Seascape Alaska

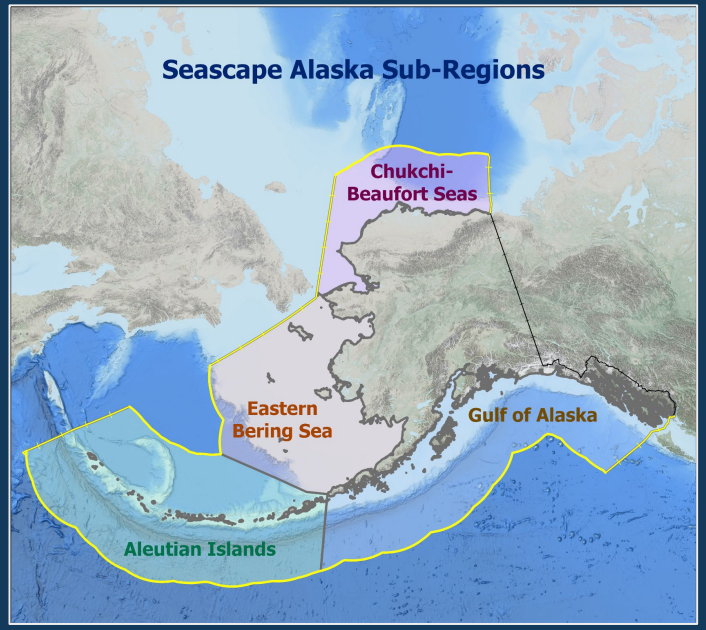
Working together to understand the depths of Alaska's vast seascape

Introducing Panel 3: What are we doing? Operations and Opportunities

- ★ Experiences with Hydroball - Jaci Overbeck, AK DGGS
- ★ University of Alaska Vessel Ops R/V Sikuliaq and Nanuq - Doug Baird, UAF
- ★ NOAA Office of Coast Survey FY 21/22 Accomplishments and Plans - LCDR Hadley Owen
- ★ U.S. Coast Guard Accomplishments and Plans - Dave Seris/Chris Hill
- ★ NOAA Ocean Exploration Collaborations for FY 22/23 - Caitlin Adams
- ★ NOAA Fisheries Activities - Bob McConnaughey
- ★ Crowdsourced Bathymetry - Georgianna Zelenak, NOAA NCEI
- ★ Data Provider Engagement & Agreements - Christie Reiser, NOAA NCEI
- ★ Non-hydrographic data and the NOS Hydro pipeline - Julia Wallace, NOAA OCS
- ★ Skipper Science - Aaron Poe, Alaska Conservation Foundation and ABSI Partnership
- ★ 20 minute panel Q&A

Poll Question

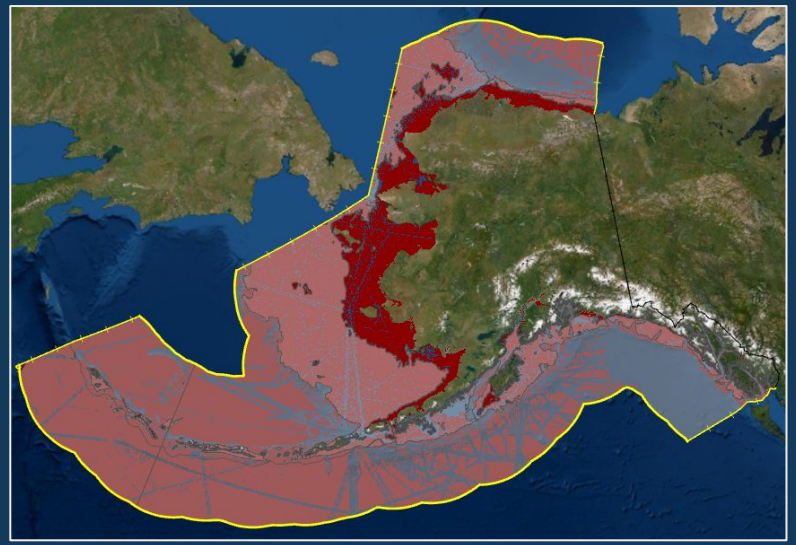
What geographic region are you most interested in?



Alaska Coastal and Ocean Mapping Summit
December 2, 2021

Poll Question

What coastal and ocean depths are you most interested in?



Alaska Coastal and Ocean Mapping Summit
December 2, 2021

Crowd-Sourced Nearshore Bathymetry: The HydroBall

Jaci Overbeck

December 2, 2021 | Virtual

Crowd-Sourced Nearshore Bathymetry: The HydroBall

2021 Alaska Coastal Mapping Summit

Presenters:
Jacquelyn Overbeck
Alaska Division of Geological & Geophysical Surveys

Julien Desrochers
M2Ocean

M2Ocean

- **M2Ocean** is a spin-off issued from CIDCO created in 2018.

- **CIDCO** is a research and development organization in marine geomatics based in Eastern Canada (Rimouski, QC).

- **M2O Objective:** Offer **innovative** technological **solutions** to the maritime community for **mapping** the **seabed.**

Products: HydroBall, HydroBlock, HydroToM

Services:

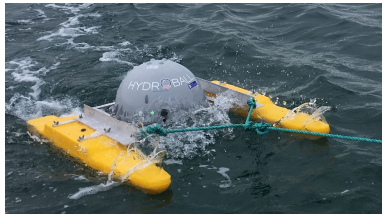
- Product **sale**
- **support and training** for use of equipment
- **specialized** hydrographic **mandates**
    - Bathymetric survey in difficult areas, offshore surveys, etc.

HydroBall specifications

Single-beam acquisition system:
robust spherical shell (13kg – 40cm de diameter):

- GNSS: position (latitude, longitude, height)
- Inclinometer: attitude (roll, pitch)
- Echosounder : depth measurement

CIDCO

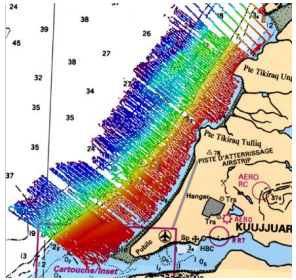


- **Easy to use** system
- Fully **integrated** system
- **Robust** system

GPS	**Standalone mode** 2.5m (95%) **DGPS (SBAS) mode** 0.6m (95%) **Post-Processed (PPK) mode** 0.02m (95%) Update Rate: 1Hz -> 10Hz	
DIGITAL COMPASS	**Heading** Tilt < ±20°: 0.5 **Pitch, Roll** Tilt < ±20°: 0.4° Tilt > ±20°: 06° Update rate: 10Hz	
DEPTH SOUNDER	**Shallow to mid-range model** Frequency : 675kHz Beam width : 10° Range : 0.50m – 50.0m Range resolution : 20mm Update rate : 1Hz -> 10Hz	**Ultra-shallow model** Frequency : 500kHz Beam width : 6° Range : 0.10m – 10.0m Range resolution : 0.025% of range Update rate : 10Hz

HydroBall Applications

- Traditional single-beam surveys
- Difficult to access areas
- Collaborative bathymetry



HydroBall Operations in Alaska

Alaska Ocean Observing Systems owns 2 HydroBalls + catamarans for use in Alaska

DGGS houses and maintains systems, provides to agency partners needing use of the system.

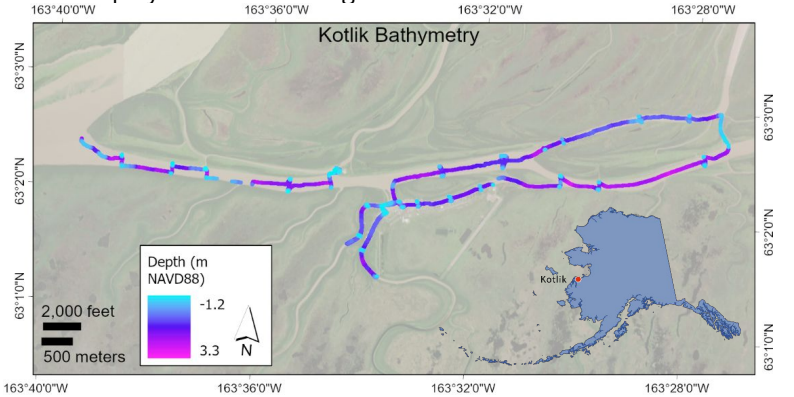
Year 1 of Operations:

- DGGS collected data at Kotlik, Napakiak, and Wainwright
- Alaska Center for Energy & Power, UAF collected data at Elson Lagoon and near Kaktovik

Objectives:

- Test the system in Alaska waters by researchers and scientists
- Provide single-beam bathymetry in high priority areas
- Begin a workflow including technical guidance on QC from NOAA and submitting to NCEI

DGGS Graduate Intern Roberta Glenn preparing HydroBall for deployment in Wainwright.



HydroBall Operations in Alaska

Some Lessons Learned:

- System fits in and is easily transported by local commercial airplanes.
- HydroBall settings are easily changed; however, they do require experience with computer and ability to operate multiple types of software.
- Local ingenuity gets the job done!

Boat operator Greg Ayunerak on Yukon River near Alakanuk.

DGGS crew getting ready to board airplane with field gear at Kotlik (photo by Harold Okitkun).

End of Presentation

Thank you!

University of Alaska Vessel Ops R/V Sikuliaq and Nanuq

Doug Baird

December 2, 2021 | Virtual

R/V *Sikuliaq* Operations

AK Coastal & Ocean Mapping Summit 02 December 2021

Doug Baird
Director, Seward Marine Center
CFOS, UAF

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R/V Sikuliaq

College of Fisheries and Ocean Sciences

https://www.sikuliaq.alaska.edu

R/V Sikuliaq in Chukchi Sea Ice (May2021)

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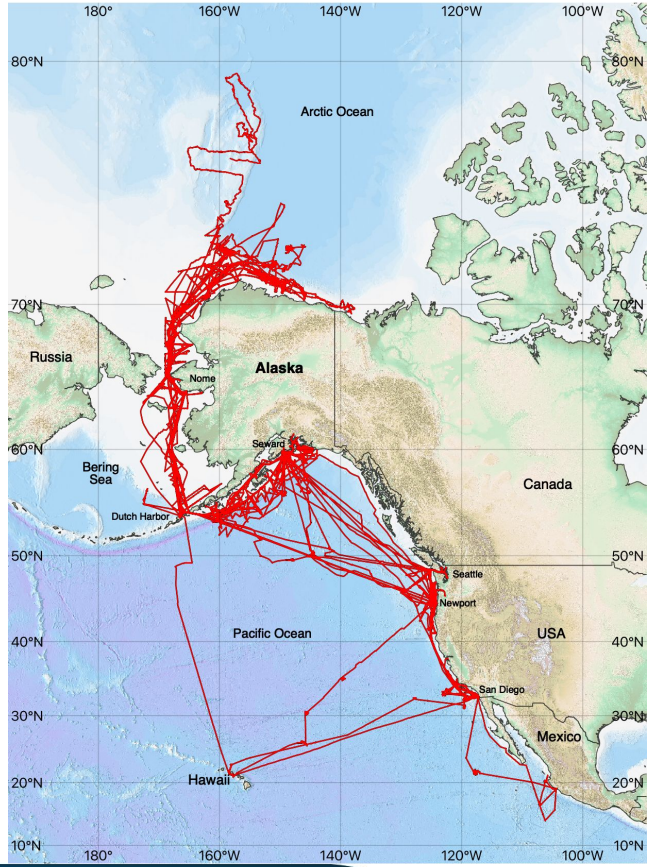
https://www.sikuliaq.alaska.edu

R/V Sikuliaq – Chukchi Sea Ice Station (May 2021)

