

# Pacific Arctic Group (PAG)



## **PAG Update 2026 Field Program**

**Eun Jin Yang**

**PAG Chair**

**Korea Polar Research Institute (KOPRI)**

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Forum of Arctic Research Operators (FARO) Annual Meeting 2026

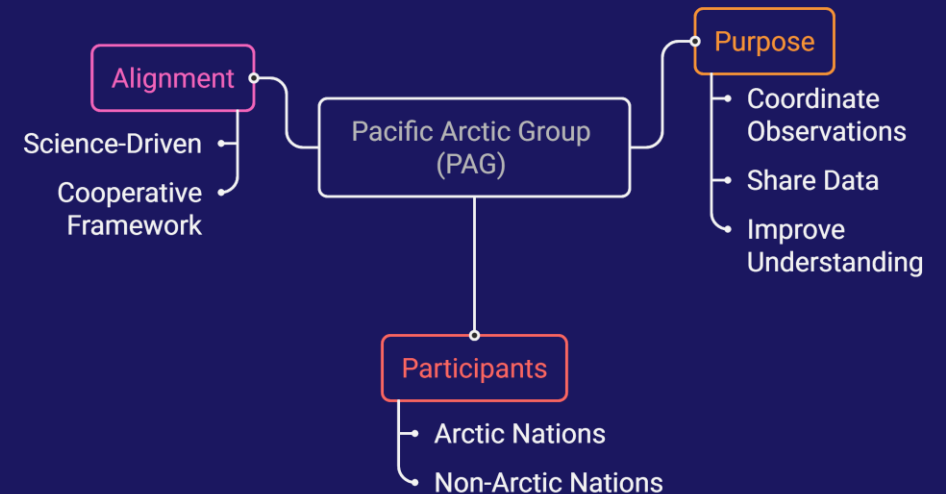
ASSW26, Aarhus, Denmark

<http://pag.arcticportal.org>

# What is PAG?

- ◆ PAG is an international scientific coordination network for collaborative research in the Pacific Arctic.
- ◆ It connects scientists, institutions, and national programs from Arctic and non-Arctic countries to coordinate observations, share data, and support cooperation within the IASC framework.
- ◆ With its rotating international chairmanship, PAG provides stable multinational leadership and serves as a science-based bridge across geopolitical boundaries.

