

# **Pacific Arctic Group (PAG) Meeting**

## **US Ship operations 2012 and planned 2013**

**Jackie Grebmeier**

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Environmental Science, Solomons, Maryland, USA

14 April 2013

PAG Meeting

Arctic Science Summit Week

Krakow, Poland

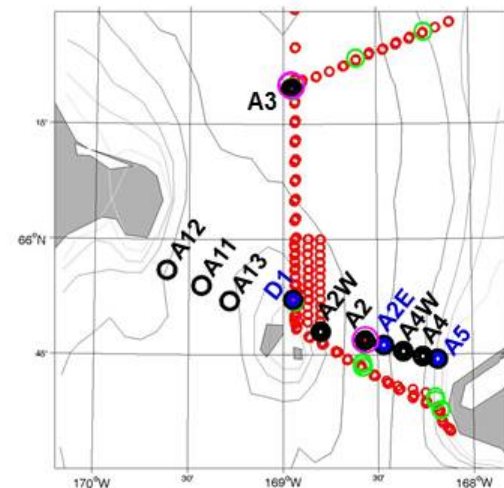
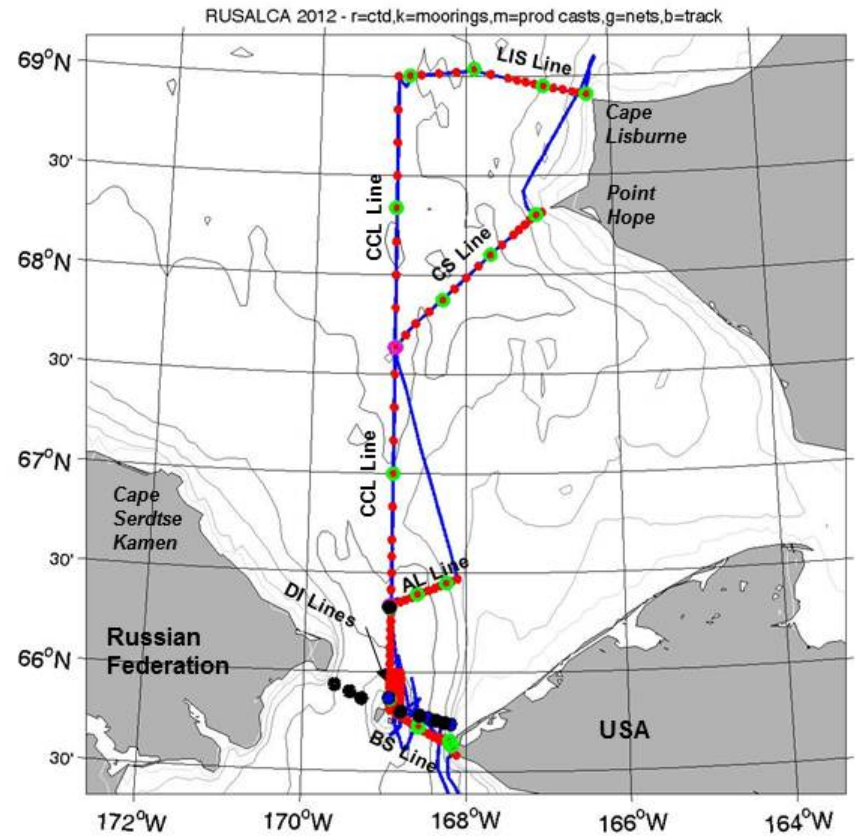
# Bering Strait Moorings

(Rebecca Woodgate, Chief Scientist)-July 2013

Ship-track, blue.

Mooring sites, black. CTD stations, red. Zooplankton nets, green. Productivity casts, magenta. Depth contours every 10m from the International Bathymetric Chart of the Arctic Ocean [Jakobsson et al., 2000].

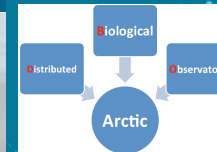
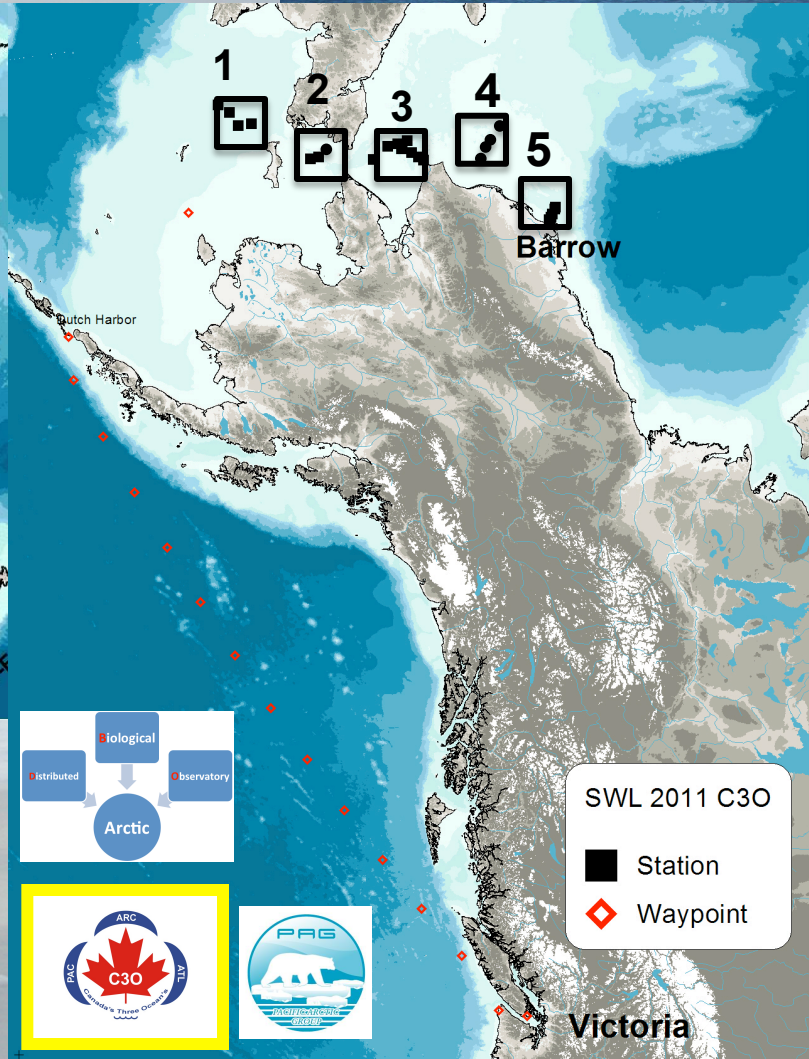
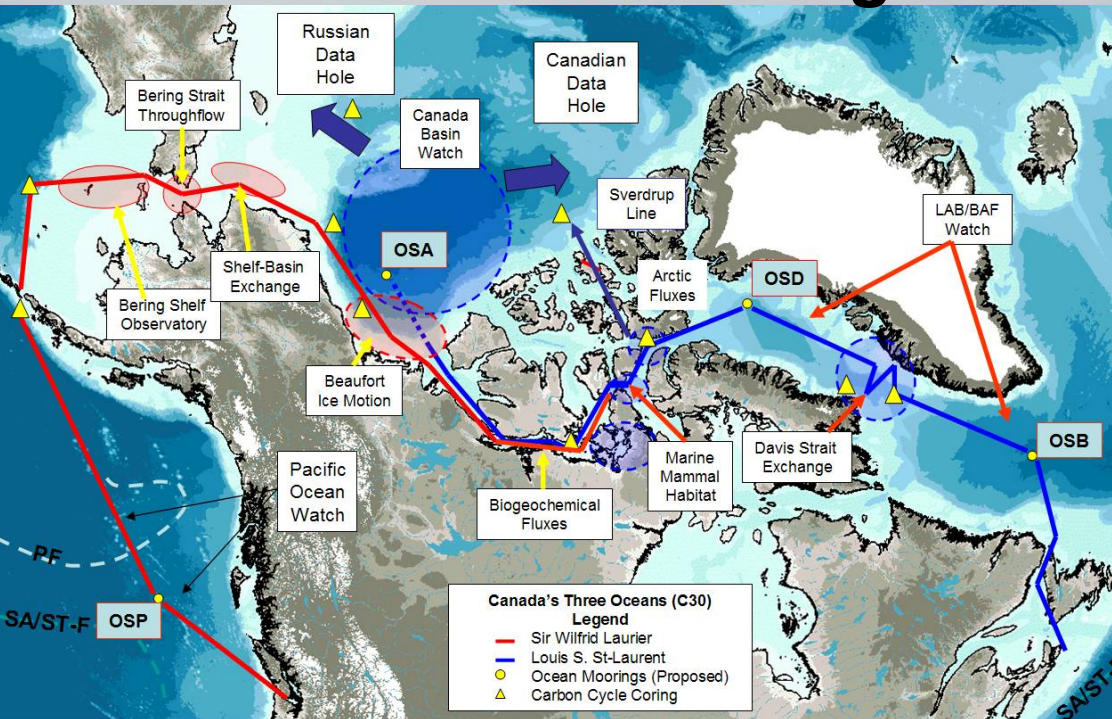
Lower panel mooring detail: - black solid=recovered and redeployed; black with blue center =recovered, not redeployed; black ring=not yet recovered.





