

2013 DBO sampling cruises

**PAG Meeting
KOPRI**

**Incheon, Republic of Korea
October 18, 2013**

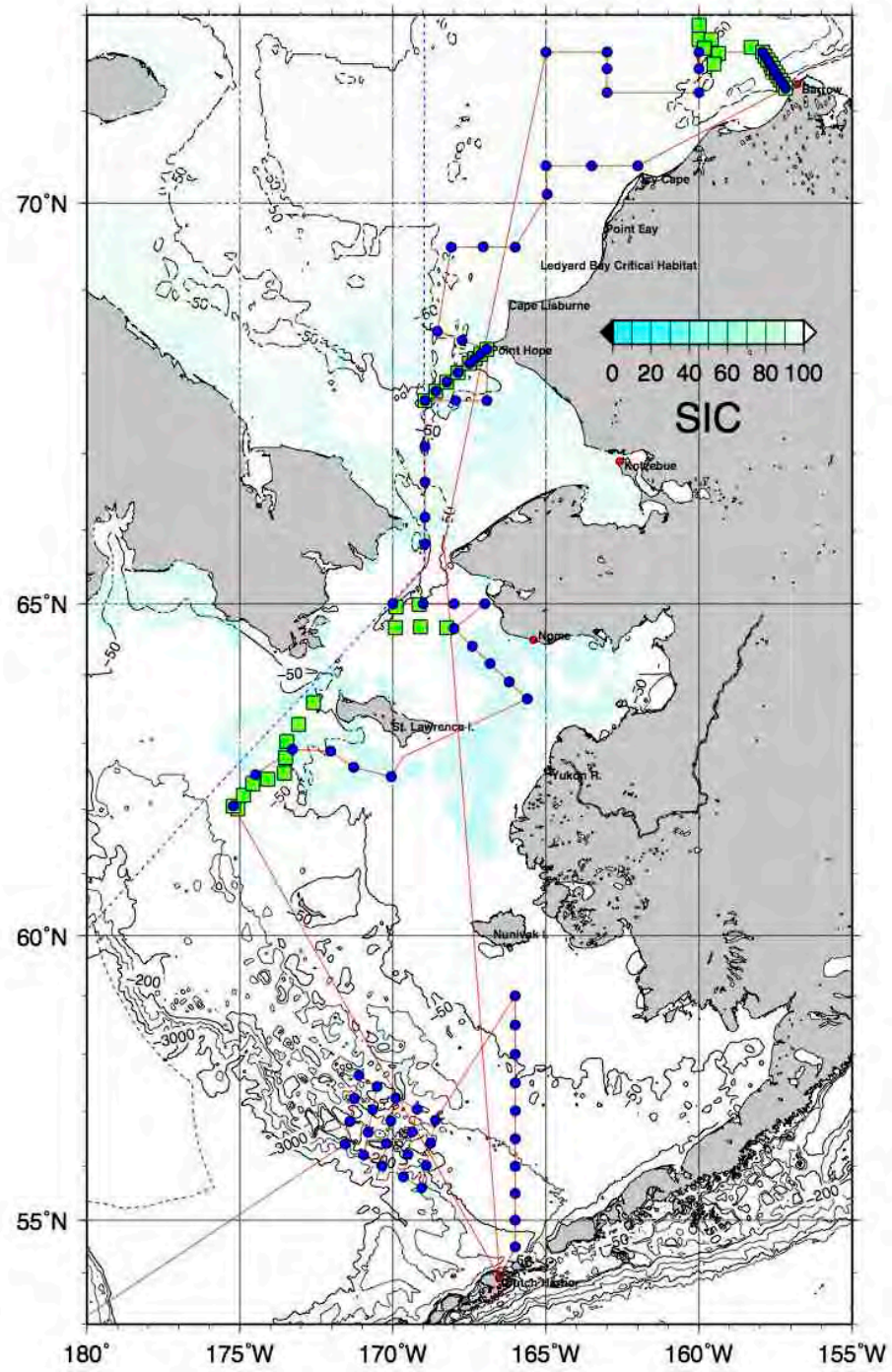
2013 DBO Field Season: Sampling Contributors

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
June-July (Dutch-Dutch)	Oshura-Maru	1,2,3,4	Japan	Toru Hirawake	Toru Hirawake
July 3-10 (Nome-Nome)	Norseman II	3	Bering Strait Mooring Project/AON	Rebecca Woodgate woodgate@apl.washington.edu	Rebecca Woodgate woodgate@apl.washington.edu
July 4-25 (Victoria, BC-Barrow)	Sir Wilfrid Laurier	1,2,3,4,5; + moorings at 1, 3	C30/DBO, plus JAMSTEC DBO moorings	Jackie Grebmeier jgrebmei@umces.edu ; Takashi Kikuchi takashik@jamstec.go.jp	Svein Vagle Svein.Vagle@dfo-mpo.gc.ca
July 29-August 15 (Dutch-Barrow)	Healy	5	COMIDA Hanna Shoal	Jackie Grebmeier jgrebmei@umces.edu	Lee Cooper cooper@umces.edu Tom Weingartner tjweingart@alaska.edu
August –August (Dutch Harbor)	Araon	-	Korean Expedition (KOPRI)	Sung-Ho Khang shkang@kopri.re.kr	TBD
August 15-Sept (Barrow-Barrow)	Annika Marie	5	AON	Carin Ashjian cashjian@whoi.edu	Carin Ashjian cashjian@whoi.edu
August -Sept	Aquila?	1,3, 5	ARCWEST	Jeff.Napp@noaa.gov Sue.Moore@noaa.gov	Catherine.Berchok@noaa.gov Phyllis.Stabeno@noaa.gov
August-October	Westward Wind	4	CSESP	Tom Weingartner weingart@ims.uaf.edu	Bob Day bday@abrinc.com John Burns jburnssr@gci.net
August-October	Mirai	3,5	JAMSTEC	Takashi Kikuchi takashik@jamstec.go.jp	Shigeto Nishino nishinos@jamstec.go.jp
October	Healy	5	AON	Robert Pickart rpickart@whoi.edu	Robert Pickart rpickart@whoi.edu