## Pacific Arctic Group (PAG): International Scientific Coordination

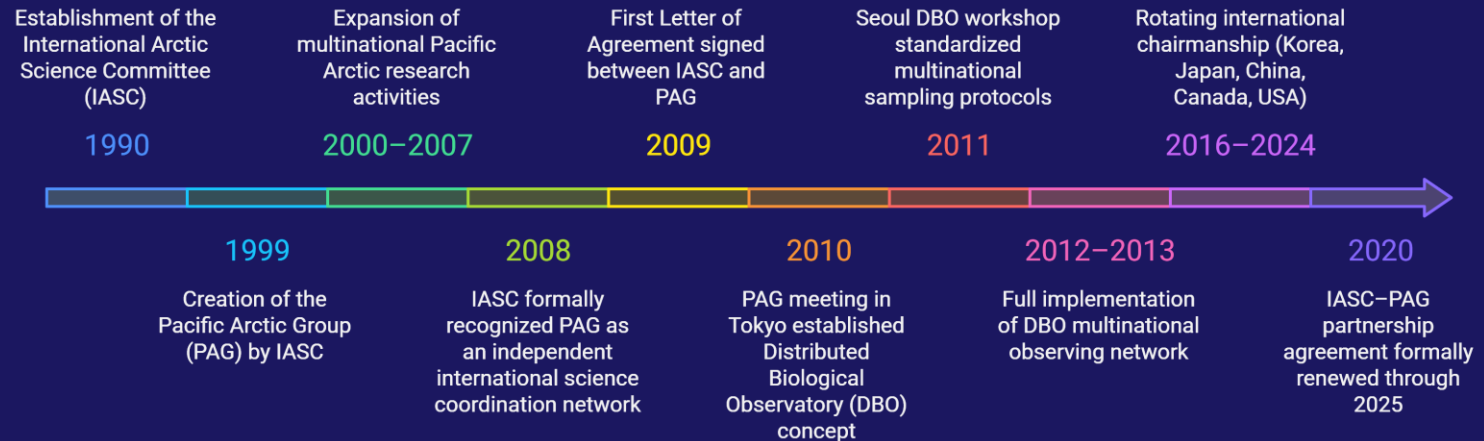


# Pacific Arctic Group (PAG)

International Scientific Coordination in the Pacific Arctic

- ◆ Established by the International Arctic Science Committee (IASC) in 1999
- ◆ A science-driven coordination network for multinational ecosystem and ocean observation in the Pacific Arctic
- ◆ Core observing network: Distributed Biological Observatory (DBO)

## Evolution of the Pacific Arctic Group (PAG)



# Mission and Core Objectives

- ◆ Coordinate multinational scientific operations (cruises, observing systems, ecosystem monitoring).
- ◆ Promote open scientific data sharing through standardized and accessible datasets.
- ◆ Provide a scientific forum for collaboration (plans, results, emerging findings).
- ◆ Strengthen international scientific partnerships with IASC, national programs, and observing systems.



# Geographic Scope & Significance

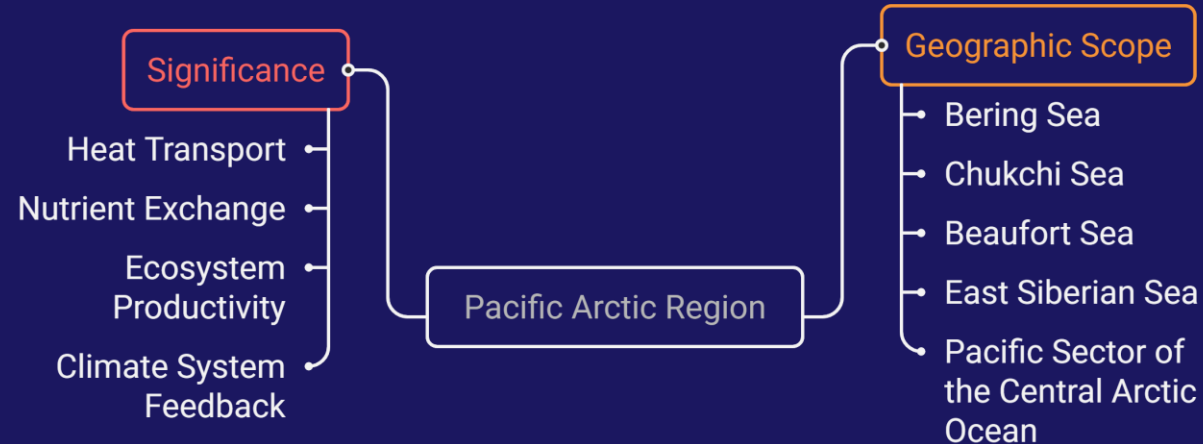
## Pacific Arctic Region

- Bering Sea
- Chukchi Sea
- East Siberian Sea
- Beaufort Sea
- Pacific sector of the Arctic Ocean