# US-Canada collaboration as part of the C30 and DBO efforts

*~July 6-22, 2012 and July 7-25, 2013*  
**Confirmed through 2017**



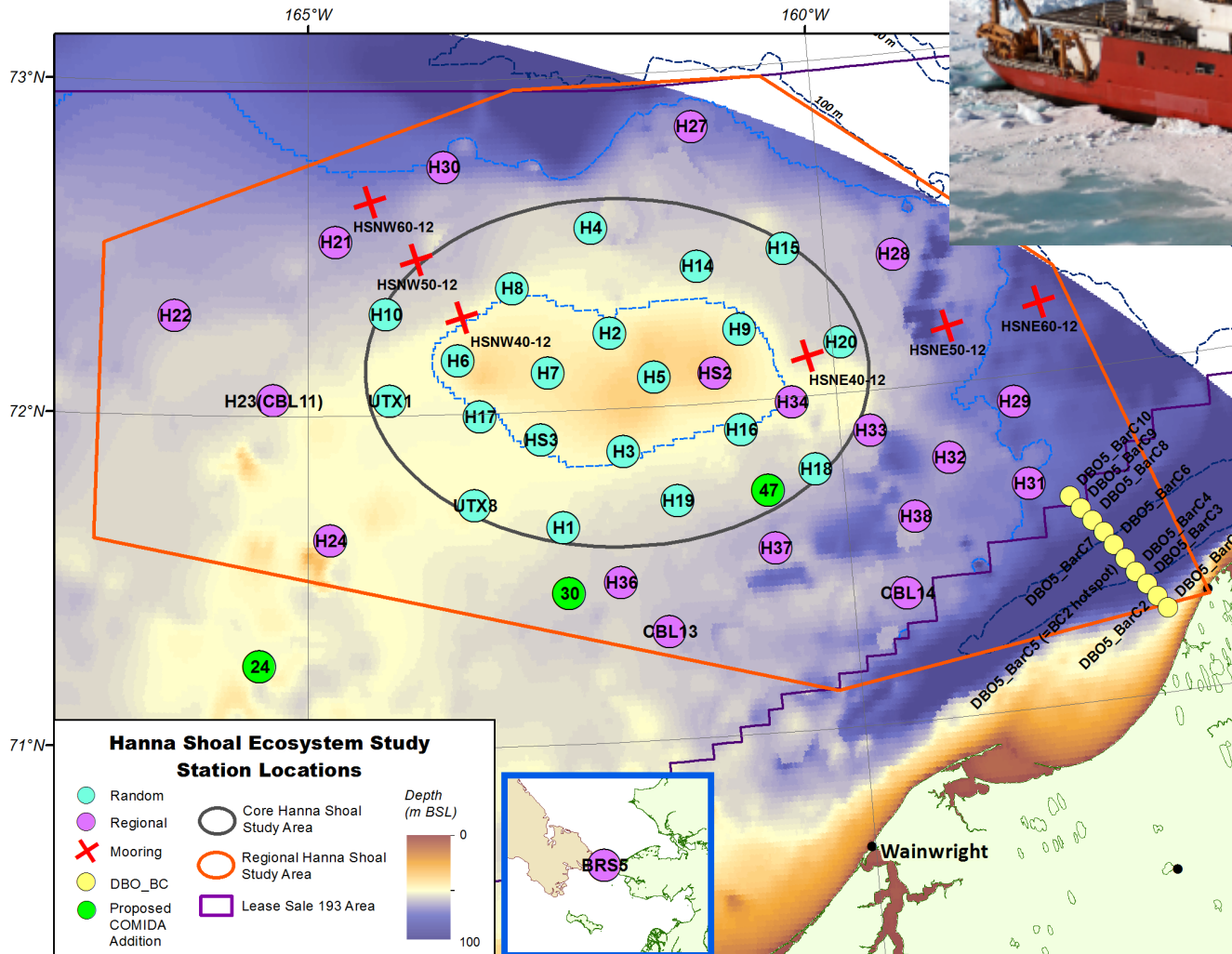
- Interdisciplinary
- Distributed, latitudinal mode of observations in Pacific sector
- Samples nearly same day in July as CCGS Sir Wilfrid Laurier transits to Canadian Arctic



