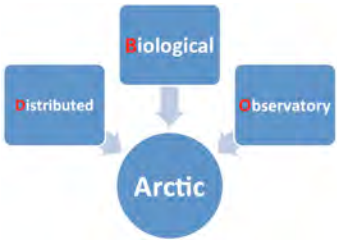
The Distributed Biological Observatory (DBO): Lower trophic data collections 2010-2014

Lower trophic level group: Cho, Eisner, Varela, Ashjian, Hopcroft, Nelson, Blanchard, Grebmeier

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

2nd DBO Data Workshop
October 29-31, 2014
PMEL/NOAA
Seattle, Washington, USA



The Distributed Biological Observatory (DBO): Lower trophic data collections 2010-2014

Jacqueline M. Grebmeier

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University of Maryland Center for Environmental Science, Solomons, MD, USA

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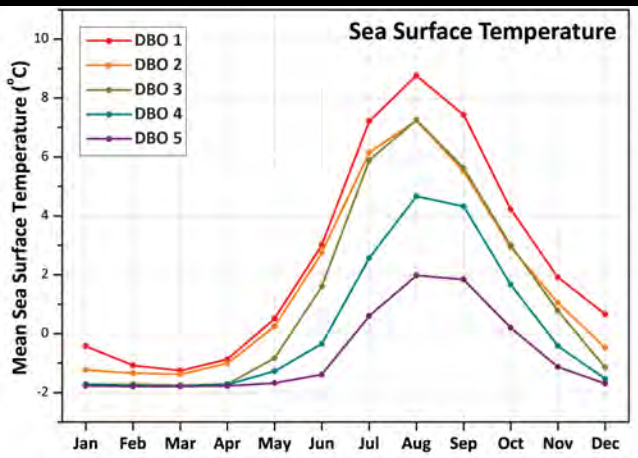
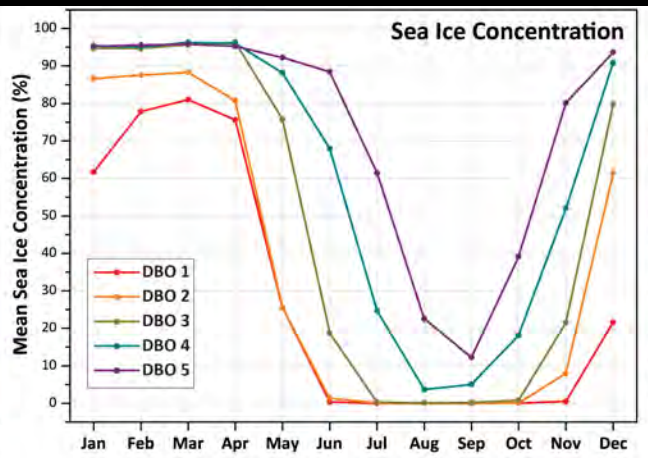
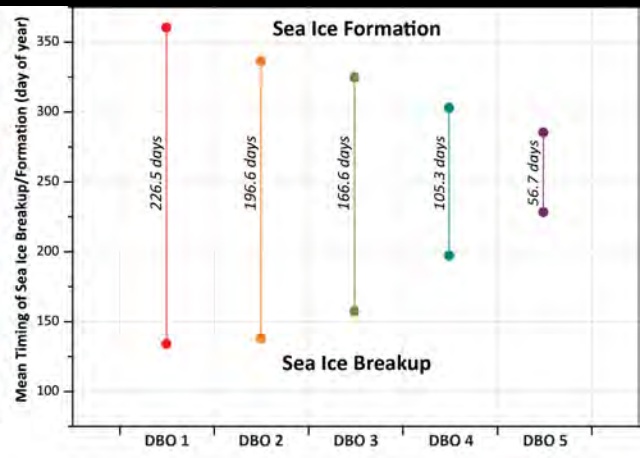
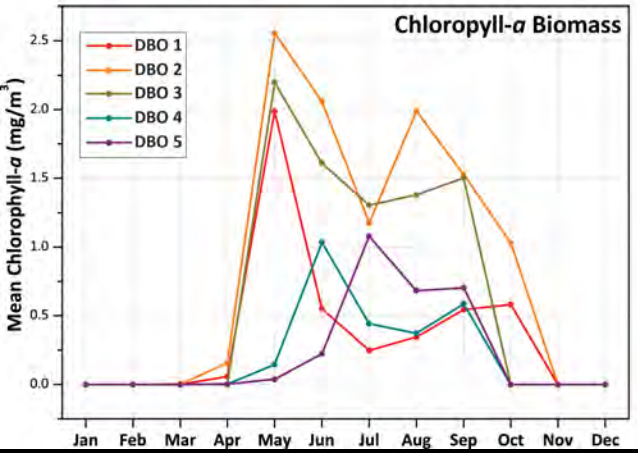
A Climatology of the DBO Sites

