

# The Pacific Arctic Group (PAG)

<http://pag.arcticportal.org/>

**Jacqueline Grebmeier**

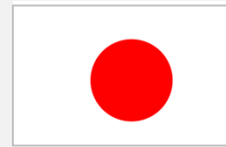
Chesapeake Biological Laboratory  
University of Maryland Center for Environmental Science, Solomons, Maryland, USA

**Forum of Arctic Research Operators**

**April 15, 2013**

**Arctic Science Summit Week**

**Krakow, Poland**

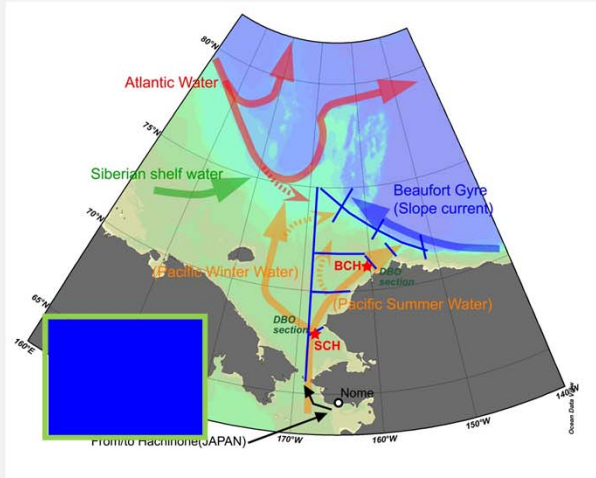


# Examples of current PAG activities

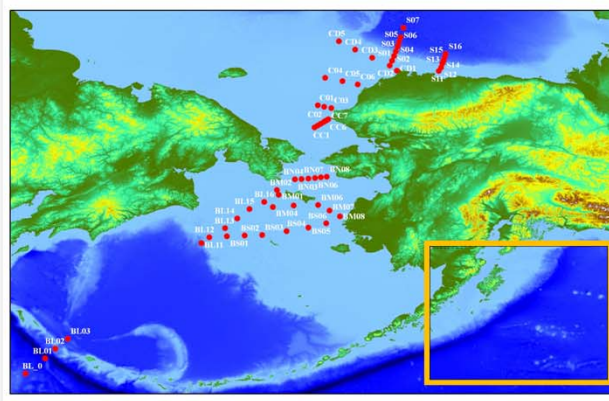
- Annual field activities in the Pacific Arctic region (updates 2012 and plans for 2013 at ASSW PAG meeting; available PAG)
- Undertake a Pacific Arctic regional, multidisciplinary synthesis of scientific findings in the marine region relevant to ongoing scientific objectives at the core of the PAG
- Development of a Distributed Biological Observatory (DBO) of environmental and biological sampling at stations on transect lines located along a latitudinal gradient extending from the northern Bering Sea to the Barrow Arch
- Project development and sampling in the Chukchi Borderland and Canada Basin region to investigate climate, oceanographic, air-sea ice interactions, physical oceanography, and modeling

