

# Integrating Arctic Research *a Roadmap for the Future*

3<sup>rd</sup> International Conference on Arctic Research Planning  
(ICARP III)

# ICARP III will

**provide a framework to help:**

- ◎ **identify** Arctic science **priorities** for the next decade;
- ◎ **coordinate** various Arctic research agendas;
- ◎ **inform** policy makers, people who live in or near the Arctic and the global community;
- ◎ **build constructive relationships** between producers and users of knowledge.

# ICARP III will not

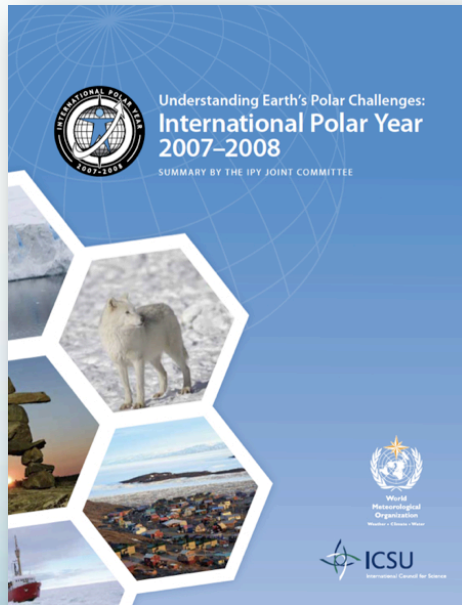
- ⊙ undertake the development of **new science plans**.

## **Rather:**

- ⊙ ICARP III will **build** on the many comprehensive **science plans** that exist already;
- ⊙ and **compliment** existing activities with processes to identify and fill gaps that may need attention.

# Considering

- ⊙ the outcome of **ICARP II** and



- ⊙ the **International Polar Year**



# ICARP III will

**be a process for:**

- ⊙ **integrating priorities** for forward-looking, collaborative, interdisciplinary Arctic research and observing;
- ⊙ **establishing an inventory** of recent and current synthesis documents and major developments in Arctic research.

# Engaging

**all partners, including funders, in shaping the future of Arctic research needs, ICARP III will:**

- ⊙ produce a **consensus statement** identifying the most important Arctic research needs for the next decade;
- ⊙ provide a **roadmap** for research priorities and partnerships;
- ⊙ identify potential contributions of Arctic research partners to the **International Polar Initiative**.

# The program

**will include a series of meetings and events during 2014/15:**

- ⊙ starting with a **formal launch** at the **Arctic Science Summit Week (ASSW) 2014** in Helsinki, Finland and;
- ⊙ culminating in a **final conference** during **ASSW 2015** in Toyama, Japan;
- ⊙ in conjunction with **IASC's 25 Anniversary**.

# The process

is governed by a **Steering Committee** established by the participating organizations



Participants of the first meeting of the ICARP III Steering Group in Potsdam, 9-10 September 2013.

# Overview of PAG

- The Pacific Arctic Group (PAG) is a consortium of institutes and individuals having a Pacific perspective on Arctic science
- PAG serves as a Pacific Arctic regional partnership to plan, coordinate, and collaborate on science activities
- 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, one Executive Member and the Project Coordinator

## Brief review of PAG history:

ASSW in 2002 (Gröningen):

Start of a discussion on Arctic research from Pacific perspective.

ASSW in 2003 (Kiruna):

Meeting among the Pacific-bordering members

→ Following the discussions, a proposal was presented for creation of the Pacific Arctic Group (PAG) to IASC council, and then the Council agreed to welcome PAG under its umbrella.

ASSW in 2004 (Reykjavik): Initial PAG meeting



## Brief review of PAG history:

During the formative years the Group developed a number of science themes that it wished to pursue and adopted a mode of action based on two primary types of activities:

- 1) Enhancement of individual national field programs by inclusion of an international component;
- 2) Creation of collaborative activities focused on synthesis of data and publication on topics of mutual interest.