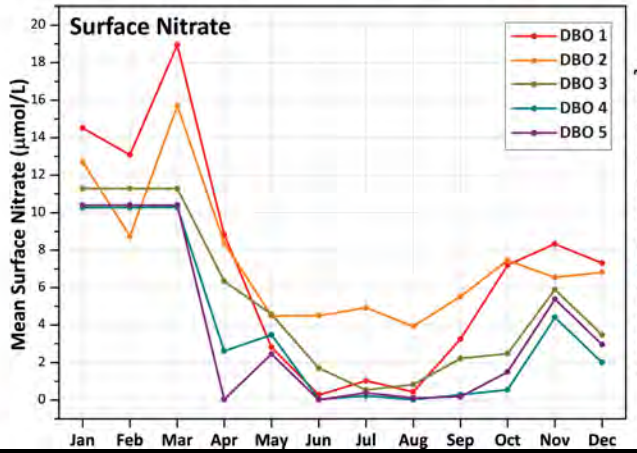
Sea Surface Temperature (AVHRR)
Sea Ice Concentration (SMMR/SSMI)
Sea Ice Breakup/Formation Timing (SMMR/SSMI)
Chlorophyll-*a* Biomass (Globcolour)
Surface Nitrate (World Ocean Atlas)
Solar Insolation (NASA)