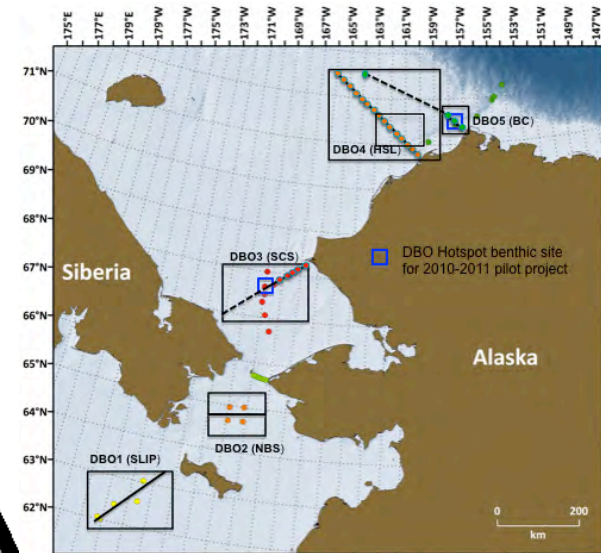
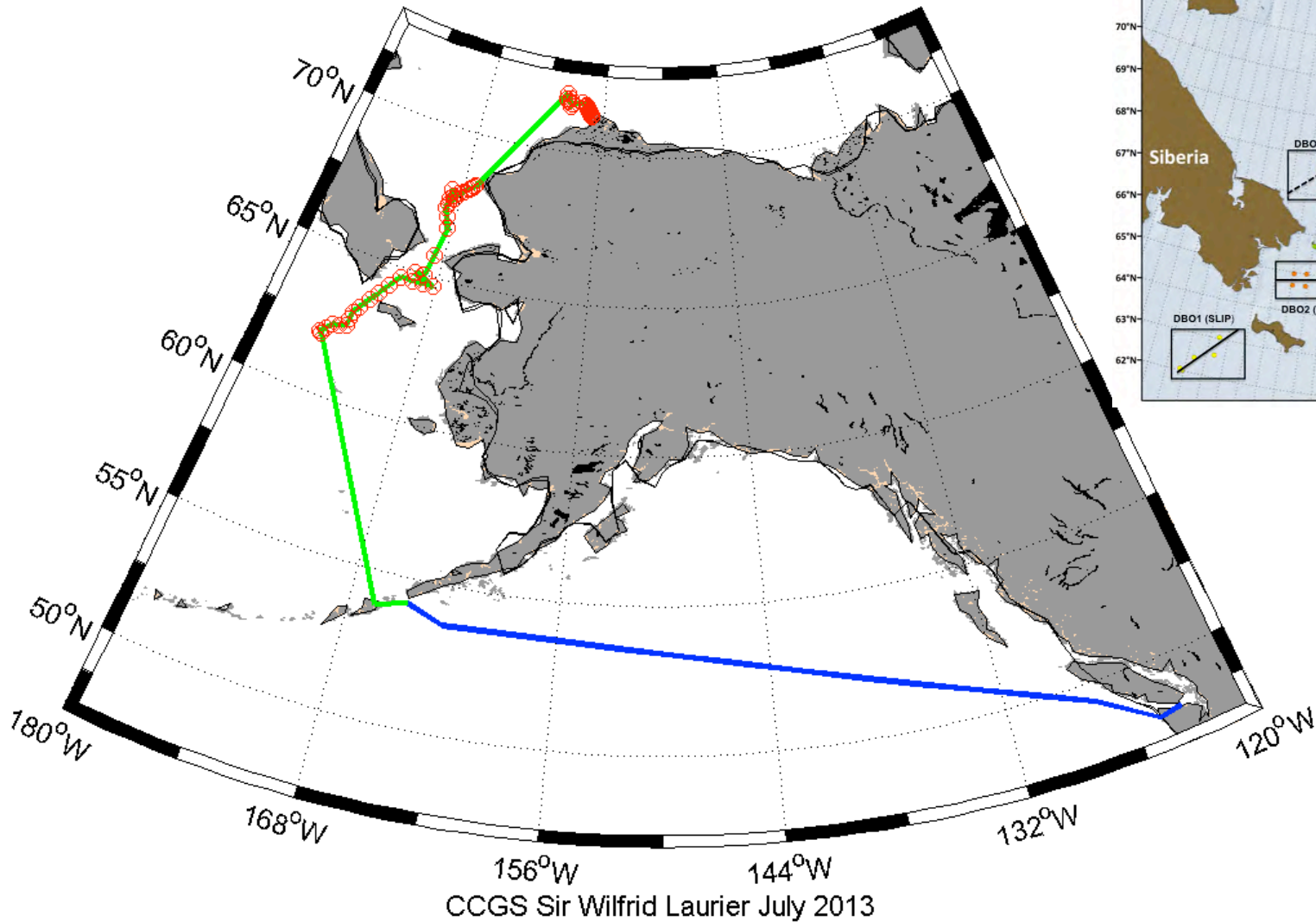
Projects Key: AON=US Arctic Observing Network; ARCWEST = Arctic Whale Ecology Study; COMIDA=Chukchi Offshore Monitoring in Drilling Area; CSESP=Chukchi Sea Environmental Studies Program; C30=Canada's Three Oceans; JAMSTEC= Japan Agency for Marine-Earth Science and Technology; KOPRI = Korea Polar Research Institute.

