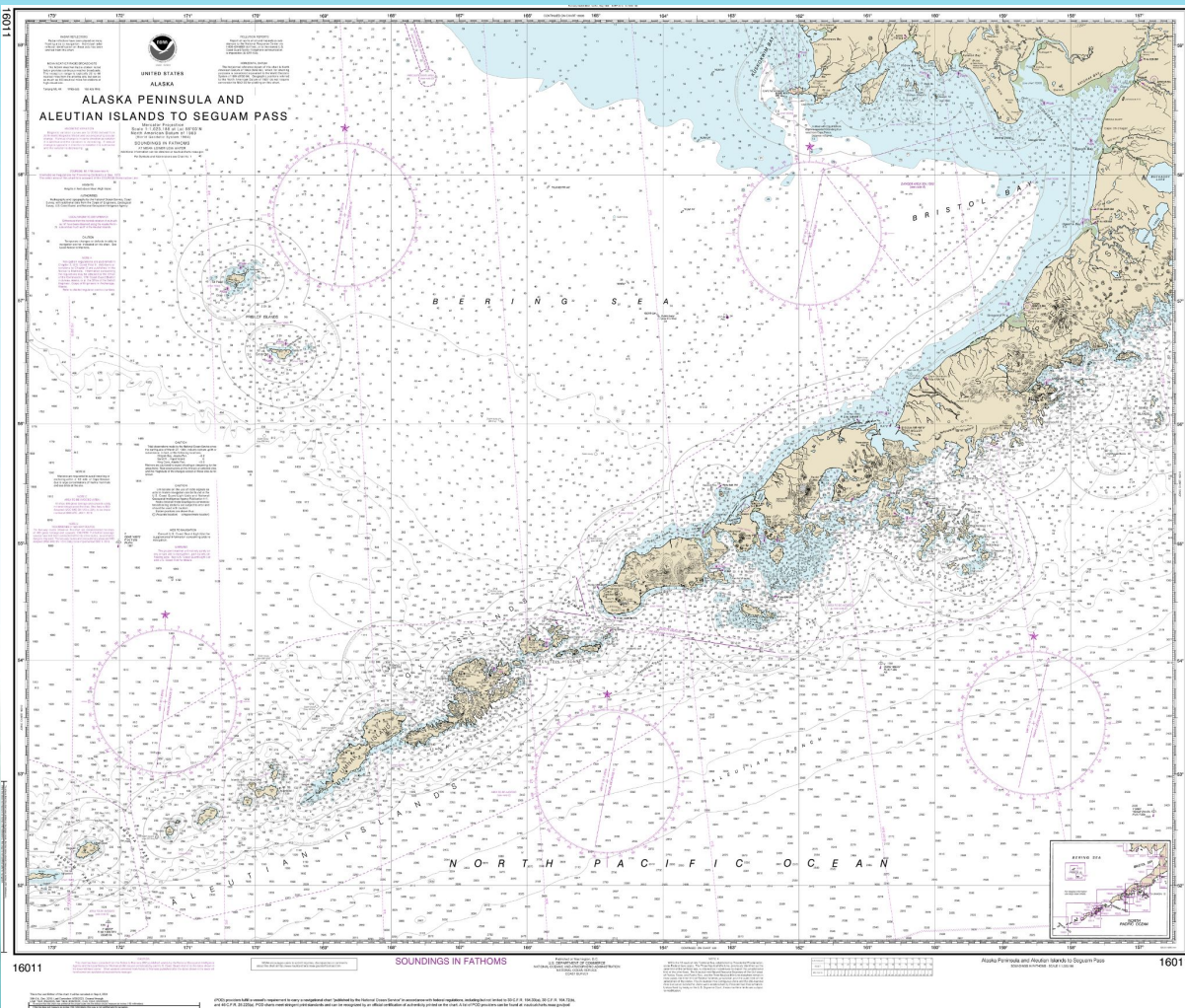
Subtotal 845

Active Charts + 162

Total 1007

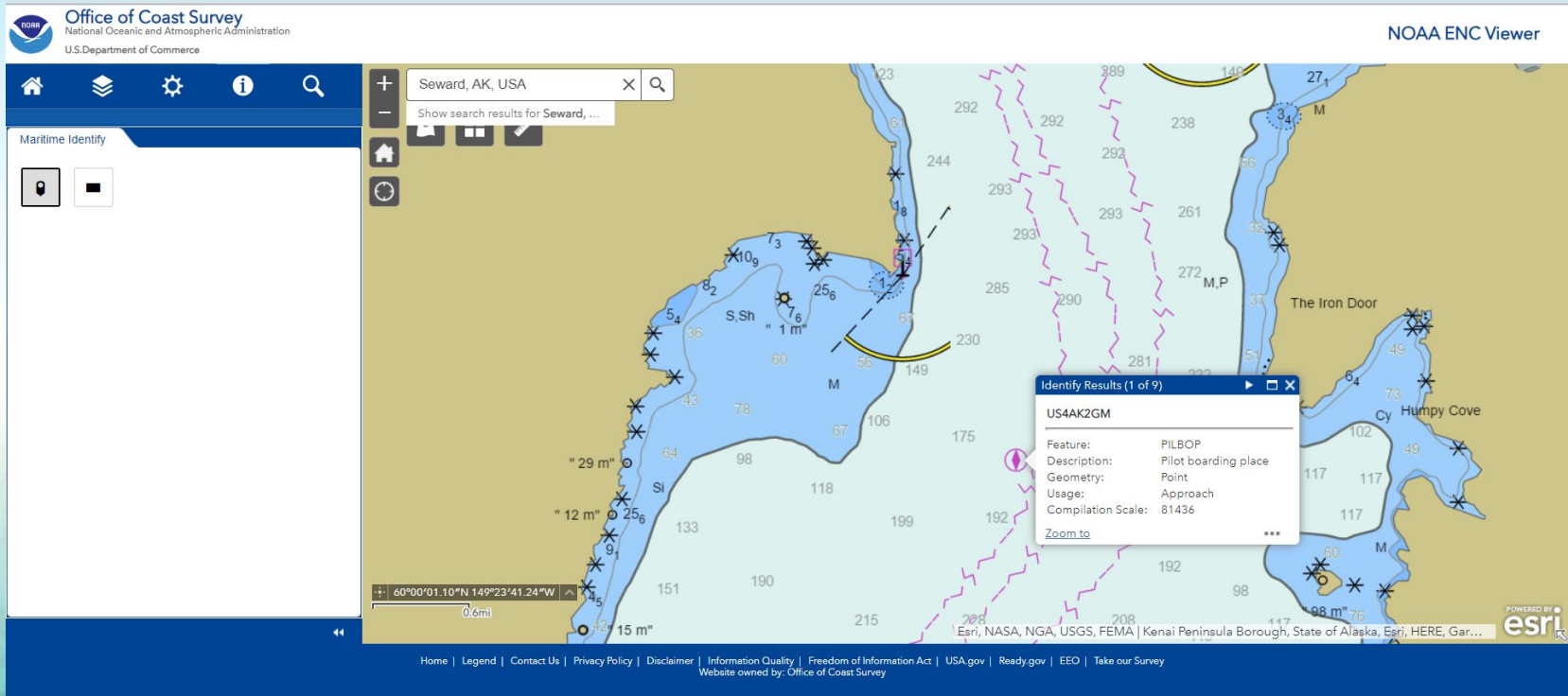


162 charts / 5 months = 32 last editions per month through June 2024 to complete sunset by Jan 2025.