R/V Sikuliaq, January 1, 2016 - September 6, 2021



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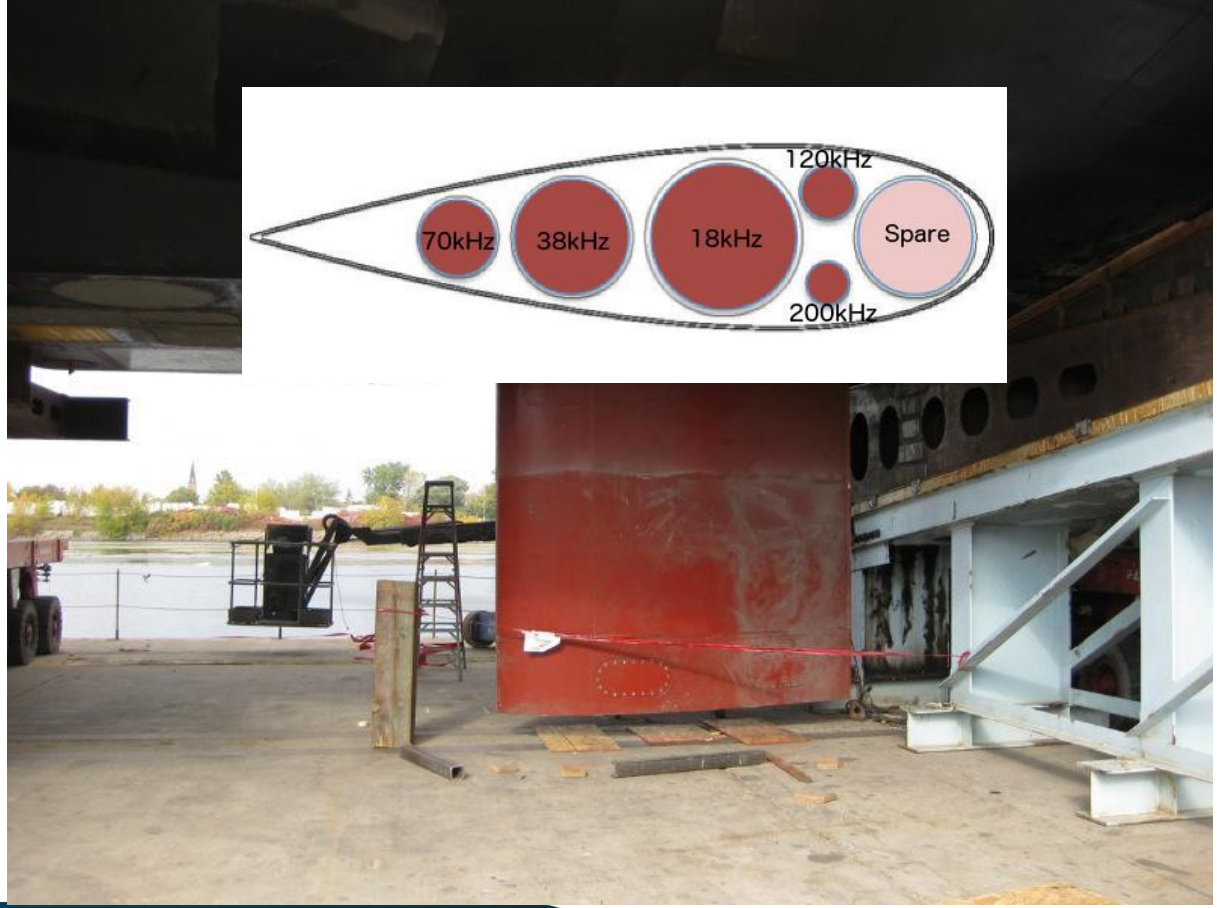
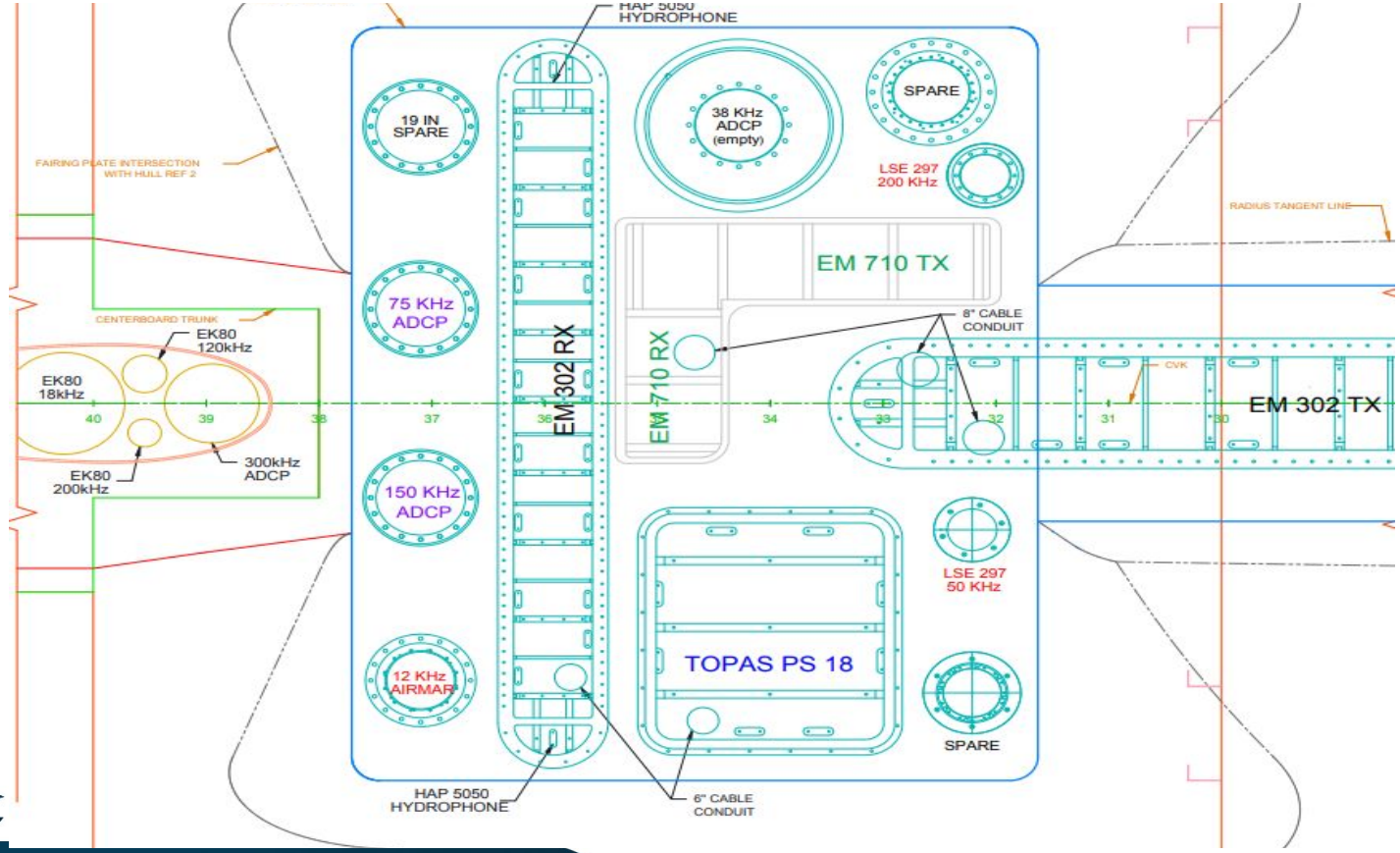

120kHz
70kHz
38kHz
18kHz
Spare
200kHz


HAP 5050
HYDROPHONE
19 IN
SPARE
38 KHz
ADCP
(empty)
SPARE
LSE 297
200 KHz
FAIRING PLATE INTERSECTION
WITH HULL REF 2
RADIUS TANGENT LINE
EM 710 TX
75 KHz
ADCP
CENTERBOARD TRUNK
EK80
120kHz
EK80
18kHz
EM302 RX
EM 710 RX
8" CABLE
CONDUIT
CVK
EM 302 TX
40
39
38
37
36
34
33
32
31
30
300kHz
ADCP
EK80
200kHz
150 KHz
ADCP
LSE 297
50 KHz
TOPAS PS 18
12 KHz
AIRMAR
SPARE
HAP 5050
HYDROPHONE
6" CABLE
CONDUIT

COLLEGE OF FISHERIES AND OCEAN SCIENCES
University of Alaska Fairbanks

COASTAL RESEARCH VESSEL NANUQ

ABOUT R/V *NANUQ*

R/V *Nanuq,* the Inupiat name for "polar bear," was commissioned in 2019 and is operated by the UAF College of Fisheries and Ocean Sciences.

The vessel boasts a 1,000 lb hydraulic A-frame, a dive platform, and a cruising speed of 20+ knots. With her 13-foot aft deck, R/V *Nanuq* is designed to accommodate the deployment of a wide variety of equipment to support oceanographic and marine biology research, including CTD rosettes, plankton nets, moorings, and tow sleds.

UNIVERSITY OF ALASKA FAIRBANKS
R/V Sikuliaq
College of Fisheries and Ocean Sciences
https://www.sikuliaq.alaska.edu

End of Presentation

Thank you!

Navigation Manager Updates

LCDR Hadley Owen, NOAA

December 2, 2021 | Virtual

Navigation Manager Updates

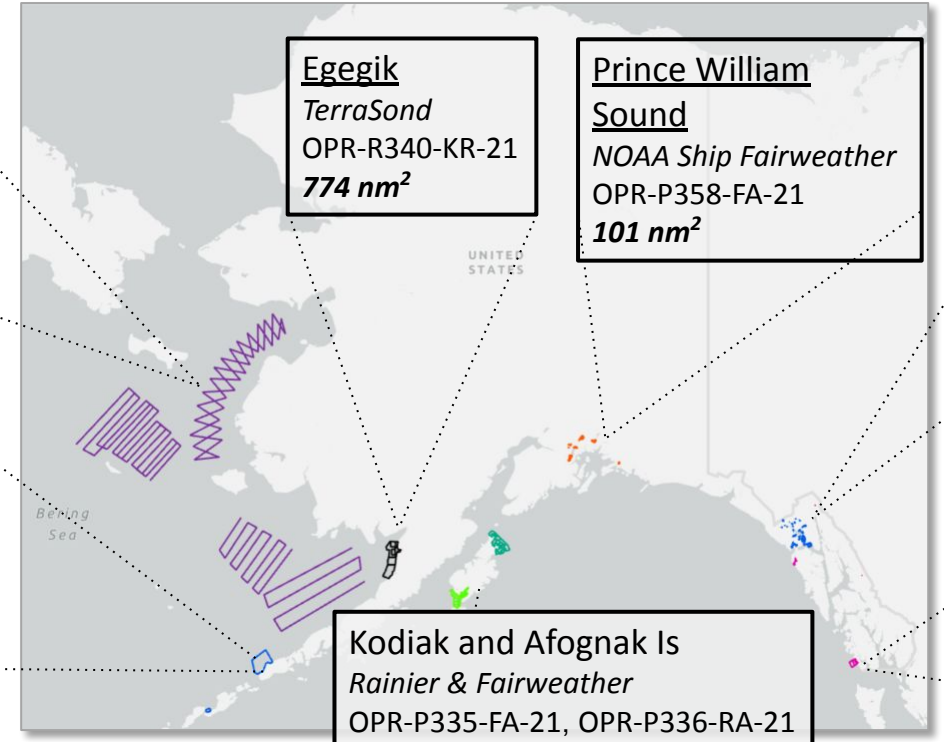
Alaska Coastal and Ocean Mapping Summit

December 2nd, 2021

LCDR Hadley Owen, NOAA

2021 Survey Operations

https://arcg.is/1nfSqa



Egegik
TerraSond
OPR-R340-KR-21
774 nm²

Prince William Sound
NOAA Ship Fairweather
OPR-P358-FA-21
101 nm²

Bering Sea
(Saildrone)
TerraSond
S-R364-KR-21
9,919 nm

Glacier Bay
NOAA Ship Rainier
OPR-O351-RA-21
87 nm²

Unimak Island & Chernofski Harbor
Fugro
OPR-Q350-KR-21
794 nm²

Southeast Alaska
NOAA Ship Rainier
OPR-O190-RA-21
~22 nm²

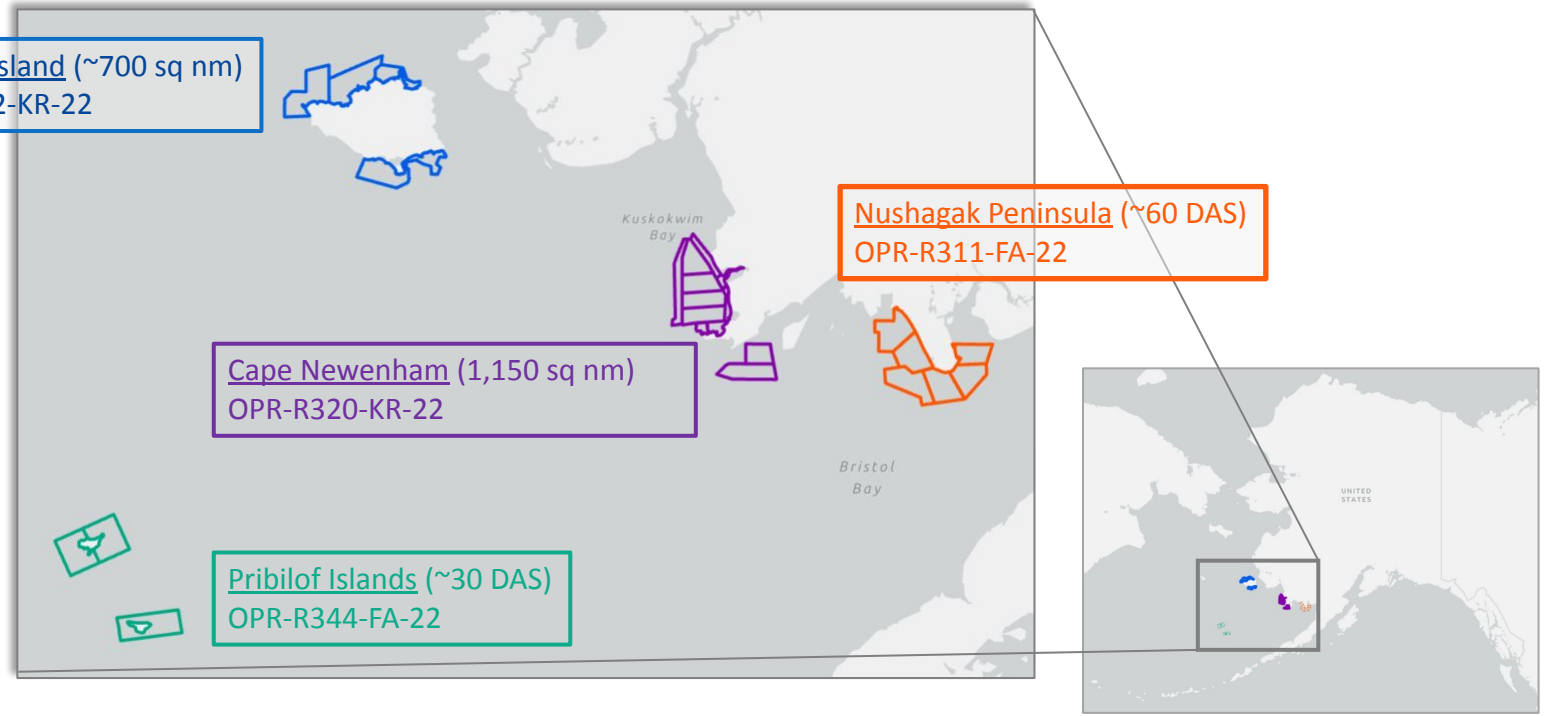
Kodiak and Afognak Is
Rainier & Fairweather
OPR-P335-FA-21, OPR-P336-RA-21
~150 nm²

2022 Survey Plans

Prioritized by:

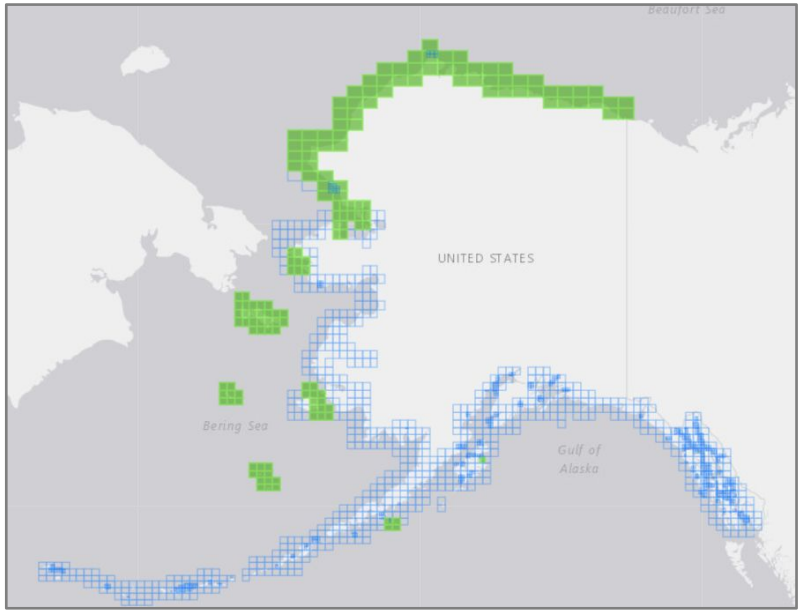
- Fuel lightering locations
- Traffic
- Age of charts

Other concerns?