**August 5-25, 2012 (HLY1201)  
and 2013 (HLY1301)**



**USCGC Healy**



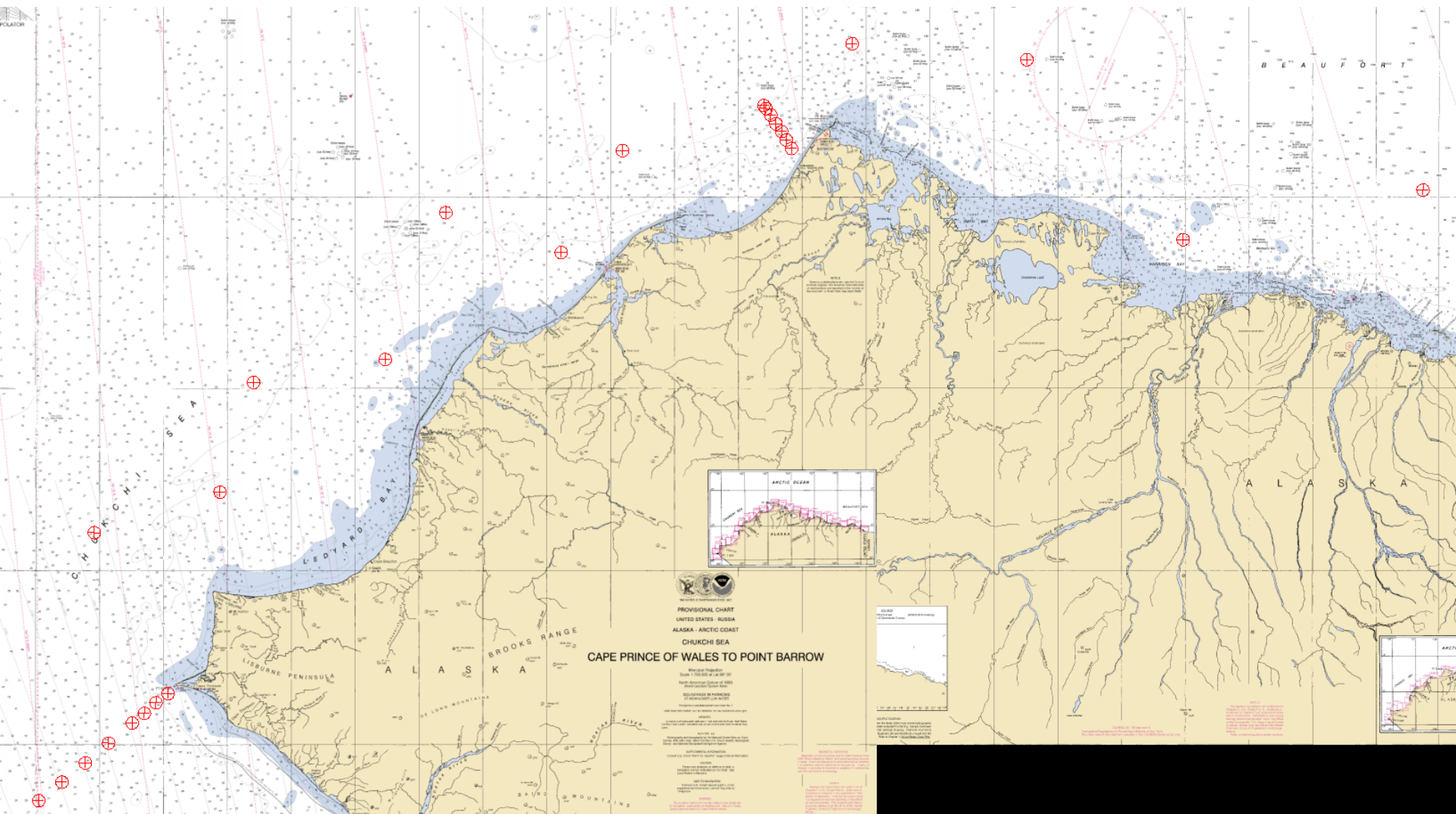
**Period of  
Performance: FY  
2011-2016**

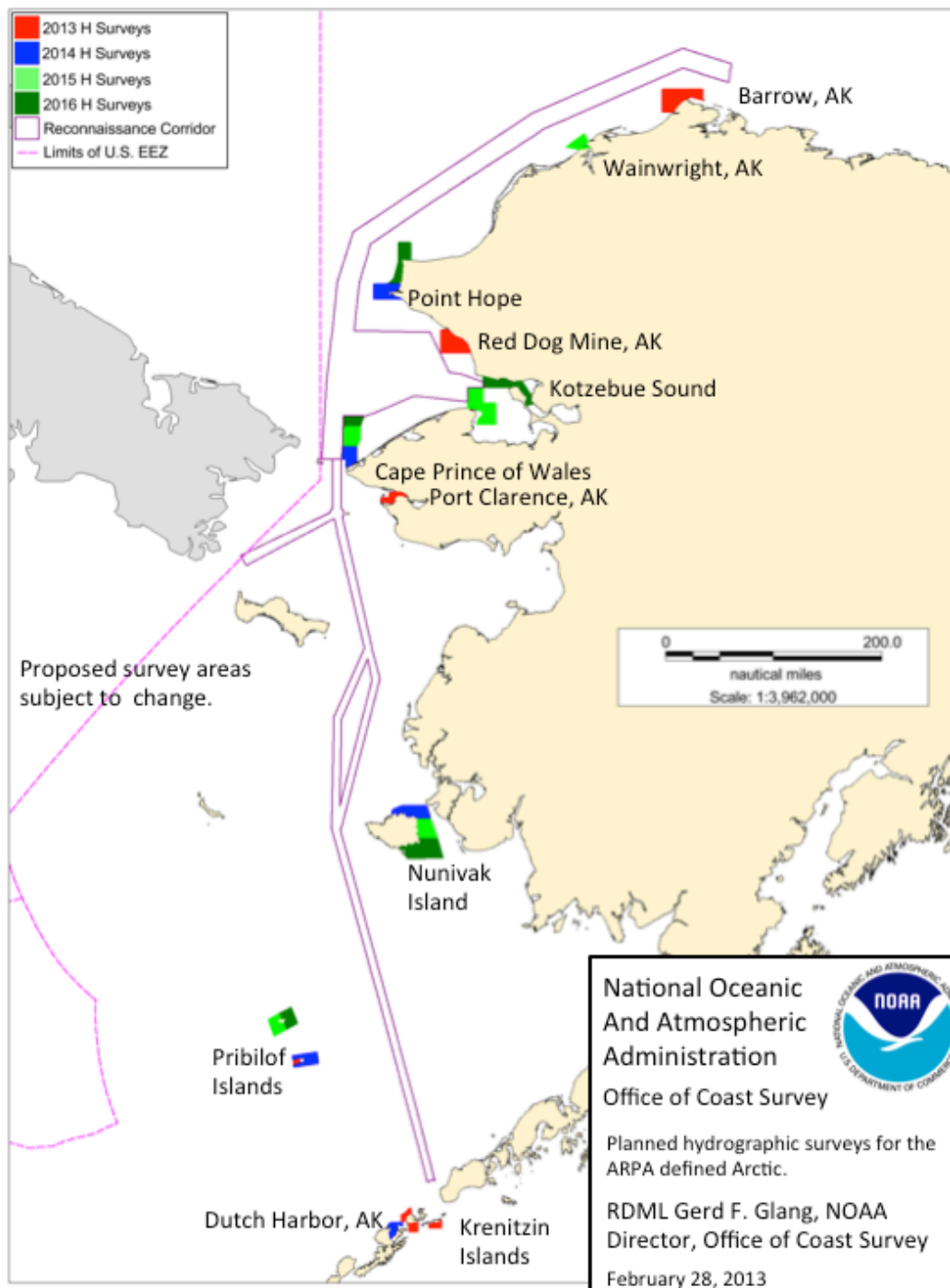
**Conducting  
Organization:  
University of Texas at  
Austin**