## Why this gateway matters

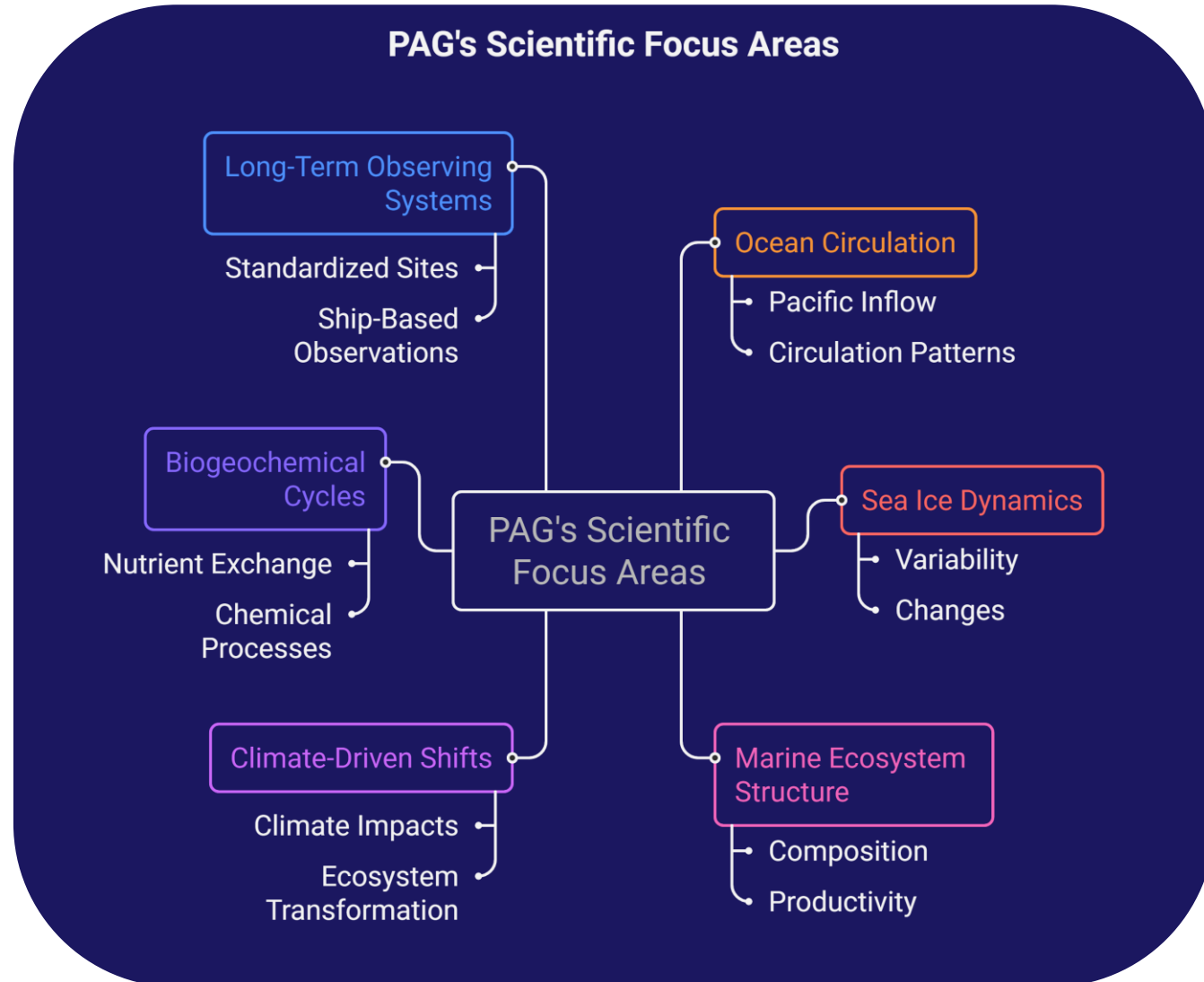
- Controls Pacific inflow to the Arctic
- Shapes heat & nutrient transport
- Influences ecosystem productivity
- Drives climate system feedbacks