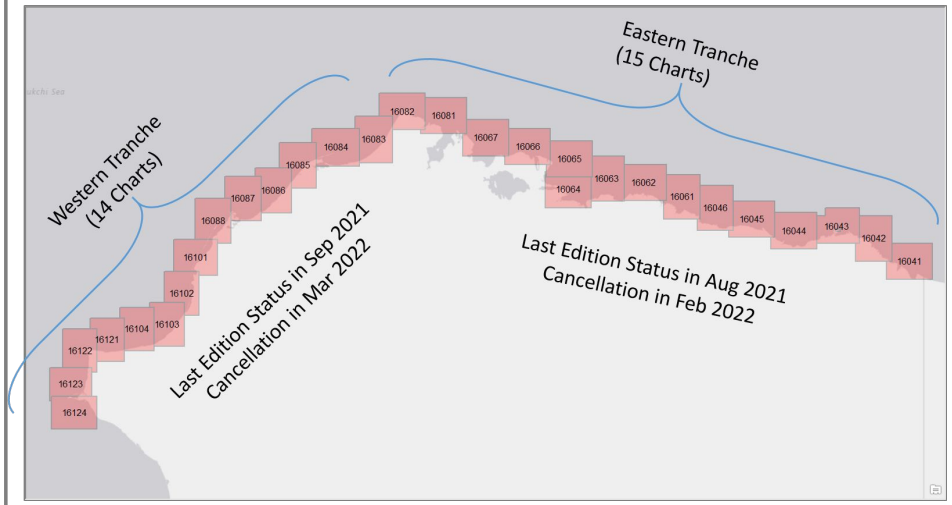


ENC Transition

ENC Rescheme



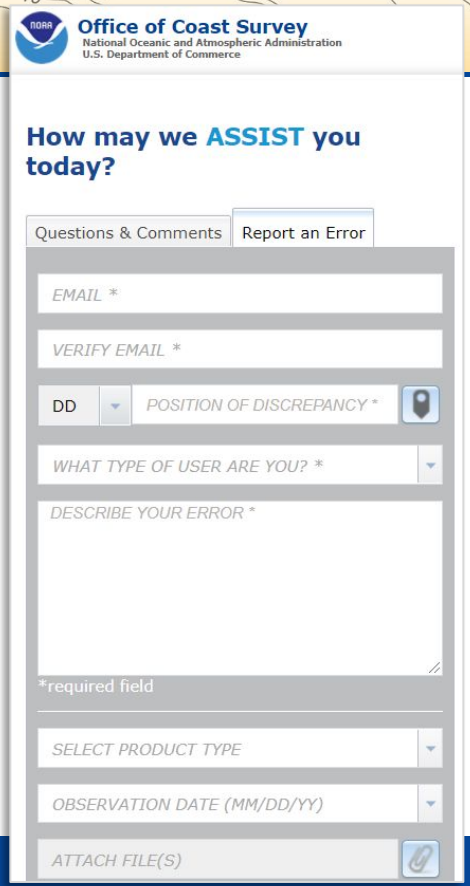
Upcoming Alaska Chart Cancellations



Six month notice of "Last Editions" of traditional raster charts is posted in the weekly Local Notice to Mariners (USCG).

Coast Survey

https://nauticalcharts.noaa.gov/



LCDR Hadley Owen, NOAA | Alaska Region Navigation Manager
(907) 231-7112 (cell) | alaska.navmanager@noaa.gov

Links

- Current Year Survey Plans
  - https://nauticalcharts.noaa.gov/data/current-year-survey-plans.html

- Deep fjords and hydrographic history in Glacier Bay National Park (10/18/2021)
  - https://nauticalcharts.noaa.gov/updates/deep-fiords-and-hydrographic-history-in-glacier-bay-national-park/
- The Kodiak archipelago - whales, foxes, and bears, oh my! (9/30/2021)
  - https://nauticalcharts.noaa.gov/updates/the-kodiak-archipelago-whales-foxes-and-bears-oh-my/
- Alaska to Greenland via the Northwest Passage (9/27/2021)
  - https://nauticalcharts.noaa.gov/updates/alaska-to-greenland-via-the-northwest-passage/
- Surveying the waters of Prince William Sound, Alaska (9/1/2021)
  - https://nauticalcharts.noaa.gov/updates/surveying-the-waters-of-prince-william-sound-alaska/

End of Presentation

Thank you!

USCG: Alaska Mapping/Charting Support & White House OSTP Involvement

Chris Hill and Dave Seris

December 2, 2021 | Virtual

Alaska Coastal & Ocean Mapping Summit

Chris Hill
David Seris

Chris Hill Introduction

Background

- Marine Information Specialist for the Office of Navigation System under the Office of Marine Transportation Systems.
- My work responsibilities and specialties include; GIS, Geospatial, & Cartographic specialist, Maritime Charting, ATON policy, and interagency liaison.
- I help to represent Coast Guard on various White House OSTP groups & councils; OPC, SOST, ORM, NOMEC, OCM-IWG, and SEASCAPE Alaska.
- Before Coast Guard I spent time at USGS, NGA Contracting; and NOAA.
- Please reach out to me for collaboration opportunities at Christopher.G.Hill@uscg.mil

Alaska Mapping/Charting Support & White House OSTP Involvement

Overview

- 2019 Presidential Memorandum on Ocean & Coastal Mapping and collecting Economic Exclusive Zoning (EEZ) information.
- Goals: to improve maritime safety, EEZ data, nautical charting, and help NOAA to prioritize hydrographic surveying.
- Past (2008 & 2013) D17 HICKORY & SPAR HYPACK bathymetric collaborations with NOAA to improve nautical charting in the Kuskokwim River and Bechevin Bay.
- Phase 1: NOV 2020 one time transfer from CGC FRANK DREW in the Hampton Roads area. Successfully transmitted to NOAA and the IHO crowdsourced bathymetry program.
- Phase 2: Year long quarterly ECDIS transfers from CGC's HICKORY & FIR. Started in JUN 2021. Looking to add 60 plus AK cutters before summer of 2022. Internal offices are assessing future fleet wide participation for 2022.

Dave Seris Introduction

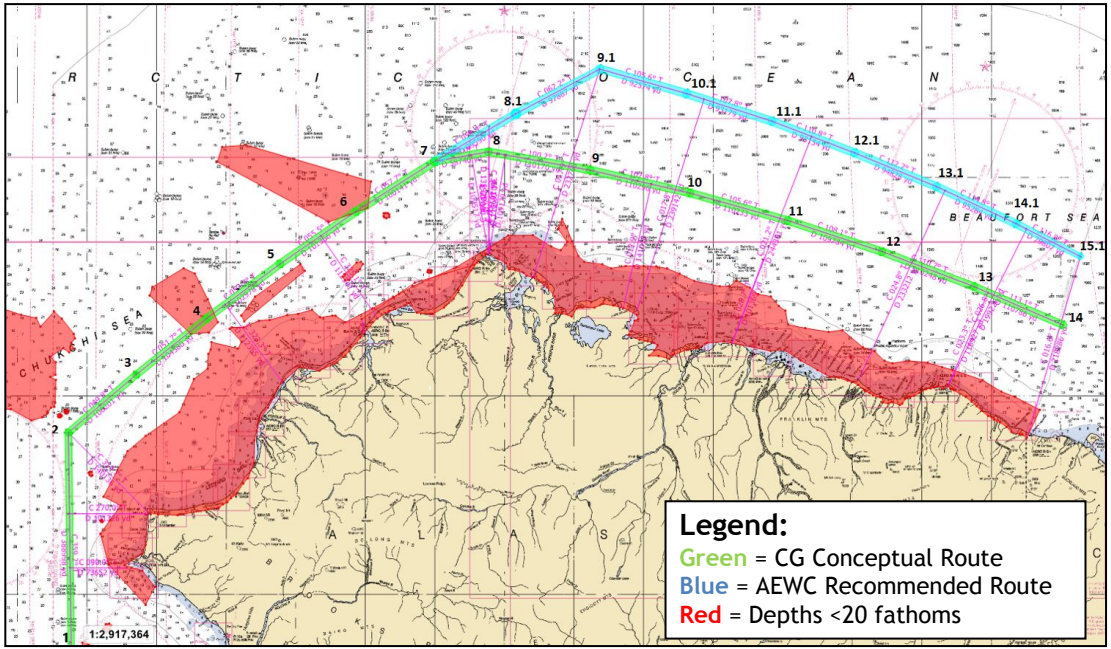
Background

- Assistant Branch Chief for the 17th Coast Guard District's Waterways Management Branch.
- My office oversees the Aids to Navigation (ATON) Program throughout the State of Alaska & handles various waterways management issues.
- We do this with a fleet of 4 seagoing buoy tenders, 2 coastal buoy tenders, & two Aids to Navigation Teams that deploy on helicopters.
- ATON Field units are located in Sitka, Petersburg, Cordova, Homer & Kodiak.
- We are actively involved in planning & execution of USCG operations focusing on the Arctic as well as all other regions of the state.
- Please reach out to me for collaboration opportunities at David.M.Seris@uscg.mil

Alaska Mapping/Charting Support & White House OSTP Involvement

Current Priorities & Projects

- **Alaska Arctic Coast Port Access Route Study (AAC PARS): To develop ship routing measures in US Arctic Waters.**
- **Initiative directed by Executive Order**
- **Intent is to align efforts with the Canadian Government's project for Arctic Low Impact Shipping Corridors.**
- **Image to the right depicts our initial conceptual route and first round of input from the Alaska Eskimo Whaling Commission.**

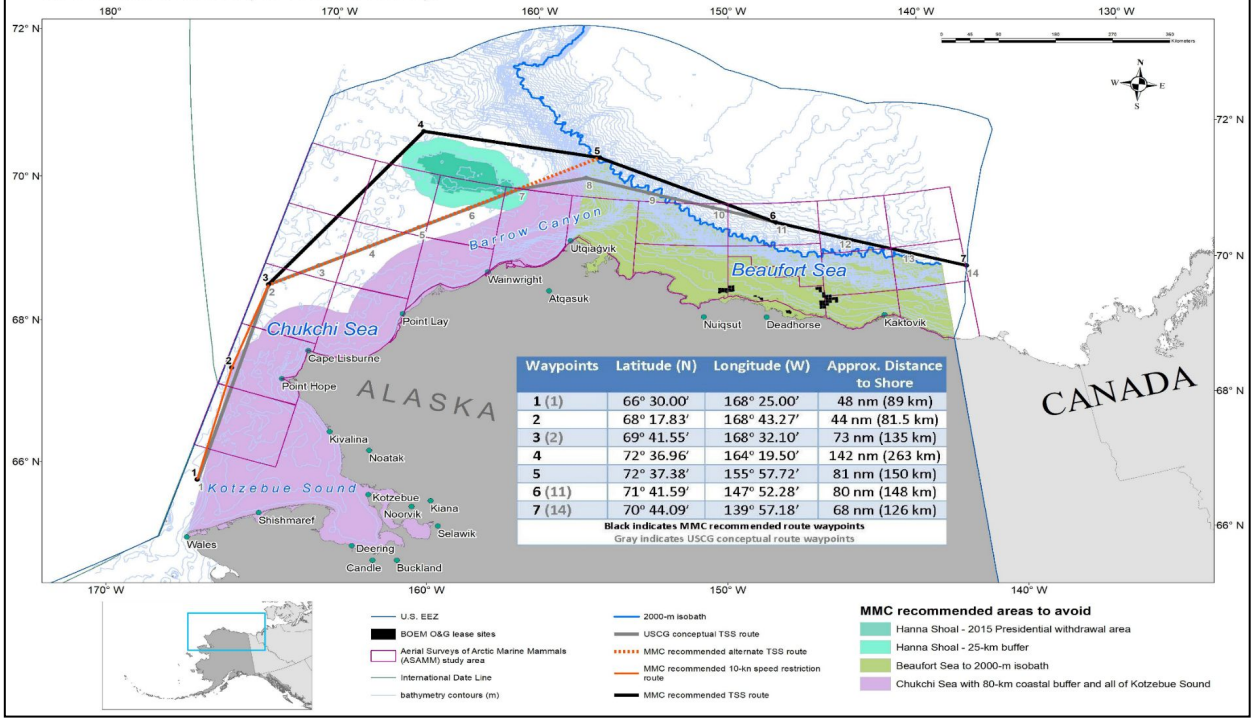


Alaska Mapping/Charting Support & White House OSTP Involvement

Current Priorities & Projects

- AAC PARS (Continued)
- Image to the right depicts input from the US Marine Mammal Commission.
- Numerous areas of heightened ecological importance are present along the route.
- Will require a concerted and multi-year effort to perform hydrographic survey work prior to proposing finalized ship routing recommendations to the International Maritime Organization.

Figure 1. Marine Mammal Commission (MMC) recommended vessel routing through Alaskan Arctic Waters and areas to avoid (November 2020).



Waypoints	Latitude (N)	Longitude (W)	Approx. Distance to Shore
1 (1)	66° 30.00′	168° 25.00′	48 nm (89 km)
2	68° 17.83′	168° 43.27′	44 nm (81.5 km)
3 (2)	69° 41.55′	168° 32.10′	73 nm (135 km)
4	72° 36.96′	164° 19.50′	142 nm (263 km)
5	72° 37.38′	155° 57.72′	81 nm (150 km)
6 (11)	71° 41.59′	147° 52.28′	80 nm (148 km)
7 (14)	70° 44.09′	139° 57.18′	68 nm (126 km)

Black indicates MMC recommended route waypoints
Gray indicates USCG conceptual route waypoints

End of Presentation

Thank you!

