

**Alaska Ocean Observing System (AOOS)  
Alaska Marine Research Planning Night  
Alaska Marine Science Symposium (AMSS)  
January 31, 2024**

**Sheyna Wisdom, Alaska Ocean Observing System (AOOS)**

AOOS Overview

**David Allen and Sarah Tucker, IARPC**

[david.allen@noaa.gov](mailto:david.allen@noaa.gov)

IARPC Field Operations Community Practice

- Coordinate among federal agencies supporting fieldwork and share information among researchers and communities
- Research Vessel Matrix- web page
- Mooring Matrix
- Pre and Post-Field season, public, and fed-only meetings
- Newsletter contact: [allison.lepp@noaa.gov](mailto:allison.lepp@noaa.gov)

**Jackie Grebmeier, University of Maryland Center for Environmental Science (UMCES)**

[jgrebmei@umces.edu](mailto:jgrebmei@umces.edu)

1. DBO Cruise on *Laurier*
  - Normally July or Aug (TBD), departs from Nome
  - Lots of sampling
1. DBO- EcoFOCI-AMBON-CEO Collaborative Ecosystem Cruise- R/V *Sikuliaq*

**Emily Eidam, Oregon State University (OSU)**

[Emily.Eidam@oregonstate.edu](mailto:Emily.Eidam@oregonstate.edu)

2024 AICC/UNOLS Arctic Chief Scientist Training Cruise program

- Transit Northwest Passage
- Applications due Feb 9th
- On USCG *Healy*

**Carin Ashjian, Woods Hole Oceanographic Institution (WHOI)**

[cashjian@whoi.edu](mailto:cashjian@whoi.edu)

- Final year of 4 years
- R/V *Anika Marie* and R/V *Ukpik*- Dates TBD (in August)
- Not doing Prudhoe this year, pulled the mooring last year
- Mooring at Pt Barrow and WDD - will recover
- Lots of sampling

**Manuel Castellote, NOAA**

[Manuel.Castellote@noaa.gov](mailto:Manuel.Castellote@noaa.gov)

- Need a vessel in late June/early July, 6-8 days, no A frame, 2 scientists
- For acoustic moorings bi-annual service
- Size- min. 60-80 Ft. (not big)
- In Kotzebue Sound, 3 to 4 days

**Alaska Ocean Observing System (AOOS)**  
**Alaska Marine Research Planning Night**  
**Alaska Marine Science Symposium (AMSS)**  
**January 31, 2024**

**Seth Danielson, University of Alaska Fairbanks (UAF)**

[sldanielson@alaska.edu](mailto:sldanielson@alaska.edu)

1. 2024 GOA research cruises
  - GAK-1- monthly on R/V *Nanuq*
  - GWA/NGA LTER- two cruises (not 3) - late may (R/V *Sikuliaq*) and Sept. (R/V *Tiglax*)
  - Disenchantment Bay mooring/Yakutat Bay/Icy Bay/Lituya Bay
  - May/June- Dates and Vessel TBD
  - 2024 Gliders- mostly AOOS sponsored
  - GEO turnover
  - Winter Seward Line Transect
  - June Yakutat to Seward
  - Chukchi Whale glider- Still need a vessel (July or Aug. in Bering Strait)
2. Russ- Seamounts Cruise- extension of Seward Line
3. SubArctic Oceanography Field Course - 11 days in Seward/5 days on the water, supported by National Park Service

**Nora Nieminski, Alaska Department of Natural Resources Alaska Division of Geological & Geophysical Surveys (DGGS)**

[nora.nieminski@alaska.gov](mailto:nora.nieminski@alaska.gov)

Coastal Hazards Program overview

**Bill Beatty, U.S. Geological Survey (USGS)**

[wbeatty@usgs.gov](mailto:wbeatty@usgs.gov)

Pacific Walrus Research Cruise

- Successful cruise last summer- 2,100 biopsy samples, scored 3,442 animals
- This year May 31- June 28 on R/V *Norseman II*
- Coordination with communities, 3 locals participate

**Heather Tabisola, NOAA Fisheries and NOAA Research program - EcoFOCI**

[heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov)

- This year- Going to get M2 long term mooring (Peggy) on Feb 11- SE Bering Sea
- April Cruise in SE Bering Sea
- Fall Cruise in SE Bering Sea- on R/V *Oscar Dyson*
- Room for collaborations

**Mike Steele, University of Washington Applied Physics Lab (UW-APL)**

[masxxx@uw.edu](mailto:masxxx@uw.edu)

Seasonal Ice Zone Reconnaissance Surveys (SIZRS)

- Based out of Kodiak, fly monthly from June to Oct, go way up north of Alaska
- Team from UW Polar Science Center
- Buoys deployed from C130

**Alaska Ocean Observing System (AOOS)**  
**Alaska Marine Research Planning Night**  
**Alaska Marine Science Symposium (AMSS)**  
**January 31, 2024**

- Thinking about making a smaller buoy for surface waves, and salinity, working with Jim Thomson (UW), relatively cheap

**Jiaxu Zhang, NOAA Pacific Marine Environmental Laboratory (PMEL)**

[jiaxu.zhang@noaa.gov](mailto:jiaxu.zhang@noaa.gov)

No slides!

Arctic Airborne Investigations

- Flew over *Sikuliaq* a few times last year
- HABS blooms- detect from aircraft
- Want to bring students and postdocs on board, try to organize outreach in communities
- Will repeat all this in 2024 in June and Sept

**Amy Holman, NOAA**

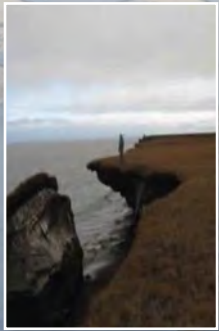
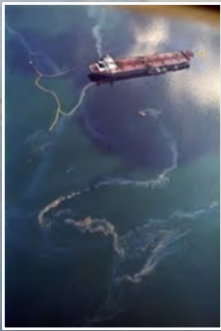
[amy.holman@noaa.gov](mailto:amy.holman@noaa.gov)

No slides

Speaking for National Weather Service (NWS)

- They want to hear what operations thresholds are, so they can tell you what they think is happening (but you can tell them what is actually happening on the water)

# Overview of AOOS



Sheyna Wisdom  
Executive Director  
[wisdom@aoos.org](mailto:wisdom@aoos.org)





# What is AOOS?

## Part of Integrated Ocean Observing System (IOOS)

- NOAA-funded program, but NOT NOAA!
- 1 of 11 regional associations
- Operating since 2003

## AOOS organizational setup

- Board of federal and state agencies, academic institutions, research facilities, industry, non-profits, tribal
- Fiscal sponsor: Alaska SeaLife Center as non-profit

## AOOS observing activities are highly leveraged

- Partners are essential for successful for ocean observing in our region



[www.aos.org](http://www.aos.org)

# AOOS Background

## Staff

Sheyna Wisdom, Executive Director

Molly McCammon, Senior Advisor (former Director)

Alice Bailey, Director of Outreach, started in Dec 2022

Jill Prewitt, Regional Data Sharing Coordinator

Thomas Farrugia, Alaska Harmful Algal Bloom (AHAB) Coordinator

Darcy Dugan, Director of Ocean Acidification (OA) Network

Carol Janzen, Director of Operations

Holly Kent, Director of Administration

Joni Kitmiiq Speiss, Community Engagement Coordinator



# Overview of AOOS Approach

## Sustained observations and assets

- Moorings
- Gliders
- High frequency radars (HFR)
- Ship surveys

## Fund/test new and innovative technologies

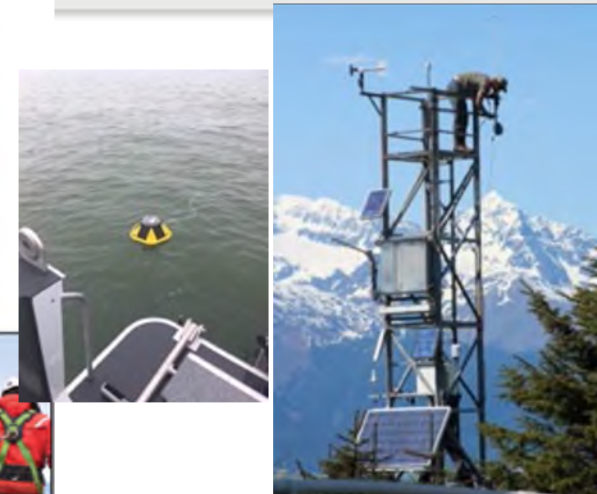
- Coastal hazards assets
- Sofar wave spotter buoys

