

# Pacific Arctic Group 2014 Updates

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FARO Meeting

April 5, 2014

Arctic Science Summit Week

Helsinki, Finland



<http://pag.arcticportal.org>

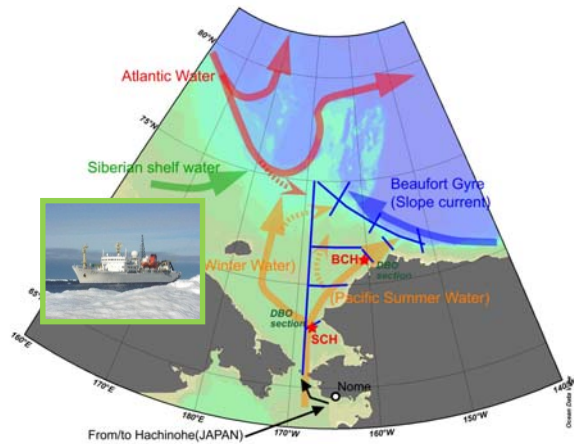
*The Pacific Arctic Group (PAG) is a consortium of institutes & individuals with a Pacific perspective on Arctic science that serves as a Pacific Arctic regional partnership to plan, coordinate, and collaborate on science activities*

**Current activities include:**

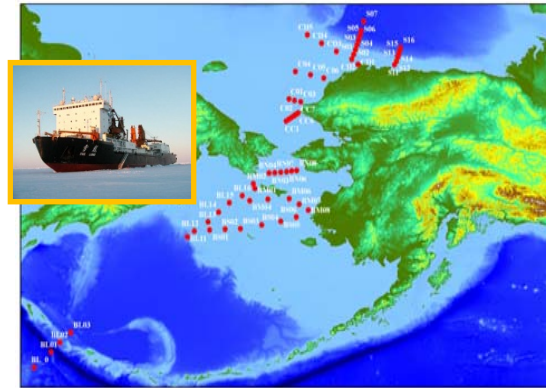
- Annual oceanographic, atmospheric and sea ice field activities in the Pacific Arctic region and data sharing activities
- Continued development and implementation of the Distributed Biological Observatory (DBO) of environmental and biological sampling at stations on transect lines located along a latitudinal gradient extending from the northern Bering Sea to the Barrow Arch, including adding new regions
- Undertake Pacific Arctic regional, multidisciplinary syntheses of scientific findings in the marine region relevant to ongoing scientific objectives at the core of the PAG (e.g., Pacific Arctic Synthesis book, special issues of Deep-Sea Research II)
- Project development and sampling in the Chukchi Borderland and Canada Basin region to investigate climate, oceanographic variables, air-sea ice interactions, physical oceanography, and modeling