NOAA Ocean Exploration Collaborations for FY 22/23

Caitlin Adams

December 2, 2021 | Virtual

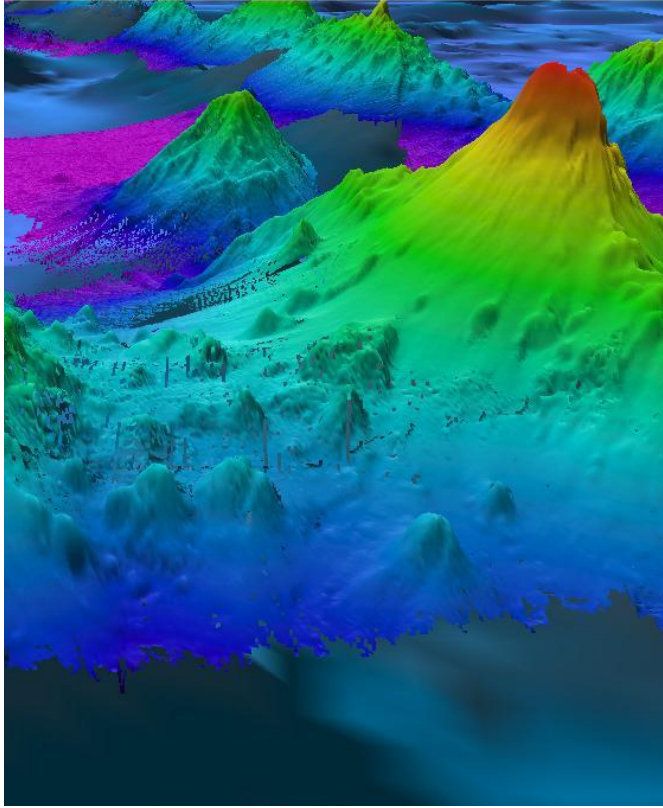
OCEAN EXPLORATION 20 YEARS 2001-2021

NOAA Ocean Exploration FY 22-23 Plans

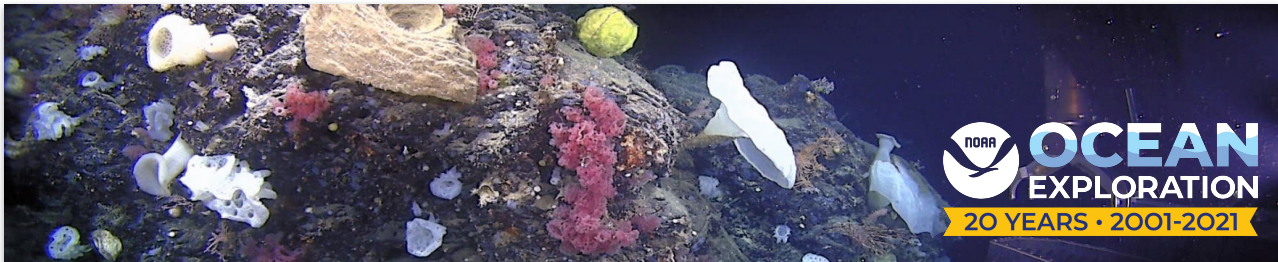
Caitlin Adams, NOAA

Alaska Coastal and Ocean Mapping Summit

December 2, 2021

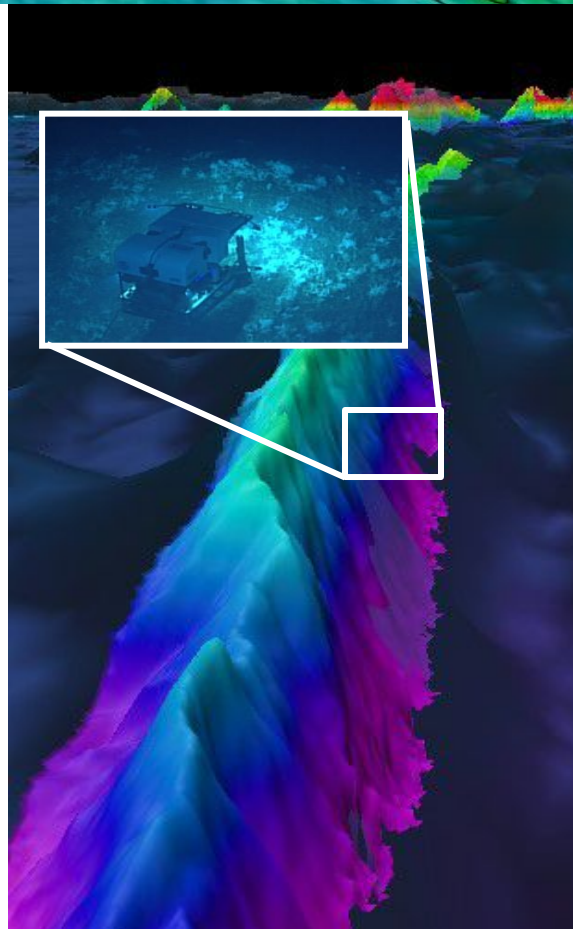


Leading national efforts to explore our deep ocean



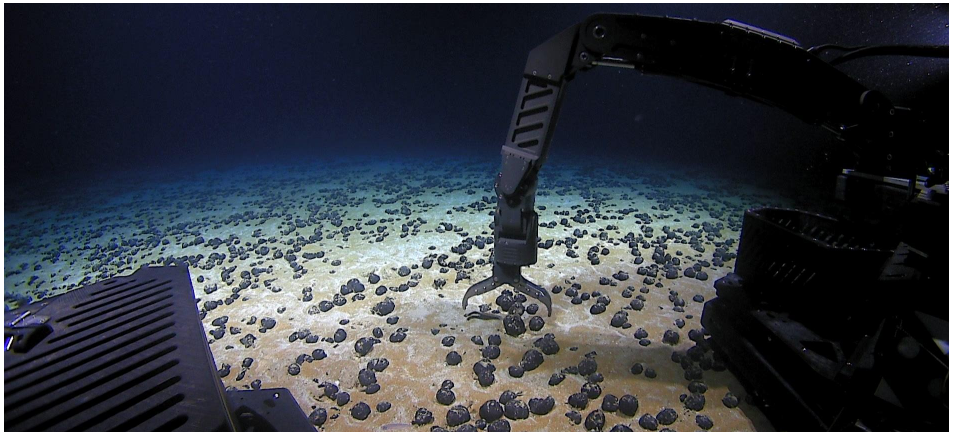
Principles of Exploration

- Explore to meet community needs
- Always collect useful and quality data
- Systematically expand exploration footprint
- Share discoveries to engage the public
- Produce open access data with necessary metadata
- Release data in a timely manner

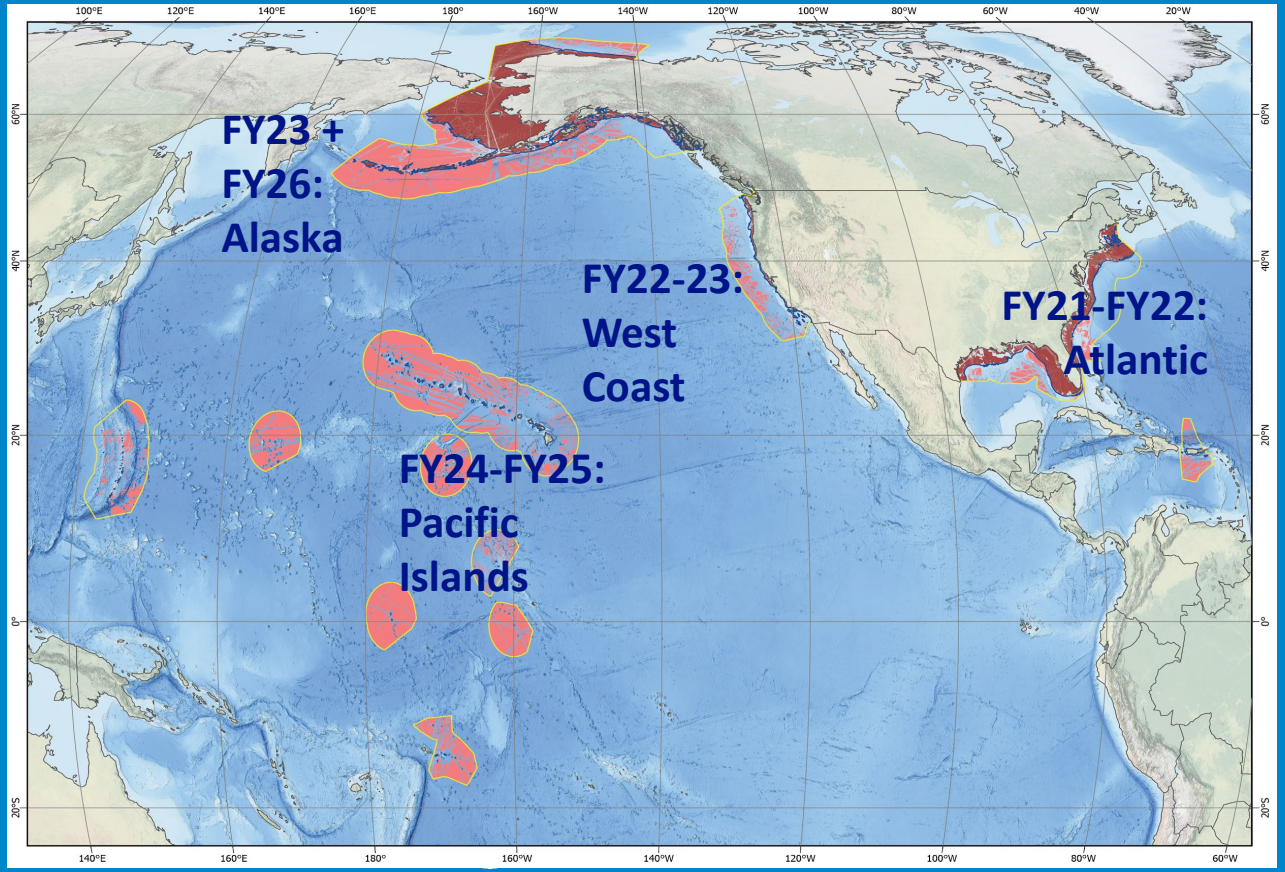


NOAA Ship *Okeanos Explorer*


ROV *Deep Discoverer*



Okeanos Explorer Future Priority Regions



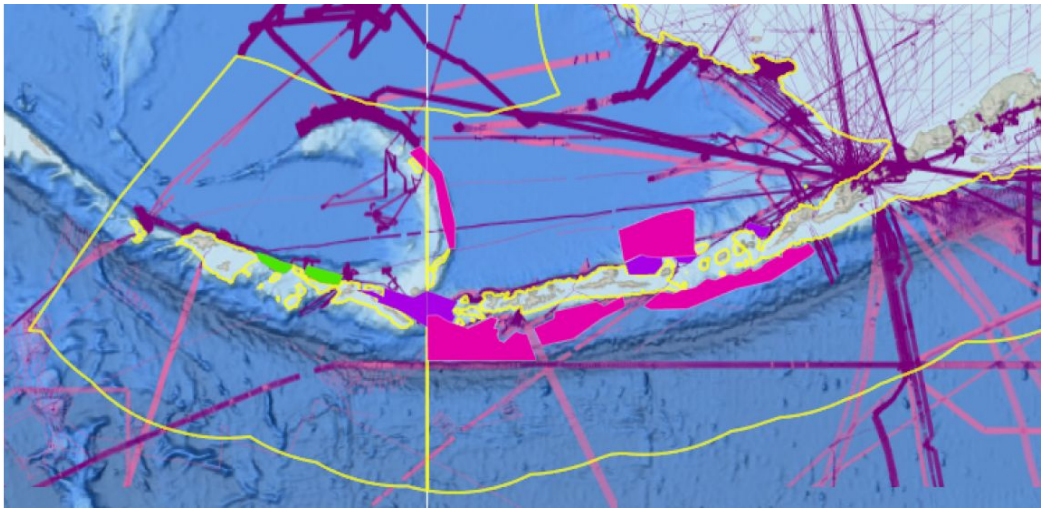
NOAA Ocean Exploration - Alaska Priorities

- NOAA Ocean Exploration mission space is waters deeper than 200 meters
- Goal 1: Increase deepwater mapping coverage in Alaska EEZ
  - Saildrone Surveyor Aleutians mapping mission in 2022
  - Okeanos Explorer expeditions in 2023 (Aleutians)
- Goal 2: Explore priority areas with ROV and other tools
  - Okeanos Explorer expeditions in 2023 (Aleutians, Gulf of Alaska)
  - Additional partnership projects anticipated

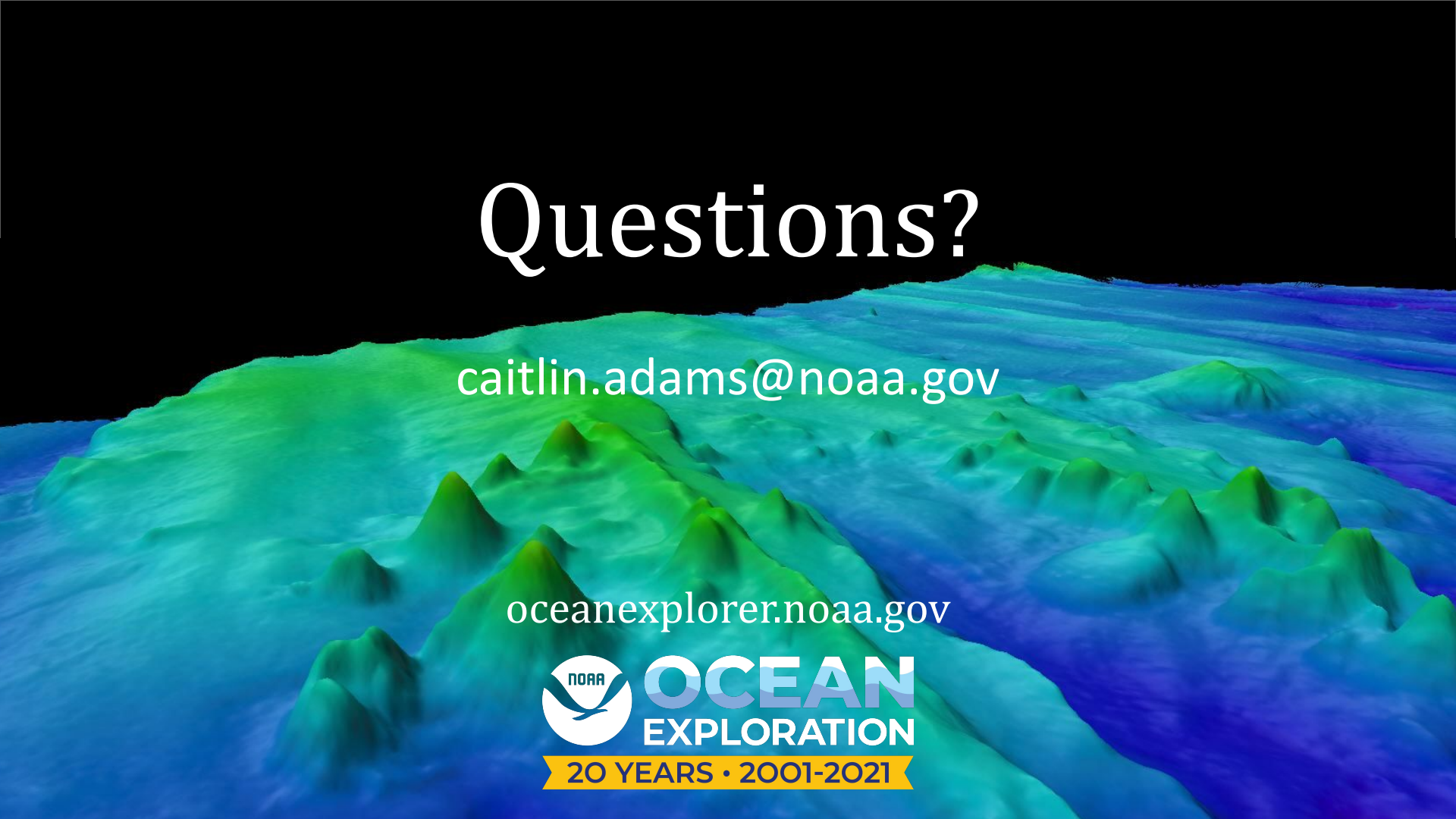
All work will be planned in coordination with Seascape Alaska and NOAA Alaska Deep-Sea Coral and Sponge Initiative.