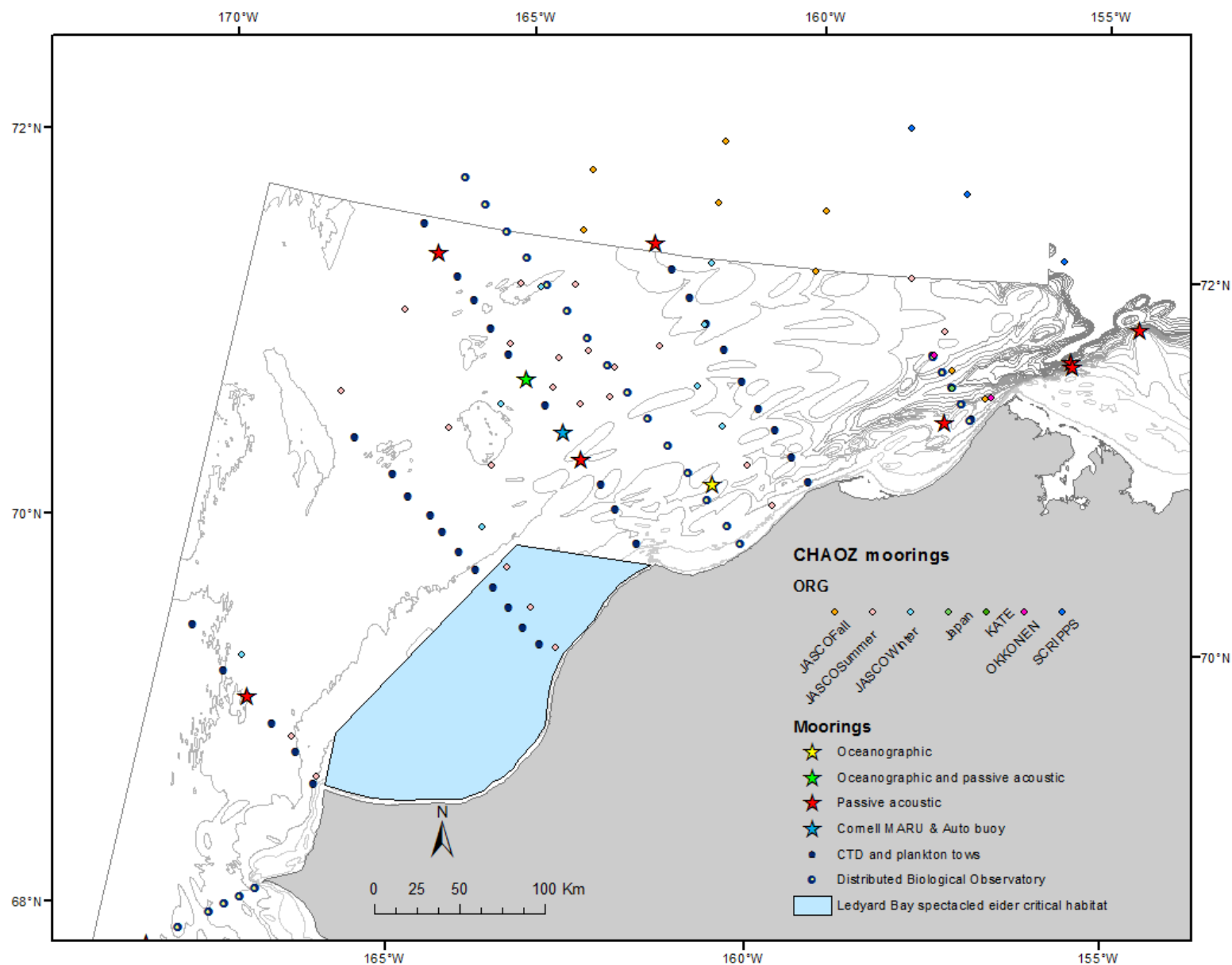
# RV Fairweather-NOAA Hydrographic Survey- CTD data in hand (August 2012)-planned 2013





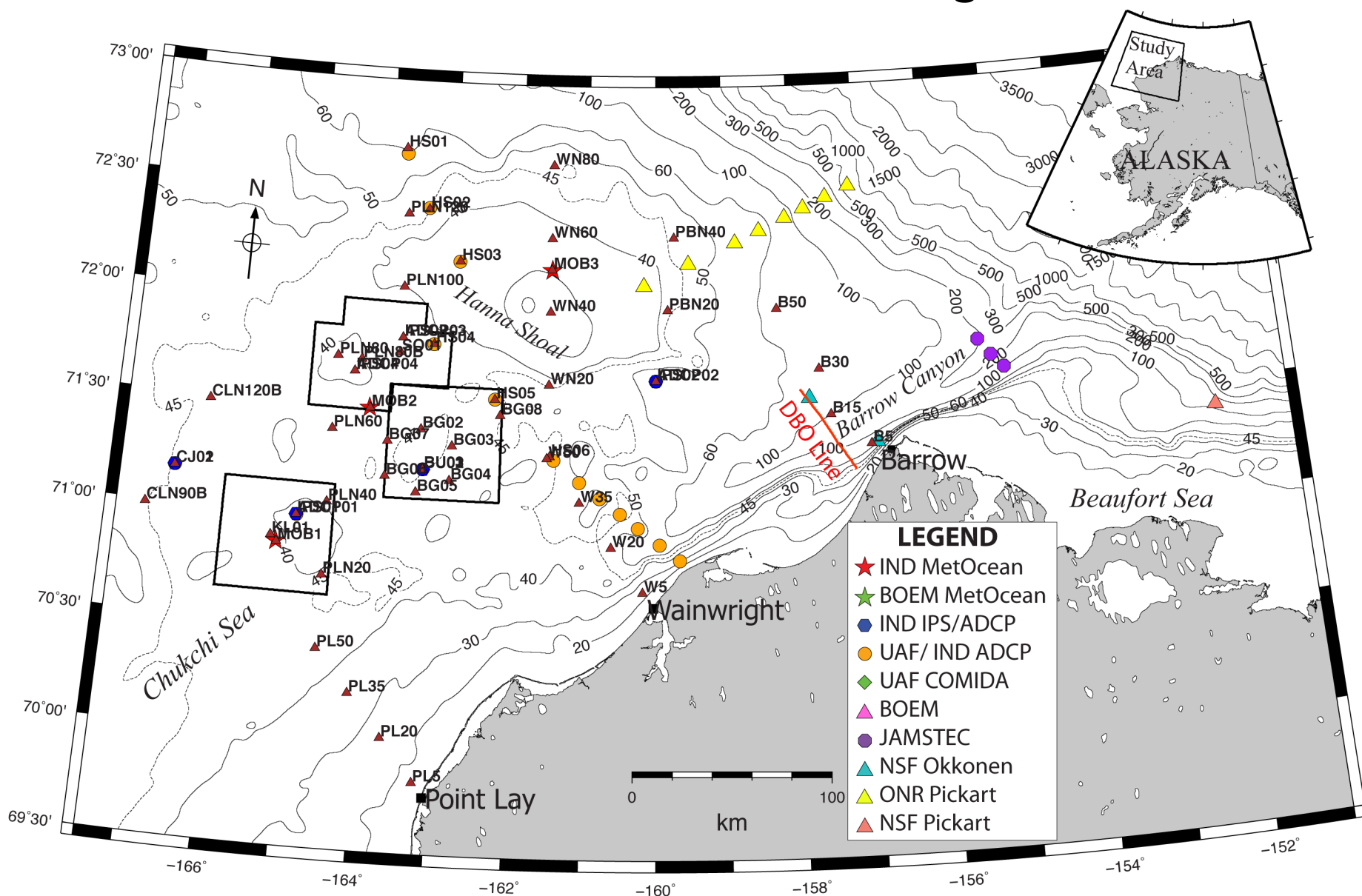


# CHukchi Acoustics, Oceanography, and Zooplankton (CHAOZ) 2012-August



# CHukchi Acoustics, Oceanography, and Zooplankton (CHAOZ) Study II: FY10-FY15

## CHAOZ and associated moorings 2012





# Hello North Slope Residents:

We are conducting a study in the Chukchi Sea called ARCWEST which will help us better understand where whales spend their time in relation to food, ocean conditions, and oil and gas activities.