ENC Viewer

<https://www.nauticalcharts.noaa.gov/enc/online/enconline.html>



The screenshot displays the NOAA ENC Viewer interface. At the top left, the NOAA Office of Coast Survey logo is visible, along with the text "National Oceanic and Atmospheric Administration" and "U.S. Department of Commerce". The top right corner shows "NOAA ENC Viewer". The main map area displays a nautical chart of Seward, AK, USA, with a search bar at the top containing "Seward, AK, USA". A "Maritime Identify" sidebar is on the left. A popup window titled "Identify Results (1 of 9)" is open, showing details for feature "US4AK2GM":

Identify Results (1 of 9)	
Feature:	US4AK2GM
Description:	PILBOP Pilot boarding place
Geometry:	Point
Usage:	Approach
Compilation Scale:	81436
Zoom to	

At the bottom of the interface, there is a footer with navigation links: "Home | Legend | Contact Us | Privacy Policy | Disclaimer | Information Quality | Freedom of Information Act | USA.gov | Ready.gov | EEO | Take our Survey". The text "Website owned by: Office of Coast Survey" is also present. The Esri logo is in the bottom right corner.

NOAA Custom Chart Tool

Office of Coast Survey
National Oceanic and Atmospheric Administration
U.S. Department of Commerce

NOAA Custom Chart Version 2.0

Choose your own chart scale and location
Save charts to a personal chart catalog

Seward, AK, USA

Layer Settings

Use these checkboxes to restrict the chart data used for your chart to specific intended use categories. Check "All Datasets" to allow the application to choose the best available data for your chart. For a detailed description of data extents and intended uses, please refer to the User Guide.

Data extents: On

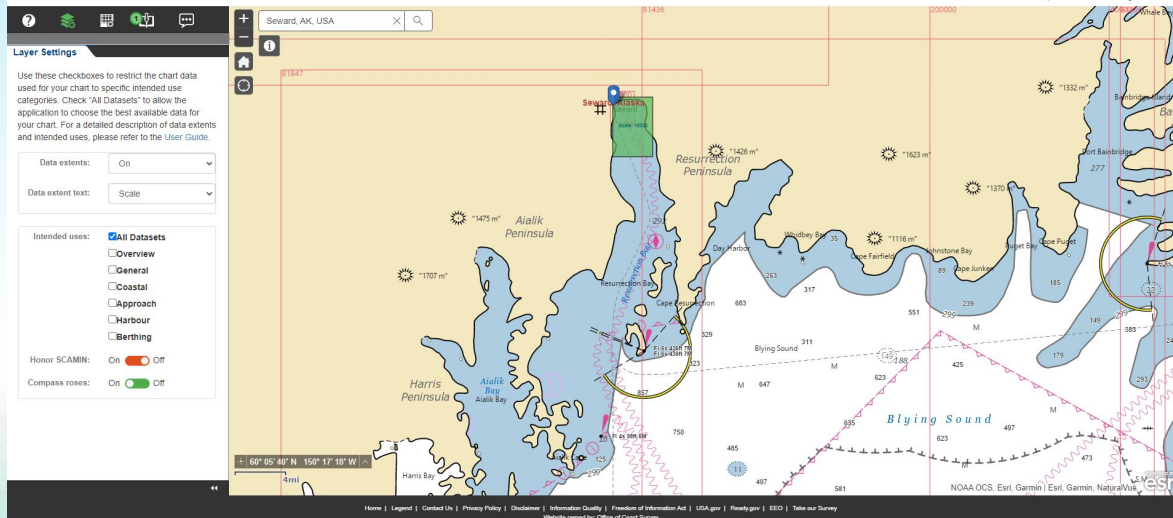
Data extent text: Scale

Intended uses:

- All Datasets
- Overview
- General
- Coastal
- Approach
- Harbours
- Berthing

Honor SCAMIN: On Off

Compass roses: On Off

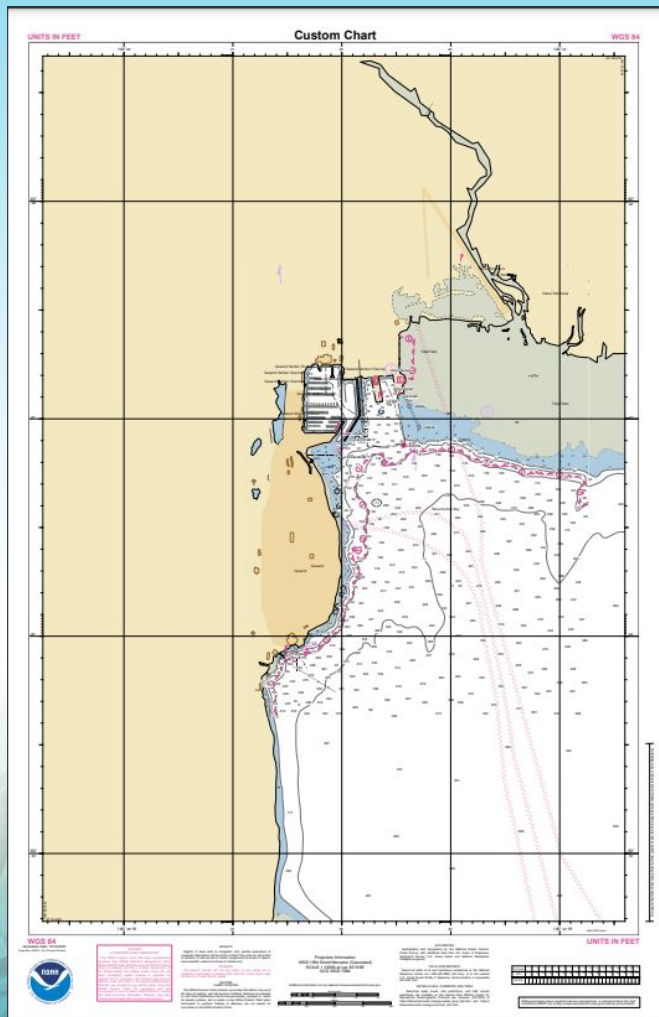


60° 05' 40" N 150° 17' 18" W

Home | Legend | Contact Us | Privacy Policy | Disclaimer | Information Quality | Freedom of Information Act | USA.gov | Ready.gov | FOIA | Take our Survey
Website owned by Office of Coast Survey