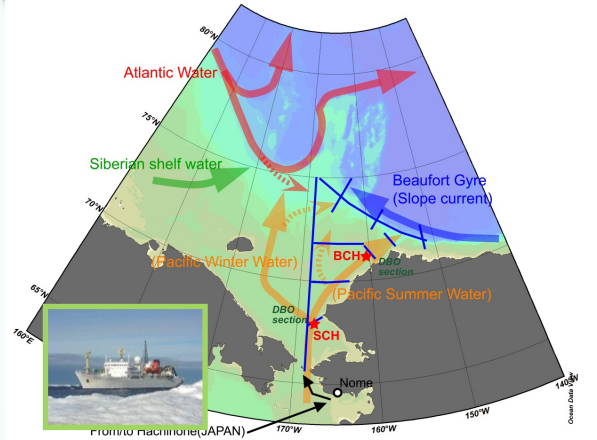
# Examples of current PAG activities

- Annual field activities in the Pacific Arctic region
- Continued development and implementation of the 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, and new regions
- 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
- Project development and sampling in the Chukchi Borderland and Canada Basin region to investigate climate, oceanographic, air-sea ice interactions, physical oceanography, and modeling

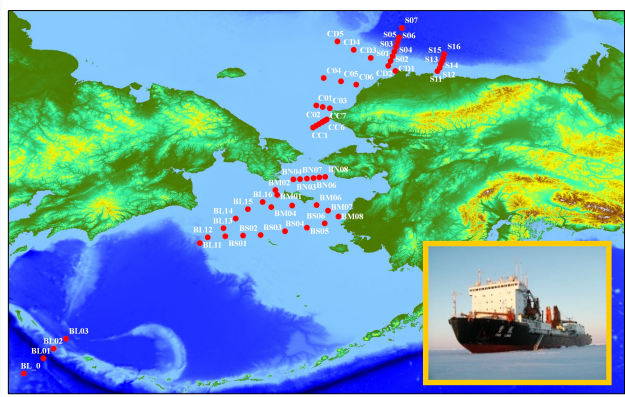


# Some 2012 PAG research cruises in Pacific Arctic Region

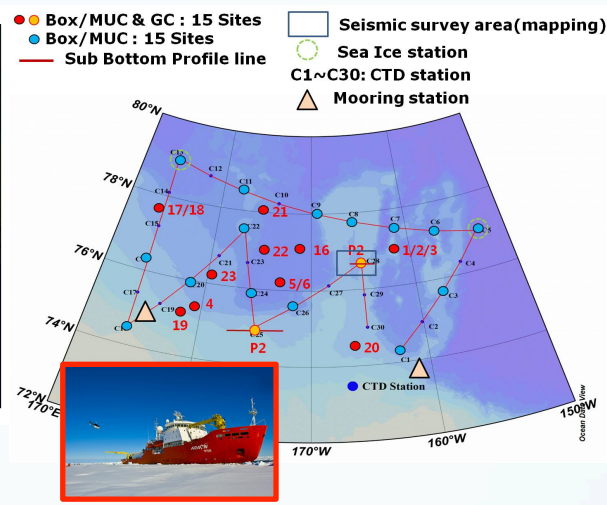
## Japan: RV Mirai



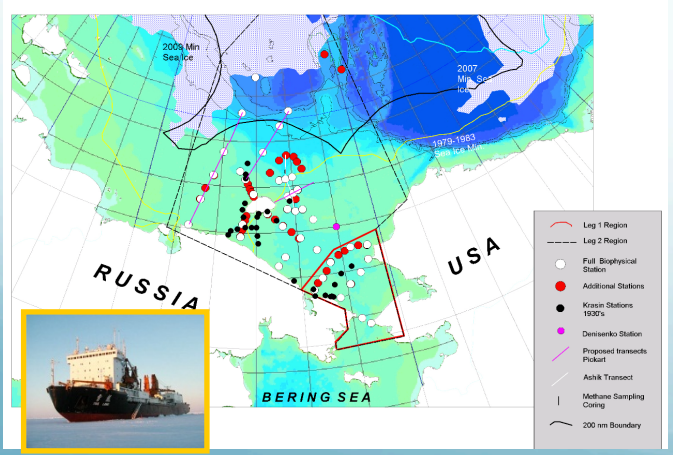
## China: RV Xuelong



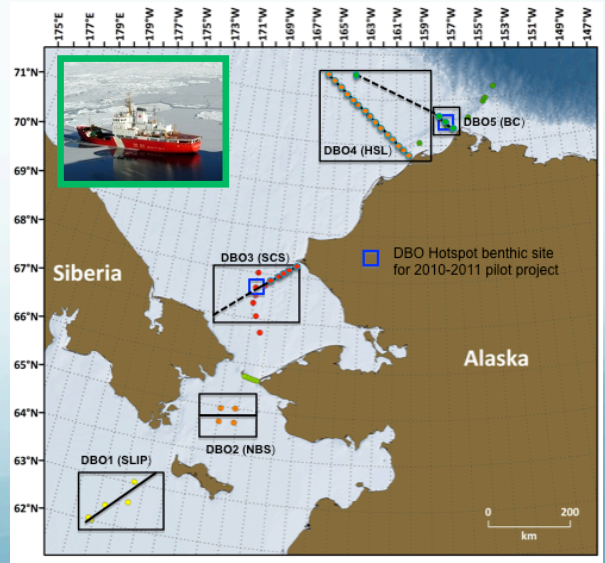
## Korea: IBRV Araon



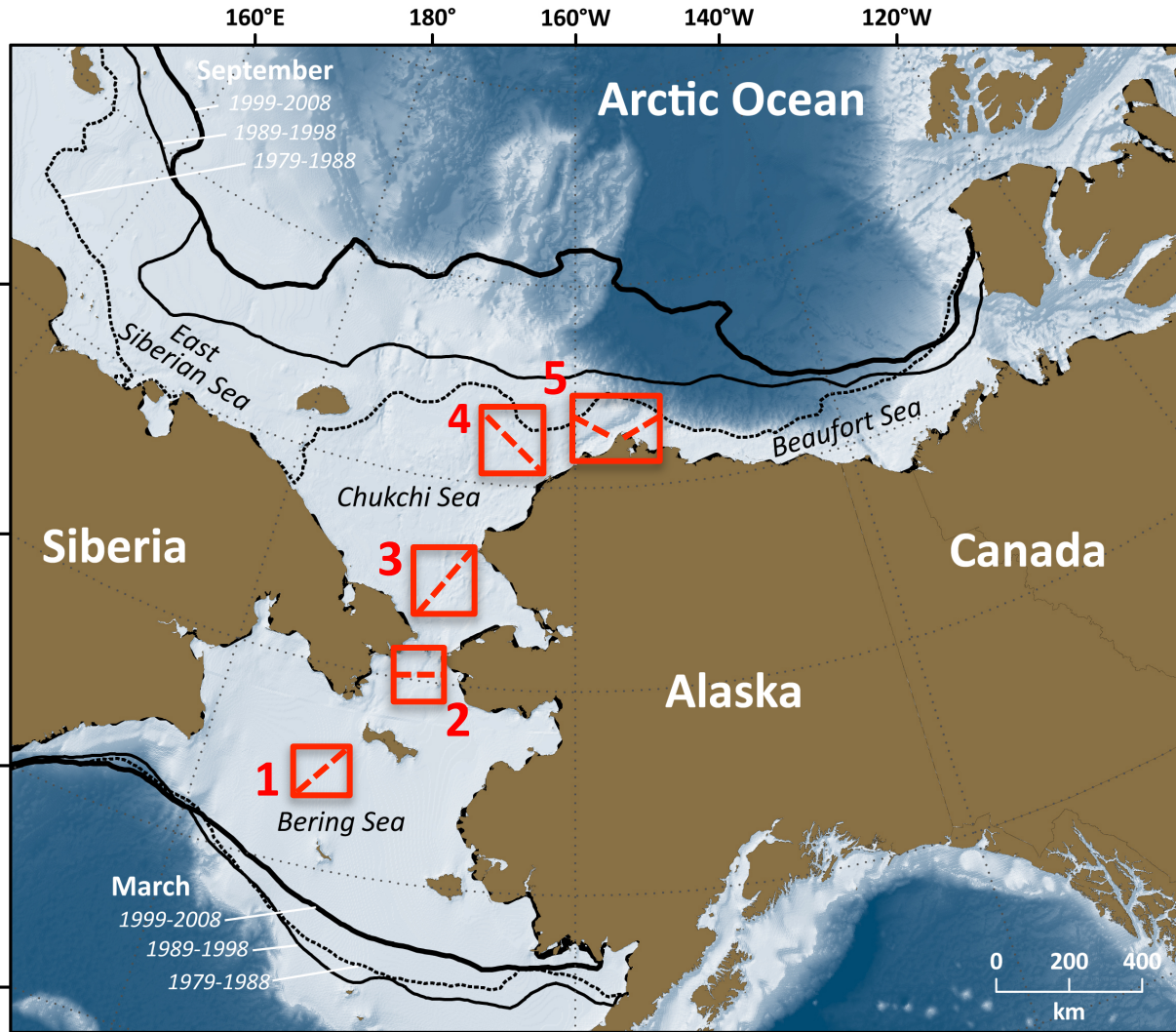
## Russia-USA: RV Khromov



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

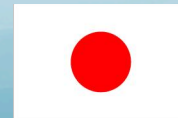


# Linking Physics to Biology: the Distributed Biological Observatory (DBO)



[modified by Karen Frey from Grebmeier et al. 2010, EOS 91]

- DBO sites (red boxes) are regional “hotspot” transect lines and stations located along a latitudinal gradient
- DBO sites are considered to exhibit high productivity, biodiversity, and overall rates of change
- DBO sites will serve as a change detection array for the identification and consistent monitoring of biophysical responses
- Sites occupied by national and international entities with shared data plan