# 2010-13 PAG research cruises in Pacific Arctic Region

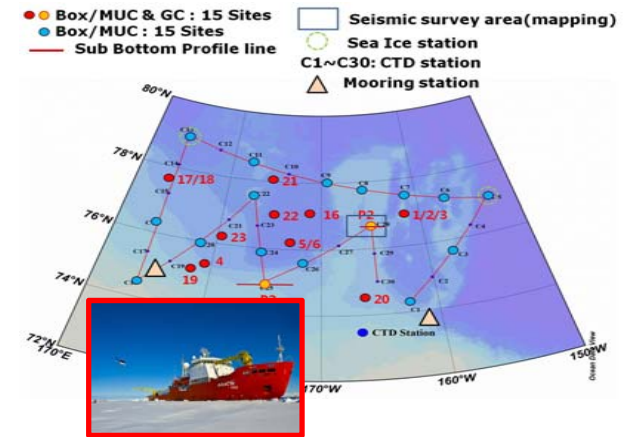
## Japan: RV Mirai



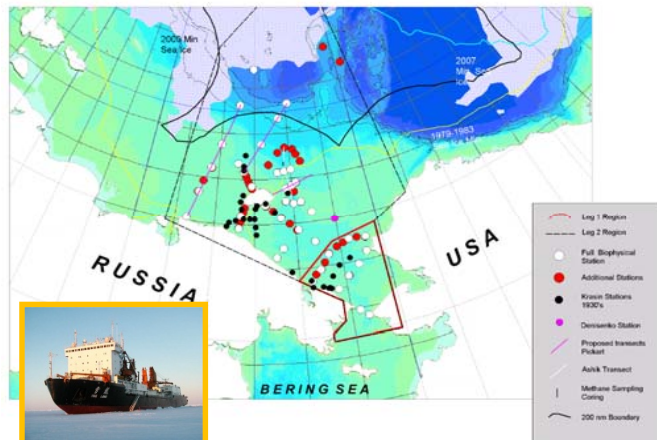
## China: RV Xuelong



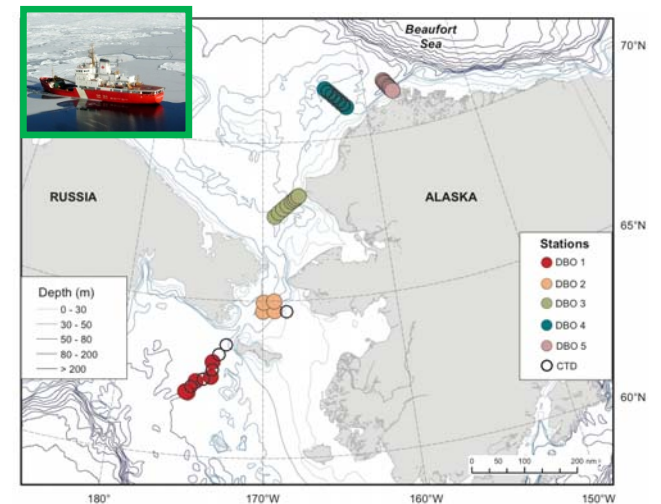
## Korea: IBRV Araon



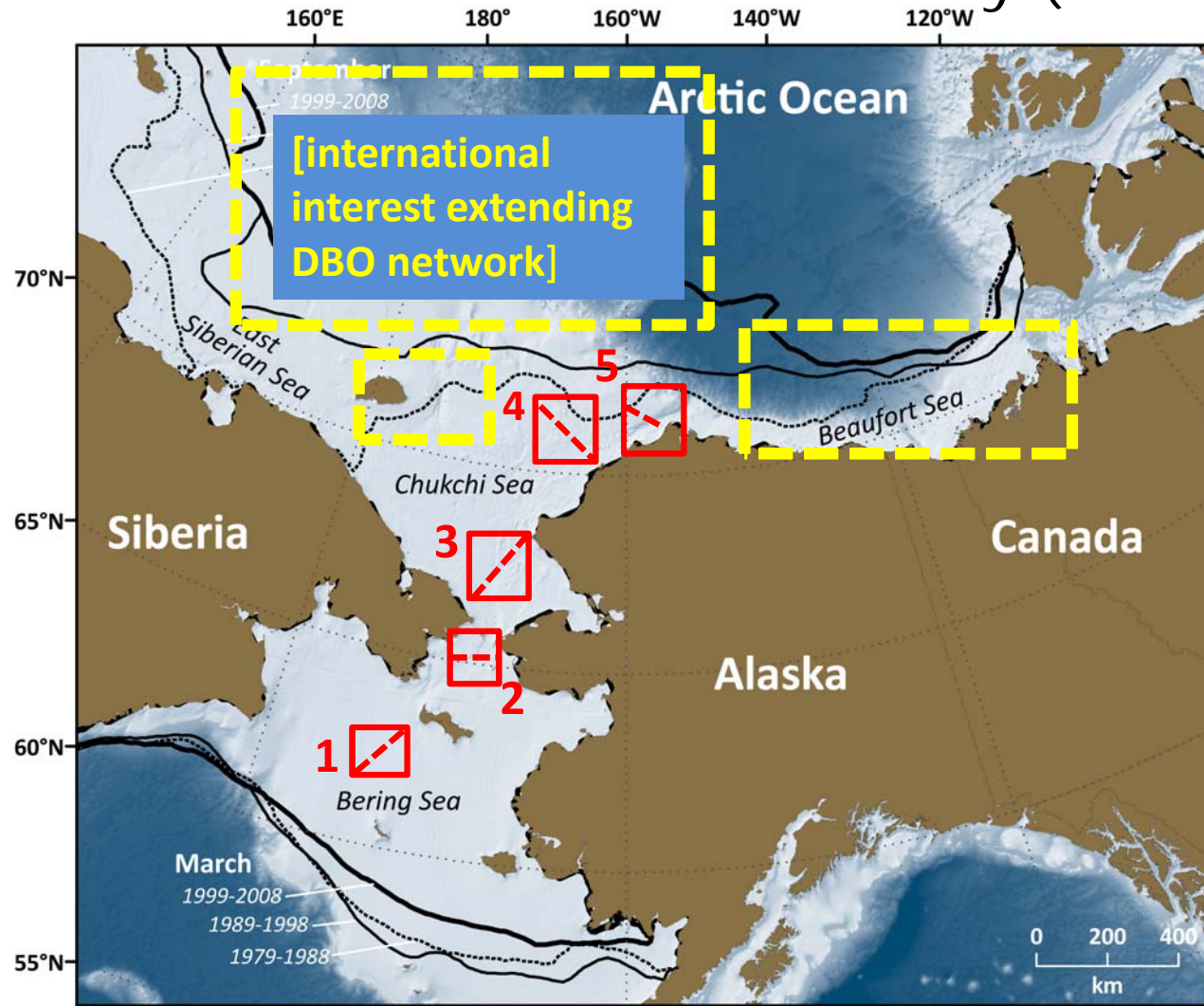
## Russia-USA: RV Khromov



## Canada-USA: CCGS Sir Wilfrid