Custom Chart

UNITS IN FEET WGS 84



UNITS IN FEET WGS 84

WGS 84

NOAA Custom Chart Tool

NOAA Custom Chart Version 2.0

Choose your own chart scale and location

Save charts to a personal chart catalog

NOAA OCS, Ertl, Garmin | Ertl, Garmin, NaturalView, ESRI

NOAA Coast Survey

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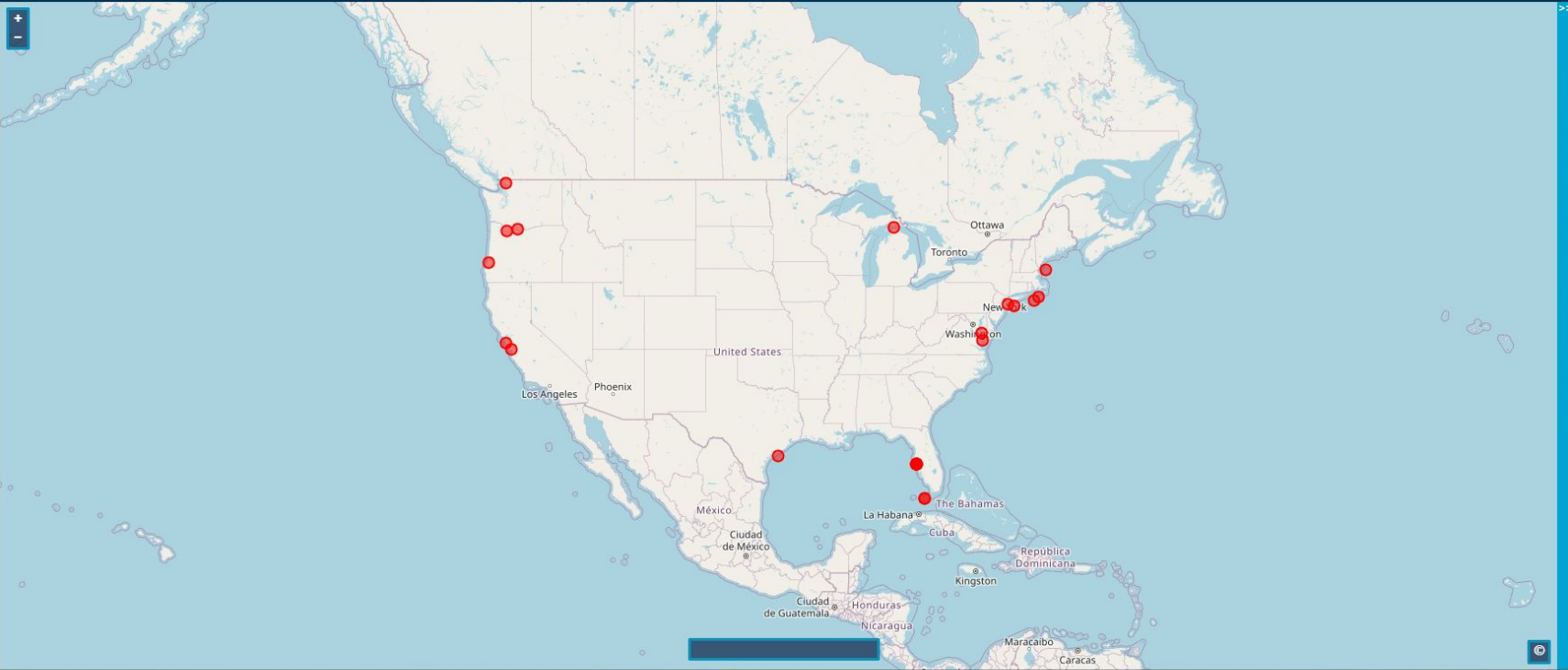
NOAA Coast Survey

https://distribution.charts.noaa.gov/weekly_updates/



NOAA Weekly Chart Updates

Chart Week Ending 04/25/2024



Affected Charts

Chart [CRIT, Mon-Crit]

Chart	New Edition
1117A	[1, 0]
5161	[1, 0]
11300	[1, 0]
11415	[8, 0]
11425	[8, 0]
11441	[2, 0]
11446	[2, 0]
11447	[2, 0]
12280	[2, 0]
12300	[4, 0]
13003	[4, 0]
13005	[5, 0]
13009	[2, 0]
13200	[1, 0]
13260	[1, 0]
14982	[1, 0]
18010	[1, 0]
18022	[1, 0]
18421	[1, 0]
18424	[1, 0]
18531	[1, 0]
18532	[1, 0]
18587	[1, 0]
18600	[2, 0]
18685	[1, 0]



U.S. Department
of Homeland Security
**United States
Coast Guard**

LOCAL NOTICE TO MARINERS

District: 17

Week: 11/24

58-Navigation Information Service (NIS)-
Watchstander, 24 hours a day at (703) 313-5900
~Navcen Internet Address~
<https://www.navcen.uscg.gov>
-Local Notice to Mariners-
<https://www.navcen.uscg.gov/-pageName=lnmMain>

Issued by: Commander (DPW) Telephone: (907) 463-2269 (0800-1600)
Seventeenth Coast Guard District After Hours: (907) 463-2000 (1600-0800)
PO Box 25517, Juneau, AK 99802-5517

Questions, comments, or additional information on this Local Notice to Mariners should be sent to the address above or by E-mail to: SMB-D17@juneau.lnm@uscg.mil. You can get the U.S. Coast Guard 17th District Local Notice to Mariners via the Internet directly from the U.S. Coast Guard Navigation Center web site at <https://www.navcen.uscg.gov/-pageName=lnmDistrict®ion=17>.

REFERENCES: Light List, Vol. VI, Pacific Coast and Pacific Islands (COMDTPUB P16502.6).
U.S. Coast Pilot 8, Pacific Coast Alaska: Dixon Entrance to Cape Spencer, 45th Edition.
U.S. Coast Pilot 9, Pacific and Arctic Coasts Alaska: Cape Spencer to Beaufort Sea, 41st Edition.

BROADCAST NOTICE TO MARINERS

Navigation information previously promulgated by CG Sector Southeast Alaska Broadcast Notice to Mariners through SEAK095-24 and CG Sector Anchorage Broadcast Notice to Mariners through A039-24 that are still in effect are included in this notice.