Saildrone Surveyor mapping priorities

- Project led by Ocean Exploration Cooperative Institute (OECI)
- Mission planned for 2022 TBD, minimum 48 DAS
- Additional funding from BOEM is possible
- Priority polygons = ~78,000 km^2 (~95 DAS to complete)



Dark purple and light pink layer = Bathy Gap Analysis
Bright pink polygons = NOAA Ocean Exploration priorities
Green and bright purple polygons = BOEM priorities


Questions?
caitlin.adams@noaa.gov
oceanexplorer.noaa.gov
NOAA
OCEAN
EXPLORATION
20 YEARS • 2001-2021

End of Presentation

Thank you!

NOAA Fisheries Capabilities, Activities, and Opportunities

Bob McConnaughey

December 2, 2021 | Virtual

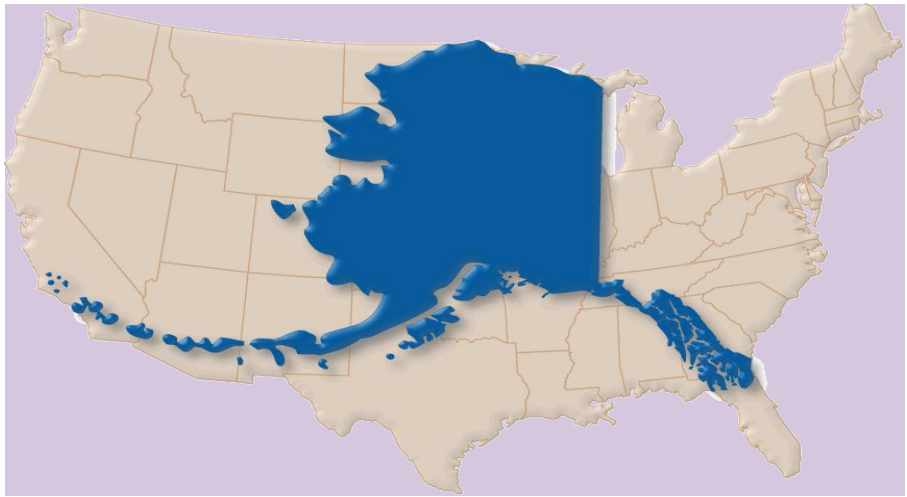
Ocean Mapping
Capabilities, Activities & Opportunities

NOMEC Summit Panel 3

Bob McConnaughey
Alaska Fisheries Science Center

NOAA FISHERIES

NOAA Fisheries
Alaska



Mapping Applications

- Stock-assessment surveys
- Habitat utilization (EFH)
- Survey-trawl efficiency
- Untrawlable habitat
- Deepwater coral & sponge

The Alaska Fisheries Science Center is the branch of NOAA Fisheries that is responsible for research on living marine resources in the coastal oceans off Alaska.

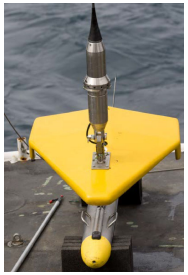
Mapping Capabilities

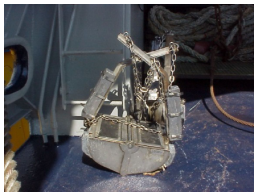
Sonars
- Single-beam
- Multibeam
- Side scan

Benthic sampling
- Grabs
- Penetrometer
- Imagery (video, stills)

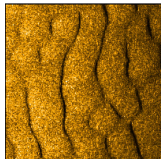
Water column
- CDOM, chl-a, turbidity
- Illuminance

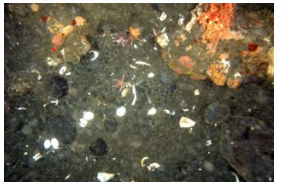

TACOS

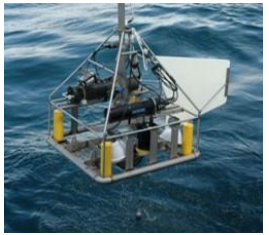

Klein 5410


van Veen


FFCPT





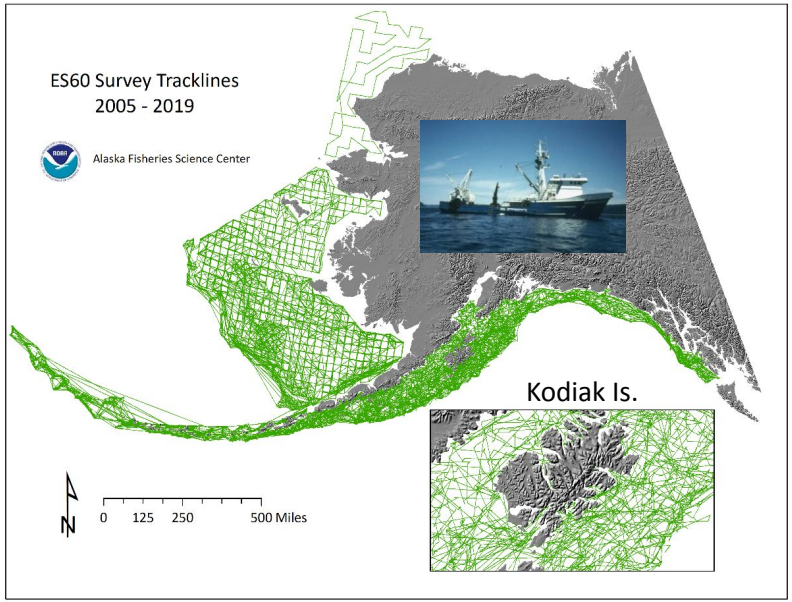

SEABOSS


The Big Fish

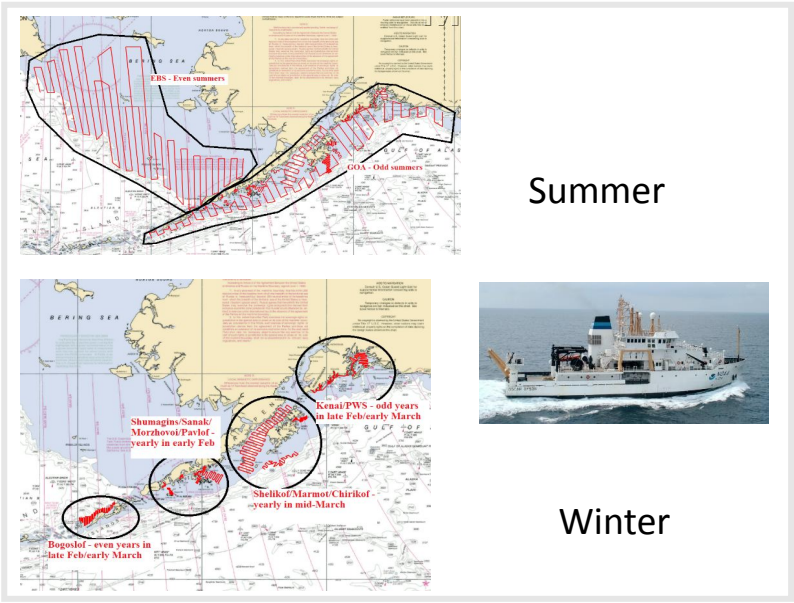
Mapping Activities

Survey Related

Bathymetry & sphere-calibrated backscatter @ multiple frequencies (seabed & water column)

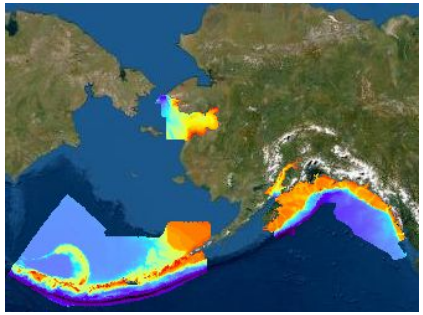


ES60 single-beam data (chartered F/Vs)

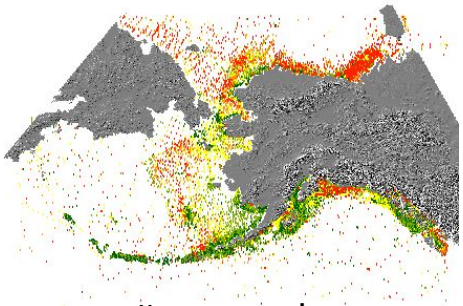


EK60 single-beam data (Oscar Dyson)

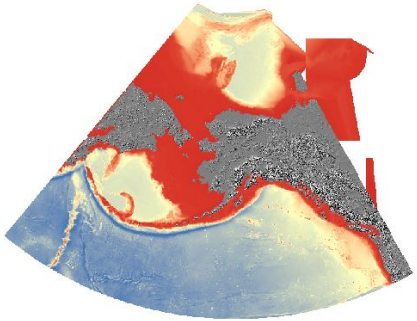
Mapping Activities
Data Compilations



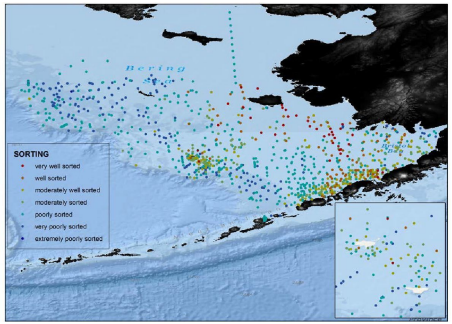
Smooth sheet bathymetry



dbSEABED ϕ



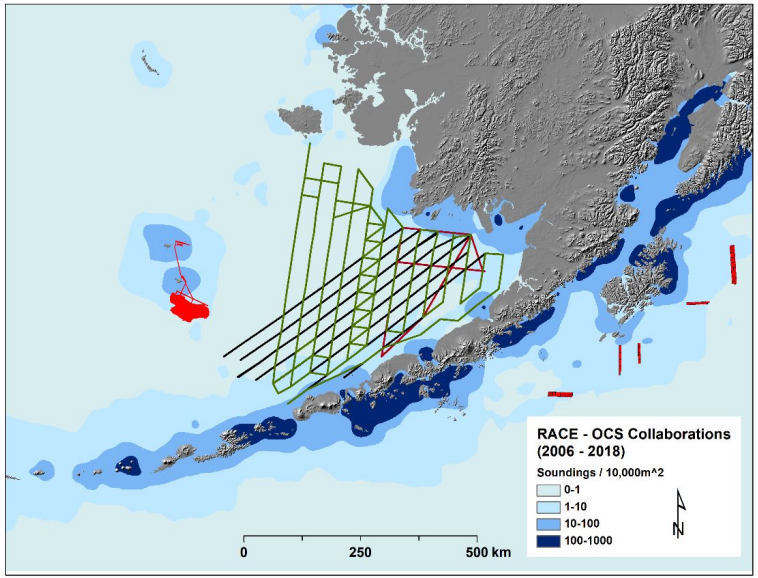
AKRO bathymetry



EBSSED-2 sorting

Mapping Activities
Collaborative

NOAA Ship Fairweather



IOCM: "Map Once, Use Many Times"

Integrated Ocean & Coastal Mapping

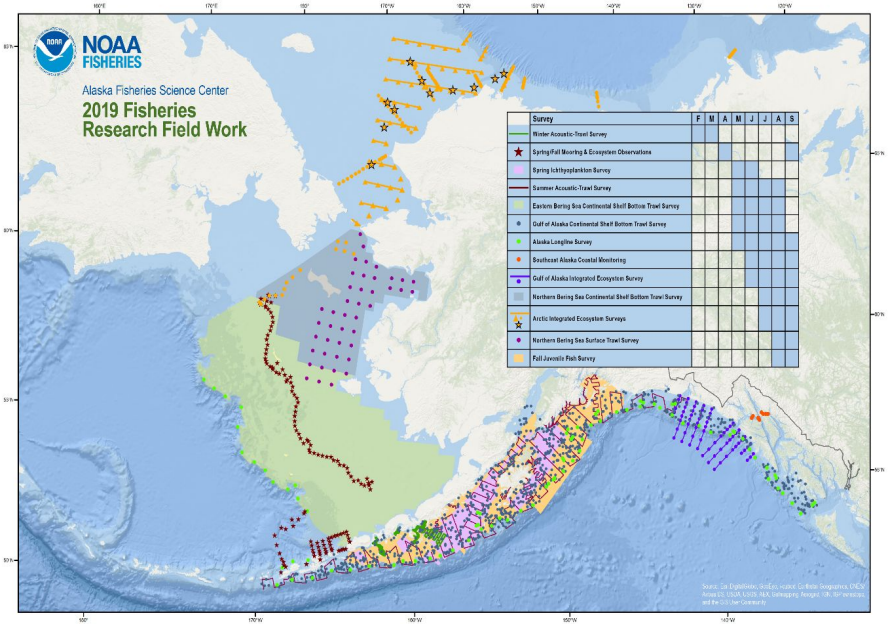
Fisheries Research

- EFH spatial distribution modeling
- Develop new mapping technology
- Survey-trawl catchability
- Untrawlable habitat mapping

Nautical Charting

- Updates for areas with old or non-existent data
- Backscatter data acquisition & processing SOPs

Mapping Opportunities
AFSC Research Platforms



Activities (2019)

- 4,180 survey days at-sea
- 168K km aerial surveys

Capabilities

- Sonars
- Benthic sampling
- Water column
- (Many opportunities to explore)

Contact: Dr. Laura Hoberecht, AFSC Planning Officer

Questions?

Ocean Mapping
Capabilities, Activities & Opportunities

NOAA FISHERIES

End of Presentation

Thank you!