Oshura Maru June-July 2013

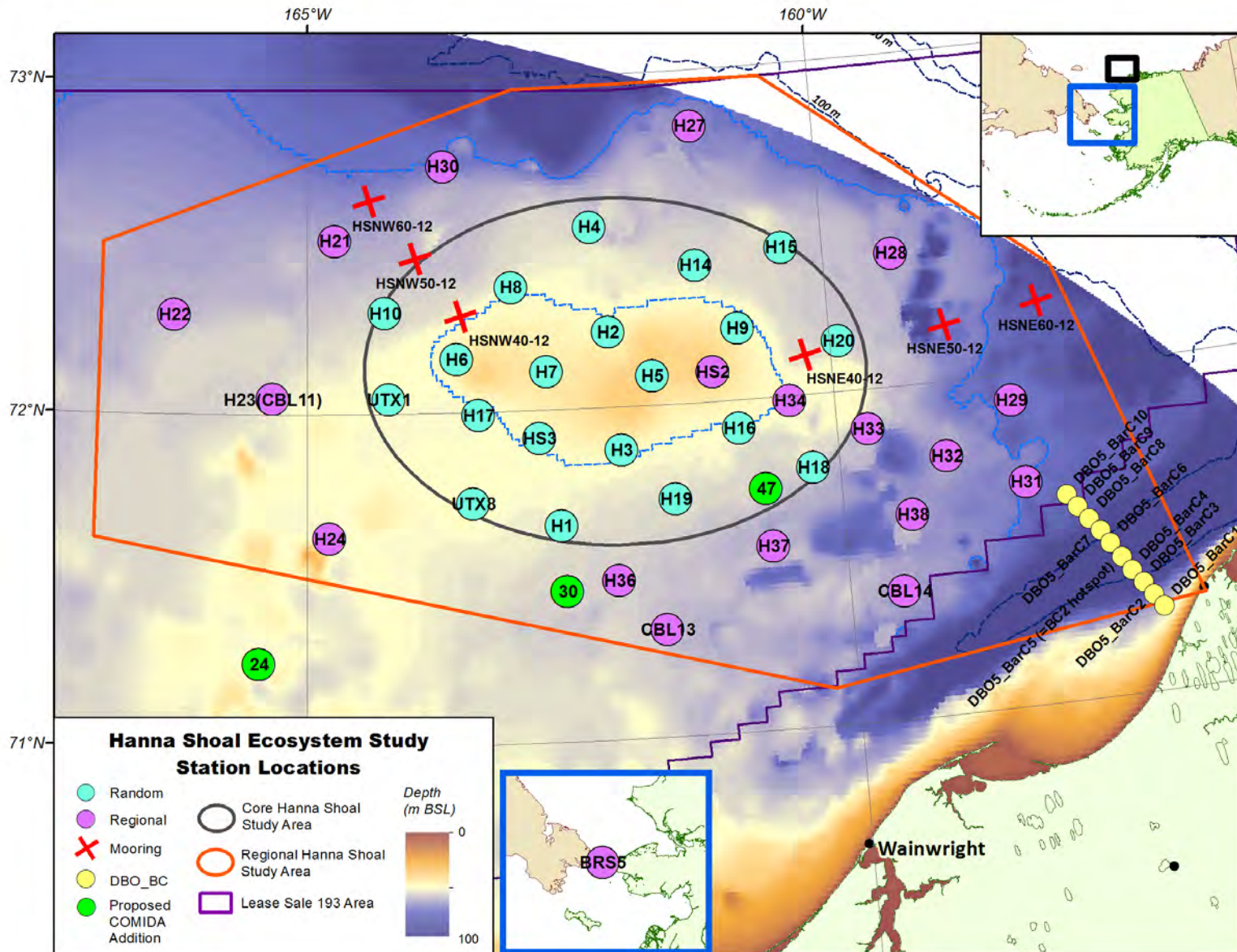


DBO/C30 IOS Cruise # 2013-05

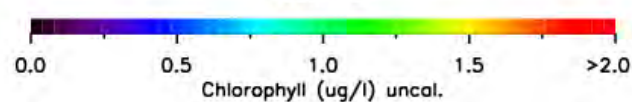
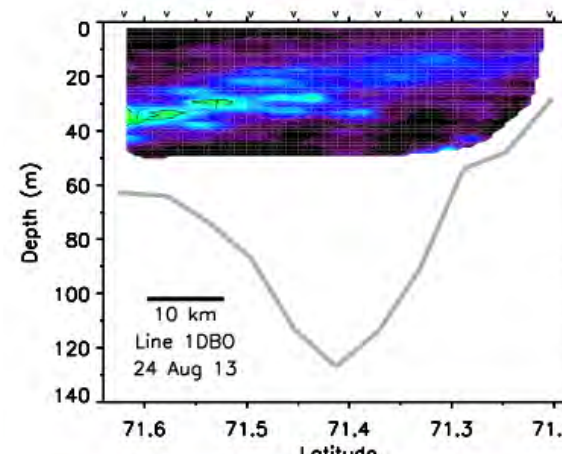
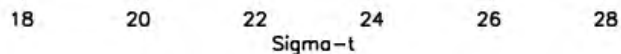
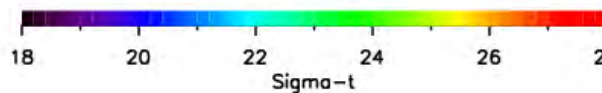
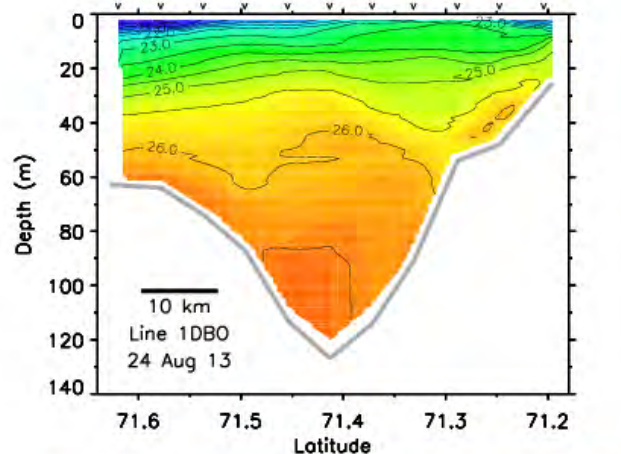
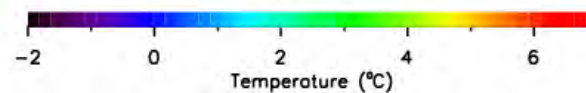
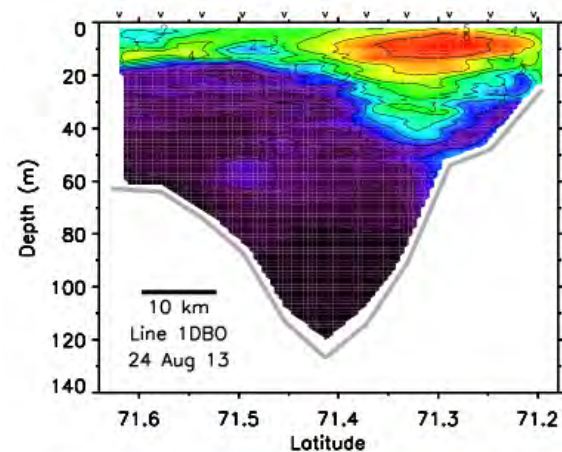
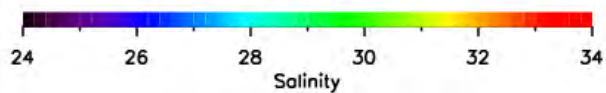
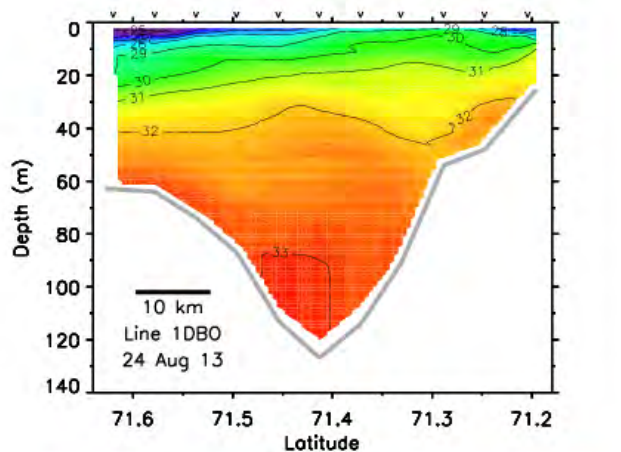
CCGS Sir Wilfrid Laurier July 4 to July 25, 2013