## Collaborations and partnerships to find solutions

- Collaborative networks
- Community sampling programs
- Leverage funding

## Work with ocean users to collect, use, and show information in a meaningful way

- Data portal
- Incident Response Tools
- Mariner's dashboards





# Examples of how AOOs can serve Alaska ocean users

## Support observations from Arctic coastal communities

- Alaska Arctic Observatory and Knowledge Hub (AAOKH)
- Indigenous Sentinels Network (ISN)
- Sea Ice for Walrus Outlook (SIWO)

## Support education for next generation

- Alaska Native Science & Engineering Program (ANSEP) interns
- Barrow Arctic Research Consortium (BARC) Science Fair

## Community-led programs

- Alaska Eskimo Whaling Commission (AEWC) wave buoy program
- Water quality community sampling (HABs and OA)





# Examples of how AOOs can serve Alaska ocean users

## Data Products

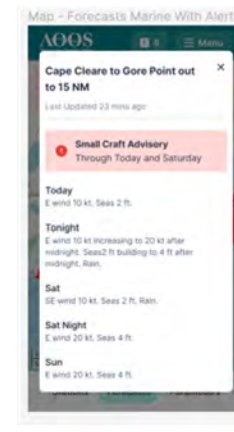
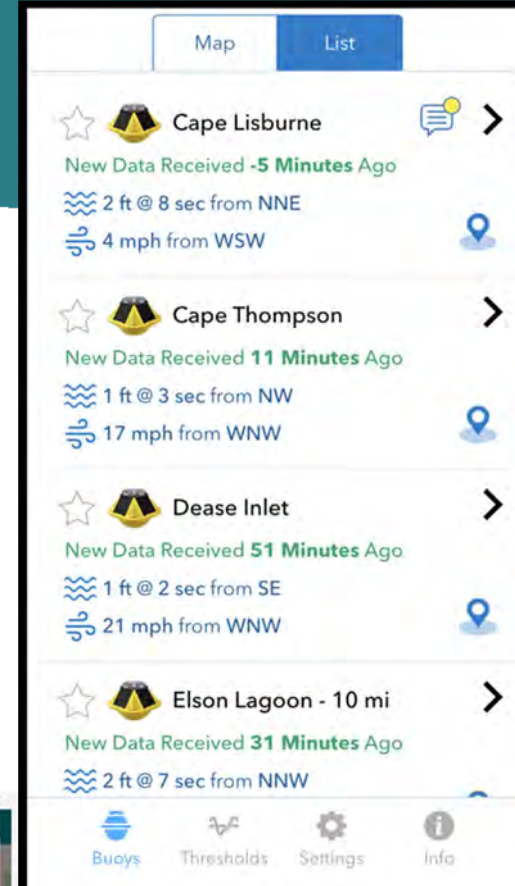
- Backyard Buoy data app: <http://software.apl.uw.edu/proto/BackyardBuoys/app.php>
- Mariner's Dashboards on portal
- Mariner's app
- SIWO weekly sea ice movement predictions
- Arctic Watch (Marine Exchange of Alaska)
- Bering Strait Incident Response Tool

## Ocean Assets

- Wave buoys (Nome & Cook Inlet)
- Weather stations on AIS stations
- Webcams
- Water level stations

## Collaborative Networks

- Alaska Ocean Acidification Network (<https://aoan.aos.org/>)
- Alaska Harmful Algal Bloom Network (<https://ahab.aos.org/>)
- Alaska Water Level Watch (<https://awlw.aos.org/>)



# What's next for AOOS?

## Alaska Native Organization Board seats

- adding 3 new Board seats

## 2025: 21-year anniversary of AOOS

## Bipartisan Infrastructure Law (BIL)

- \$1.2M over 2 years for equipment upgrades & community projects
- More coming for years 3-5 this spring

## Inflation Reduction Act (IRA)

- \$8M over 5 years for coastal resilience & workforce capacity
- Request for Ideas got 88 projects > \$37M
- Submitting proposal to NOAA Mar 5

## NOAA Cooperative Agreement

- 2021-2026: funding for year 4 coming this spring
- 2026-2031: will be putting call out for ideas 2024/2025

# Questions/Contacts

**Sheyna Wisdom**, Executive Director, [wisdom@aoos.org](mailto:wisdom@aoos.org)

**Carol Janzen**, Director of Operations, [janzen@aoos.org](mailto:janzen@aoos.org)

**Darcy Dugan**, Alaska Ocean Acidification Network Manager, [dugan@aoos.org](mailto:dugan@aoos.org)

**Thomas Farrugia**, Alaska Harmful Algal Bloom Network Coordinator, [farrugia@aoos.org](mailto:farrugia@aoos.org)

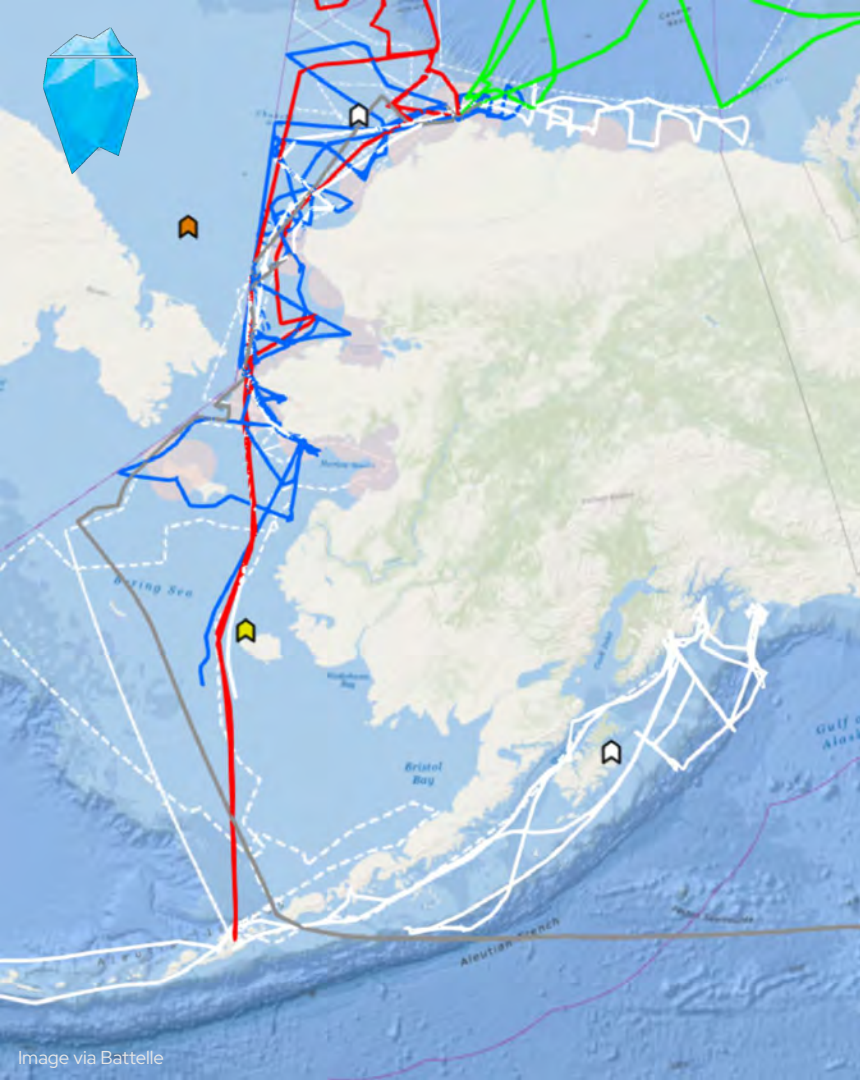
**Jill Prewitt**, Regional Ocean Partnership Coordinator, [prewitt@aoos.org](mailto:prewitt@aoos.org)

**Alice Bailey**, Director of Outreach, [bailey@aoos.org](mailto:bailey@aoos.org)

**Holly Kent**, Director of Administration, [kent@aoos.org](mailto:kent@aoos.org)

**Joni Kitmiiq Speiss**, Community Engagement Coordinator, [kitmiiq@aoos.org](mailto:kitmiiq@aoos.org)

[www.aoos.org](http://www.aoos.org)



# IARPC Field Operations Community of Practice

Coordinate among federal agencies supporting fieldwork and share information among researchers and communities.

**Research Vessel Matrix**

**Mooring Matrix**

**Pre/Post-field Season Meetings**

**Public Meetings**

**Fed-Only Meetings**





## Planned Research Vessel Movements: 2023 Research Season

### 2023 expeditions

Expeditions here are organized by location, then launch date. If an expedition will visit more than one location, it will appear under both location headers. To see all expeditions at once, download the spreadsheet above, or view the calendar below.