## PAG activities and topics that are high priority to highlight in the ICARPIII planning process include:

- Data sharing and publications from international results of the DBO activities of the 2010-2012 pilot studies at the DBO3 and 5 sites and continued development for full implementation of the 5 DBO sites and identification of new sites in the East Siberian Sea, Beaufort Sea and Canada Basin
- Highlight studies in the western Chukchi/Canada Basin of physical oceanographic research programs, including continued development of a Chukchi Borderland/Arctic Basin Environmental Observing system
- Development of a coordinated sea ice/atmospheric sampling effort within the PAG
- Physical and ecosystem modeling of oceanographic and atmospheric data collected in the Pacific sector
- Highlights of the PAG synthesis activities (e.g., the Pacific Arctic region Springer synthesis volume, Deep-Sea Research II special issues from CHINARE, ARAON cruises, other publications and products)



# *Opinions of SC on Pacific Arctic Group*




- PAG identified its ICARP III contribution as data sharing and publications from results of the Distributed Biological Observatory (DBO) 2010-2012 pilot studies and continued development and implementation of the project.
- This will provide a valuable dataset for ongoing research and development of cooperative synthesis in the Pacific marine sector.
- EPB activity can complement these studies with its research in the Atlantic side of the Arctic. The studies could be also integrated with AWG-led MOSAiC.

# ICARP III partners



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## Integrating Arctic Research: a Roadmap for the Future

### 3rd International Conference on Arctic Research Planning ICARP III

The Third International Conference on Arctic Research Planning (ICARP III) will provide a framework

- to identify Arctic science priorities for the next decade;
- to coordinate various Arctic research agendas;
- to inform policy makers, people who live in or near the Arctic and the global community and
- to build constructive relationships between producers and users of knowledge.

ICARP III will not undertake the development of new science plans but rather build on the many comprehensive science plans that exist already and compliment those with processes to identify gaps that may need attention.

Considering the outcomes of [ICARP II](#), the [International Polar Year](#), recent assessments and upcoming and new initiatives, it will be a process

- for integrating priorities for forward-looking, collaborative, interdisciplinary Arctic research and observing and
- for establishing an inventory of recent and current synthesis documents and major developments in Arctic research.

Engaging all partners, including funders, in shaping the future of Arctic research needs, ICARP III will

- produce a consensus statement identifying the most important Arctic research needs for the next decade;
- provide a roadmap for research priorities and partnerships and
- identify the potential and specific contributions of Arctic research partners to the [International Polar Initiative](#)

ICARP III is governed by a [Steering Committee](#) established by the [participating organizations](#). It will be structured along [scientific themes](#) and include a series of [events](#), culminating in a final conference at the Arctic Science Summit Week 2015.