COMIDA Hanna Shoal Study-HLY1301, July 29-Aug 15 2013



DBO 5-Barrow Canyon, Aug 24, 2013, Carin Ashjian/WHOI

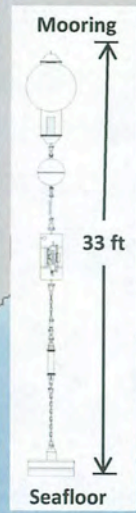


175°E 180° 175°W 170°W 165°W 160°W 155°W 150°W 145°W



70°N
68°N
66°N
64°N
62°N

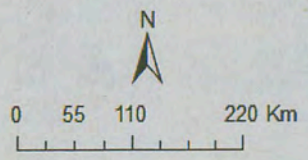
72°N
70°N
68°N
66°N
64°N



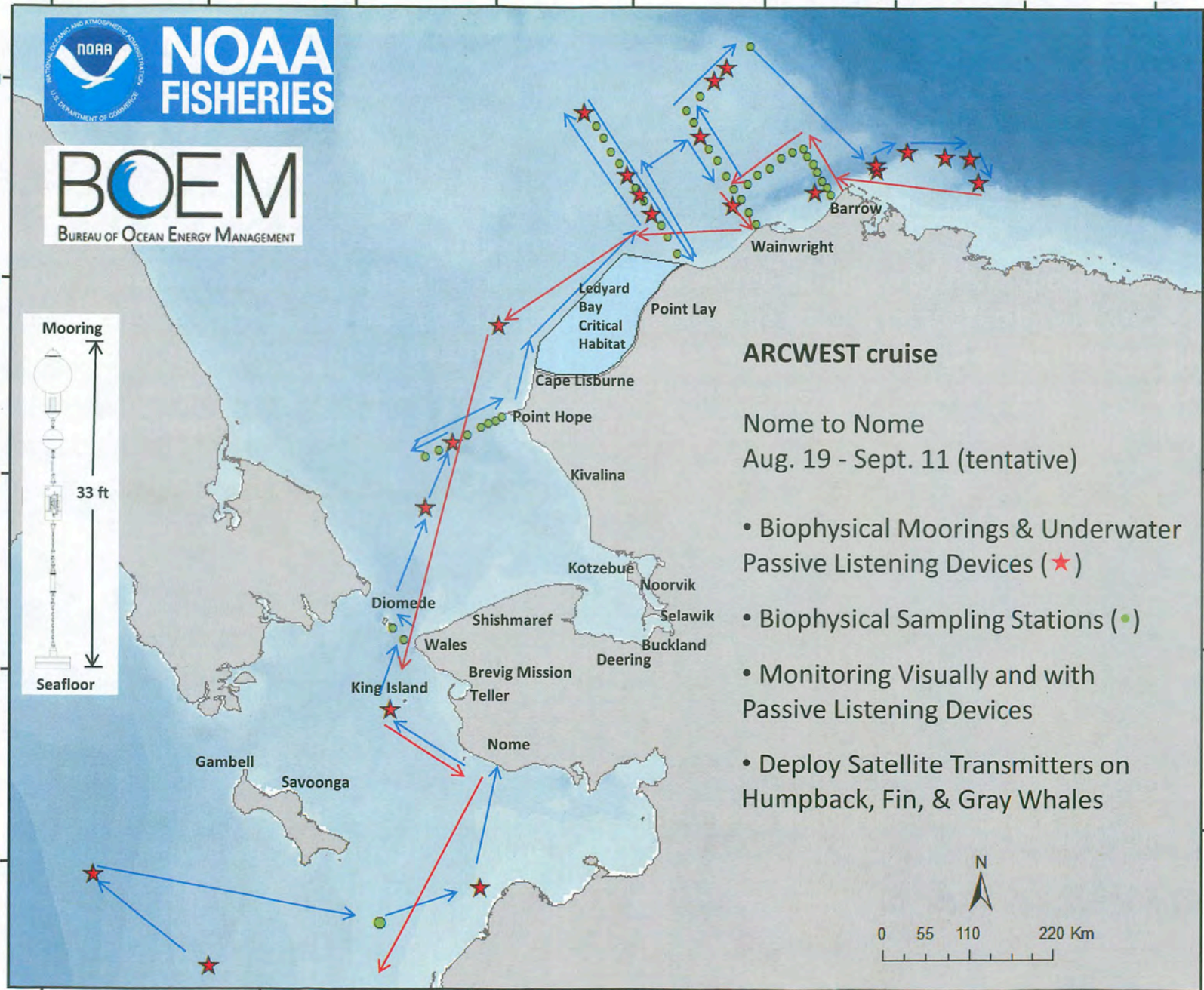
ARCWEST cruise

Nome to Nome
Aug. 19 - Sept. 11 (tentative)

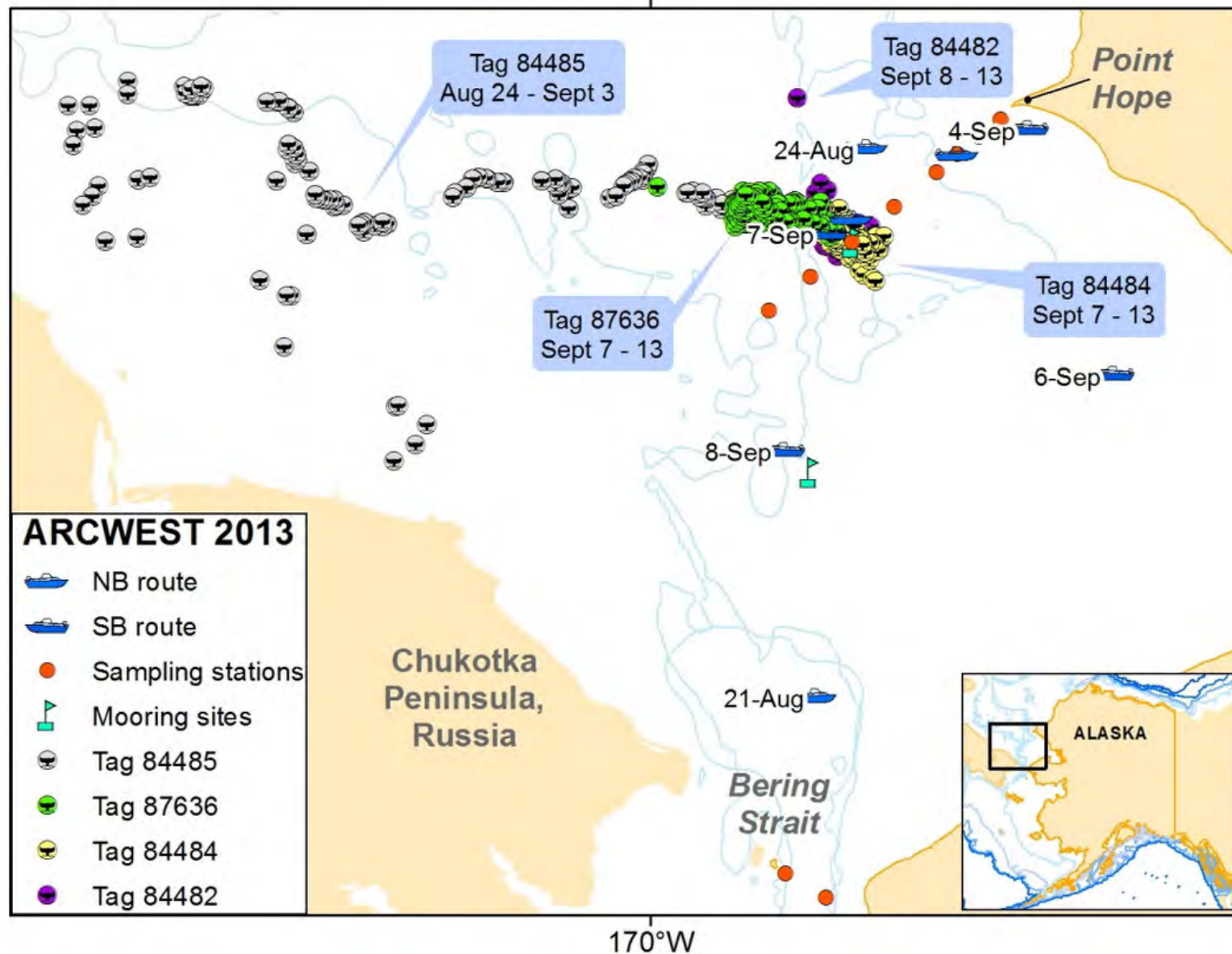
- Biophysical Moorings & Underwater Passive Listening Devices (★)
- Biophysical Sampling Stations (●)
- Monitoring Visually and with Passive Listening Devices
- Deploy Satellite Transmitters on Humpback, Fin, & Gray Whales