Click each vessel photo to go to that vessel's webpage. Click each expedition track to see a larger version of the image.

[Gulf of Alaska](#)

[Aleutian Islands Region](#)

[Bering Sea](#)

[Chukchi & Beaufort Seas](#)

[North Atlantic Ocean](#)

[Location TBD](#)

### Gulf Of Alaska

#### Approaches to Revillagiedo

March 29 - April 17

Departs from: Newport, Oregon

Returns to: Juneau



# Research Vessel Matrix

Webpage with compiled  
information about  
expeditions to inform  
communities & researchers.



[iarpccollaborations.org/  
research-expeditions.html](http://iarpccollaborations.org/research-expeditions.html)

2024 cruises please contact **Alie Lepp**  
[allison.lepp@noaa.gov](mailto:allison.lepp@noaa.gov)



# Pre-field Season Meeting

April 24, 2024 1-3pm

Virtual

Will provide an opportunity for researchers and observers to share upcoming research plans



# Newsletter sign-up

Updates to the research vessel matrix, mooring matrix, pre- and post-field season meetings



**Contact: Alie Lepp**  
[allison.lepp@noaa.gov](mailto:allison.lepp@noaa.gov)

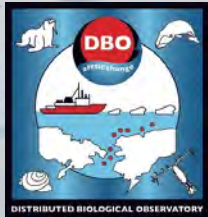


# Distributed Biological Observatory (DBO) Cruises in 2024 (International Cruises Pending)

**Jackie M. Grebmeier**

Chesapeake Biological Laboratory, University of Maryland Center for  
Environmental Science, Solomons, United States

Alaska Marine Research Planning Night  
Alaska Marine Science Symposium  
Anchorage, Alaska  
January 31, 2024





# Normally July (2024 TBD)-CCGS Sir Wilfrid Laurier, Canada and USA

Dates: July or August 2024 (TBD)

Departs from: Nome, Alaska

Returns to: Utqiagvik, Alaska, USA

Location: Northern Bering and Chukchi Seas

Vessel: CCGS Sir Wilfrid Laurier (SWL)

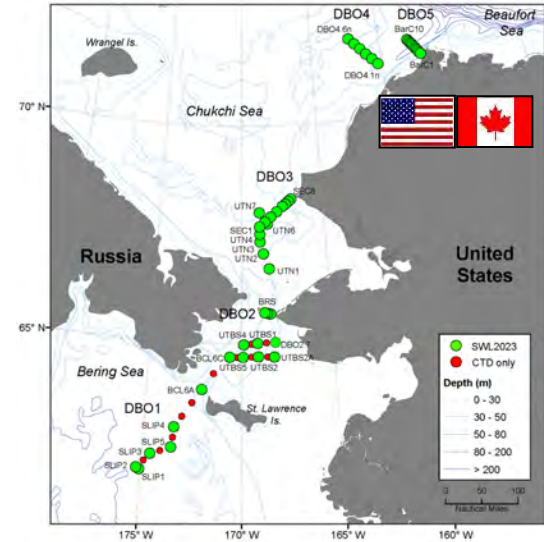
Joint Program: DBO and C30 (Canada's Three Oceans)

Research website: <https://dbo.cbl.umces.edu/>

Project supported by: NSF and DFO Canada; collaboration with USFWS



CCGS Sir Wilfrid Laurier



## ➤ Core Ship-based sampling:

- Temperature, salinity, and currents
- Chlorophyll, nutrients, carbon products
- Water column plankton (composition, size, biomass)
- Macrofauna in sediments (composition, size, biomass)
- Sediment grain size and carbon components
- Benthic camera
- Seabird and marine mammal surveys
- Fishery acoustics (variable)
- Bottom trawling (variable)

## ➤ Autonomous sensor sampling via collaborative programs the DBO

- Gliders, moorings, saildrone
- Satellite observations



- DBO lines sampled as own cruise as well as embedded in process cruises
- Time series data collections, seasonally and interannually; developing Atlantic, Davis Strait/Baffin Bay and East Siberian Sea DBO programs

**Contacts:** John Nelson [John.Nelson@df-mpo.gc.ca](mailto:John.Nelson@df-mpo.gc.ca) and Jackie Grebmeier [jgrebmei@umces.edu](mailto:jgrebmei@umces.edu); <https://arcticdata.io/catalog/portals/DBO/Data>

# SKQ2024: DBO-EcoFOCI-AMBON-CEO Collaborative Ecosystem Cruise

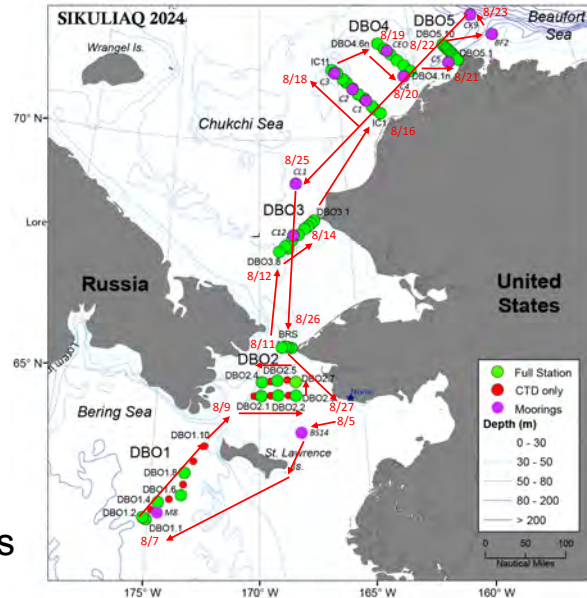


Jackie Grebmeier<sup>1</sup> and Seth Danielson<sup>2</sup>

<sup>1</sup>University of Maryland Center for Environmental Science and <sup>2</sup>University of Alaska Fairbanks and [jgrebmeier@umces.edu](mailto:jgrebmeier@umces.edu) and [sldanielson@alaska.edu](mailto:sldanielson@alaska.edu)

## Objectives

- Evaluate ecosystem status, biodiversity, and change at time series stations
- Deploy and recover NOAA and UAF moorings
- What conditions cause marine animal and seabird population to vary?



DBO: Distributed Biological Observatory (Jackie Grebmeier, UMCES)  
EcoFOCI: Ecosystems and Fisheries Oceanography Coordinated Investigations (Phyllis Stabeno, NOAA)  
AMBON: Arctic Marine Biodiversity Observation Network (Katrin Iken, UAF)  
CEO: Chukchi Ecosystem Observatory (Seth Danielson, UAF)

# DBO-EcoFOCI-AMBON-CEO Cruise Effort

## **Underway Observations:**

- Seabird and marine mammal surveys from bridge

## **Underway sampling:**

- Throughflow TSG+, ADCP, EK80, seafloor mapping, primary production

## **Water Column:**

- CTD for water temperature, salinity, chlorophyll-a fluorescence, dissolved oxygen, turbidity, CDOM, PAR, optical backscatter
- Water samples for nutrients, oxygen-18, chlorophyll-a, eDNA, CDOM, DIC, ocean acidification, HABs, POM, PON, methane, genomics, phytoplankton taxa
- Bongo net tows for zooplankton and larval fish composition, abundance and biomass

## **Benthos:**

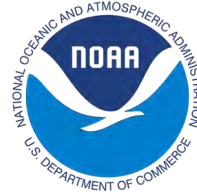
- Macrobenthos via Van Veen grabs for abundance, biomass and population structure, sediment organic carbon/nitrogen content, chl-a content, grain size, HABs, genomic studies; HAPS corer for sediment community oxygen consumption experiments
- Epibenthic beam trawls for epifauna, genomic studies

## **Moorings:**

- Biophysical, Biogeochemical & Passive Acoustic

# Acknowledgements

Financial support provided by  
NOAA, NSF, AOOS, ONR, NASA, NPRB, USFWS, UAF



Contact Us: Jackie Grebmeier, [UMCES, jgrebmei@umces.edu](mailto:jgrebmei@umces.edu) and Seth Danielson, [UAF, sdanielson@uaf.edu](mailto:sdanielson@uaf.edu)



# 2024 AICC/UNOLS Arctic Chief Scientist Training Cruise program

Are you an early career polar scientist needing to **gain experience requesting, planning, and executing large-scale vessel surveys in the Arctic**? If so, please consider applying for the 2024 “Arctic Icebreaker Coordinating Committee/University National Oceanographic Laboratory System (AICC/UNOLS) Arctic Chief Scientist Training Cruise” program.