### Pacific Arctic Region: Geographic Scope and Significance

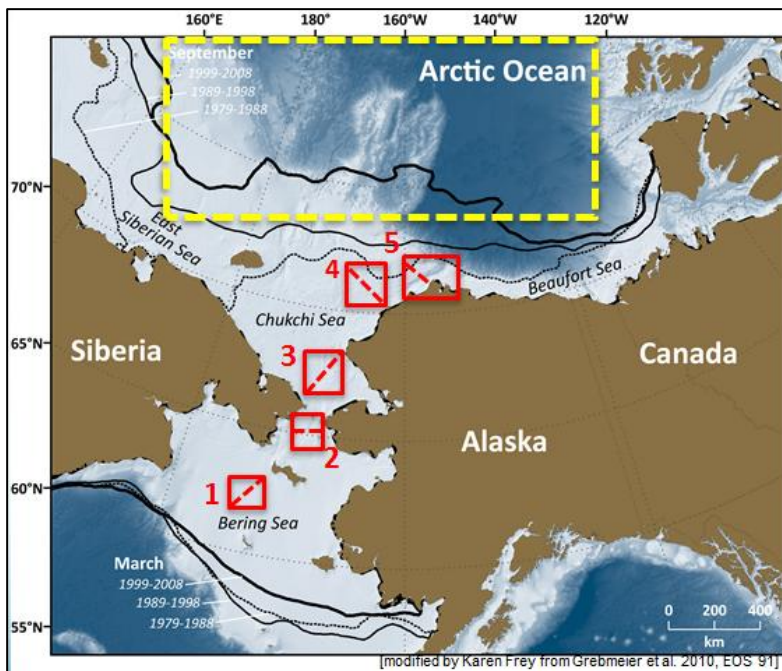
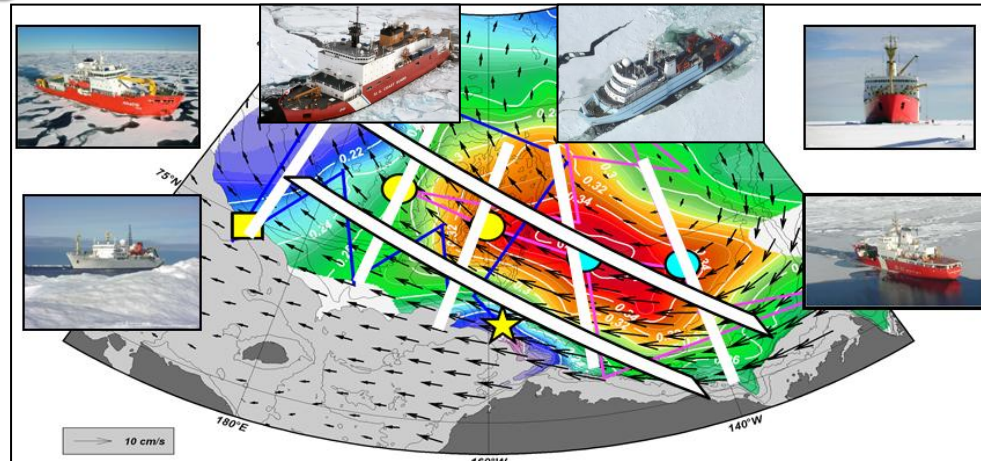


# Scientific Focus Areas

- ◆ Ocean circulation and Pacific inflow (Atlantification)
- ◆ Sea-ice dynamics and variability
- ◆ Marine ecosystem structure and productivity
- ◆ Climate-driven ecosystem shifts
- ◆ Biogeochemical cycles
- ◆ Long-term ecosystem observing systems (DBO, CAOFA, PACEO)