# Some 2012 PAG research cruises in Pacific Arctic Region

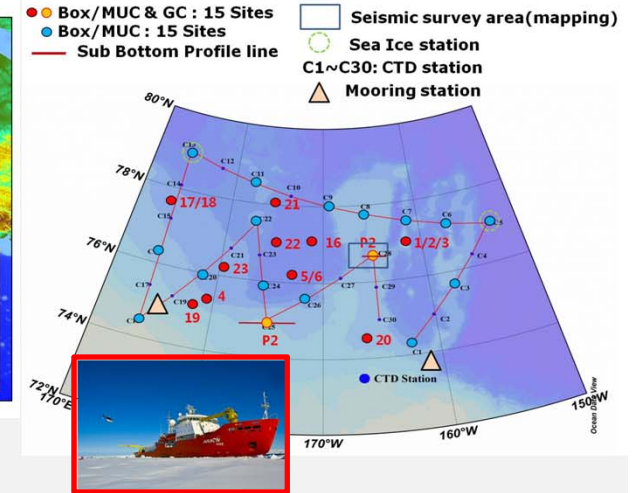
## Japan: RV Mirai



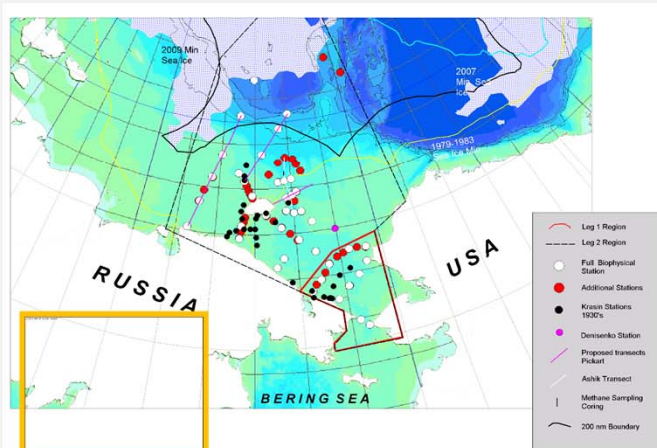
## China: RV Xuelong



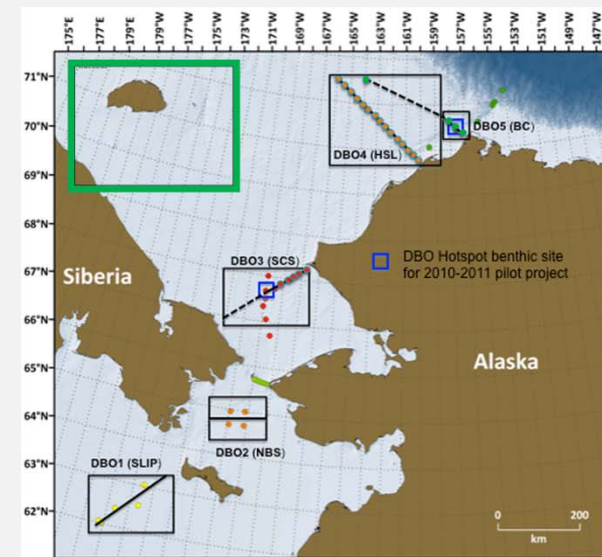
## Korea: IBRV Araon



## Russia-USA: RV Khromov



## Canada-USA: CCGS Sir Wilfrid Laurier (DBO 1-3, 5 and RV Westward Wind DBO4)







## The Pacific Arctic Group (PAG): A Pacific perspective on Arctic science

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### Overview

The Pacific Arctic Group (PAG) is a group of institutes and individuals having a Pacific perspective on Arctic science. Organized originally under the International Arctic Science Committee (IASC), the PAG has as its mission to serve as a Pacific Arctic regional partnership to plan, coordinate, and collaborate on science activities of mutual interest. The four PAG principle science themes are climate, contaminants, human dimensions and structure and function of Arctic ecosystems.

The PAG membership is led by an Executive Committee consisting of a Chair, two Vice-Chairs, and the Project Coordinator. The general membership of the PAG may form project groups to address specific issues linked to the PAG objectives. The Project Coordinator is responsible for coordinating the efforts of the project groups and represents the project groups on the Executive Committee. The general membership consists of at least one member of each country or institution with interest in the PAG zone of interest.

The Executive Committee, Project Coordinator and project groups are supported by a small Secretariat which is located on a rotating basis between member countries. The Secretariat provides administrative support for the functioning of the PAG, provides technical science support, organizes PAG meetings, records decisions of the PAG. It also undertakes a professional communications function for the PAG, providing a central point for communications to and from the PAG, and undertakes other matters as required.

### Field Activities

The PAG membership undertakes both national and international science projects in the Pacific Arctic (Figure 1). Research on many national ships, including the Canadian CGS Sir Wilfrid Laurier, Chinese RV Xuelong, Japanese RV Mirai, Korean IBRV Araon, Russian RV Khromov, and USCGC Healy, along with other national and industry vessels sampling in the Pacific sector. Table 1 provides a summary of the PAG network of ship activities in 2012.