This program involves a series of informational and **pre-cruise planning meetings** that will be held virtually from March through June 2024, a **2-day pre-cruise workshop** (just prior to the cruise), and a **10-15 day Northwest Passage transit onboard the United States Coast Guard Cutter (USCGC) Healy in August 2024**.

Information on logistics, eligibility, and application instructions are available on the program website at <https://blogs.oregonstate.edu/arcticcruise2024>.

**Applications are due Friday, February 9th (see website for details).**

Please read our website FAQs and contact Dr. Emily Eidam ([emily.eidam@oregonstate.edu](mailto:emily.eidam@oregonstate.edu)) with questions.



Oregon State  
UNIVERSITY

OSU



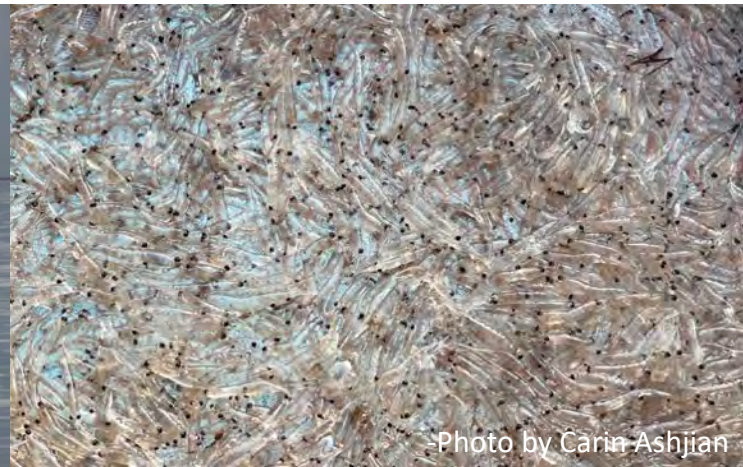
# Bio-physical drivers of bowhead whale distribution on the Alaskan Beaufort Shelf during a period of rapid environmental change

Carin Ashjian (WHOI)

Bob Campbell (URI), Mei Sato (WHOI), Kate Stafford (OSU), Seth Danielson (UAF)  
cashjian@whoi.edu



-Photo by Kate Stafford



-Photo by Carin Ashjian



Funded by the US Bureau of Ocean Energy Management Award M21AC00015 to the University of Alaska Fairbanks

# Final Year of Four Years of Fieldwork (2021-2024)



## Data collection

- Vessel-based sampling with CTD, nets, and bioacoustics
- Recover year-round moorings in the shelf break depression (WDD) and in west Barrow Canyon equipped with ADCPs, CTDs, AZFPs, and acoustic recorders to detect whale calls
- Together with NSBDWM, deploy 1 short-term (~2 weeks) mooring (20-m isobath)
- Krill/copepods C:N, morphometrics, genetics
- Marine mammal and bird distributions

Actual dates in 2024 TBD but will be in mid-August to early September



# Kotzebue passive acoustics monitoring

Wildlife Conservation Society  
Native Village of Kotzebue  
University of Washington  
University of California Santa Cruz  
NOAA Alaska Fisheries Science Center

[manuel.castellote@noaa.gov](mailto:manuel.castellote@noaa.gov)

## What we need: A vessel

- Late June / early July 2024
- 6-8 days
- No A frame/which needed (160 lb anchors)
- Team of 2 scientists



- 2022-2025
- Bi-annual service
- 6 PAM moorings year-round
- Marine mammals & sea ice
- Soundscape





# 2024 Gulf of Alaska research cruises

## Oceanographic Station GAK-1

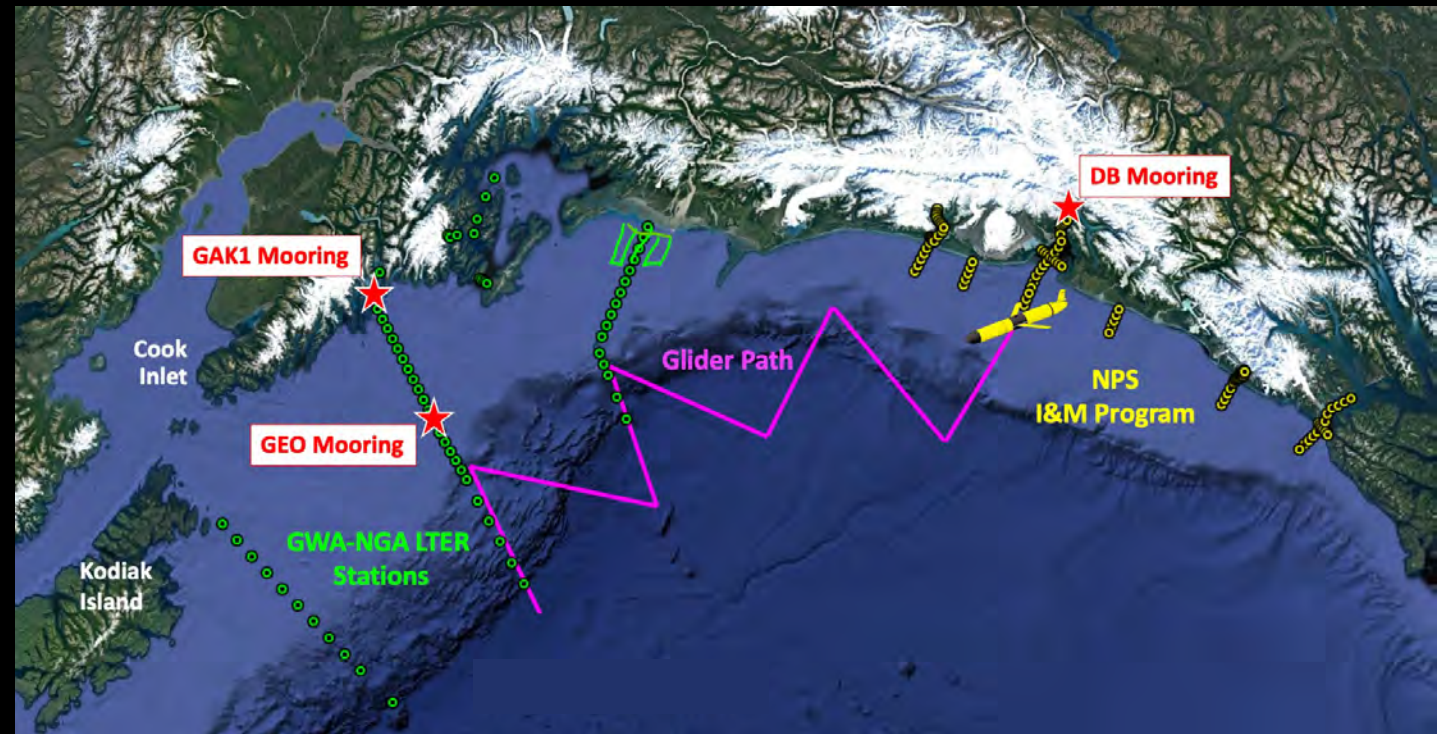
- Monthly trips on R/V Nanuq  
Seth Danielson (sldanielson@alaska.edu)

## GWA/NGA LTER

- Late April/Early May – R/V Sikuliaq
- Mid/Late September – R/V Tiglax  
Russ Hopcroft (rrhopcroft@alaska.edu)  
or Kerri Fredrickson (frederk@wwu.edu)

## Disenchantment Bay/Yakutat Bay/Icy Bay/Lituya Bay

- May/June – Dates & Vessel TBD  
Seth Danielson (sldanielson@alaska.edu)  
or Jamie Womble (Jamie\_womble@nps.gov)



## 2024 Gliders:

- GEO Station-keeping
- Winter Seward Line Transect
- June Yakutat-to-Seward Transect
- Bering Sea?
- Chukchi Whale Glider



CEO ★

# Year-round moorings

platforms of opportunity  
Put your datalogging sensors here!