# Sharing Information on Annual Field Activities

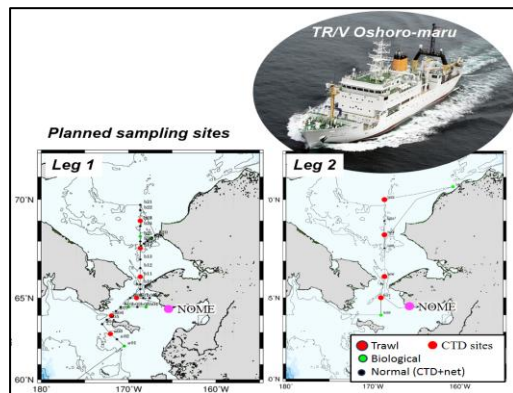


| Dates 20256(Port calls)                      | Ship                | DBO Region            | Projects  | PAG contact   | Chief Scientist   |
|--|---------------------|-----------------------|---|---|---|
| May 1 - May 22 (Kodiak - Dutch Harbor)       | NOAAS Dyson         | -                     | EcoFOCI spring mooring cruise                       | Phyllis Stabeno<br>phyllis.stabeno@noaa.gov   | Shaun Bell<br><a href="mailto:shaun.bell@noaa.gov">shaun.bell@noaa.gov</a>                      |
| June 19-Aug 3 (Hachinohe to Hakodate, Japan) | TR/V Oshoro maru    | 3                     | ArCSII  | Shigeto Nishino<br><a href="mailto:nishinos@jamstec.go.jp">nishinos@jamstec.go.jp</a> | Koheo Matsuno<br><a href="mailto:k.matsuno@fish.hokudai.ac.jp">k.matsuno@fish.hokudai.ac.jp</a> |
| July 18-28 (Nome-Utqiagvik)                  | Sir Wilfrid Laurier | 1,2,3,4,5             | DBO-C30   | Jackie Grebmeier<br><a href="mailto:jgrebmei@umces.edu">jgrebmei@umces.edu</a>        | Paul Macoun<br><a href="mailto:Paul.Macoun@dfo-mpo.gc.ca">Paul.Macoun@dfo-mpo.gc.ca</a>         |
| Aug to Mid-Sept                              | Araon               | 3, Chukchi Borderland | K-AWARE (KOPRI)                                     | Eun Jin Yang<br><a href="mailto:ejyang@kopri.re.kr">ejyang@kopri.re.kr</a>            | Eun Jin Yang<br><a href="mailto:ejyang@kopri.re.kr">ejyang@kopri.re.kr</a>                      |
| August 4 - Sept 1 (Kodiak-Kodiak)            | NOAAS Shimada       | -                     | EcoFOCI fall mooring cruise                         | Phyllis Stabeno<br>phyllis.stabeno@noaa.gov   | Ryan McCabe<br><a href="mailto:ryan.mccabe@noaa.gov">ryan.mccabe@noaa.gov</a>                   |
| Sept 8-18, Nome to Nome                      | Norseman II         | 3; moorings; CTDs     | Bering Strait Mooring Project (AON/NSF)             | Rebecca Woodgate<br><a href="mailto:woodgate@uw.edu">woodgate@uw.edu</a>              | Rebecca Woodgate<br><a href="mailto:woodgate@uw.edu">woodgate@uw.edu</a>                        |
| Sept 18-Oct 23 (Cambridge Bay-Cambridge Bay) | Louis S. St-Laurent | -                     | JOIS/BGOS (DFO/NSF)                                 | <a href="mailto:Bill.Williams@dfo-mpo.gc.ca">Bill.Williams@dfo-mpo.gc.ca</a>          | <a href="mailto:Sarah.Zimmermann@dfo-mpo.gc.ca">Sarah.Zimmermann@dfo-mpo.gc.ca</a>              |
| Sept 22-Oct 23 (Nome-Seward)                 | RV Sikuliaq         | 3,4,5,6               | Benthic Fe 2026                                     | Alysson Tessin<br><a href="mailto:atessin@kent.edu">atessin@kent.edu</a>              | Alysson Tessin<br><a href="mailto:atessin@kent.edu">atessin@kent.edu</a>                        |
| Sept 29-Nov 14 (Seward-Kodiak)               | Healy               | 3,5,6                 | 2026 AON  | <a href="mailto:Robert.Pickart@whoi.edu">Robert.Pickart@whoi.edu</a>                  | <a href="mailto:Robert.Pickart@whoi.edu">Robert.Pickart@whoi.edu</a>                            |
| Sept 30-Oct 14 (Kugluktuk-Nome)              | Sir Wilfrid Laurier | 8                     | BSMO (Beaufort Shelf Marine Observatory; SWL Leg 4) | <a href="mailto:Bill.Williams@dfo-mpo.gc.ca">Bill.Williams@dfo-mpo.gc.ca</a>          | <a href="mailto:Bill.Williams@dfo-mpo.gc.ca">Bill.Williams@dfo-mpo.gc.ca</a>                    |