Chart Corrections

<https://nauticalcharts.noaa.gov/charts/chart-updates.html>

Dates of Latest Editions, Nautical Charts, and Miscellaneous Maps
<https://nauticalcharts.noaa.gov/charts/list-of-latest-editions.html>

Light List/ Summary of Corrections
<https://www.navcen.uscg.gov/-pageName=lightListCorrections>

NOAA Chart Viewer (Posting of all up to date NOAA charts for viewing on Internet browser to be used for ready reference or planning)
<https://nauticalcharts.noaa.gov/>

NOAA Booklet Charts
<https://nauticalcharts.noaa.gov/charts/noaa-raster-charts.html#booklet-charts>

Coast Pilots, along with corrections, are available at:
<https://nauticalcharts.noaa.gov/publications/coast-pilot/index.html>

NOAA Weather Buoy Sites
<http://www.ndbc.noaa.gov/>

Tides online
<https://tidesandcurrents.noaa.gov/>

Tides, Currents, PORTS
<https://tidesandcurrents.noaa.gov/oaacurrents/Stations-g=693>

Weather
<https://www.weather.gov/marine/alaskatext>

Vessel Traffic System Prince William Sound (VTSPWS) Users Manual

U.S. Department of
Homeland Security



United States
Coast Guard



LIGHT LIST

Volume VI

PACIFIC COAST AND PACIFIC ISLANDS

Pacific Coast and outlying Pacific Islands

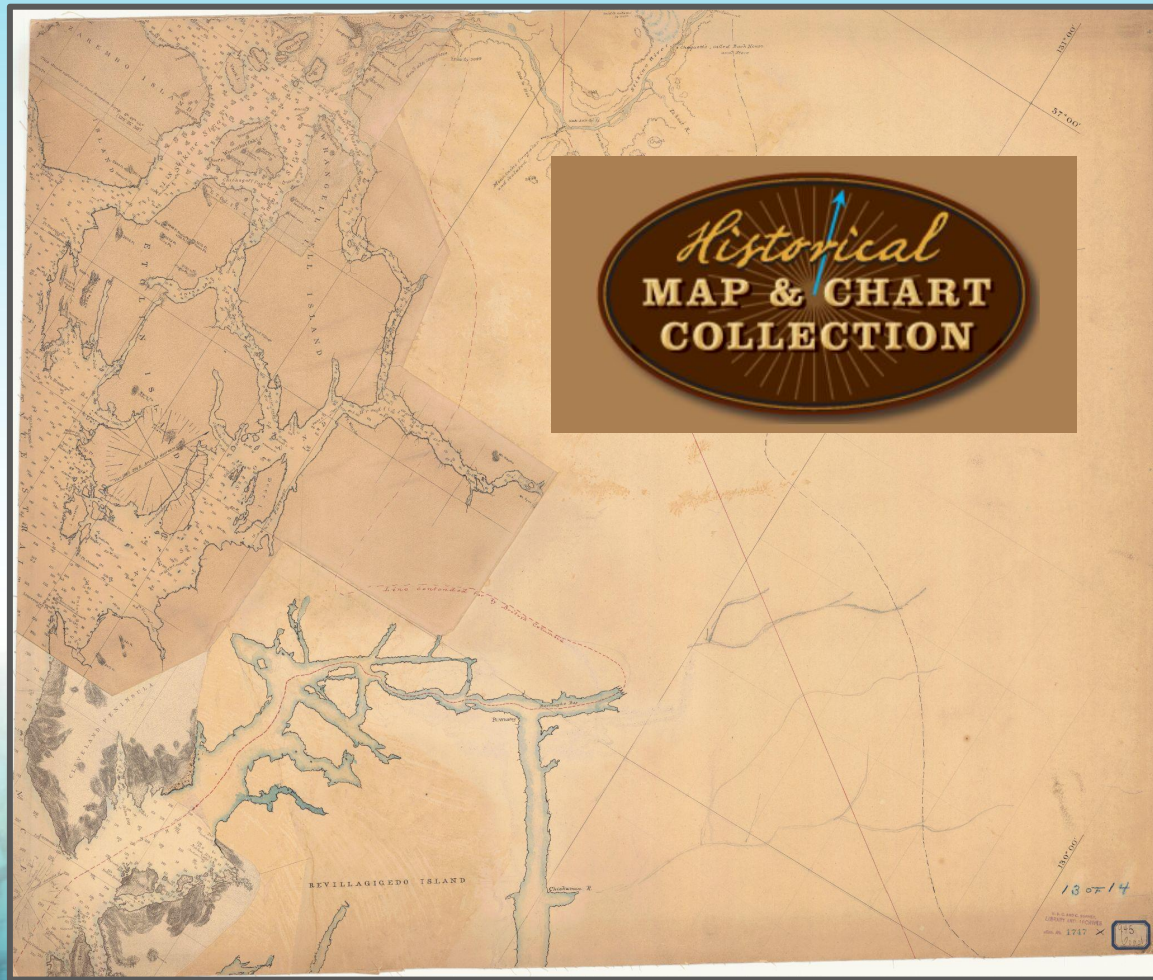
This publication contains a list of lights, sound signals, buoys, daybeacons, and other aids to navigation.

IMPORTANT
THIS SHOULD BE CORRECTED
EACH WEEK FROM THE LOCAL NOTICES TO MARINERS
OR NOTICES TO MARINERS AS APPROPRIATE.