Crowdsourced Bathymetry

Georgie Zelenak

December 2, 2021 | Virtual

Crowdsourced Bathymetry

Georgie Zelenak
CSB Data Manager
University of Colorado in support of
NOAA National Centers for Environmental Information (NCEI), Boulder, CO

Alaska Coastal and Ocean Mapping Summit
12/2/2021

NOAA Satellite and Information Service | National Centers for Environmental Information

IHO Crowdsourced Bathymetry Initiative

CSB is the collection of depth measurements from vessels, using standard navigation instruments, while engaged in routine maritime operations.

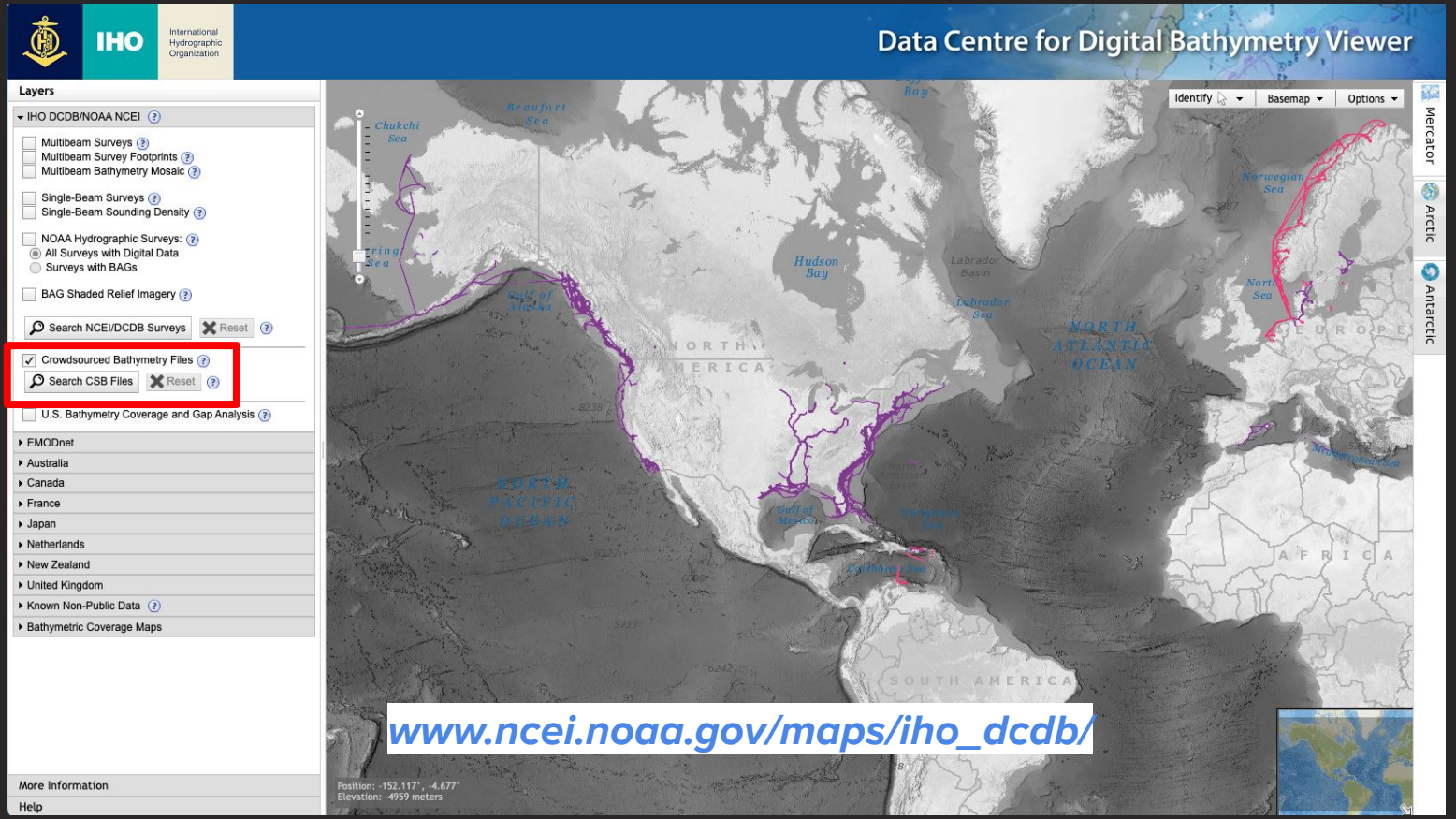
IHO Crowdsourced Bathymetry Initiative

CSB is the collection of depth measurements from vessels, using standard navigation instruments, while engaged in routine maritime operations.

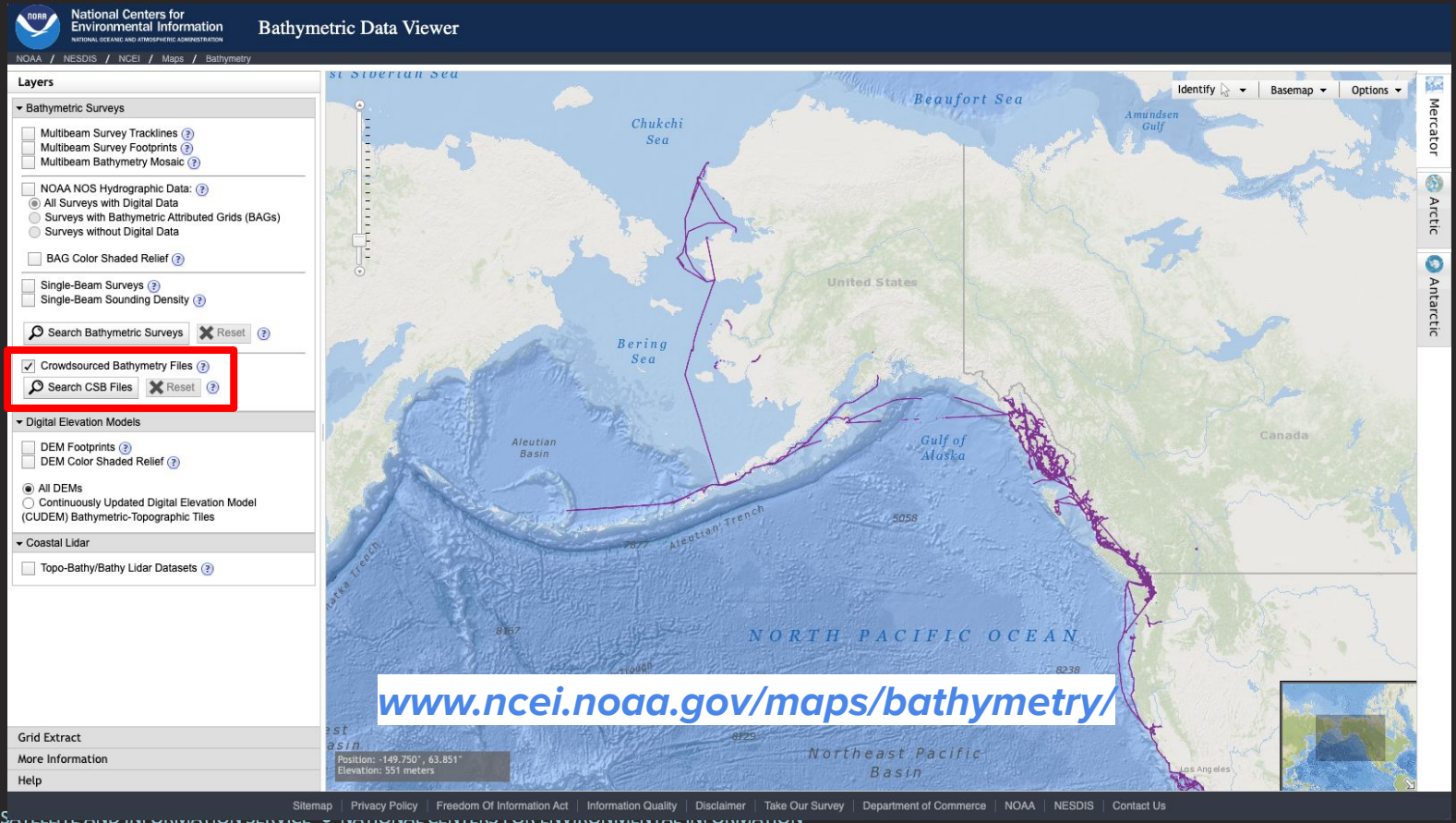
- IHO Crowdsourced Bathymetry Initiative started in 2014
- IHO Data Center for Digital Bathymetry (DCDB) hosted by NOAA NCEI
- Data access and discovery via web-based map viewer interfaces

www.ncei.noaa.gov/maps/iho_dcdb/

Crowdsourced Bathymetry Data Holdings:

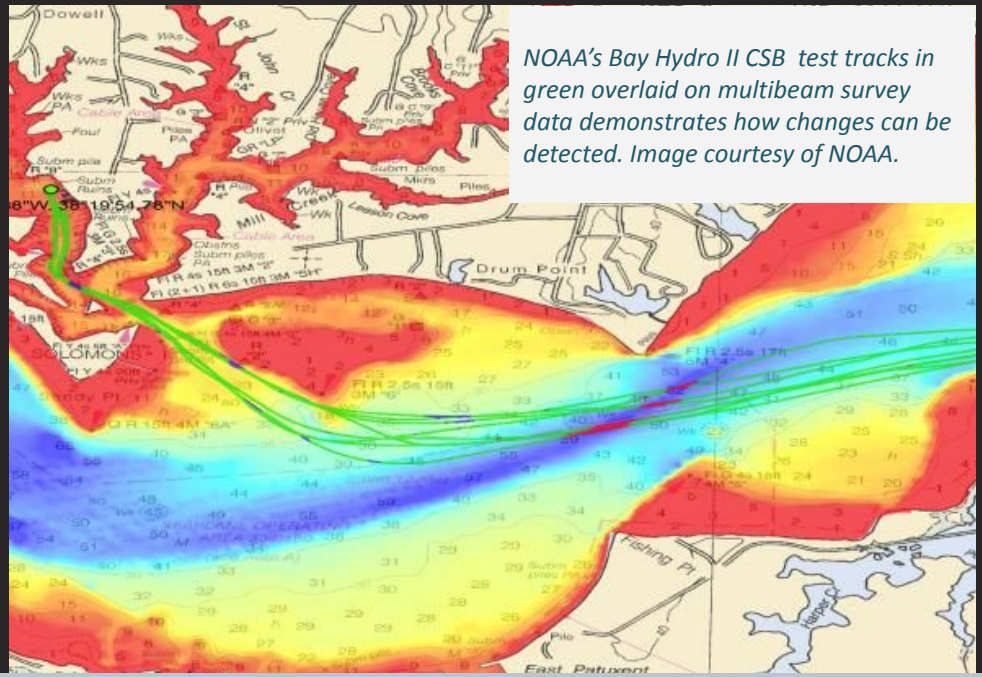


Crowdsourced Bathymetry Data Holdings:



The Value of CSB Data:

- Data with scientific, commercial & research value at **no cost** to the public sector
- Fill gaps where data is scarce (eg: Arctic, SIDS)
- Useful along shallow, complex coastlines
- Identify uncharted features
- Assist in verifying charted information

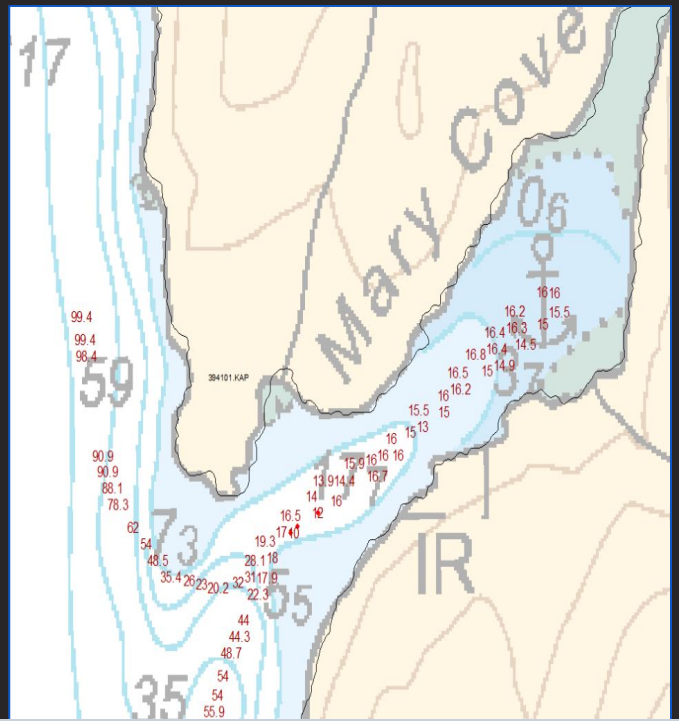


NOAA's Bay Hydro II CSB test tracks in green overlaid on multibeam survey data demonstrates how changes can be detected. Image courtesy of NOAA.

...but only if vessels collect and donate depth information while on passage

Canadian Hydro. Service:

- CSB used to update charts
- Systematic comparison has improved charted depths
- Helped prioritize survey areas
- Initiated the publication of Notices to Mariners



CSB revealed some chart compilation problems.
Don't use the chart to figure out how much anchor chain you need!

Example Trusted Nodes:

Rose Point Navigation System

- Mariners can enable their electronic charting system log file to record *position, depth and time*.

www.rosepointnav.com

Example Trusted Nodes:

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MacGregor/Carnival Cruise Line

- Data provided by Voyage Data Recorders (VDR) logging depth sounding data for IMO mandated shipborne SB devices.