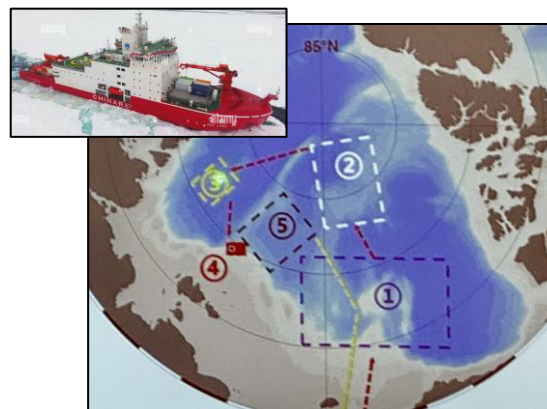


# 2026 PAG Research Cruises in Pacific Arctic Region

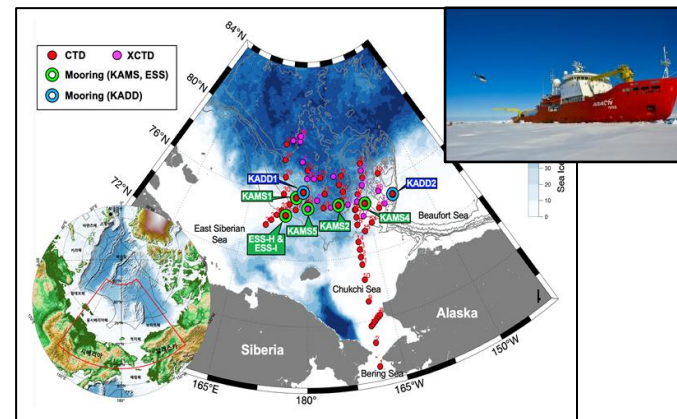
Japan: RV Osho-Maru



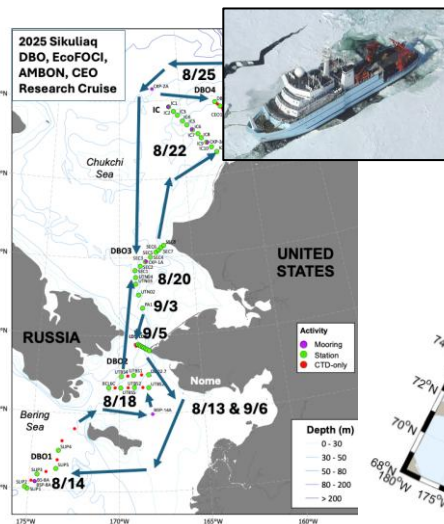
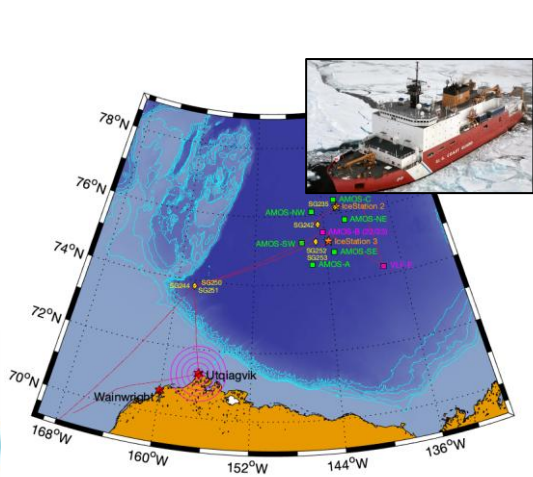
China: RV Xuelong II