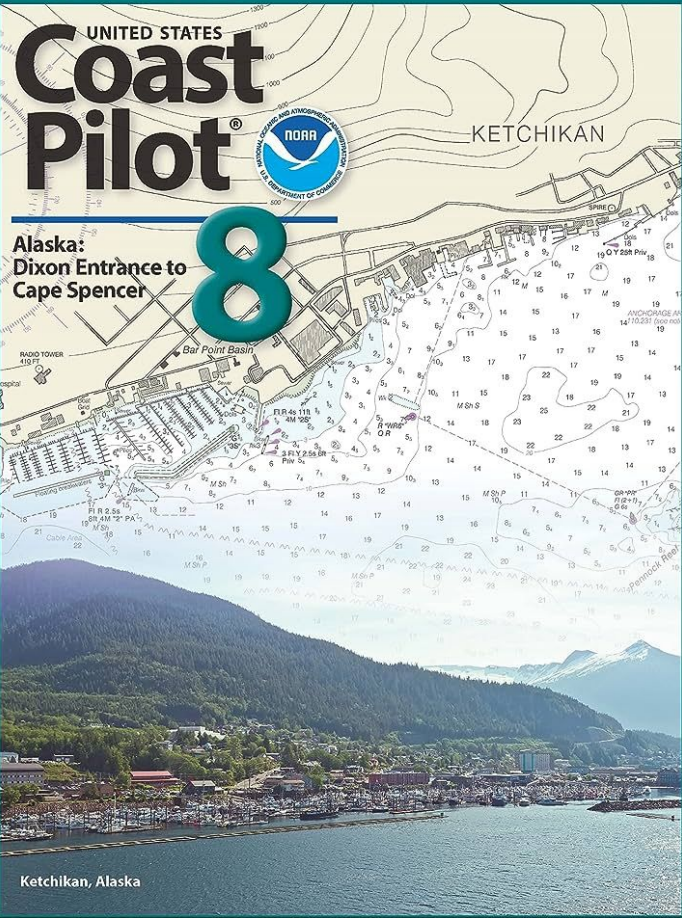
2024

COMDTPUB P16502.6

<https://historicalcharts.noaa.gov/>

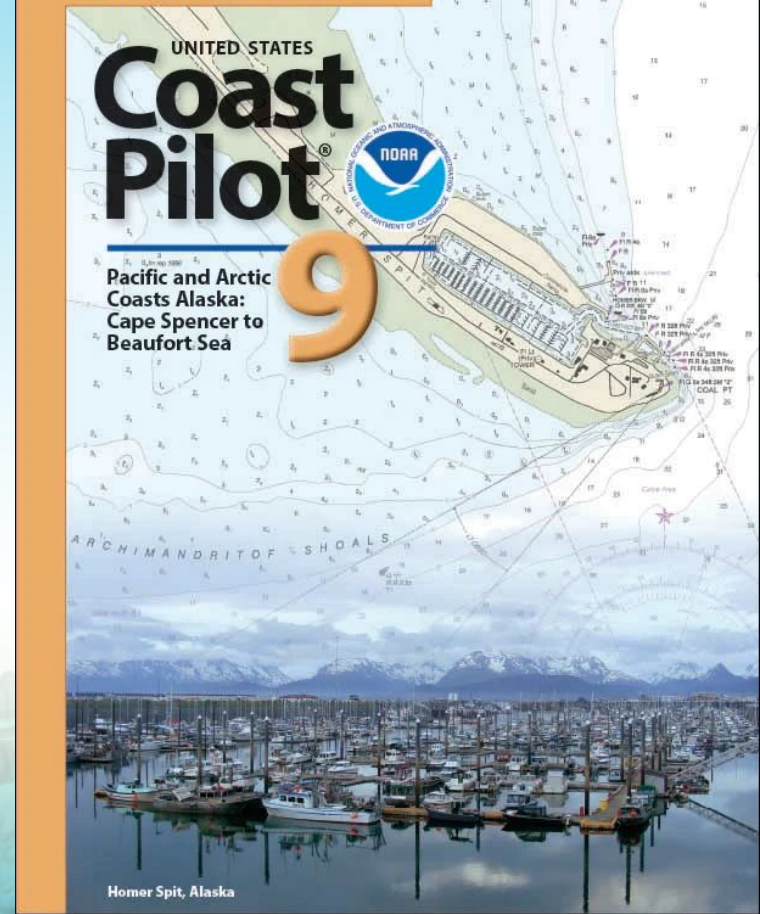


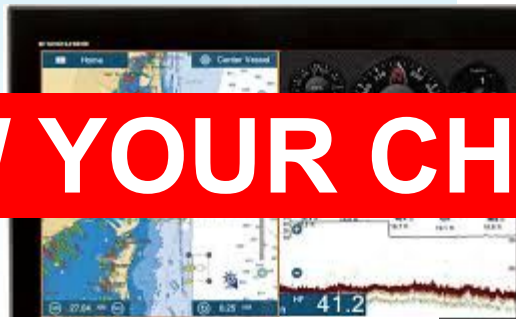
44th Edition 2022



-Resource
-Updates
-Place
names

41st Edition 2023



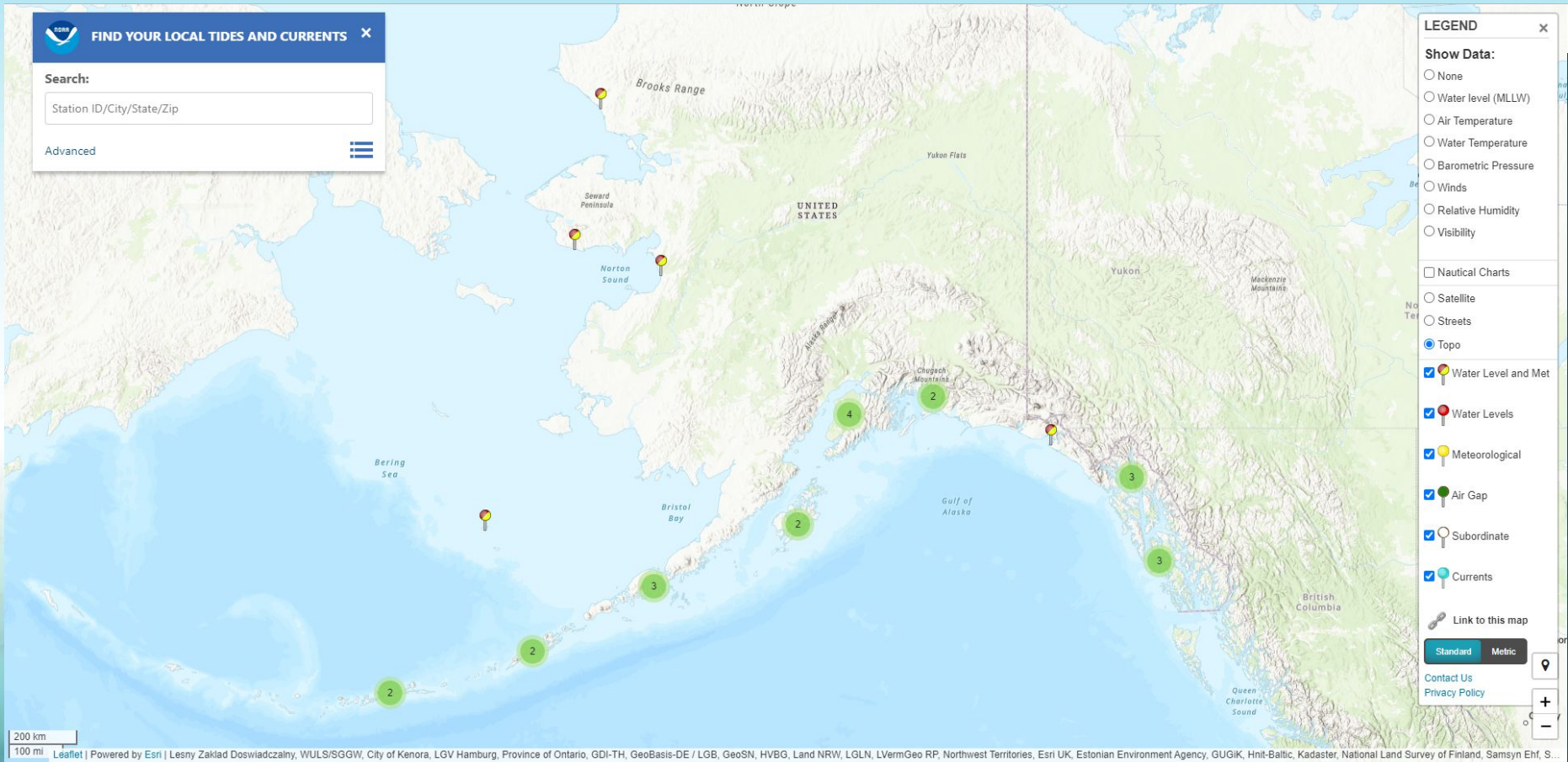


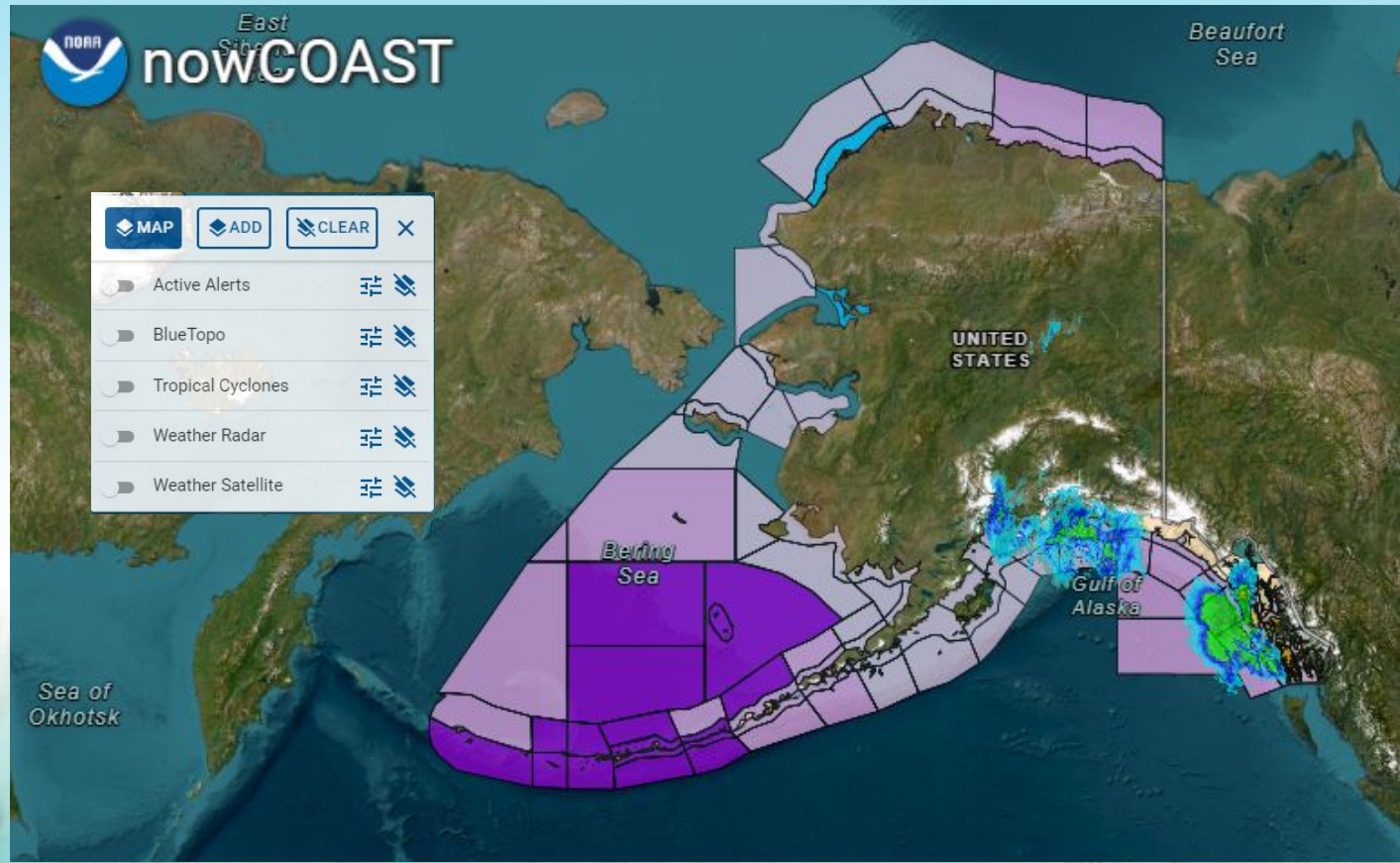
KNOW YOUR CHART PLOTTER



CO-OPs

tidesandcurrents.noaa.gov





TSUNAMI ALERTS

Alert level

Action

Hazard

WARNING

Get to high ground or inland
IMMEDIATELY!
Follow evacuation signage

DANGER!
A TSUNAMI IS IMMINENT.
Flooding &
dangerous currents

**3+ feet
or
1+ meter**



ADVISORY

Stay out of the water
and
away from the shore

**STRONG CURRENTS
& DANGEROUS WAVES!**
In or near coastal waters

**1 - 3 feet
or
0.3 - 1 meter**



WATCH

Prepare to take action.
Monitor local TV, radio,
social media, NOAA weather radio

A TSUNAMI IS POSSIBLE.
Arrival time is several
hours away. Prepare now.
Alert level may change.