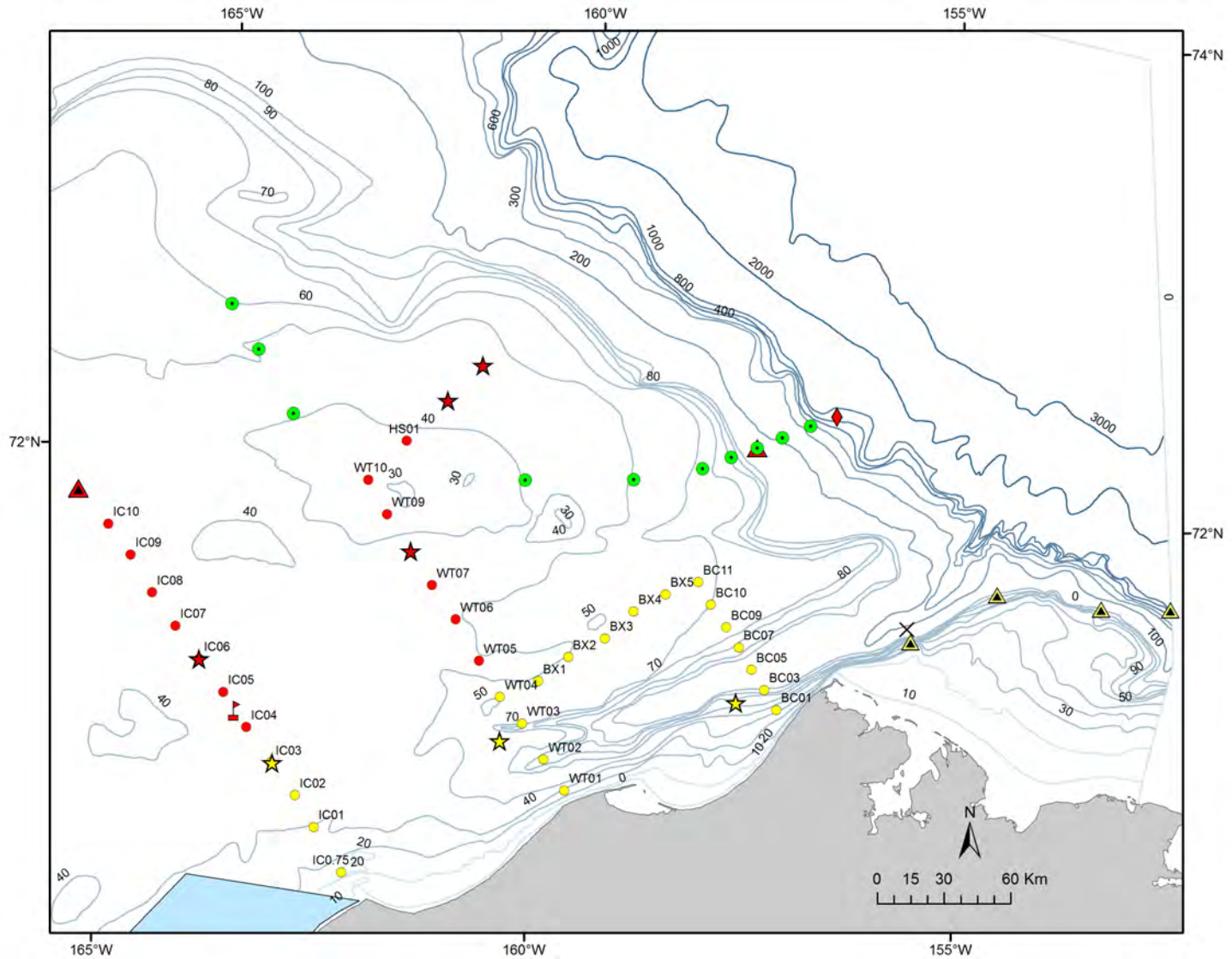
175°W 170°W 165°W 160°W 155°W 150°W



DBO3-ARCWEST Sept 4-8 and sept 4-13 2013 Tagged Gray Whales

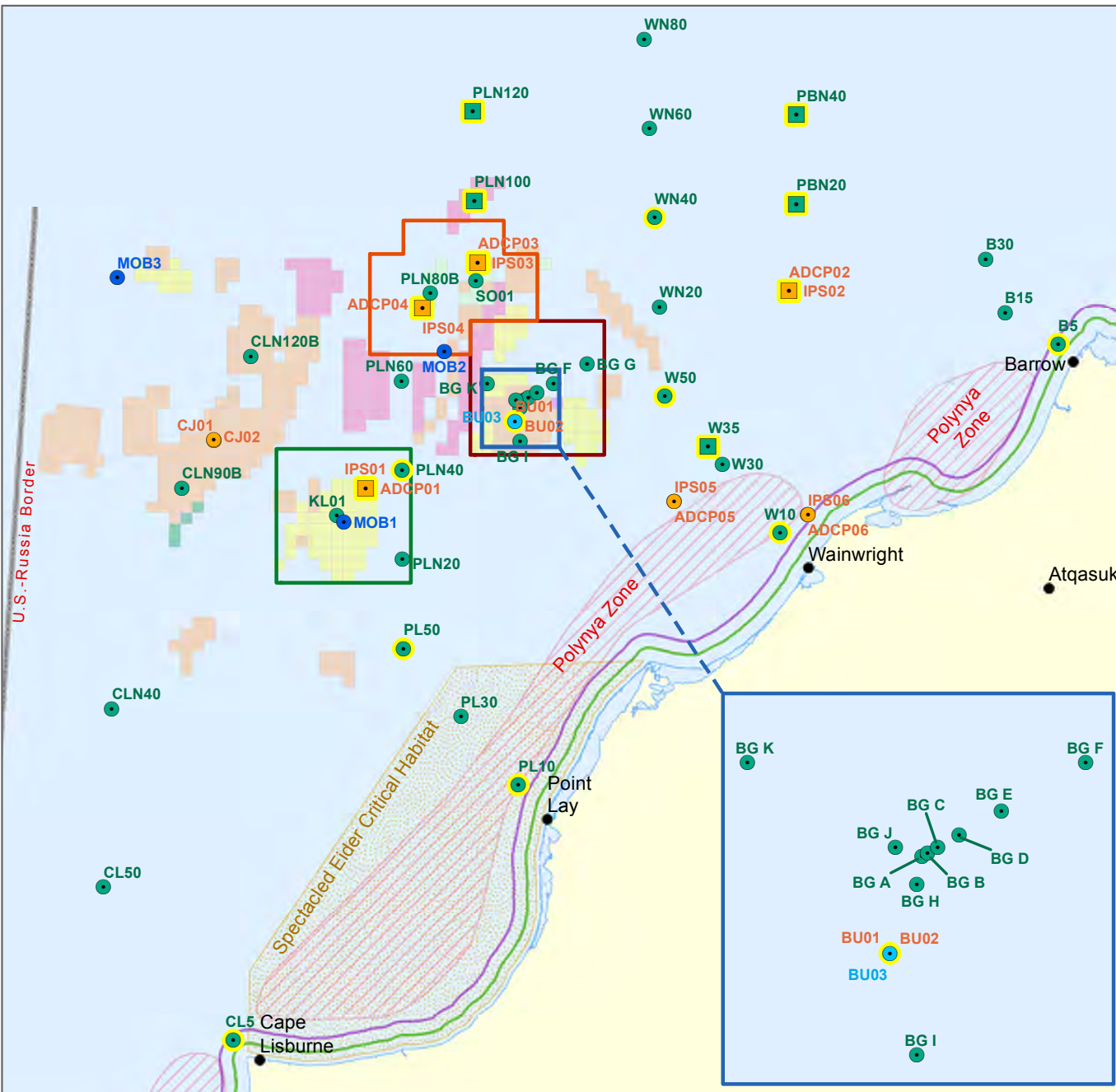


DBO4-ARCWEST 2013 (previously CHAOZ)



Chukchi Region

June 24, 2013



- 2013 Moorings**
- ASL Overwintering (ADCP/IPS)
 - RPS EHI Overwintering (AWAC)
 - RPS EHI (Metocean)
 - JASCO (Acoustic)
 - JASCO Overwintering (Acoustic)
- 2012 Overwinter Mooring Retrievals**
- JASCO Acoustic Retrieval Only
 - ASL ADCP/IPS Retrieval Only
- Leases**
- ConocoPhillips
 - Shell
 - Statoil
 - Repsol
 - ENI Petroleum
 - Iona Energy
- Alaska-Russia Border
- MMS 3 Mile Limit
- MMS 8G Line (6 Mile Limit)
- ▨ Polynya Zone
- ▨ Spectacled Eider Critical Habitat