Contact: Seth Danielson  
[sldanielson@alaska.edu](mailto:sldanielson@alaska.edu)

★ GAK1  
★ GEO

★ DB1





# Subarctic Oceanography Field Course

## MSL F425/F625

12-23 August 2023



## Course Objectives

- Learn practical skills and techniques
- Work in teams to plan field activities
- Gain skills necessary for executing successful field campaigns
- Develop an understanding and appreciation for interdisciplinary oceanographic research
- Become familiar with approaches to oceanographic data analysis
- **Contribute new** data to a half-century-long climate monitoring dataset



COLLEGE OF FISHERIES  
AND OCEAN SCIENCES

University of Alaska Fairbanks

Gwenn Hennon [gmhennon@alaska.edu](mailto:gmhennon@alaska.edu)  
Steve Dykstra [sdykstra@alaska.edu](mailto:sdykstra@alaska.edu)





COLLEGE OF FISHERIES  
AND OCEAN SCIENCES

University of Alaska Fairbanks

Gwenn Hennon [gmhennon@alaska.edu](mailto:gmhennon@alaska.edu)  
Steve Dykstra [sdykstra@alaska.edu](mailto:sdykstra@alaska.edu)



# Helping Address Needs of Alaska's Environmentally Threatened Communities

Coastal communities of Western & Northern Alaska are regularly impacted by storms and experience frequent flooding and erosion, which threaten critical infrastructure and traditional ways of life.





# BASELINE & COASTAL CHANGE DATA

Huge strides have been made to augment the national water level network and oceanographic monitoring infrastructure. However, **large gaps in baseline coastal data still exist.**

Continuous monitoring efforts, both at the community level and statewide initiatives, are required to provide accurate assessments of vulnerability.

The DGGGS Coastal Hazards Program regularly collects:

- UAS imagery/DSM
- Ground control points
- Coastal erosion profiles
- Historical flood points
- Single-beam bathymetry
- Time-lapse monitoring data
- Water level sensor monitoring and replacement as needed
- Community photographs used to measure historical flood heights





# COASTAL CHANGE DATA



## DGGS Coastal Hazards Program

Nora Nieminski  
Jessie Christian  
Keith (KC) Horen



**Nora Nieminski, Ph.D.**  
Division of Geological & Geophysical Surveys  
Coastal Hazards Program Manager  
[nora.nieminski@alaska.gov](mailto:nora.nieminski@alaska.gov)



Orthoimagery (2022) of Kivalina, AK.



Credit: Harold Okitkun

Kotlik, AK.

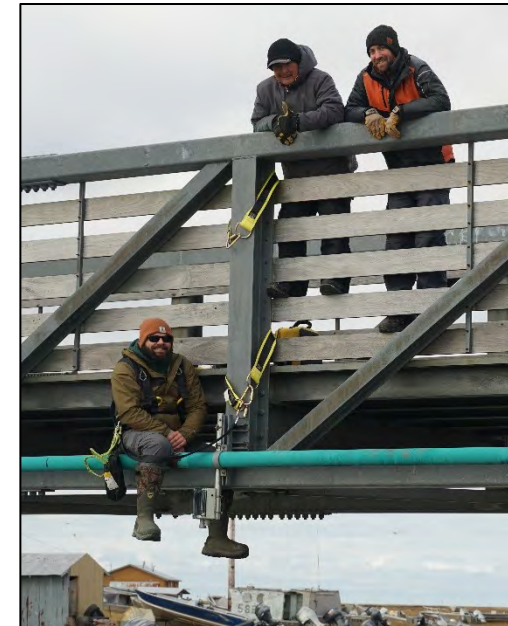
Check out our StoryMap!



Check out our FB page  
(used for storm photo submissions)



Resident pointing out high water level.



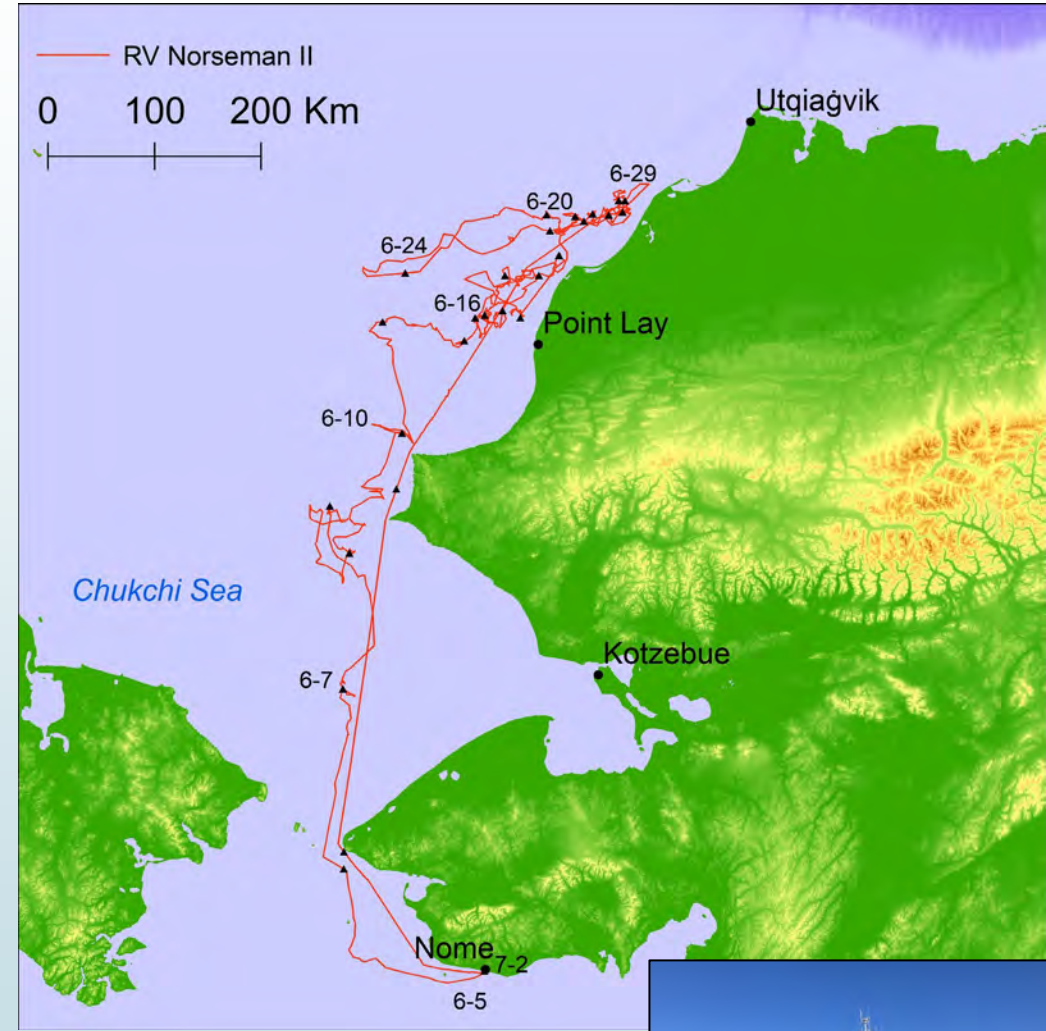
Water level sensor replacement in Kipnuk, AK.





# Pacific Walrus Research Cruises 2023 - 2025

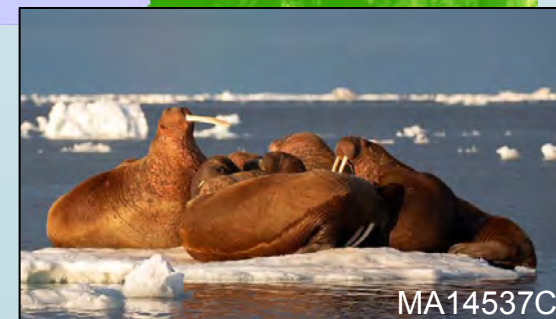
- ▶ June 5–July 2, 2023, R/V Norseman II.
- ▶ Collected ~2100 biopsy samples from Pacific walruses for genetic mark-recapture to estimate abundance.
- ▶ Scored 3442 animals to sample standing age structure to estimate survival.
- ▶ Most successful Pacific walrus field research project.



Contact:  
William Beatty ([wbeatty@usgs.gov](mailto:wbeatty@usgs.gov))  
Irina Trukhanova ([irina\\_trukhanova@fws.gov](mailto:irina_trukhanova@fws.gov))

# Pacific Walrus Research Cruises 2023 - 2025

- ▶ May 31-June 28, 2024
  - ▶ R/V Norseman II + 3 skiffs + aircraft
- ▶ Collecting a range of samples:
  - ▶ Biopsy samples from walrus hauled out on sea ice.
  - ▶ Age structure data.
  - ▶ Walrus fecal samples for diet
  - ▶ Water, fecal samples, and benthic inverts for harmful algal bloom (HAB) analysis (NOAA).
- ▶ We are looking for partners and collaborators to offset charter costs.