Prepare



**INFORMATION
STATEMENT**

**NO action
needed**

**NO tsunami impact
expected.**

Relax

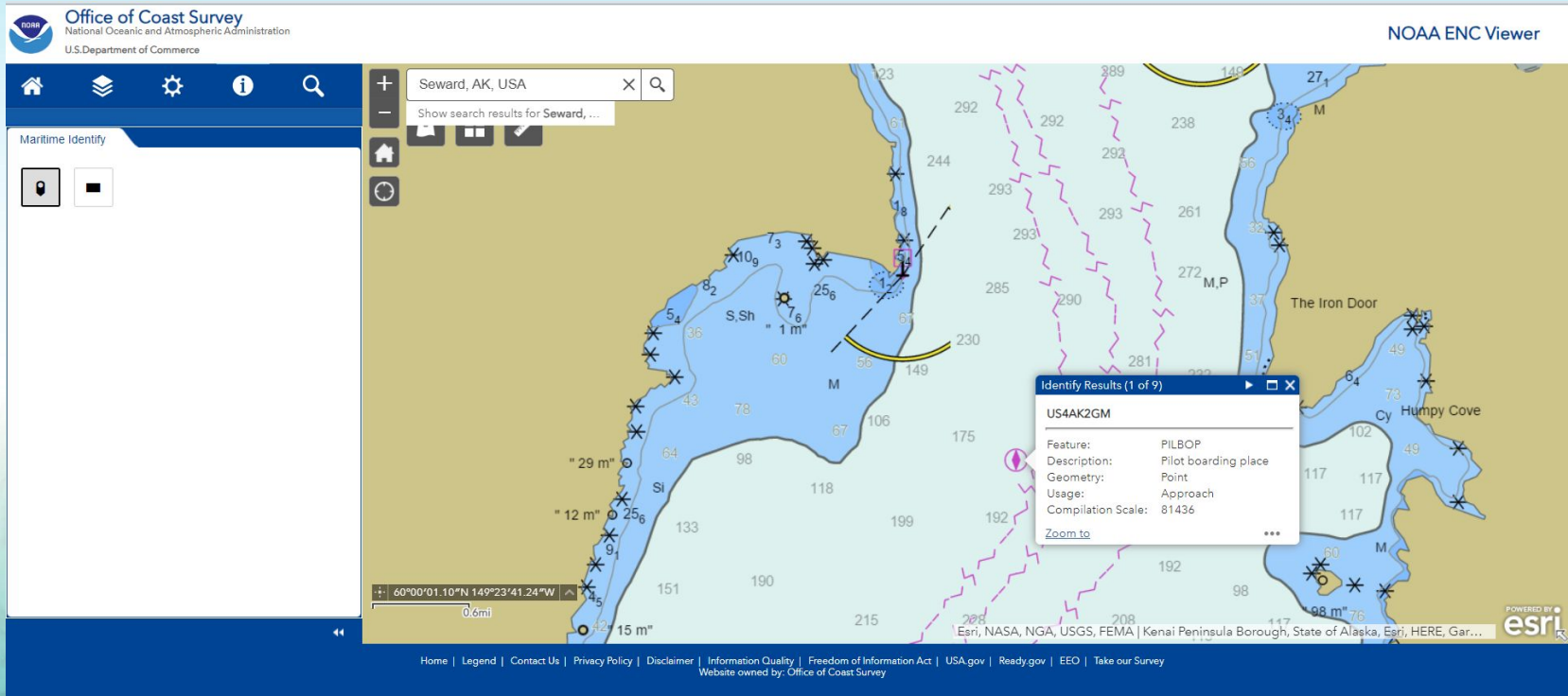


THREAT MESSAGE: Issued for International Partners; NOT for U.S. Coasts



ENC Viewer

<https://www.nauticalcharts.noaa.gov/enc/online/enconline.html>

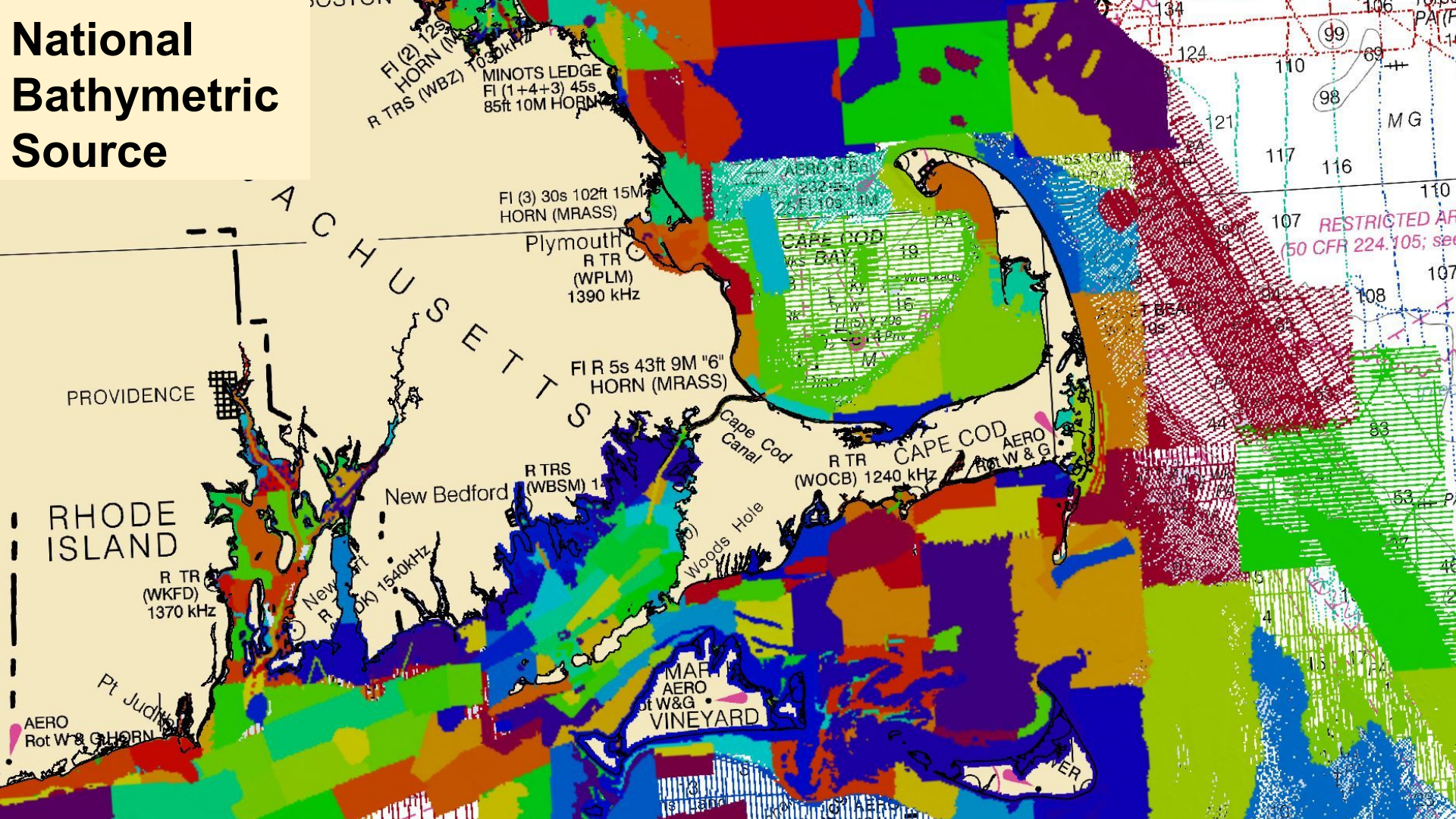


The screenshot displays the NOAA ENC Viewer interface. At the top left is the NOAA Office of Coast Survey logo and name. The search bar contains "Seward, AK, USA". The main map area shows a nautical chart with depth soundings, navigational markers, and a highlighted feature. An information popup window is open over the feature, displaying the following details:

Identify Results (1 of 9)	
Feature:	US4AK2GM
Description:	PILBOP Pilot boarding place
Geometry:	Point
Usage:	Approach
Compilation Scale:	81436
Zoom to	

At the bottom of the interface, there is a footer with navigation links: Home | Legend | Contact Us | Privacy Policy | Disclaimer | Information Quality | Freedom of Information Act | USA.gov | Ready.gov | EEO | Take our Survey. The website is owned by the Office of Coast Survey. The Esri logo is visible in the bottom right corner of the map area.