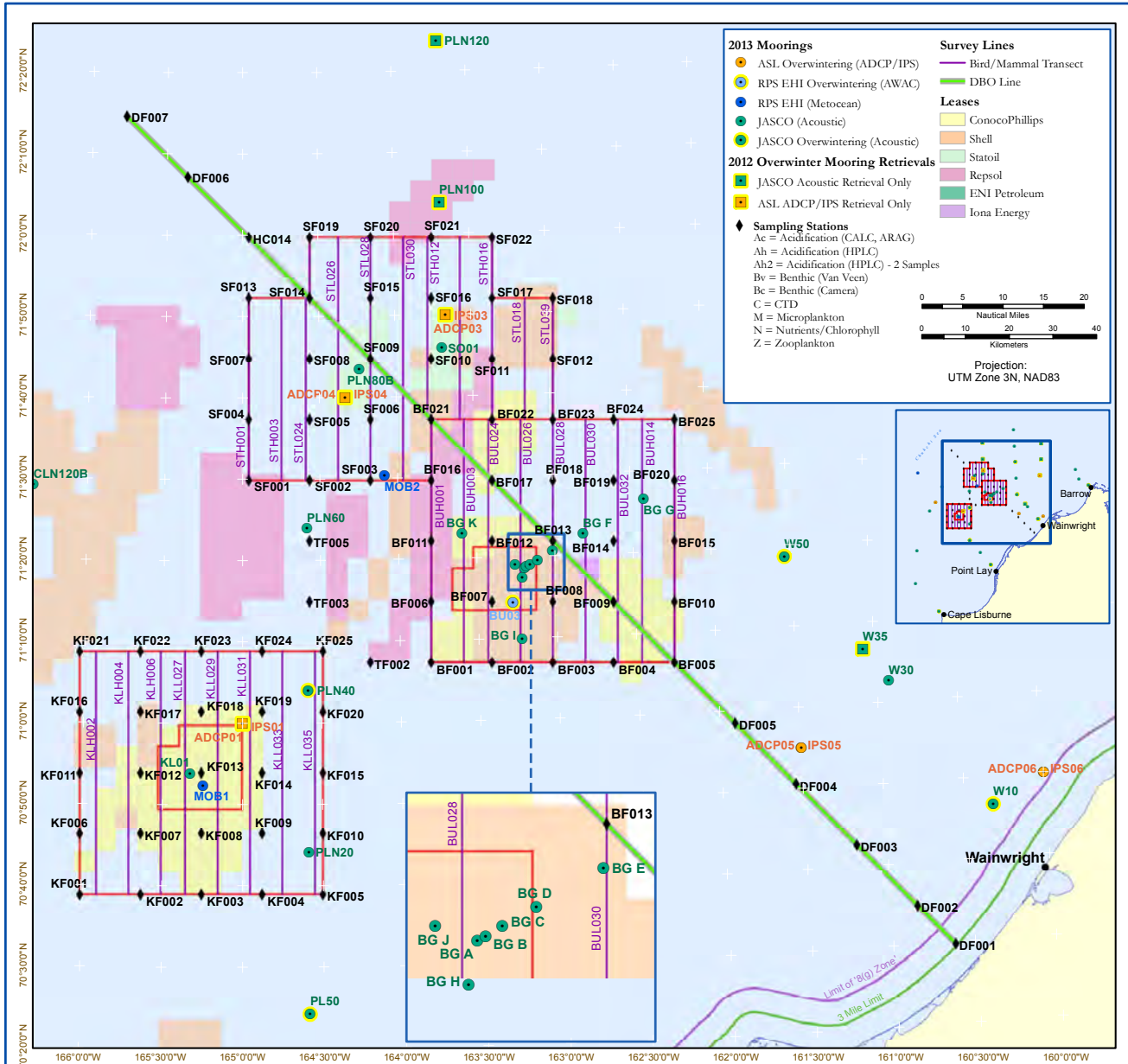


Projection:
UTM Zone 3N, NAD83



2013 Chukchi Baseline Studies Program - Hanna Shoal Region

As of June 24, 2013



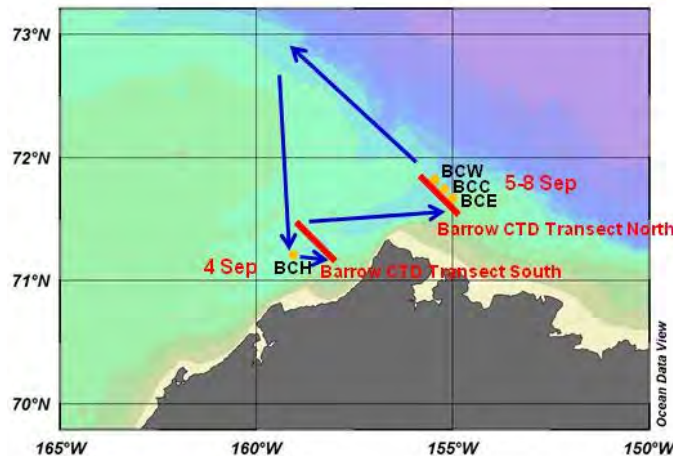
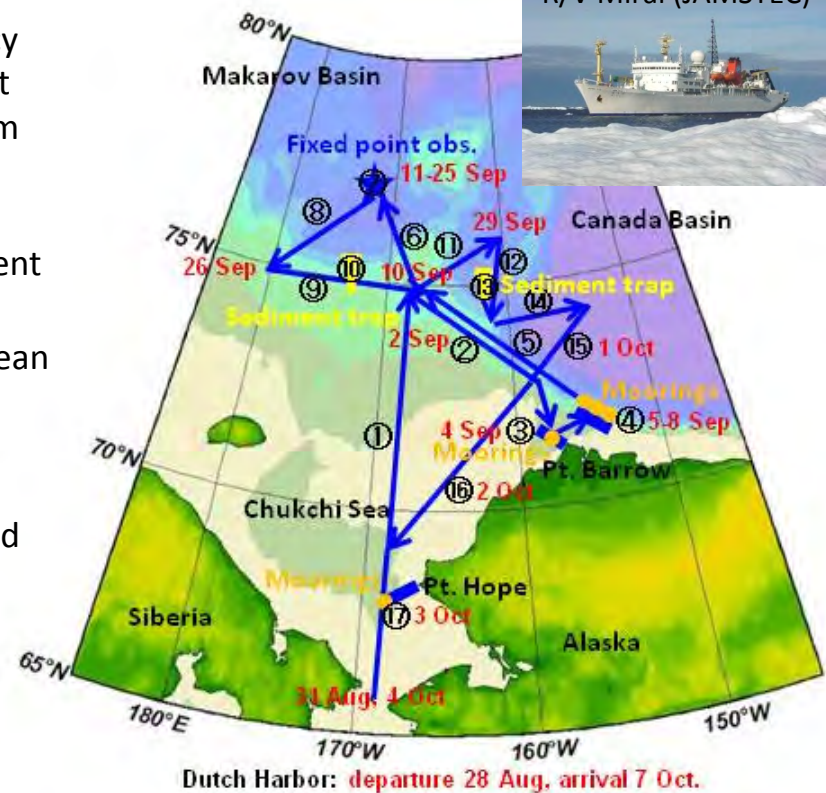
R/V Mirai Arctic Ocean cruise in Aug.-Oct.. 2013

- The Research Vessel Mirai (R/V Mirai) belonging to Japan Agency for Marine-Earth Science and Technology (JAMSTEC) will conduct hydrographic and meteorological surveys in the Arctic Ocean from the late August to early October.

- The objective of this cruise is to quantify on-going changes in ocean, atmosphere, and ecosystem, which are related to the recent Arctic warming and sea ice reduction.

- The observational activities consist of CTD/XCTD, turbulence ocean microstructure measurement, water samplings, plankton net samplings, ship-board ocean current and surface water monitorings, general meteorological monitoring, radiosonde, Doppler radar, sea bottom topography, gravity, and magnetic field measurements, and mooring and sediment trap recoveries & deployments.