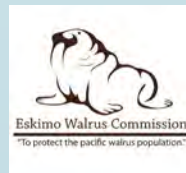


Contact:  
William Beatty ([wbeatty@usgs.gov](mailto:wbeatty@usgs.gov))  
Irina Trukhanova ([irina\\_trukhanova@fws.gov](mailto:irina_trukhanova@fws.gov))



# Coordination with Communities

- ▶ 3 Alaska Native hunters participated in 2023.
  - ▶ Anticipate 2–3 Alaska Native participants in 2024.
- ▶ Notified coastal communities prior to the cruise via email and phone calls.
- ▶ Notified coastal communities during cruise when operations were <50 nautical miles of village and provided radio channel for communication.



Contact:  
William Beatty ([wbeatty@usgs.gov](mailto:wbeatty@usgs.gov))  
Irina Trukhanova ([irina\\_trukhanova@fws.gov](mailto:irina_trukhanova@fws.gov))



# M2 'Peggy' Recovery

---

P. Stabeno, NOAA

[phyllis.stabeno@noaa.gov](mailto:phyllis.stabeno@noaa.gov), [heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov)

**NOAA**





M2 'Peggy' Recovery

# Research Expedition Details

**Dates:** TBD February

**Research Area Location:** SE Bering Sea

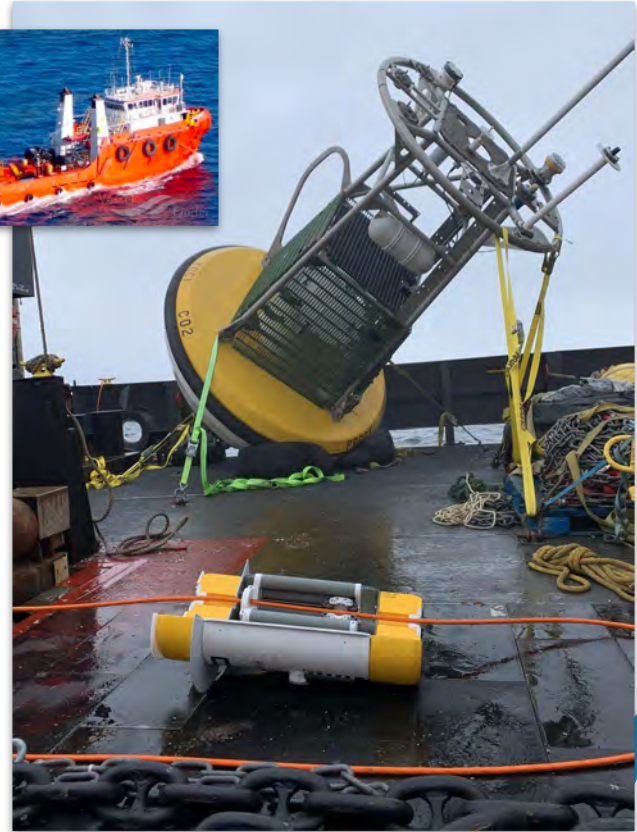
**Vessel:** Resolve Pioneer

**Communication and outreach plans:** No.

Please contact: Primary:

[heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov); w/ CC:

[theo.stein@noaa.gov](mailto:theo.stein@noaa.gov), and [marjorie.mooney-seus@noaa.gov](mailto:marjorie.mooney-seus@noaa.gov)



*Contact Information: [phyllis.stabeno@noaa.gov](mailto:phyllis.stabeno@noaa.gov), [heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov)*



Pacific Marine Environmental Laboratory

*50 years of Science in  
Service to Society*



# EcoFOCI Spring Mooring Cruise

---

P. Stabeno, NOAA

[phyllis.stabeno@noaa.gov](mailto:phyllis.stabeno@noaa.gov), [heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov)

Chief Scientist, Shaun Bell

**NOAA**





# EcoFOCI Spring Mooring Cruise Research Expedition Details

**Dates:** 4/26 - 5/10, 2024

**Research Area Location:** SE Bering Sea

**Vessel:** NOAA Ship Oscar Dyson

**Communication and outreach plans:** Yes.

Please contact: Primary:

[heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov); w/ CC:

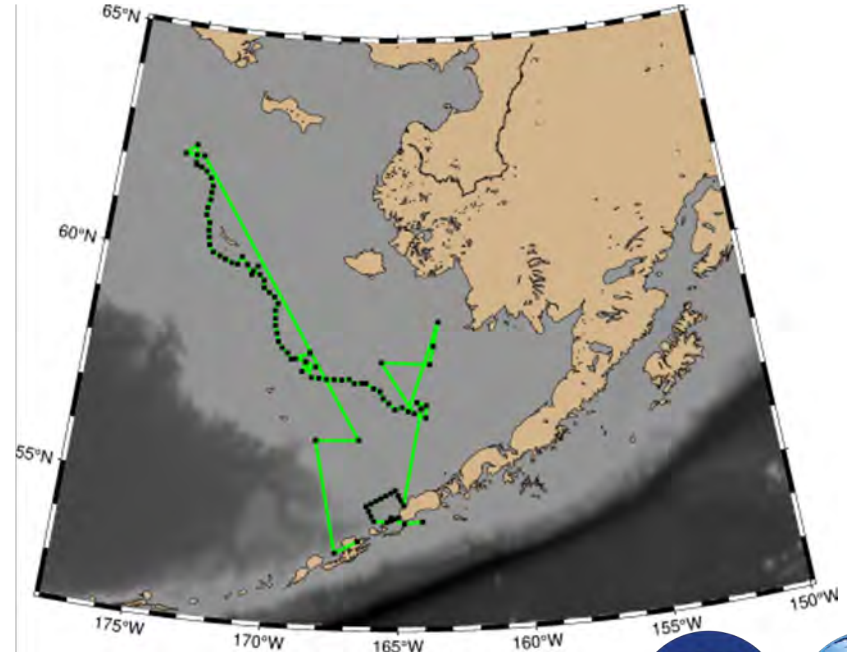
[theo.stein@noaa.gov](mailto:theo.stein@noaa.gov), and [marjorie.mooney-seus@noaa.gov](mailto:marjorie.mooney-seus@noaa.gov)

Social Media: @NOAAResearch,

@NOAAFisheriesAK (IG, X) & @OARC\_Alaska

(X)

**Contact Information:** [phyllis.stabeno@noaa.gov](mailto:phyllis.stabeno@noaa.gov), [heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov)



Map showing the overall working area for cruise DY24-06. Green line is a hypothetical track line that is not optimized and does not show the transit from Kodiak.



Pacific Marine Environmental Laboratory

*50 years of Science in  
Service to Society*



# EcoFOO Mooring Cruise

---

P. Stabeno, NOAA

[phyllis.stabeno@noaa.gov](mailto:phyllis.stabeno@noaa.gov), [heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov)

Chief Scientist, Ryan McCabe

**NOAA**





EcoFOCI Fall Mooring Cruise

# Research Expedition Details

**Dates:** 9/7 - 9/23, 2024\*

**Research Area Location:** SE Bering Sea

**Vessel:** NOAA Ship Oscar Dyson

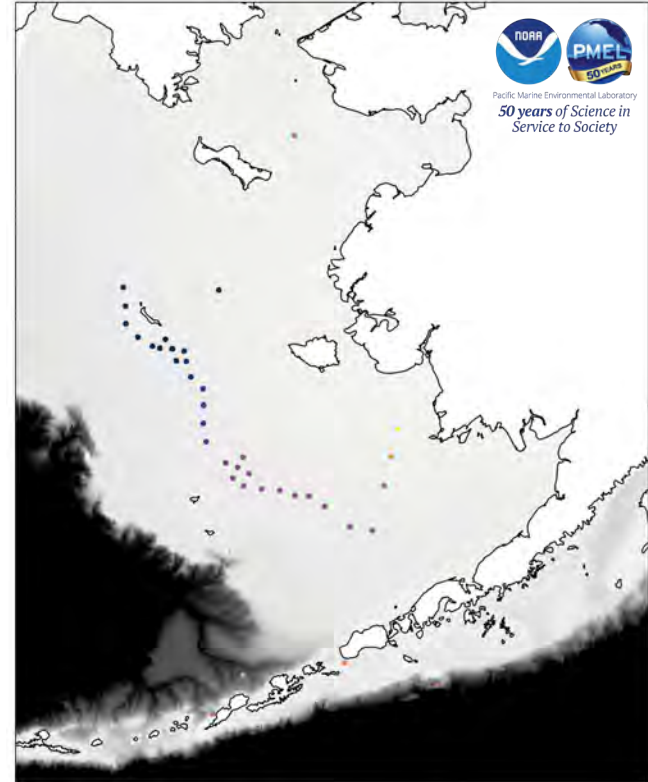
**Communication and outreach plans:** Yes.