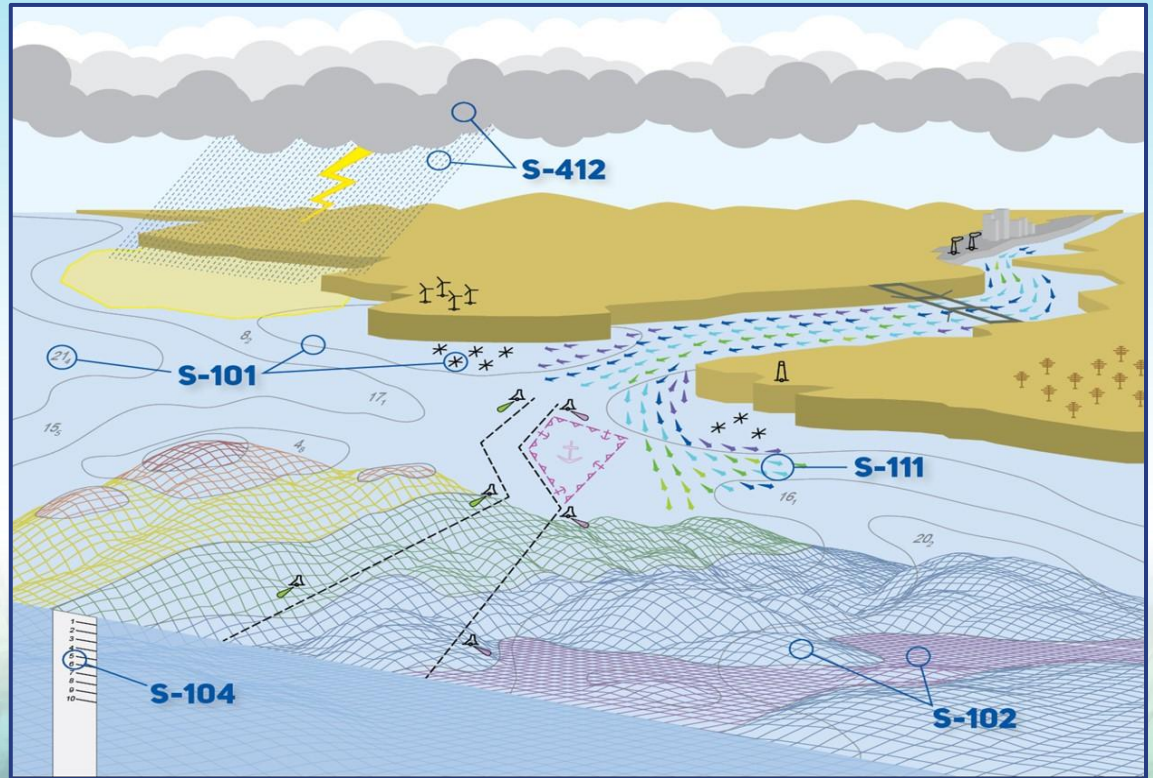
National Bathymetric Source



S-100 Data Framework

S-100 Data Products

- S-101:** Electronic Navigational Charts
- S-102:** Bathymetric Surface
- S-104:** Water Level Information for Surface Navigation
- S-111:** Surface Currents
- S-41X:** Weather Overlays



R

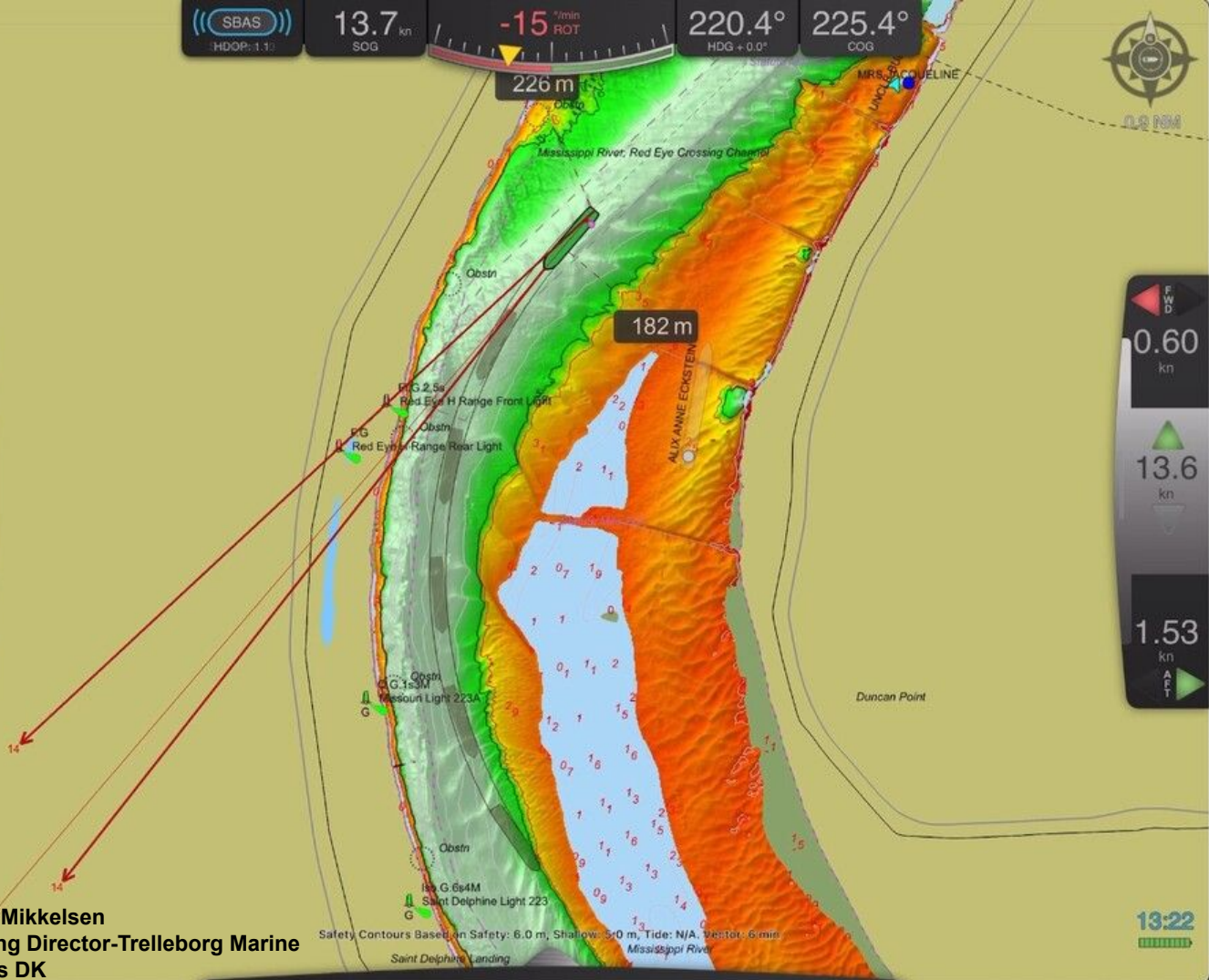
SBAS
HDOP: 1.1

13.7 kn
SOG

-15 °/min
ROT

220.4°
HDG + 0.0°

225.4°
COG



FWD
0.60 kn
13.6 kn
1.53 kn
AFT

Tommy Mikkelsen
Managing Director-Trelleborg Marine
Systems DK

Safety Contours Based on Safety: 6.0 m, Shallow: 5.0 m, Tide: N/A, Vector: 6 min
Mississippi River

13:22
Battery level indicator



Accessible, high
quality data and
products



Data and
products follow
best practices



Members work
together to
achieve more



Innovation is
encouraged



Plans and
progress are
shared broadly

Share all available data with centralized repositories, like NCEI's Bathymetry and Marine Geophysical Archives and OCM/Digital Coast's LIDAR Data Access

Thank you!

THANK YOU to the NOAA Ship *Fairweather* and Terrasond for doing the data collection and processing as well as helping with materials for this presentation.

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THANK YOU to the communities for welcoming us and your assistance with this project.



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<https://nauticalcharts.noaa.gov/>