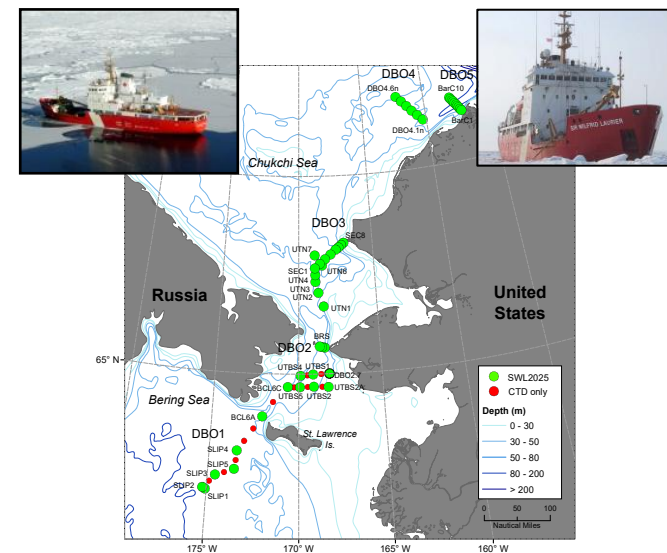
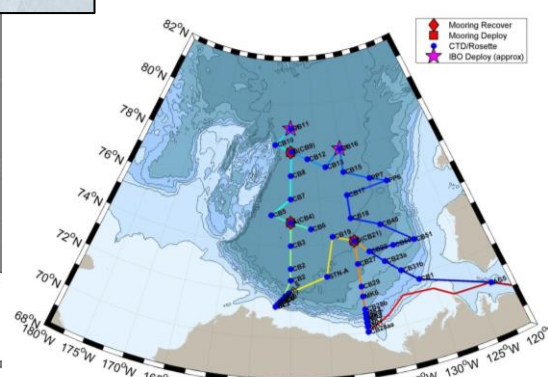
Korea: RV Araon



USA: RV Sikuliaq / Healy / Norseman II



Canada-USA: CCGS Sir Wilfrid Laurier / Louis S. St-Laurent



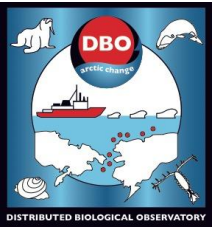
# 2026 PAG and DBO Cruise Plan Table

**2026 PAG and DBO Field Season (version 03\_16\_26): Sampling Contributors. Projects Key:** AON=Arctic Observing Network; ArCS II=Arctic Challenge for Sustainability (JAMSTEC=Japan Agency for Marine-Earth Science and Technology); AMOS=Arctic Mobile Observing System; C30=Canada's Three Oceans (DFO=Department of Fisheries and Oceans Canada); DBO=Distributed Biological Observatory; EcoFOCI=Ecosystem & Fisheries Oceanography Coordinated Investigations; JOIS=Joint Ocean Ice Study/BGOS = Beaufort Gyre Observatory System (DFO); K-AWARE (KOPRI)=Korea- Arctic ocean WARming & Ecosystem study (Korea Polar Research Institute).