Please contact: Primary:

[heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov); w/ CC:

[theo.stein@noaa.gov](mailto:theo.stein@noaa.gov), and [marjorie.mooney-seus@noaa.gov](mailto:marjorie.mooney-seus@noaa.gov)

Social Media: @NOAAResearch,  
@NOAAFisheriesAK (IG)



**Contact Information:** [phyllis.stabeno@noaa.gov](mailto:phyllis.stabeno@noaa.gov), [heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov)



# Key Scientific Questions & Motivations

**Mission:** Annual survey to provide baseline fisheries and oceanographic data to support sustainable management of living resources in the Bering Sea and the rapidly changing US Arctic ecosystem.

**Goals:** Goals of the spring mooring cruise include a turn around of various NOAA biophysical (PMEL) and passive acoustic (AFSC) moorings located in the Bering Sea, perform CTD (PMEL)/Bongo (AFSC) surveys at long-term EcoFOCI sampling sites.

**Brief summary of activities: (Spring)** This project is intended to recover five (5) PMEL subsurface moorings and to deploy five (5) PMEL subsurface moorings and two (2) PMEL surface moorings at the Bering Sea sites of M2, M4, KU2 & UPP3, a site in the south of Unimak Pass. In addition, four (4) marine mammal moorings are to be recovered and four (4) marine mammal moorings will be deployed. A hydrographic/biological survey consisting of Conductivity/Temperature/Depth (CTD) casts, 20/60 cm bongo tows and California Vertical Egg Tows (CalVETs) in the Unimak Pass area, along the 70-meter isobath in the Bering Sea as far north as the sea ice permits, and in boxes around the 4 mooring sites at M2, M4, M5, & M8. Additionally, we will deploy one (1) satellite tracked drifter. No gliders, sonobuoys, or pop-ups will be deployed this cruise. **Fall** is similar and in current planning process.

**Contact Information:** [phyllis.stabeno@noaa.gov](mailto:phyllis.stabeno@noaa.gov), [heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov)







# Why is this research important, to coastal communities and beyond?

This annual survey provides baseline fisheries and oceanographic data to support sustainable management of living resources in the Bering Sea and the rapidly changing US Arctic ecosystem. Including, providing key data in understanding and monitoring events such as sea-ice loss and the cold pool and how these are impacting the Arctic ecosystem.

EcoFOCI is a joint NOAA Fisheries and NOAA Research program conducting work in the Gulf of Alaska, Bering Sea and U.S. Arctic to improve understanding of ecosystem dynamics and provide science to support management of living marine resources.

Information from the Spring cruise is immediately shared to the Ecosystems Status Reports (up to date ecosystem information and assessments). Information from the Fall cruise is immediately shared to the Ecosystems Status Reports (up to date ecosystem information and assessments). Both are used to create a long list of other products internally and with partners.

Contact Information: [phyllis.stabeno@noaa.gov](mailto:phyllis.stabeno@noaa.gov), [heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov)



Pacific Marine Environmental Laboratory

*50 years of Science in  
Service to Society*



# Potential Areas of Collaboration

For requests, please contact Phyllis and CC Heather.

**Expedition participants include scientists from:** NOAA, NOAA Cooperative Institutes, the US Fish and Wildlife Service among others.

**How much available berth space is there (if any)?** Annually changes & request dependant.

**Is there space for other equipment and/or to collect data for other teams?** Request and space dependant.

**Can you make your data available for others to collaborate on?** EcoFOCI follows NOAA FAIR Data practices. For data requests, reach out to Phyllis with cc to Shaun Bell and/or Peggy Sullivan.

**What opportunities are there to work with Indigenous & other local communities?** We are working to establish a pathway to include NOAA supported Indigenous community members on the cruise. Student Internship programs, data analysis projects, communications, etc...

**What are your collaboration needs (locating moorings, etc.)?** M2 recovery (always ready), potential for glider recoveries in Federal FY 25

**Contact Information:** [phyllis.stabeno@noaa.gov](mailto:phyllis.stabeno@noaa.gov), [heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov)



Pacific Marine Environmental Laboratory

*50 years of Science in  
Service to Society*





# Data To Be Collected

**Key parameters to be collected are:** moorings, CTD, Bongo, & CALVET

**Links to where data will be deposited:** <https://www.ecofoci.noaa.gov/data-links>

EcoFOCI follows NOAA FAIR Data practices. For data requests, reach out to Phyllis with cc to Shaun Bell and/or Peggy Sullivan. Data requests are recorded by the program. Any data included or used in publication should be acknowledged and/or referenced with DOI (as available). Data are submitted to various data centers including NOAA/NCEI & NSF/ADC, and some data are available through the public PMEL ERDDAP server.

We're working on a Data Request Form.

*Contact Information: [phyllis.stabeno@noaa.gov](mailto:phyllis.stabeno@noaa.gov), [heather.tabisola@noaa.gov](mailto:heather.tabisola@noaa.gov)*



Pacific Marine Environmental Laboratory

*50 years of Science in  
Service to Society*

(**SIZ**: winter: icy; summer: ice-free)

 **2012-2024**



***Synoptic monthly surveys (June-Oct)***

*across frontal boundaries to study:*

- ***ice/ocean circulation***
- ***air-sea exchange***

# (ONR) **SIZRS**: **S**easonal **I**ce **Z**one **R**econnaissance **S**urveys

(**SIZ**: winter: icy; summer: ice-free)

2012-2024



**AxCTD & AxCP**

James Morison  
John Guthrie

**IR & Lidar  
remote sensing**

**Atmos. sondes**

Zheng Liu  
Axel Schweiger

**Buoys**

Michael Steele  
Ignatius Rigor

***Synoptic monthly surveys (June-Oct)***  
*across frontal boundaries to study:*

- ***ice/ocean circulation***
- ***air-sea exchange***

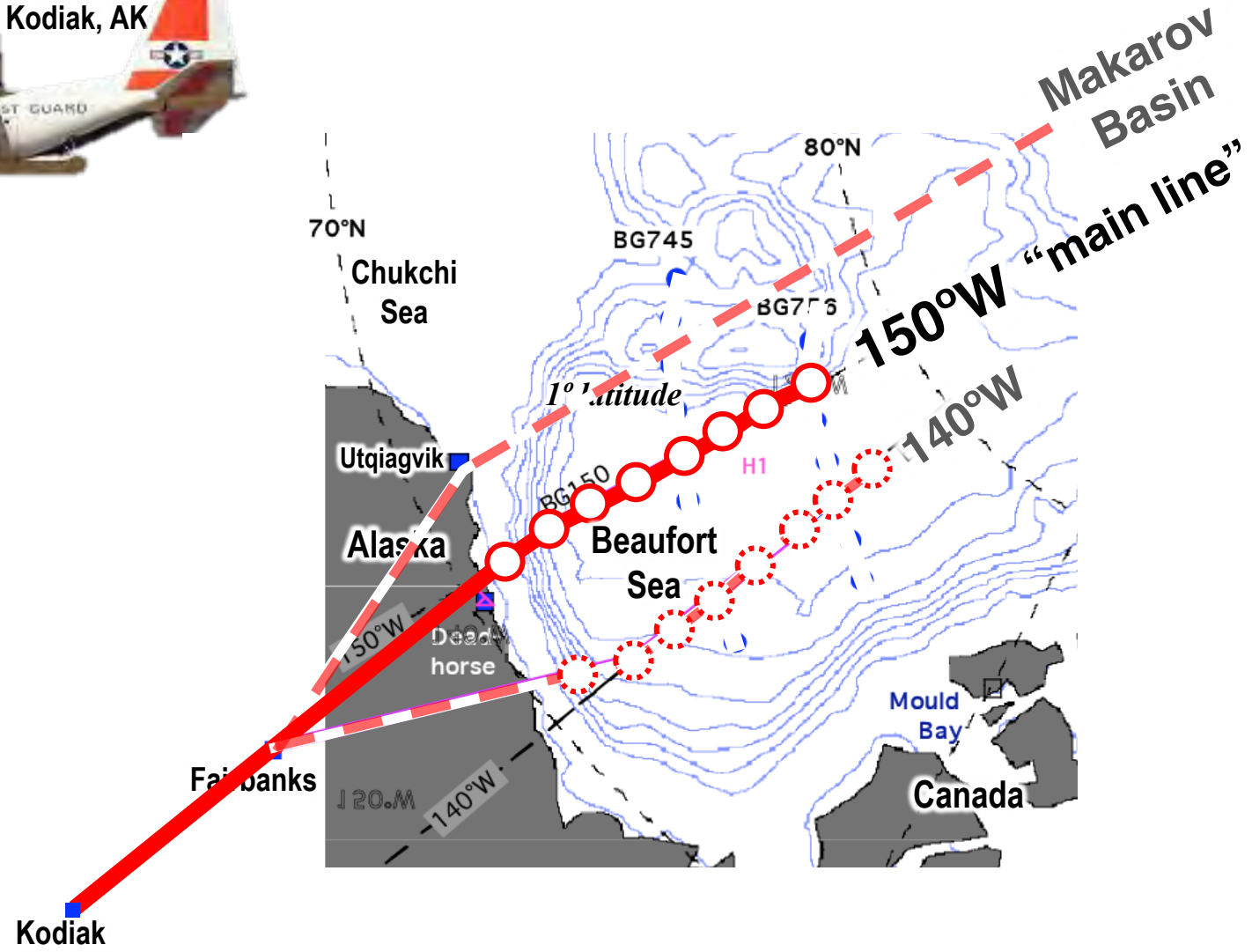
[psc.apl.uw.edu/research/projects/sizrs/](http://psc.apl.uw.edu/research/projects/sizrs/)