Research Vessel:  
To Be Determined

(please see map on back)

## Arctic Whale Ecology Study (ARCWEST)

**Approximate Cruise Dates: August 20, 2013\* (Nome) – September 12, 2012 \*(Nome)**

*\*Tentative dates, could be up to 5 days earlier*



### Research Goals:

- Study the movements of humpback, fin, and gray whales in the Northeast Chukchi Sea using *satellite tagging*.
- Determine where bowhead, gray, fin and humpback whales are in the Northeast Chukchi Sea using shipboard observations, seasonal and year-round acoustic recorders.
- Study movement of krill and nutrients from the Bering Strait to the Barrow Canyon.
- Monitor changes in the marine ecosystem through time.
- Learn how whales respond to changes in climate and human activities.



### Principal Investigators:

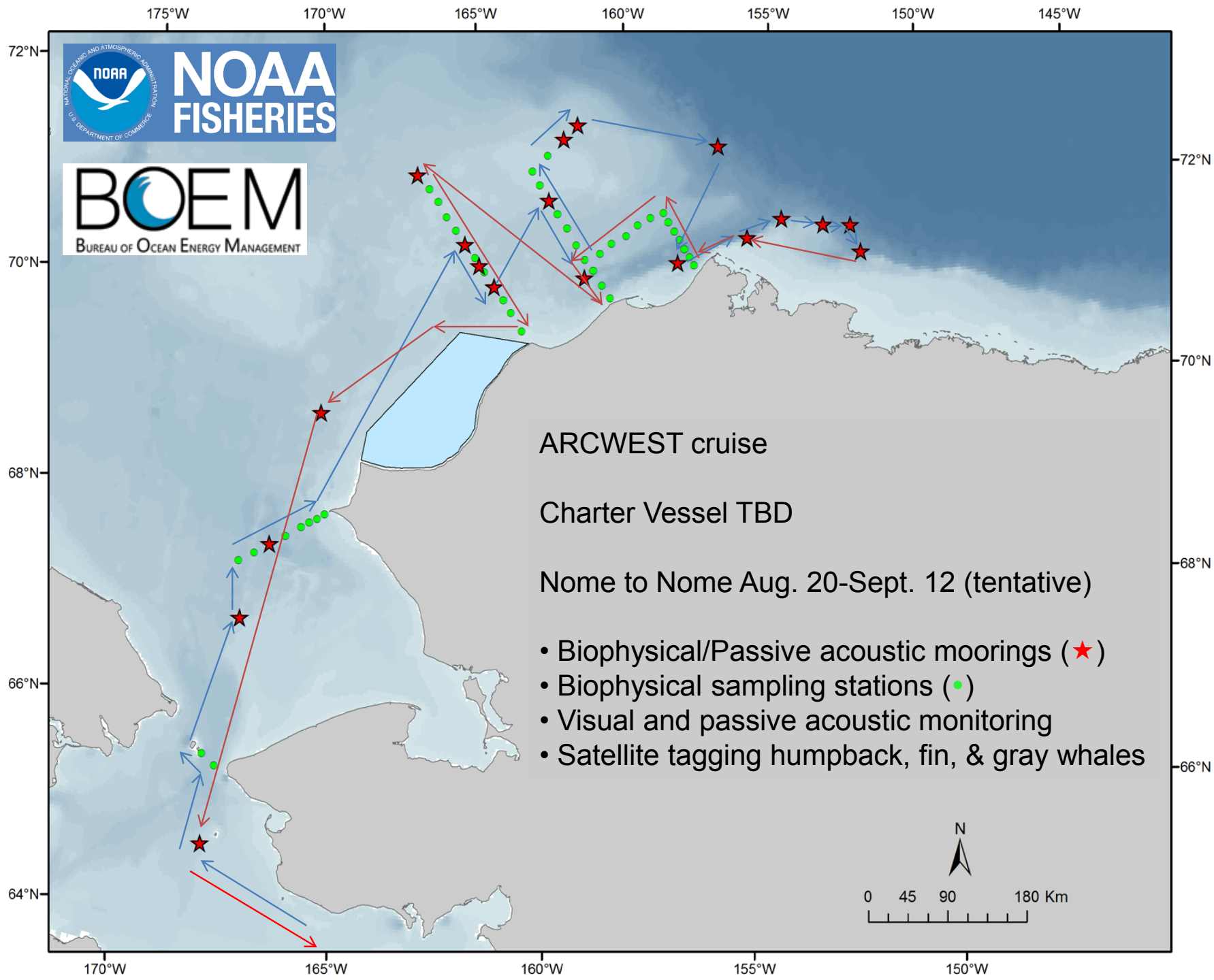
Nancy Friday, Catherine Berchok, Jeffrey Napp, and Alex Zerbini,  
Alaska Fisheries Science Center, NOAA, Seattle, WA

Phyllis Stabeno, Pacific Marine Environmental Lab., NOAA, Seattle, WA



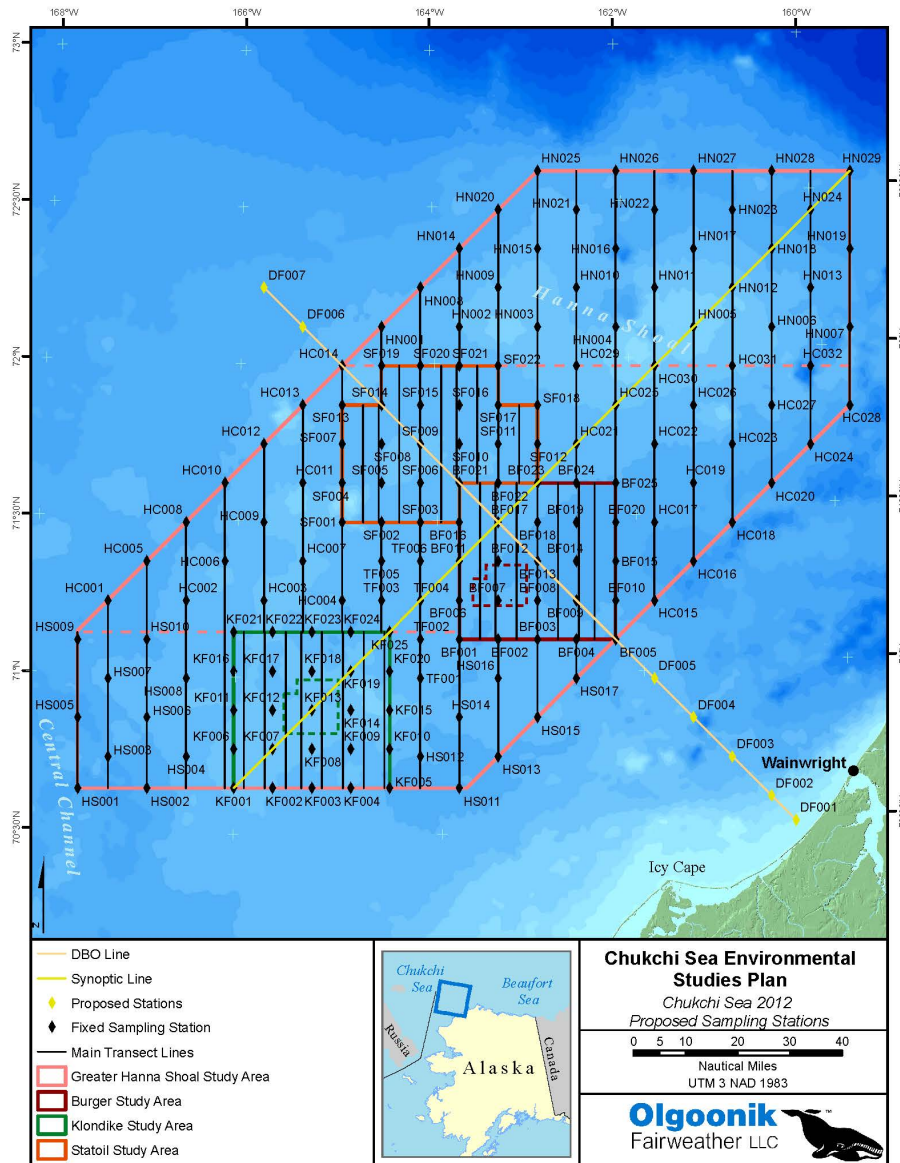
If questions, contact: [Nancy.Friday@noaa.gov](mailto:Nancy.Friday@noaa.gov) 206.526.6266