Example Trusted Nodes:

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MacGregor/Carnival Cruise Line

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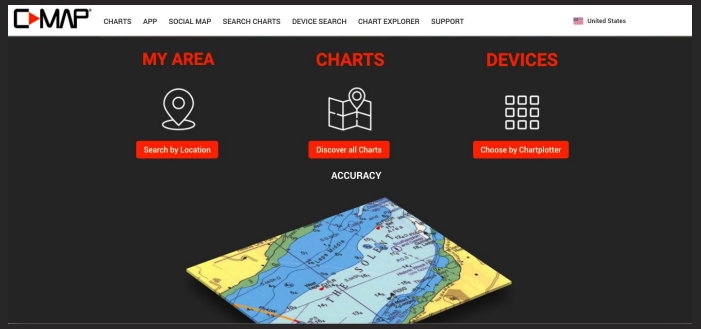
Navico C-MAP

- Awaiting deployment of new CSB ingest pipeline

M2Ocean

- Data collected by Hydroballs (small autonomous bathymetric buoys)



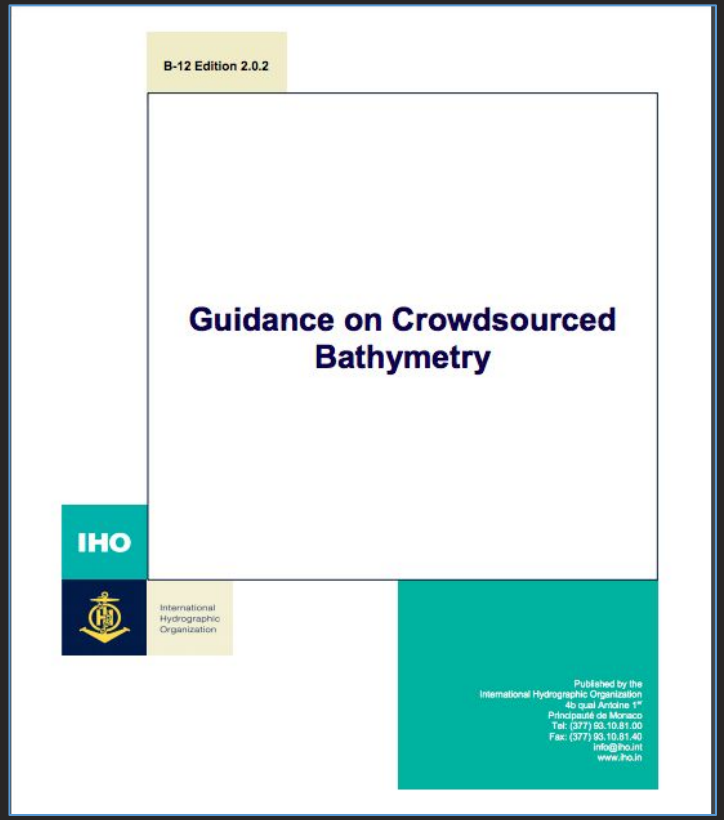
Additional Resources

Online Resources

- IHO Data Center for Digital Bathymetry
  https://www.ngdc.noaa.gov/iho/
- IHO B-12 Guidance on Crowdsourced Bathymetry
  https://iho.int/uploads/user/pubs/bathy/B_12_Ed2.0.3_2020.pdf
- IHO Crowdsourced Bathymetry Working Group (CSBWG)
  https://iho.int/en/csbwg

Upcoming Events

- World Ocean Council/Seabed 2030 Workshop for Shipping Companies on Bathymetric Data Collection - December 8, 2021
- 12th CSBWG Meeting - week of March 7, 2022



Questions?

Thank you

georgianna.zelenak@noaa.gov

End of Presentation

Thank you!

Data Provider Engagement and Agreements + External Source Data

Christie Reiser

December 2, 2021 | Virtual

Data Provider Engagement

Christie Reiser
Bathymetry Data Manager
NOAA National Centers for Environmental Information (NCEI), Boulder, CO

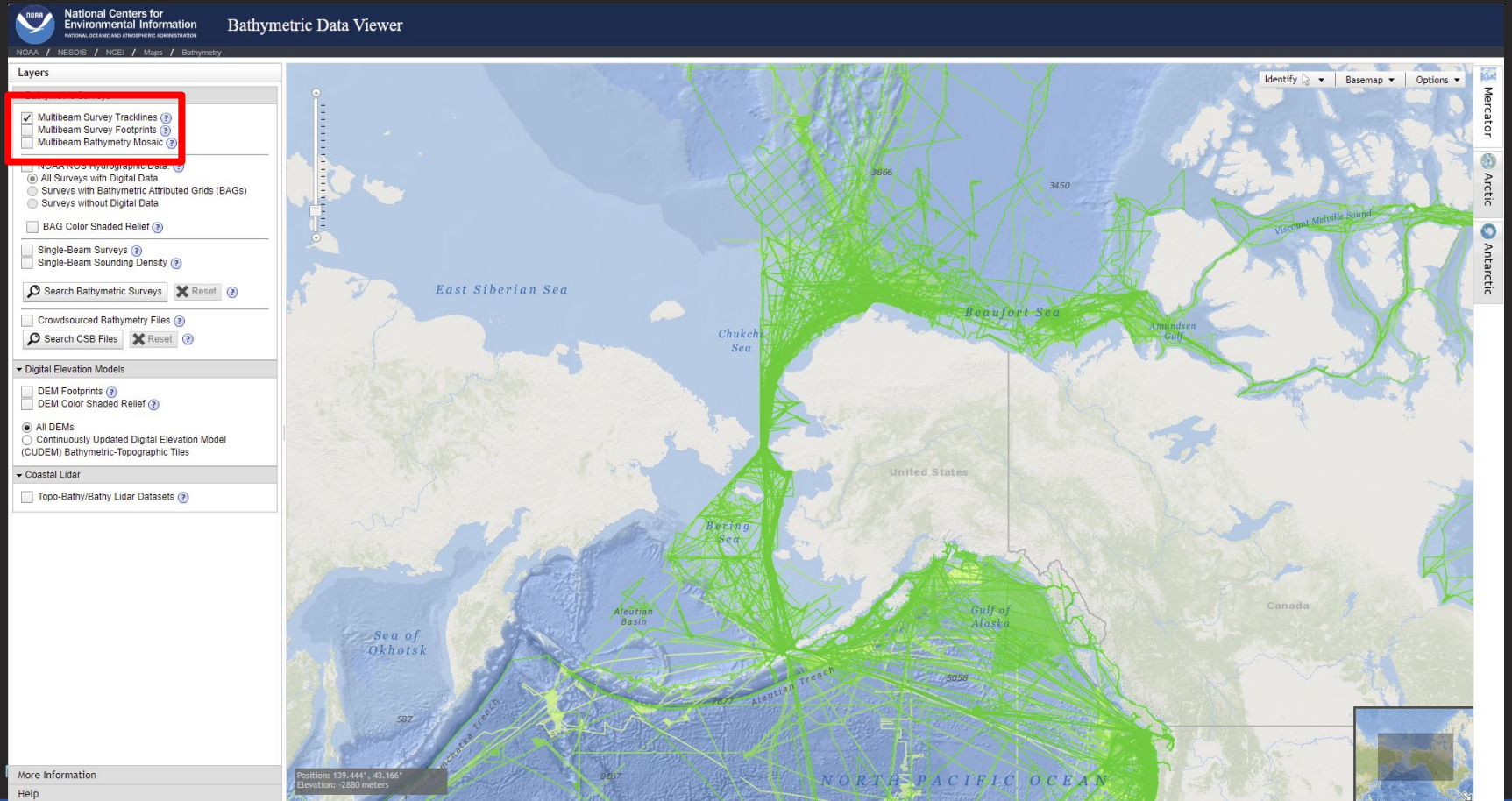
Alaska Coastal and Ocean Mapping Summit
12/2/2021

NOAA Satellite and Information Service | National Centers for Environmental Information

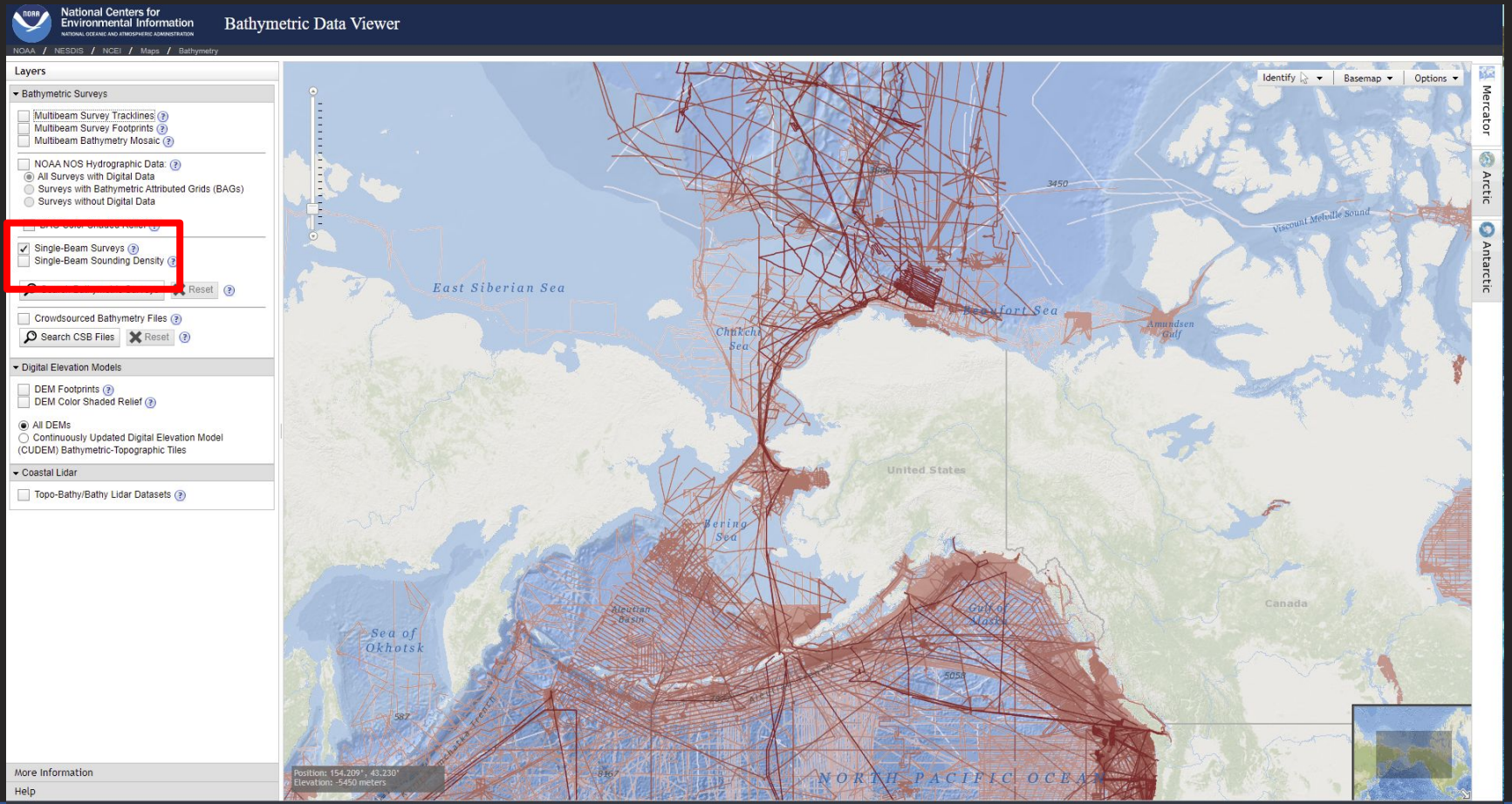
Agenda

- Overview of the NOAA NCEI Bathymetry Archive
- Campaign Mapping
- Data Provider Engagement Form
- Tools for submitting data to the archive
- References
- ESD - External Source Data

Bathymetry Data Holdings: ~60TB - 3,550 Multibeam Surveys



Bathymetry Data Holdings: ~5,500 Singlebeam Surveys



R2R
ROLLING DECK TO REPOSITORY

Royal Netherlands Institute for Sea Research

FUGRO

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Center for Coastal & Ocean Mapping Joint Hydrographic Center
CCOM JHC
University of New Hampshire

BSH
BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

R2R
ROLLING DECK TO REPOSITORY

MBARI
Monterey Bay Aquarium Research Institute

SWISS POLAR INSTITUTE

WOODS HOLE OCEANOGRAPHIC INSTITUTION

Ifremer

GEOMAR
Helmholtz-Zentrum für Ozeanforschung

Geological Survey
Suirbhéireacht Gheolaíochta
Ireland | Éireann

JAMSTEC

BOEM
BUREAU OF OCEAN ENERGY MANAGEMENT

NOAA OCEAN EXPLORATION
20 YEARS • 2001-2021

UTIG
INSTITUTE FOR GEOPHYSICS

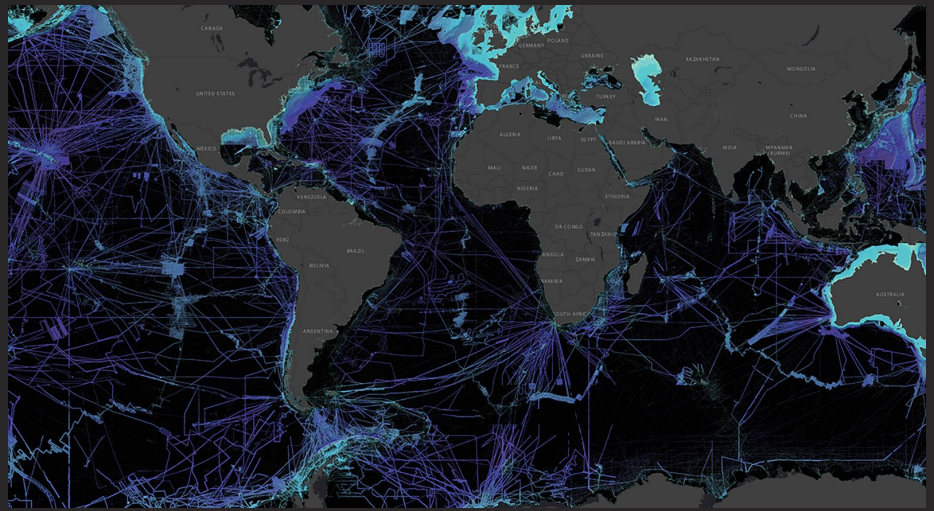
Supporting Campaign Mapping Initiatives

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

THE NIPPON FOUNDATION-GEBCO SEABED 2030

Seascape Alaska

NATIONAL STRATEGY FOR MAPPING, EXPLORING, AND CHARACTERIZING THE UNITED STATES EXCLUSIVE ECONOMIC ZONE



Data Provider Engagement

- 72% of AK waters are unmapped
- Seascape AK to submit data to the archives

Seascape Alaska

iocm.noaa.gov/data-sharing/provider-engagement-form.html

Thank you for helping us reach our data goals!

Did you know that as of January 2021, 53% of U.S. waters remain unmapped?

Across NOAA and its sister federal mapping agencies, we are seeking new partners in order to make significant progress on the June 2020 U.S. *National Ocean Mapping, Exploration and Characterization Strategy* (NOMEC), the Executive Order on Tackling the Climate Crisis at Home and Abroad, and the global Seabed 2030 initiative. All efforts underscore our collective dependence on collaborative acquisition and sharing of ocean mapping data.

Our goal is to coordinate, acquire, and share ocean mapping data with centralized repositories, such as NCEI and Digital Coast. To improve our knowledge of the ocean and ensure efficient use of limited mapping resources, we want to work with you to increase access to all existing ocean and coastal mapping data that you and other potential partners may have. Please use the following form to let us know if you have data that you are willing to contribute and we will follow up with you.