Laurier (DBO 1-5 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





**2014 PAG and DBO Field Season: Sampling Contributors-DRAFT (updates pending PAG meeting April 2014)**

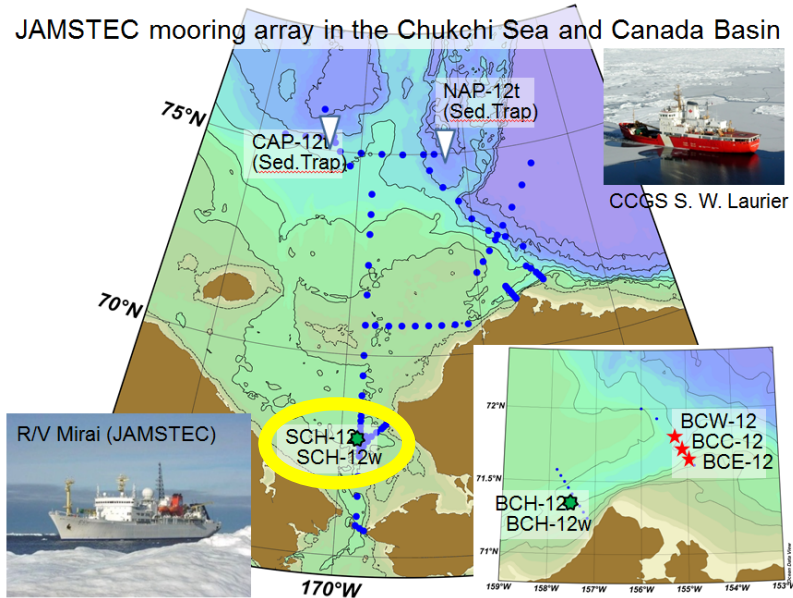
**Region Key: DBO1=So. St. Lawrence Is., DBO2=Chirikov Basin, DBO3=So Chukchi Sea, DBO4=NE Chukchi Sea, DBO5=Barrow Canyon.**