**Among many things, we will study krill and other important whale foods to determine where they occur and why.**





# CSEAP (Chukchi Sea Environmental Assessment Program (Shell-Conoco-Phillips-StatOil)-August 2012

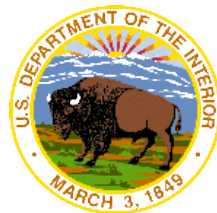
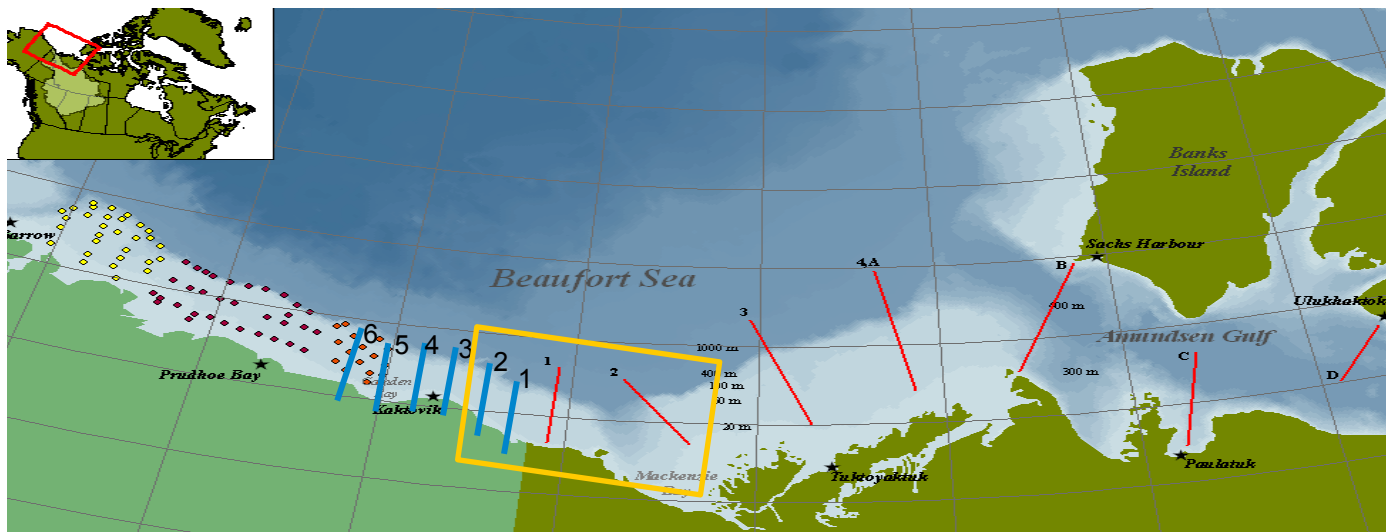


- With draft DBO4, but too long, suggest revise to focus SE side of Hanna Shoal biological hotspot and new current flow patterns observed

## U.S./CANADA Transboundary Fish Survey- August 2012 and 2013

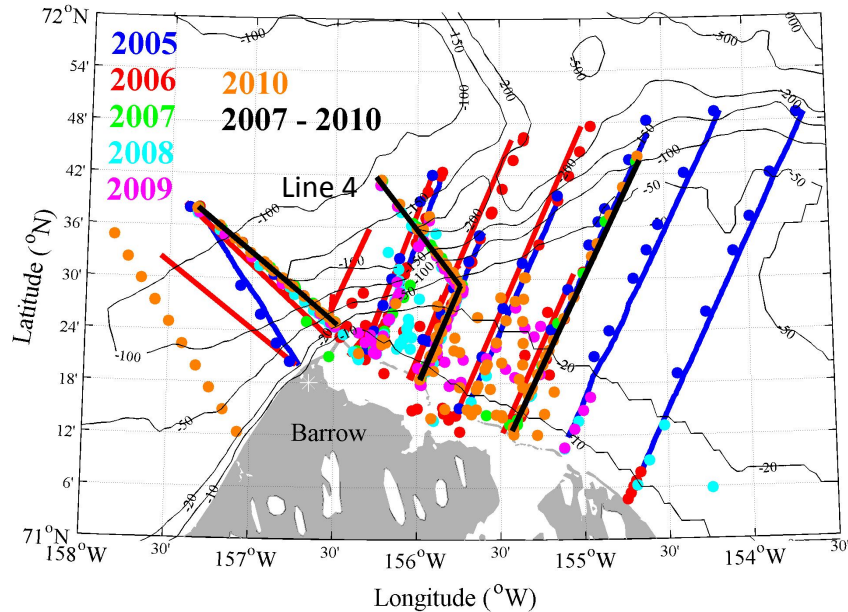
### Systematic survey of lower trophic food chain

- Overcome barriers to cross-border research
- Collaborative Partnership with Canada Oceans