For more information about interagency ocean and coastal mapping activities, please contact iwgocm.staff@noaa.gov.

Your Name*

Your Work Email*

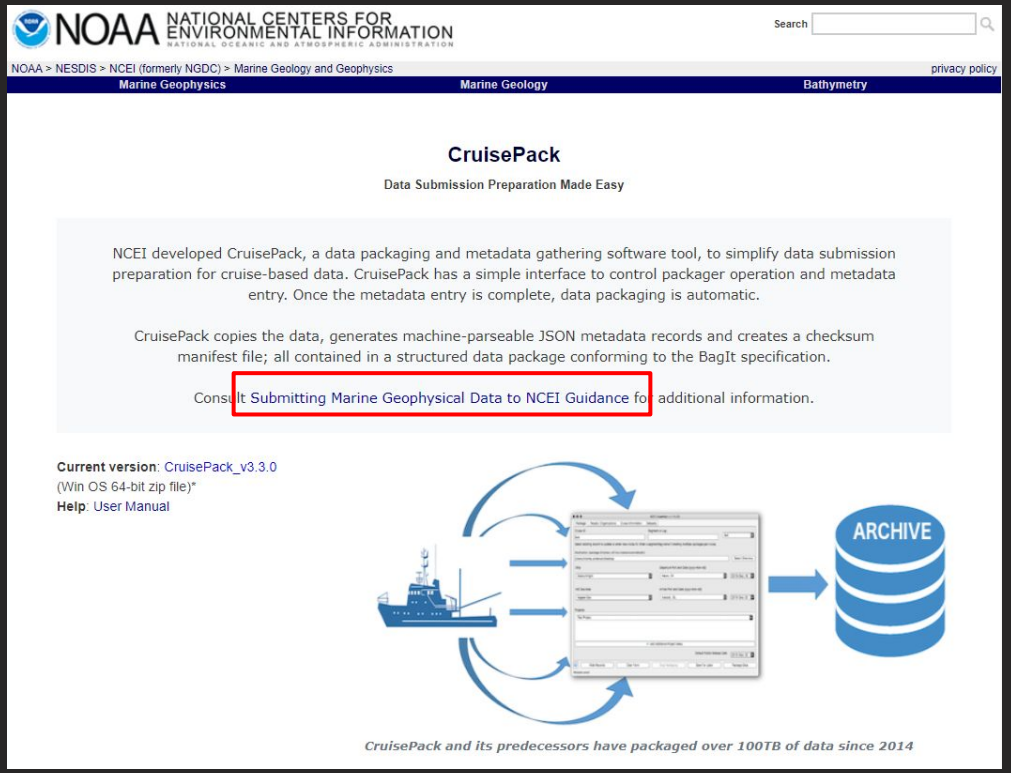
How may we reach you?

Contributing Data

ngdc.noaa.gov/iho/SubmittingMarineGeophysicalData.pdf

Data Submission Guidelines:

- Guidelines on data file formats
- Requested metadata information
- Requested file directory structure

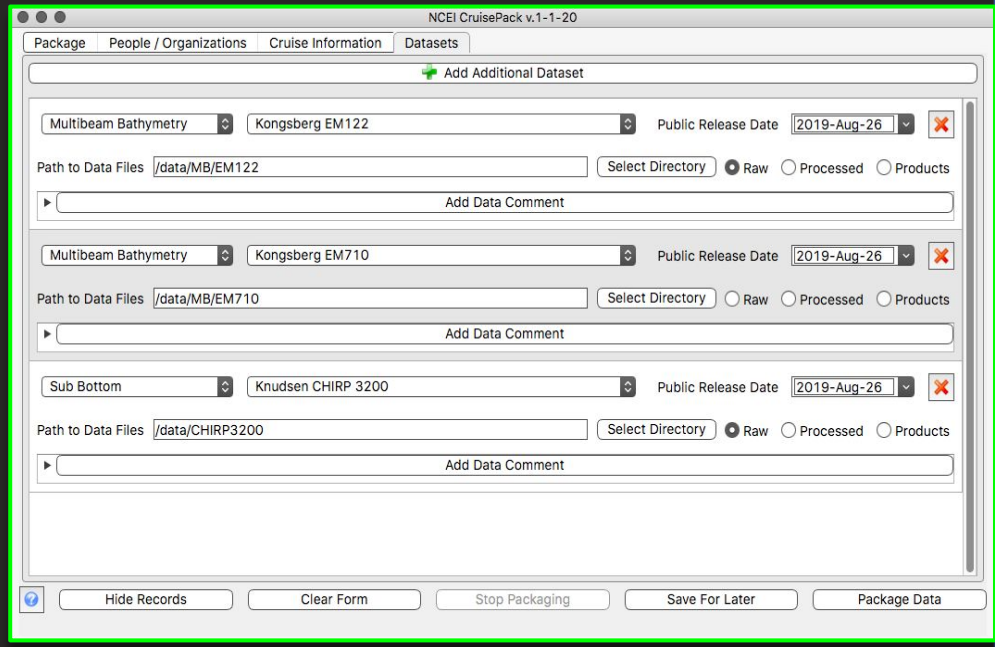


Contributing Data

ngdc.noaa.gov/mgg/cruisepack/

CruisePack Software:

- Stand-alone data packager
- Simple user interface - pulldown menus and controlled vocabularies
- Generates metadata files
- Creates consistent data packages



Resources:

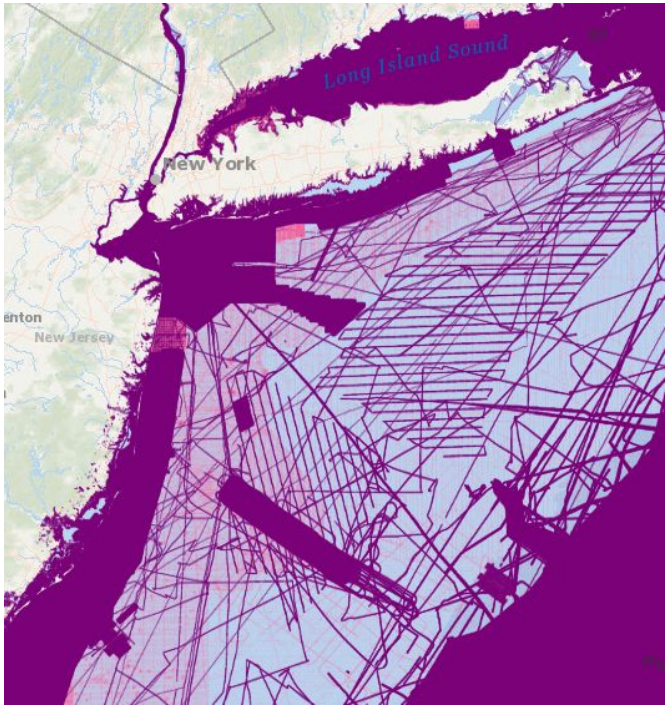
- NCEI Bathymetry Data Viewer: https://www.ncei.noaa.gov/maps/bathymetry/
- IHO Data Centre for Digital Bathymetry (DCDB): https://www.ngdc.noaa.gov/iho/
- DCDB Data Viewer: https://www.ncei.noaa.gov/maps/iho_dcdb/
- NCEI's Archive Search Page: https://ngdc.noaa.gov/mgg/surveys.html
- Email for help with bathy viewer, data access, discovery, and submission: mb.info@noaa.gov
- IOCM Data Provider Engagement Form: https://iocm.noaa.gov/data-sharing/provider-engagement-form.html
- Submitting Data Guidelines Document: https://www.ngdc.noaa.gov/iho/SubmittingMarineGeophysicalData.pdf
- CruisePack Data Packager Software: https://ngdc.noaa.gov/mgg/cruisepack/

What is External Source Data?

- **External Source Data (ESD)** is data that was not acquired (or contracted) by Coast Survey yet still could have good potential for nautical chart application.
- **Discovery**
  - Proactively identify data to support project planning, and long-term priorities
- **Prioritization**
  - Based on stakeholder request, region, dangers, value to the chart, etc.
- **Review**
  - Assess data quality, creating additional products, etc.
- **Apply**
  - Submitted to archive and pulled into National Bathymetry Source

Data Discovery

- Use various tools and stakeholder input
  - HydroHealth model, SURF, AIS traffic
- Support project planning
  - Eliminate redundancy, optimize plans
- Support the National Bathymetry Source (NBS)
  - Helping to “build-out” regions
- Longer-term priorities
  - NOMEC strategy, Seabed 2030 gaps
- Collaboration with IOCM, NCEI, NCCOS
  - Large scale outreach to potential data providers



Questions?

Thank you

christiane.reiser@noaa.gov
esd.team@noaa.gov

End of Presentation

Thank you!

Indigenous Sentinels Network and Skipper Science

Aaron Poe

December 2, 2021 | Virtual

Aleutian Bering Sea Initiative: Steering Committee

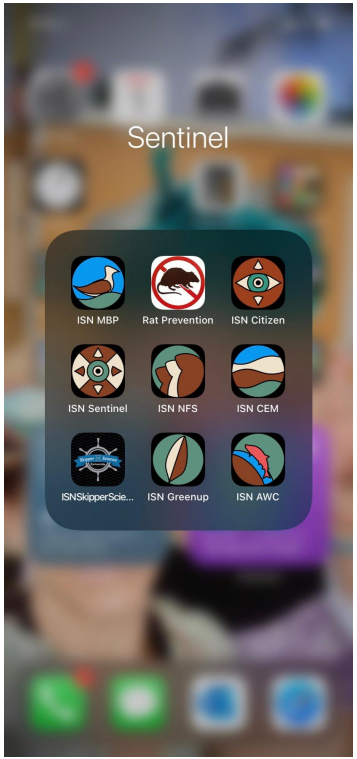
- *U.S. Fish and Wildlife Service: **Robb Kaler (Co-Chair) & Marianne Aplin**
- *Qawalangin Tribe of Unalaska: **Shayla Shaishnikoff & Jenny Renee**
- *NOAA: **Jessica Cross & Ebett Siddon**
- *U.S. Geological Survey: **Elizabeth Powers**
- *Alaska Climate Science Center: **Jeremy Littell**
- Aleutian Pribilof Islands Association: **Rachel Lekanoff**
- Bureau of Ocean Energy Management: **Cathy Coon & Christina Bonsell**
- National Park Service: **Tahzay Jones & Jeanette Koelsch**
- Alaska Sea Grant: **TBD**
- Aleut Community of St. Paul: **Lauren Divine (Co-Chair)**
- U.S. Coast Guard: **Commander John Downing**
- Alaska Department of Fish and Game: **Lori Polasek**
- Aleut International Association: **Nadine Kochuten**

Aaron Poe
ABSI Coordinator
apoe@alaskaconservation.org
NorthernLatitudes.org

Indigenous Sentinels Network (ISN)

- A program connecting science and technology with Indigenous and local knowledge for adaptation & conservation outcomes
- Aleut Community of St. Paul Island and many partners across the state
- A series of smartphone apps for data collection and a focus on tribal leadership in conservation & stewardship
- **Why**: 1) Tribes want to connect data with Indigenous Knowledge/TEK to influence management of species and habitats; 2) most of Alaska is remote and lacks much basic environmental data but communities can help

More: BeringWatch.org



9 smartphone apps

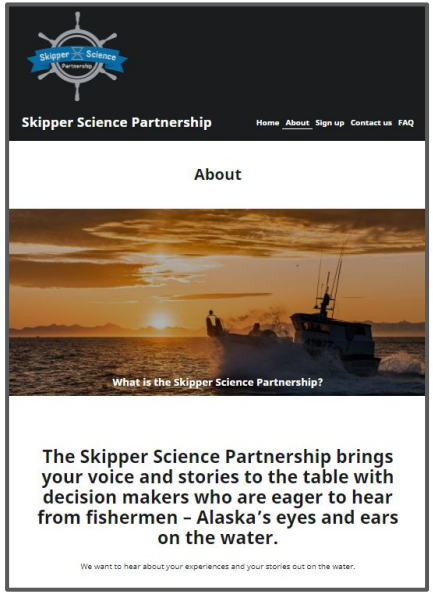
Skipper Science Pilot Program 2021

- Data collection drawing on capacity of the fishing industry, Tribes, community experts, in partnership with scientists using a customized app: *ISN SkipperScience*

- Aleut Community of Saint Paul Island and ***many partners*** including the Salmon State, Alaska Longline Fishermen's Association and the Aleutian & Bering Sea Initiative (ABSI)

- App provides skippers a platform to document observed environmental changes and anomalies through words, photos, waypoints and other data.

- **Opportunities**: 1) platform for distributed data collection and model ground truthing in remote regions 2) productive partnerships between agencies, science providers and fishing communities. **More: SkipperScience.org**



Our 2021 Pilot:

- 100 skippers downloaded app
- 49 data entries completed in the *SkipperScience* app by participants
- 19 fishing trade organizations supported and endorsed the program

End of Presentation

Thank you!

Panel Questions

Enter your questions or comments in the Questions box in the menu pane.

Alaska Coastal and Ocean Mapping Summit
December 2, 2021

Poll Question

Are you aware of other mapping operations and opportunities that were not covered in this panel?

Poll Question

Do you think that mapping in Alaska is well-coordinated and communicated?

BREAK TIME

Back at 1:55pm AKT

Seascape Alaska

Working together to understand the depths of Alaska's vast seascape

Introducing the Breakout Session

30 minutes to answer the question

What can we do to improve collaboration?

The Game Plan A

Join Us in Google Meet-- see Chat Box!

- You will join Google Meet and be placed in a breakout room. This is a manual process, so it may take a few minutes to get everyone organized.
- Once in the breakout room,
  - You will get a link to a Google Jamboard for that breakout room- **open it**!
  - Introduce yourself in the chat
  - Review the question and **dive in with your ideas**!
- Breakout room will close in ~ 30 minutes.

Return to Us in GoToWebinar for a Recap

Can’t do Google Meet?
Stay here in GoToWebinar

- We will share a Google Jamboard link (found in the chat box)
- You may suggest ideas using sticky notes
- You may suggest ideas using the question box
- We’ll be back to presenting on GoToWebinar at 2:35pm

Seascape Alaska

Working together to understand the depths of Alaska's vast seascape

Breakout Session Recap

What can we do to improve collaboration?

Poll Question

Which sessions on this ocean mapping day were most interesting to you?

Alaska Coastal and Ocean Mapping Summit
December 2, 2021

Closing Remarks