| Dates (Port calls)                 | Ship                       | DBO Region                    | Projects   | PAG contact   | Chief Scientist  |
|------------------------------------|----------------------------|-------------------------------|--|---|--|
| May 13-June 19<br>(Dutch-Dutch)    | Healy                      | ?3 or 5                       | Under-ice and open water blooms in the Chukchi Sea | Robert Pickart<br><a href="mailto:rpickart@whoi.edu">rpickart@whoi.edu</a>  | Kevin Arrigo<br><a href="mailto:arrigo@stanford.edu">arrigo@stanford.edu</a>   |
| July 3 (Nome-Nome)                 | TBD?                       | 3                             | Bering Strait Mooring Project/AON?                 | Rebecca Woodgate<br><a href="mailto:woodgate@apl.washington.edu">woodgate@apl.washington.edu</a>  | Rebecca Woodgate<br><a href="mailto:woodgate@apl.washington.edu">woodgate@apl.washington.edu</a>   |
| July (Anadyr-Anadyr)               | Khromov                    | 3                             | RUSALCA Bering Strait mooring                      | <a href="mailto:Kathy.Crane@noaa.gov">Kathy.Crane@noaa.gov</a><br><a href="mailto:Phyllis.Stabeno@noaa.gov">Phyllis.Stabeno@noaa.gov</a>                                  | <a href="mailto:Kathy.Crane@noaa.gov">Kathy.Crane@noaa.gov</a>   |
| July 4-25<br>(Victoria, BC-Barrow) | Sir Wilfrid Laurier        | 1,2,3,4,5; + moorings at 1, 3 | C30/DBO, plus JAMSTEC DBO moorings                 | Jackie Grebmeier<br><a href="mailto:jgrebmei@umces.edu">jgrebmei@umces.edu</a> ;<br>Takashi Kikuchi<br><a href="mailto:takashik@jamstec.go.jp">takashik@jamstec.go.jp</a> | Svein Vagle<br><a href="mailto:Svein.Vagle@dfo-mpo.gc.ca">Svein.Vagle@dfo-mpo.gc.ca</a>  |
| July 4-29-August 15 (Dutch-Barrow) | Healy                      | 5 (TBD)                       | AON  | Robert Pickart<br><a href="mailto:rpickart@whoi.edu">rpickart@whoi.edu</a>  | Robert Pickart<br><a href="mailto:rpickart@whoi.edu">rpickart@whoi.edu</a>   |
| August-Sept (Nome-Nome)            | Araon                      | 3                             | Korean Expedition (KOPRI)                          | Sung-Ho Khang<br><a href="mailto:shkang@kopri.re.kr">shkang@kopri.re.kr</a>   | TBD  |
| August-Sept (Barrow-Barrow)        | Annika Marie               | 5                             | AON  | Carin Ashjian<br><a href="mailto:cashjian@whoi.edu">cashjian@whoi.edu</a>   | Carin Ashjian<br><a href="mailto:cashjian@whoi.edu">cashjian@whoi.edu</a>  |
| August -Sept                       | Aquila?                    | 1,3, 5                        | ARCWEST  | <a href="mailto:Jeff.Napp@noaa.gov">Jeff.Napp@noaa.gov</a><br><a href="mailto:Sue.Moore@noaa.gov">Sue.Moore@noaa.gov</a>  | <a href="mailto:Catherine.Berchok@noaa.gov">Catherine.Berchok@noaa.gov</a><br><a href="mailto:Phyllis.Stabeno@noaa.gov">Phyllis.Stabeno@noaa.gov</a> |
| August-October                     | Westward Wind              | 4                             | CSESP  | Tom Weingartner<br><a href="mailto:weingart@ims.uaf.edu">weingart@ims.uaf.edu</a>   | Bob Day <a href="mailto:bday@abrinc.com">bday@abrinc.com</a><br>John Burns <a href="mailto:jburnssr@gci.net">jburnssr@gci.net</a>                    |
| August-September                   | Bristol or Alaska Explorer | 1 and/or2                     | Arctic Eis   | Ed Farley/NOAA  | Franz Mueter/UF  |
| September-October                  | Mirai                      | 3,5                           | JAMSTEC  | Takashi Kikuchi<br><a href="mailto:takashik@jamstec.go.jp">takashik@jamstec.go.jp</a>   | Shigeto Nishino<br><a href="mailto:nishinos@jamstec.go.jp">nishinos@jamstec.go.jp</a>  |

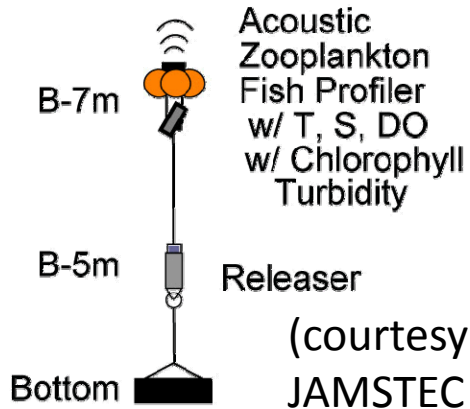
# SCH mooring

Time series of T, S, Chl-a,  
Turbidity, and Oxygen Saturation  
(Oct. 2, 2012 to Jul.20, 2013)