- Estimated date when the R/V Mirai will arrive at the Barrow Canyon and work in the area is to be around 4-8 September. Planned locations of CTD/XCTD and moorings are shown below.



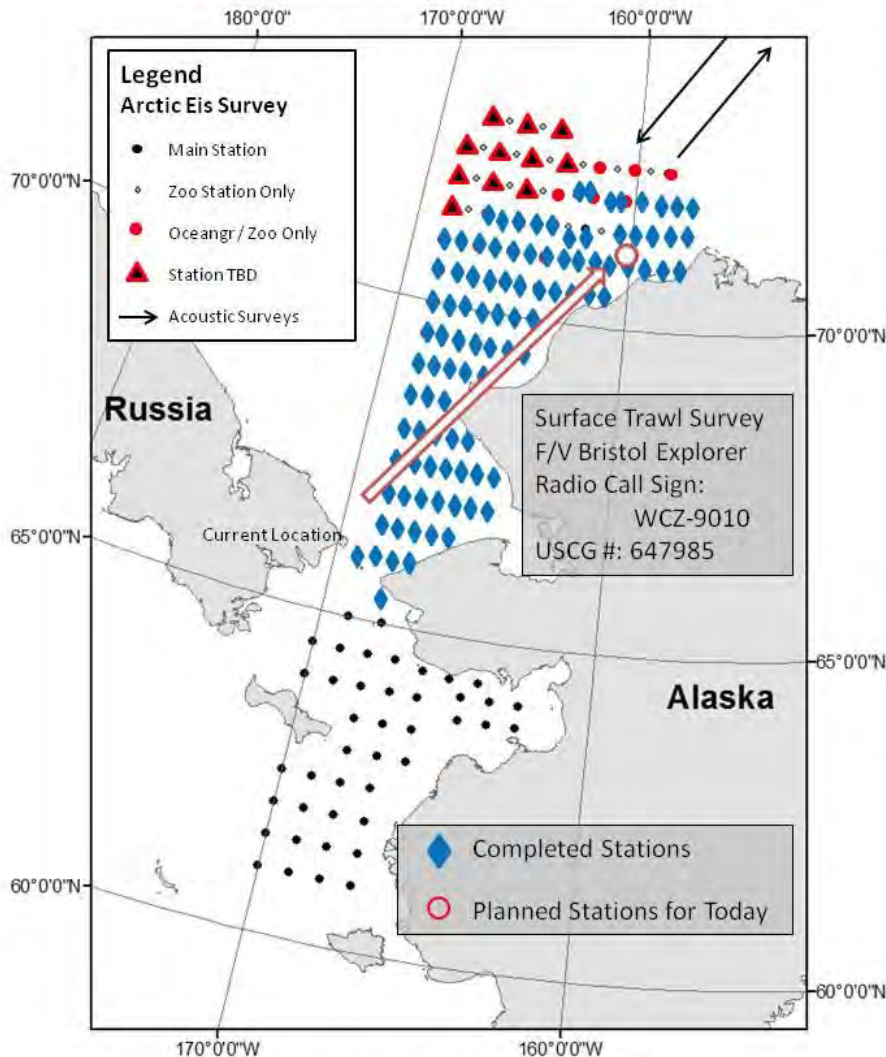
Barrow CTD Transect South (Hot Spot Transect)		
sta. 001	71°34.70' N, 157°50.30'W	
sta. 002	71°32.20' N, 157°45.20'W	
sta. 003	71°29.80' N, 157°40.10'W	
sta. 004	71°27.30' N, 157°35.00'W	
sta. 005	71°24.80' N, 157°29.90'W	
sta. 006	71°22.30' N, 157°24.90'W	
sta. 007	71°19.80' N, 157°19.90'W	
sta. 008	71°17.30' N, 157°14.90'W	
sta. 009	71°14.80' N, 157°09.90'W	
Barrow CTD Transect North		
sta. 010	71°55.90' N, 155°39.41'W	
sta. 011	71°51.99' N, 155°29.73'W	
sta. 012	71°48.74' N, 155°17.60'W	
sta. 013	71°45.91' N, 155°14.27'W	
sta. 014	71°44.05' N, 155°07.16'W	
sta. 015	71°41.90' N, 155°03.91'W	
sta. 016	71°40.83' N, 154°58.42'W	
sta. 017	71°38.48' N, 154°55.19'W	
sta. 018	71°36.52' N, 154°50.63'W	
Barrow Canyon Mooring		
BCW	71°48'N, 155°20'W;	BCC 71°44'N, 155°07'W
BCE	71°40'N, 155°00'W;	BCH 71°12'N, 159°00'W