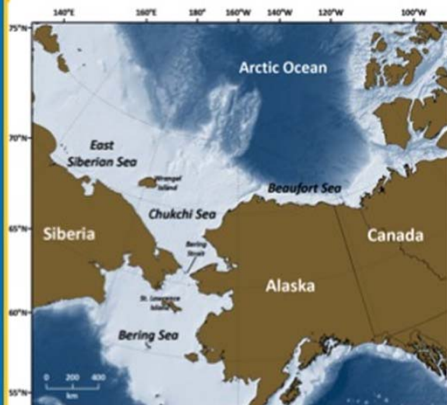


Fig. 1. PAG defines the "Pacific sector" of the Arctic as the marine area from the Northern Bering Sea into the Chukchi Sea and adjacent Seas, and extending into the deep basins of the Arctic Ocean, with model boundaries from Aleutian Island and deep Bering Sea northward to Arctic Basin.

Table 1. Summary of 2012 PAG Activities

Vessel	Country	PI
Laurier (July)	Canada	Yagje Woodgate
Khromov-Leg 1 (July)	Russia and USA	
Araon	Korea	Kang
Healy (Aug)	USA	Grebmeier
Xuelong (Aug-Sept)	China	He
Khromov-Leg 2 (Aug-Sept)	Russia and USA	Crane Whiteledge
Falconsheer (July-Aug)	USA	NOAA Nepp
RV Mystery Bay (DBOS), RV Falconsheer (DBO 3 and 5)	USA	
Westward Wind	USA	Dow
Anzika Marie (Sept)	USA	Ashjas
Mica (Sept-Oct)	Japan	Kikuchi
Healy (Oct)	USA	Parkat

Examples of current PAG activities include: 1) undertaking a Pacific Arctic region multidisciplinary synthesis of scientific findings in the marine region relevant to ongoing scientific objectives at the core of the PAG, 2) development of a Distributed Biological Observatory (DBO) consisting of environmental and biological sampling at stations on transect lines located along a latitudinal gradient extending from the northern Bering Sea to the Barrow Arch, and 3) sampling in the Chukchi Borderland and western Canada Basin region to investigate climate, oceanographic and sea ice interactions in a developing time series format. All aspects of PAG are undertaken via international and national collaborations and project coordination.

### Synthesis Activities

PAG has also undertaken synthesis activities in order to present results from research, observation and modeling activities within the PAG area, to share information on current modeling activities, to identify status trends, and major new findings and understanding of state and processes in the PAG region.

- Some examples of PAG synthesis activities include:
- **Jan. 2008:** PAR Modeling Workshop #1, Sanya, China; special issue of Chinese Journal of Polar Science, Vol. 9, 2008; 13 papers
  - **May 2009:** PAR Biology Workshop #2, Seattle, WA, USA; Feature article in EOS (May 2010); chapters for book in progress
  - **June 2009:** PAR Marine Carbon Cycling Workshop #3, Xiamen, China; Special issue Deep Sea-Research, Lead editor: Wei-Jun Cai
  - **Feb. 2010:** AGU/ALSO/TOS Ocean Sciences Meeting, Portland, Oregon, USA
  - **June 2010:** OSLO IPY Conference, Oslo, Norway; Special PAG Session
  - **March and November 2011:** PAG Distributed Biological Observatory workshops in Seoul, Korea and Sydney, BC, Canada
  - **February 2012:** Open PAG DBO workshop, ASLO, USA
  - **December 2012:** Completion of Springer PAG synthesis book titled "The Pacific Arctic Region: Ecosystem Status and Trends in a Rapidly Changing Environment"

### Future Activities

PAG members are working together to further develop the DBO, initiate a an ocean and ice observing system in the Arctic Basin, and investigate shelf/slope physical oceanographic processes in the Pacific sector. Further synthesis activities, as needed, will be undertaken as well as development of a data sharing policy for joint studies in the Pacific Arctic region.

### Affiliations and Acknowledgements

We thank the national membership of the PAG and their associated institutions for continued collaborative efforts. Support for the PAG Secretariat is currently via the US NOAA Arctic Program Office. PAG is an affiliated effort in association with the IASC Marine Working Group.

# Recent PAG presentations

- Oral presentation for PICES Monitoring Group and Poster presentation at fall PICES meeting in Yokohama, Japan (Jackie Grebmeier and Takashi Kikuchi)
- PAG oral presentation by Takashi Kikuchi at ISAR3 in Tokyo, Japan



All the ppts and documents associated with the April PAG meeting will be posted on the PAG website:

<http://pag.arcticportal.org/>, under "documents".

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## What is PAG?

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Pacific Arctic Group (PAG) of the International Arctic Science Committee



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