# (ONR) **SIZRS**: **S**easonal **I**ce **Z**one **R**econnaissance **S**urveys

(**SIZ**: winter: icy; summer: ice-free)

2012-2024

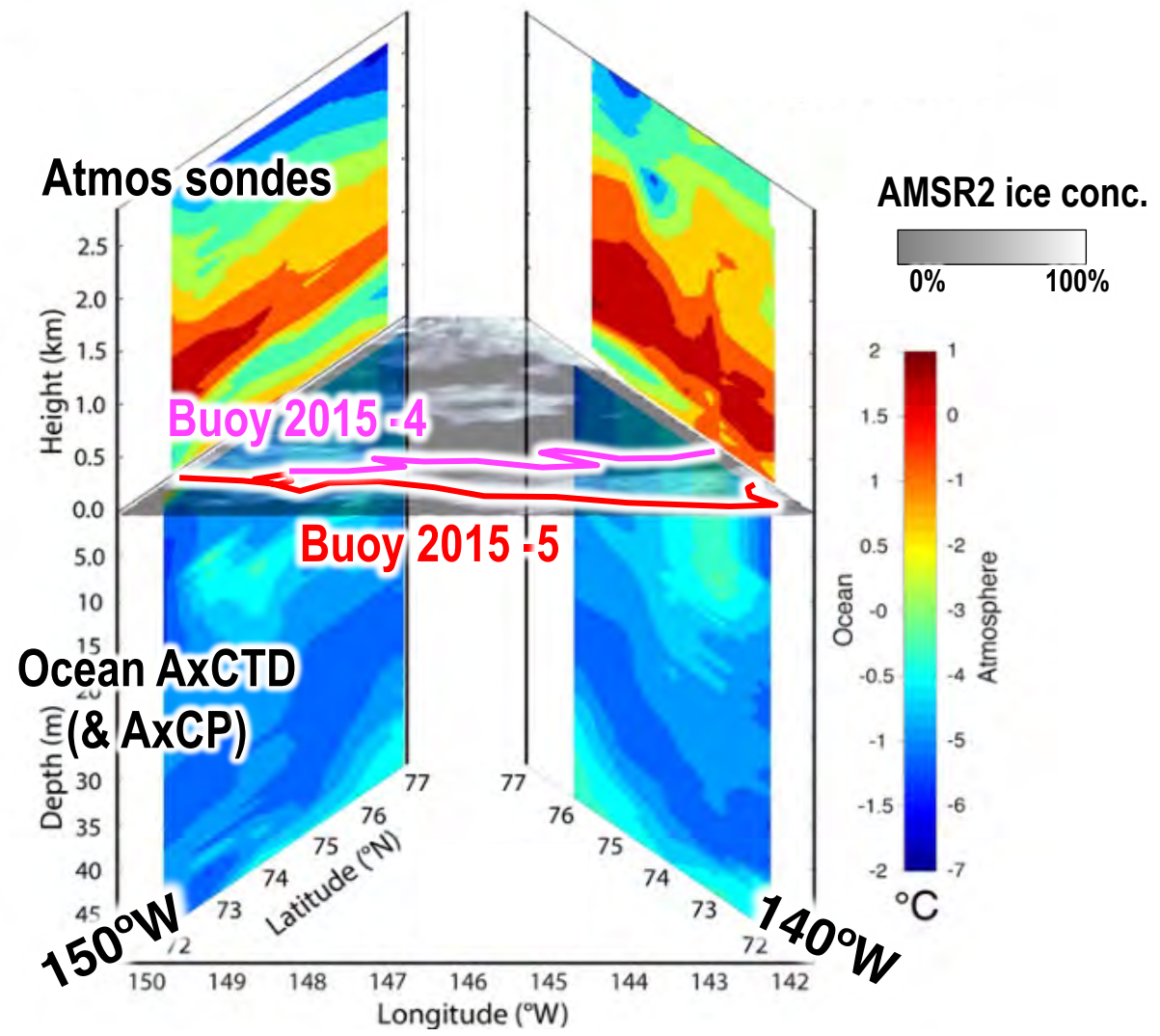


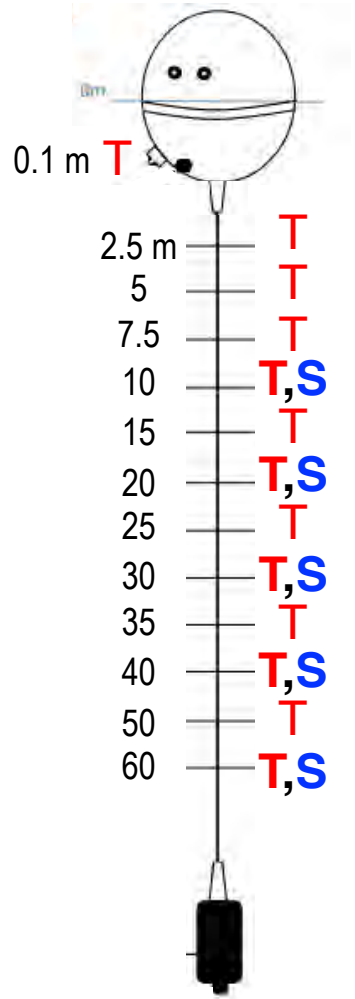
(SIZ: winter: icy; summer: ice-free)

2012-2024



- monthly
- synoptic
- air-ice-ocean

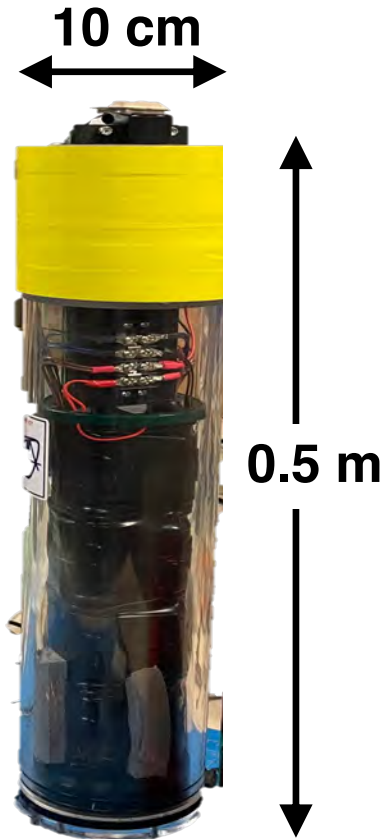




“Uptempo” → “Hydrobuoys”



# APL's microSwift



- Iridium
- GPS
- Alkaline C-cells
- **Surface waves**

- Jim Thomson (*surface waves*)
- Alex deKlerk (*engineer*)

- Deployed off ships, docks, **Arctic Heat II (2022)**
  - Lifetime: several days

# APL's microSwift-TS

10 cm



0.5 m

- Iridium
- GPS
- Alkaline C-cells
- **Surface waves**
- **SST**
- **SSS**

- Jim Thomson (*surface waves*)
- Alex deKlerk (*engineer*)
- Mike Steele (*SST/SSS*)
- + APL engineering support

CT cell:  
Aanderaa 4319

# APL's microSwift-TS

10 cm



0.5 m

- Iridium
- GPS
- Alkaline C-cells
- **Surface waves**
- **SST**
- **SSS**

- Jim Thomson (*surface waves*)
- Alex deKlerk (*engineer*)
- Mike Steele (*SST/SSS*)
- + APL engineering support

**2023 & 2024:**

- Deploy via **Arctic AIR**
- Lifetime: ~ 6 weeks

CT cell:  
Aanderaa 4319