# AON Sampling from *R/V Annika Marie*

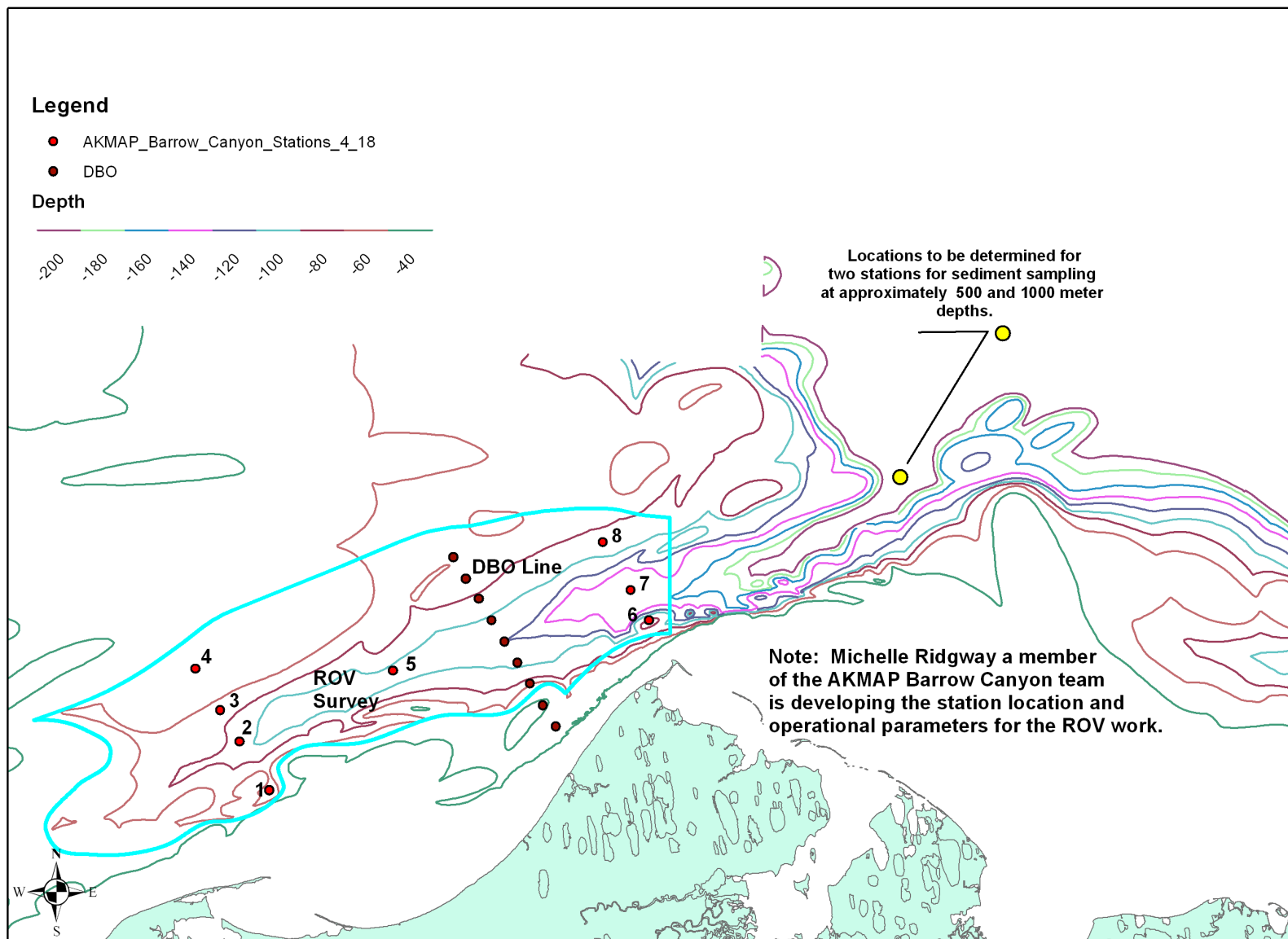


- Oceanographic sampling using the 43' *R/V Annika Marie* from mid-August to mid-September 2005-2012
- DBO sampling in 2010 and 2011, too much ice in 2012, plan 2013
- Ring net equipped with 150  $\mu$ m mesh net, sampling from 0-near bottom
- We are able to sample an additional station inshore (11 stations) on the DBO transect
- Other cruises have sampled zooplankton (e.g., CHAOZ 2011-2012)

[Carin Ashjian (WHOI)]

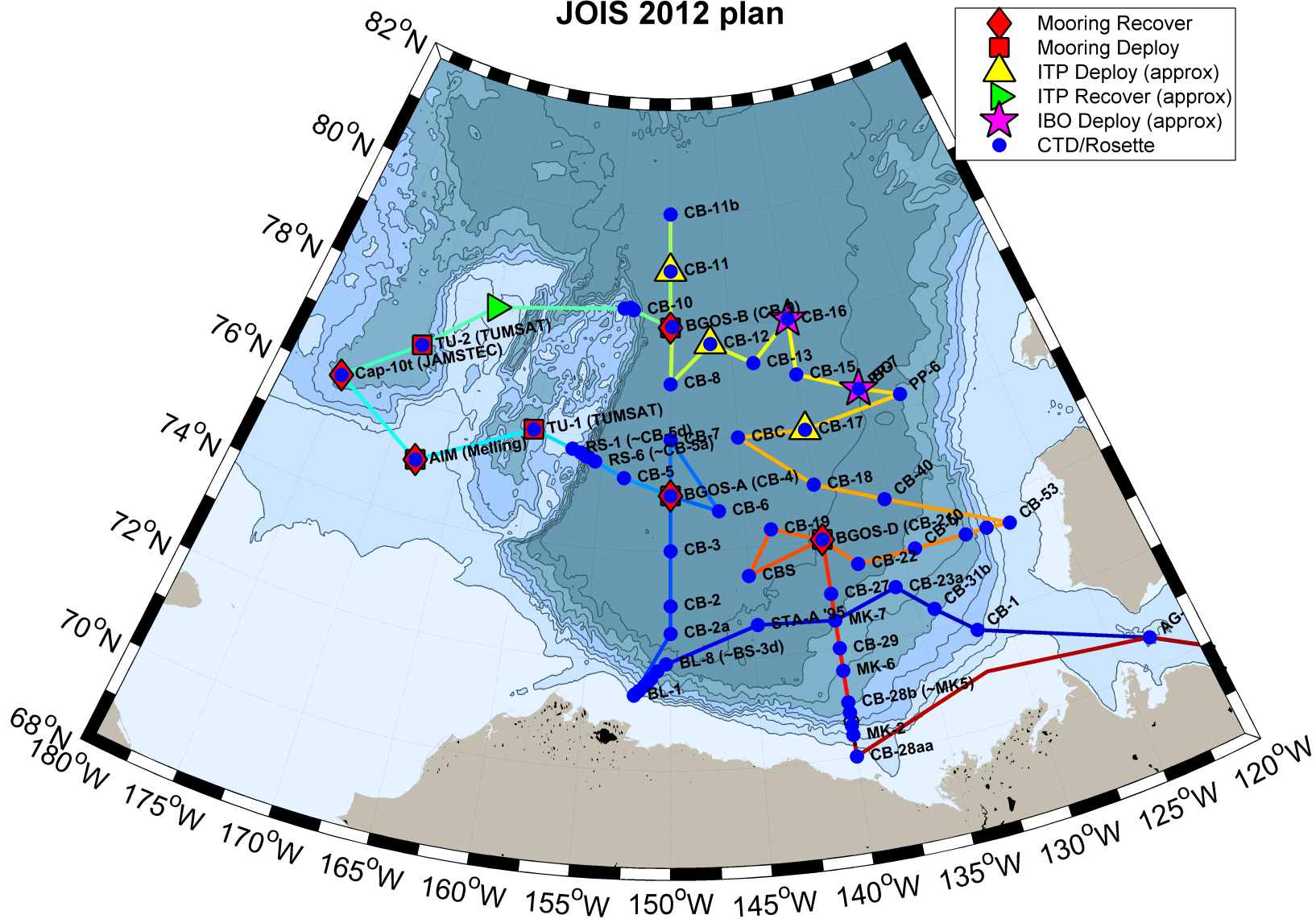
# Alaska Monitoring and Assessment Program Barrow (AKMAP) Canyon Stations

(Note: NOAA Barrow Canyon DBO line also shown.)