Map & table of CTD/XCTD and mooring locations around the Barrow Canyon

2013 Arctic Ecosystem Integrated Survey



Date: September 8, 2013

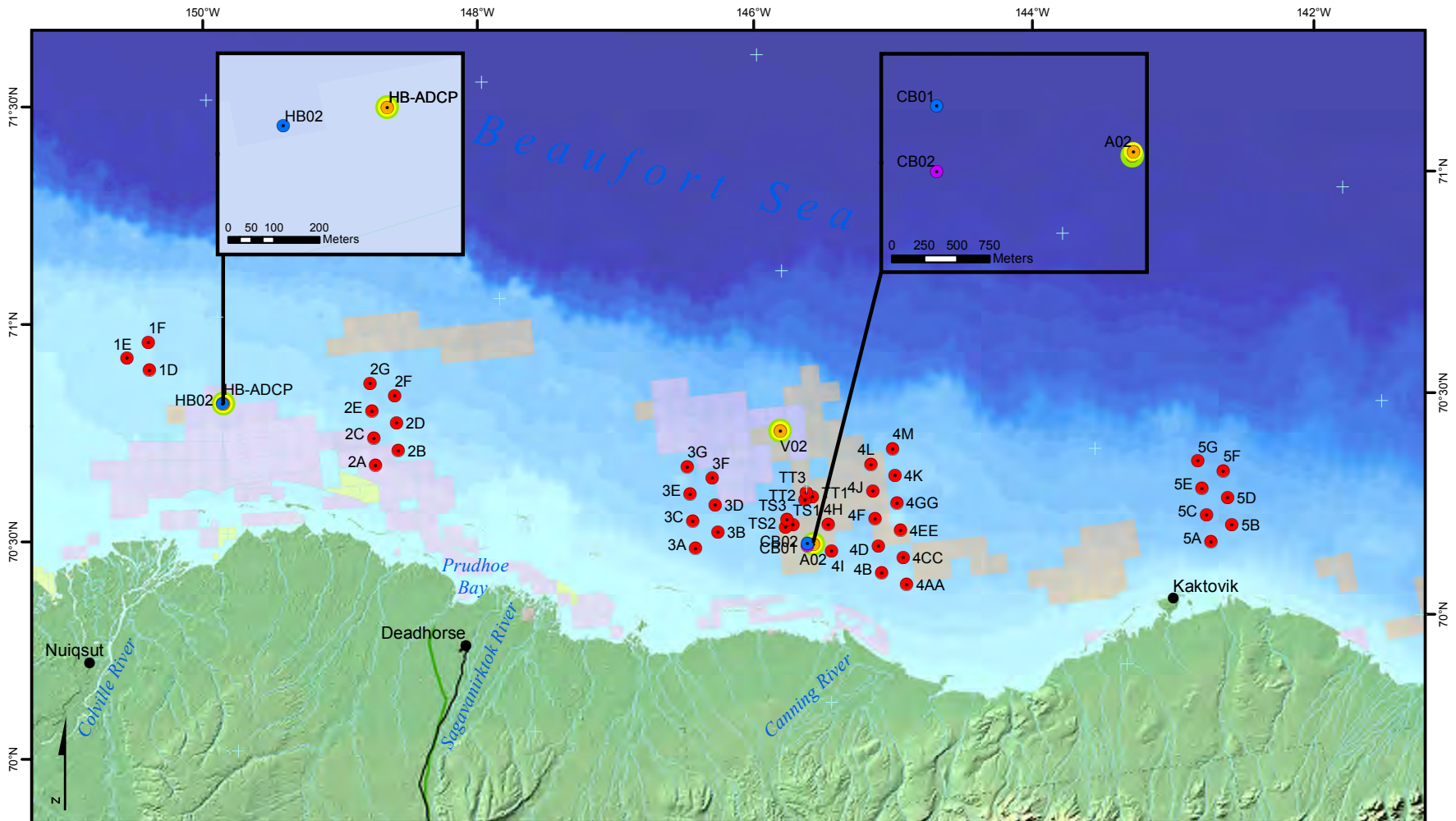


The F/V Bristol Explorer conducted a surface trawl / acoustic survey, as well as plankton and oceanographic surveys, in the Chukchi Sea and northern Bering Sea

August 3-September 8, 2013

*Note: Zoo Stations include a cable attached FastCat CTD sensor for oceanography.

arctic.eis@alaska.edu

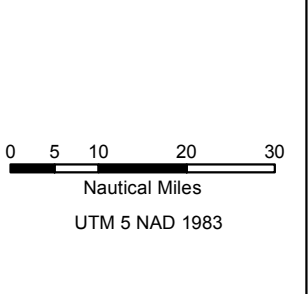


Moorings

- Metocean
- AWAC
- ADCP/IPS Pairs - Overwintering 2013
- ADCP/IPS Pairs - Overwintering 2012
- Acoustic - Summer Only
- Acoustic - Overwintering 2013
- Acoustic - Overwintering 2012

Leases

- ConocoPhillips
- Shell
- Statoil
- Other
- Major Roads
- Trans-Alaska Pipeline



Beaufort Sea Studies Plan
Proposed 2013 Deployments

May 31, 2013