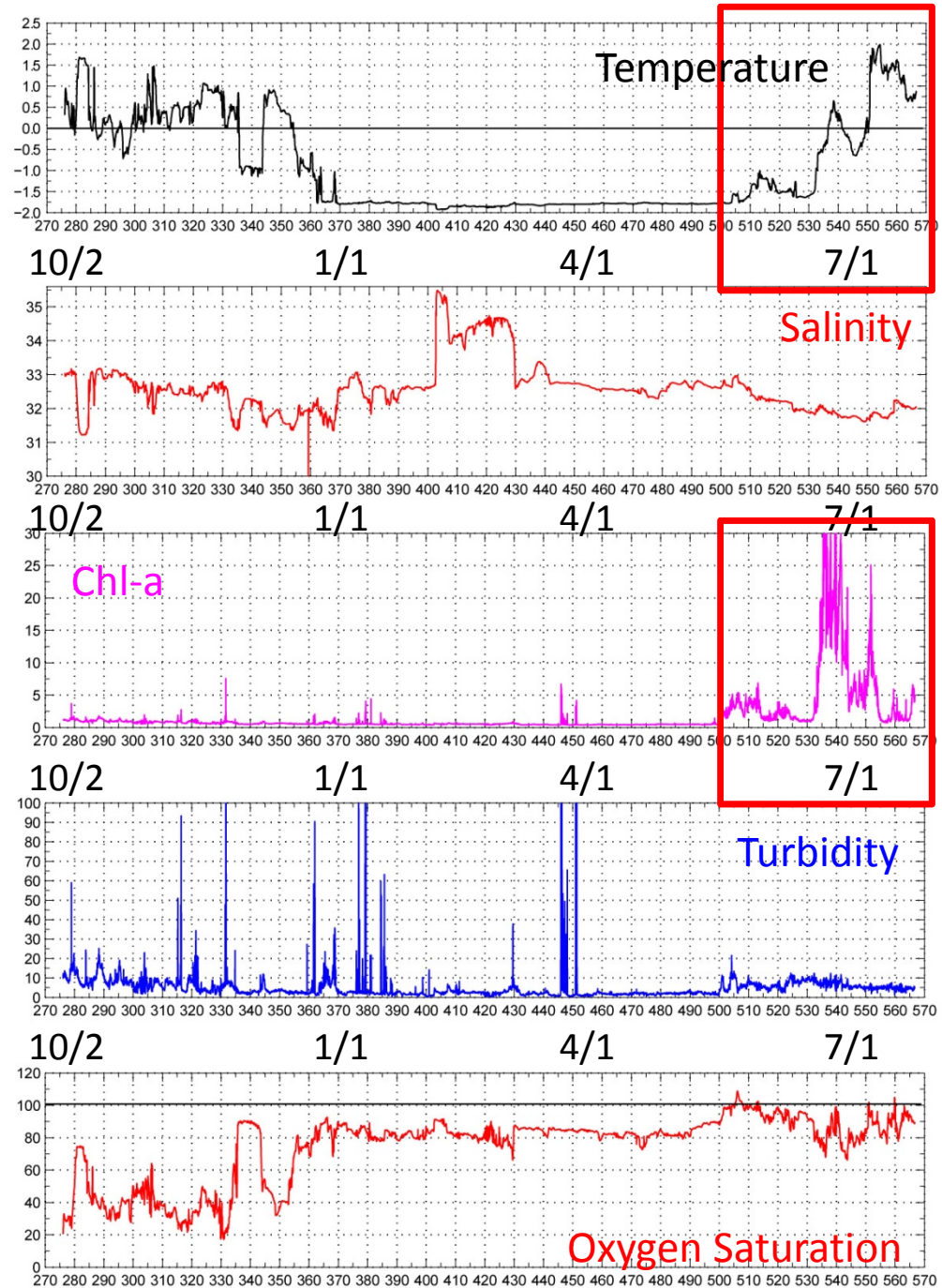
JAMSTEC mooring array in the Chukchi Sea and Canada Basin



## SCH-12



(courtesy T. Kikuchi,  
JAMSTEC 2013)