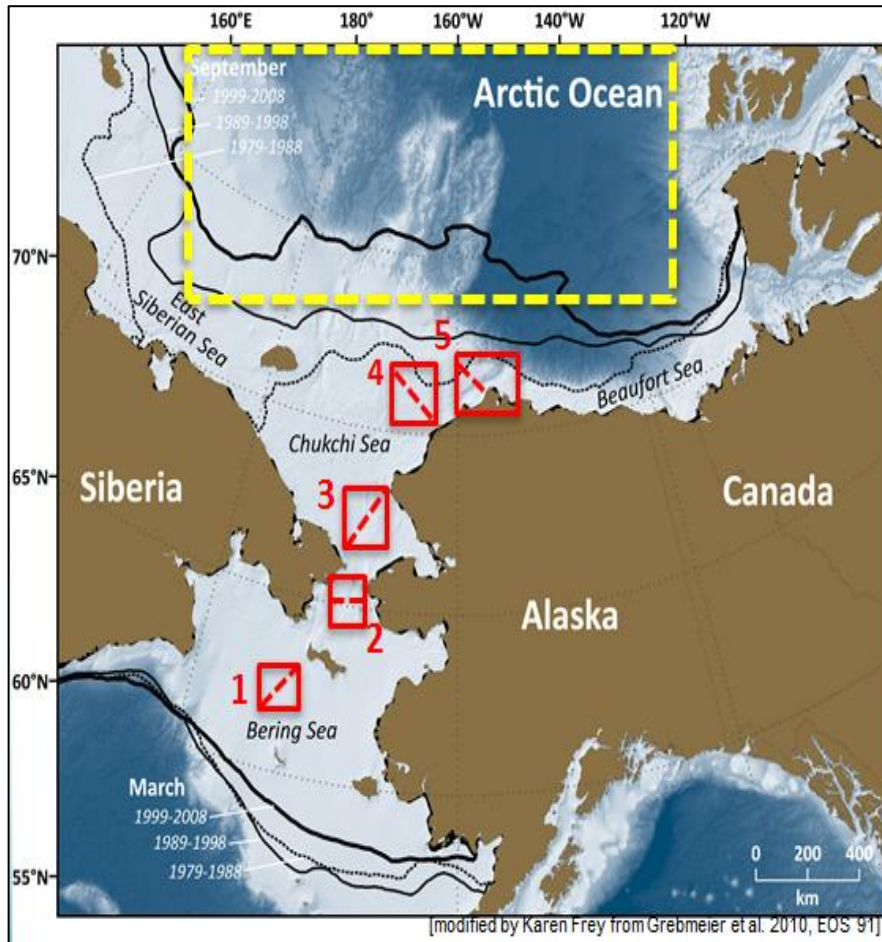
**DBO Region Key:** DBO1=So. St. Lawrence Island, DBO2=Chirikov Basin, DBO3=So Chukchi Sea, DBO4=NE Chukchi Sea, DBO5=Barrow Canyon, DBO6=East Beaufort Sea, DBO7=Beaufort Sea Central, DBO8=Bathurst polynya region.

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# The Distributed Biological Observatory (DBO): Linking Physics to Biology



- ◆ DBO is PAG's core multinational observing network and a change detection array for the Pacific Arctic.
- ◆ It uses standardized, repeated ecosystem observations at biological hotspots to track environmental change.
- ◆ Since 2010, DBO has produced important long-term biological and oceanographic datasets through U.S. and international collaboration.
- ◆ It is now expanding toward a Pan-Arctic DBO network.



# Establishing the Pan-Arctic DBO Network

## Pan-Arctic DBO Network

- ◆ A Pan-Arctic network for consistent marine observations
- ◆ Combines ship-based sampling, moorings, and remote sensing
- ◆ Focuses on Arctic Ocean ecosystem functioning
- ◆ Integrates biological, chemical, and physical parameters
- ◆ Improves data sharing and information flow
- ◆ Strengthens cooperation among institutes and nations
- ◆ Enhances observing capacity and knowledge building through collaboration



# Key Message & IPY Forward Outlook

- ◆ PAG is a proven model of international cooperation enabling coordinated Arctic observation and understanding.
- ◆ It supports policy-relevant science through DBO and multinational operations.
- ◆ Looking ahead, PAG is evolving into an operational backbone contributing to future IPY and Arctic observing systems.