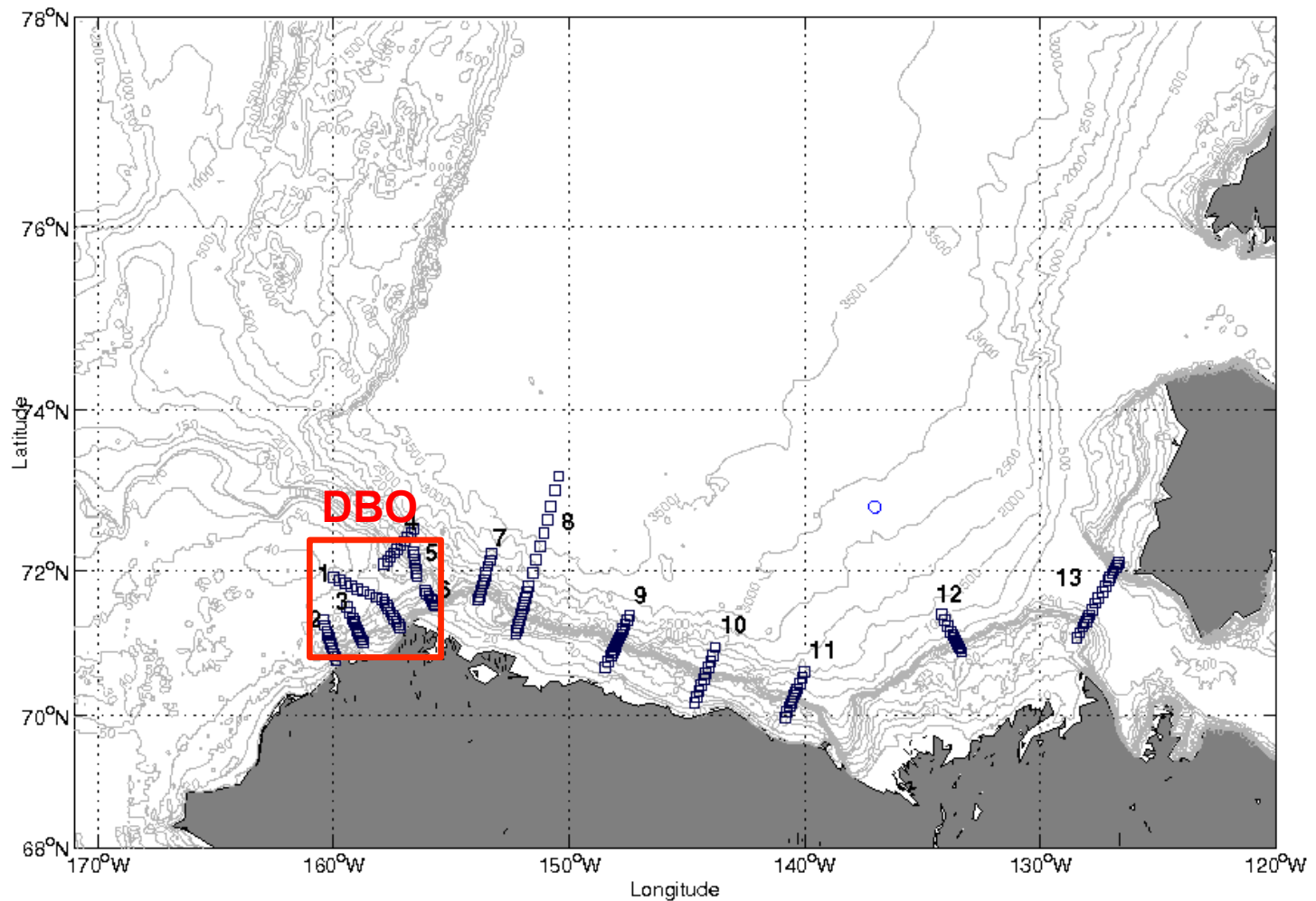
DRAFT MAP 4/18/2012 - Alaska Department of Environmental Conservation and University of Alaska Institute of Marine Science. For 2011 AKMAP Barrow Canyon stations proposal to NOAA for RV Fairweather support.

# JOIS 2012 plan

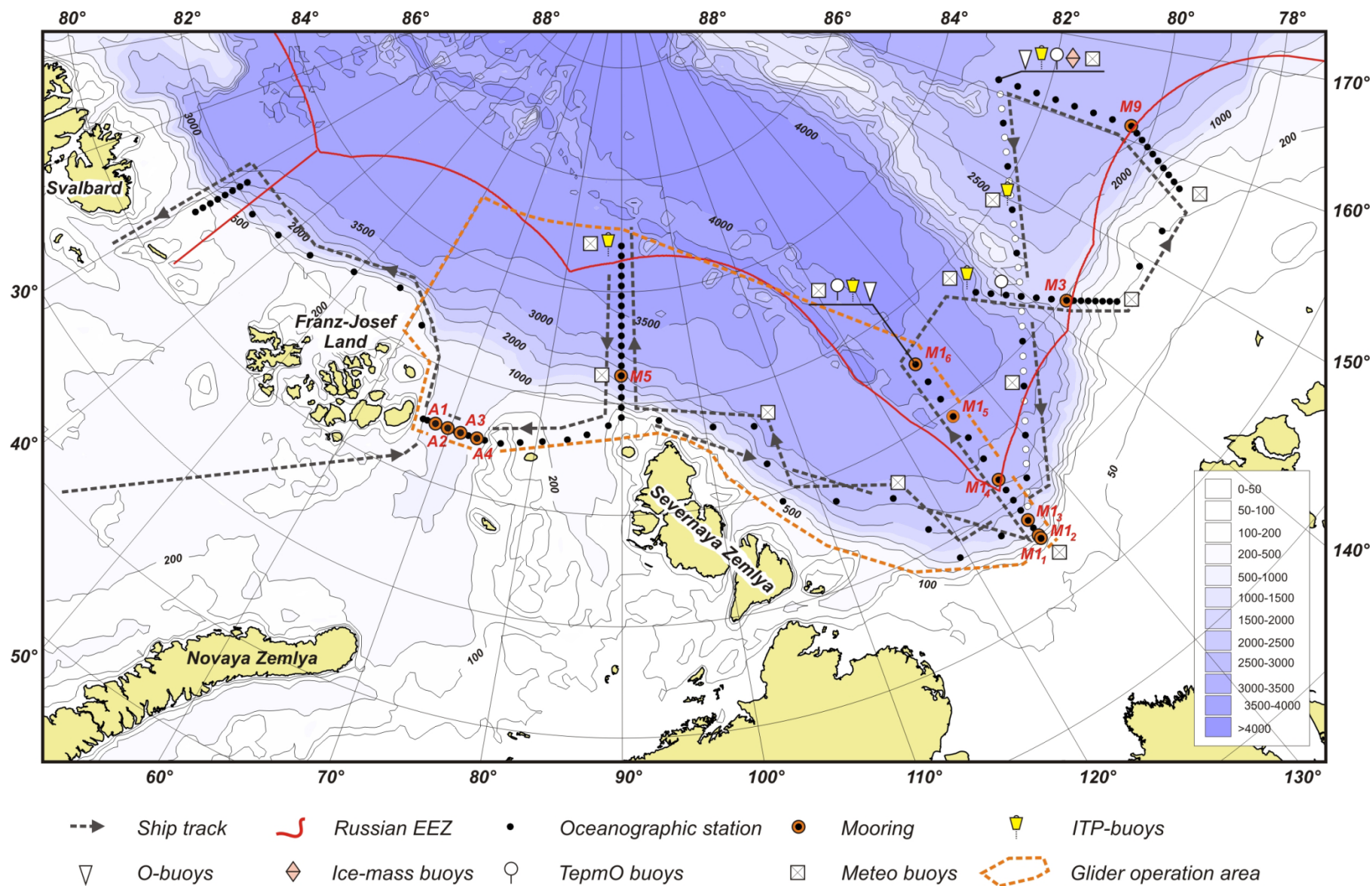




# HLY1203 and HLY1301-Pickart AON, October



# Tentative Plan for 2013 NABOS Cruise on Kapitan Dranitsyn



## **Other cruises in the PAG region**

September 2013: Norseman II-One other cruise is the N2 with Peter Winsor. Not sure exactly where that will be, but in the general area east of Hanna Shoal south to offshore of Pt. Lay. He is doing drifters, gliders, towed CTDs, and possibly moorings. His cruise plans are not yet finalized (T Weingartner, April 2013)