-collaboration  
potential with  
MOSAIC



2 U.S.-Russian Distributed  
Biological Observatory Lines



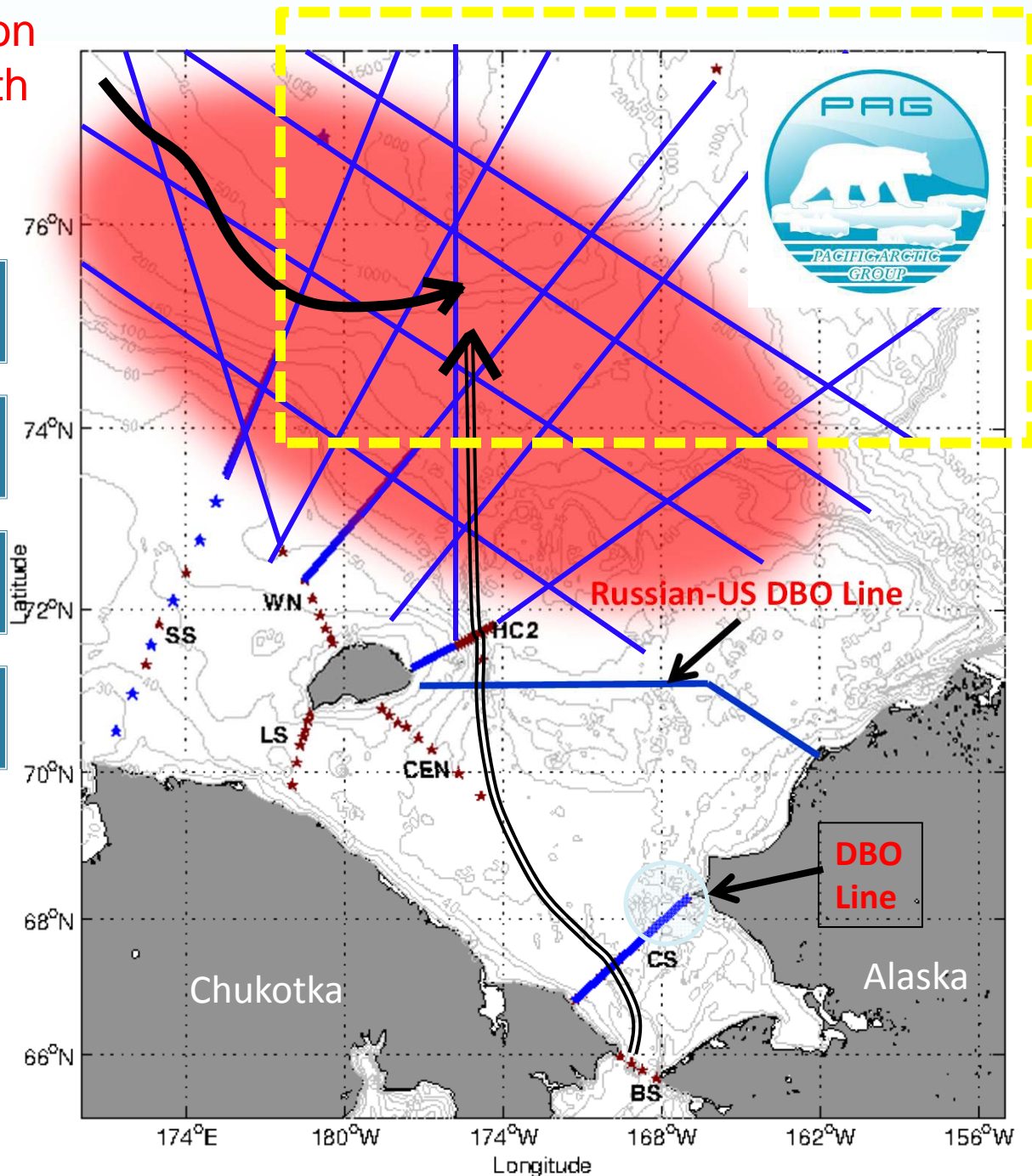
10 Hydrographic transects,  
Pacific, Atlantic Water's  
lateral and vertical heat flux,  
air, ice sea fluxes



Census of Marine Life and  
Census of Benthic Methane  
Fluxes



RUSALCA + Pacific Arctic  
Group + EU (3 – 5 vessels  
and aircraft)







<http://pag.arcticportal.org>

All the ppts and documents associated with the PAG meetings available at the PAG website:

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

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for your  
attention.

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## What is PAG?

The Pacific Arctic Group (PAG) is a group of institutes and individuals having a Pacific perspective on Arctic science. Organized 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.

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Arctic Science Summit Week 2013

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