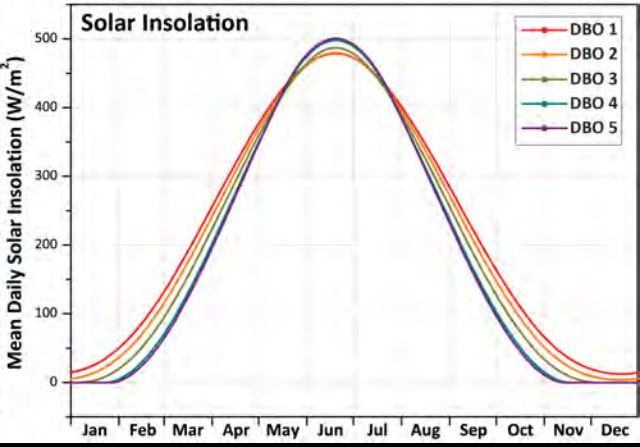




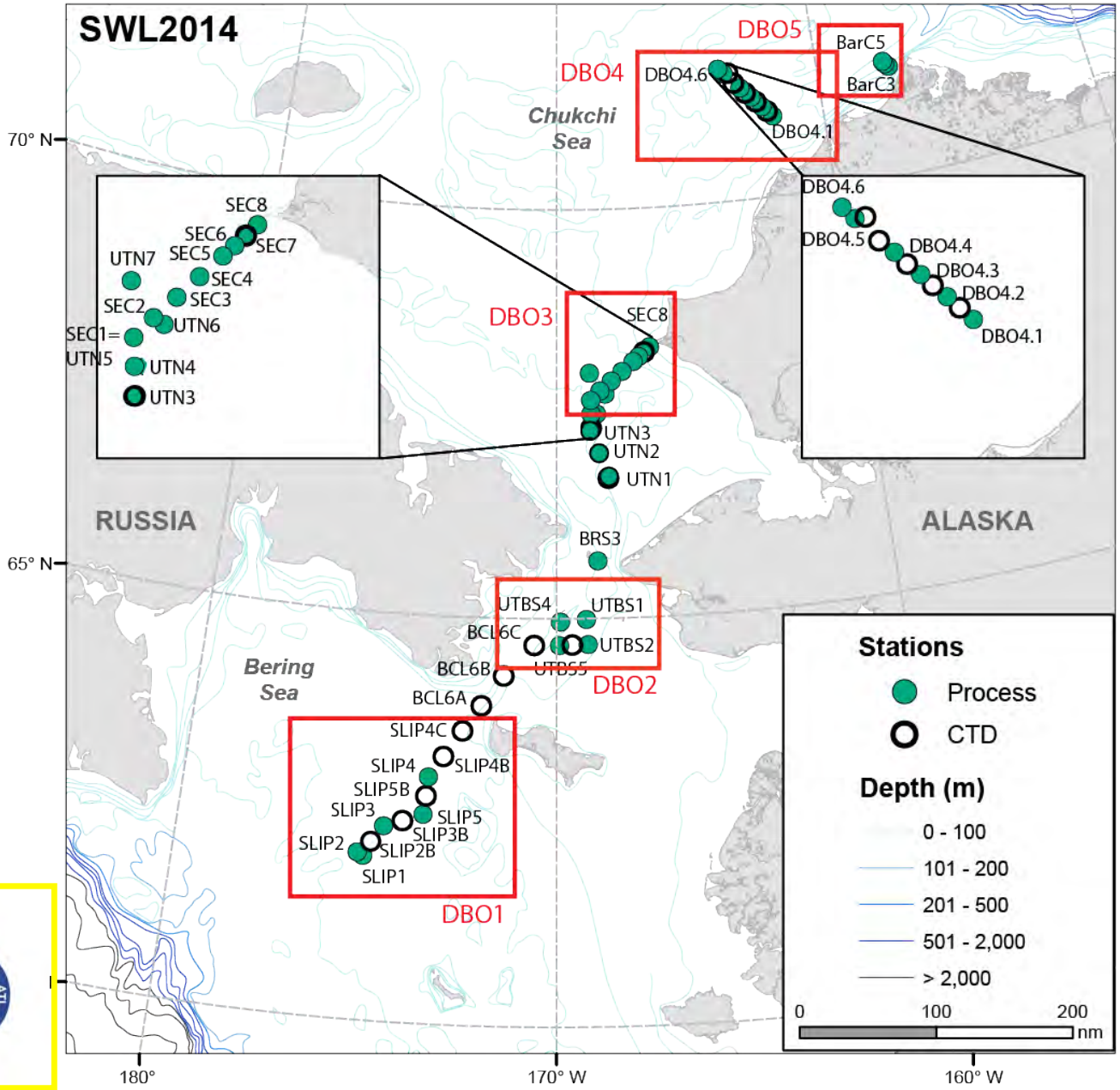








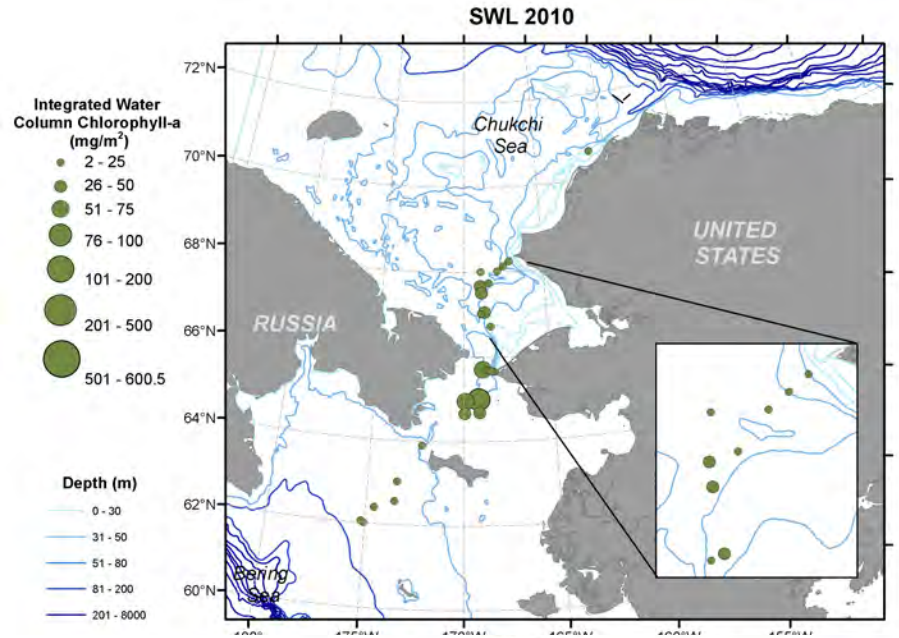
[courtesy Karen Frey]

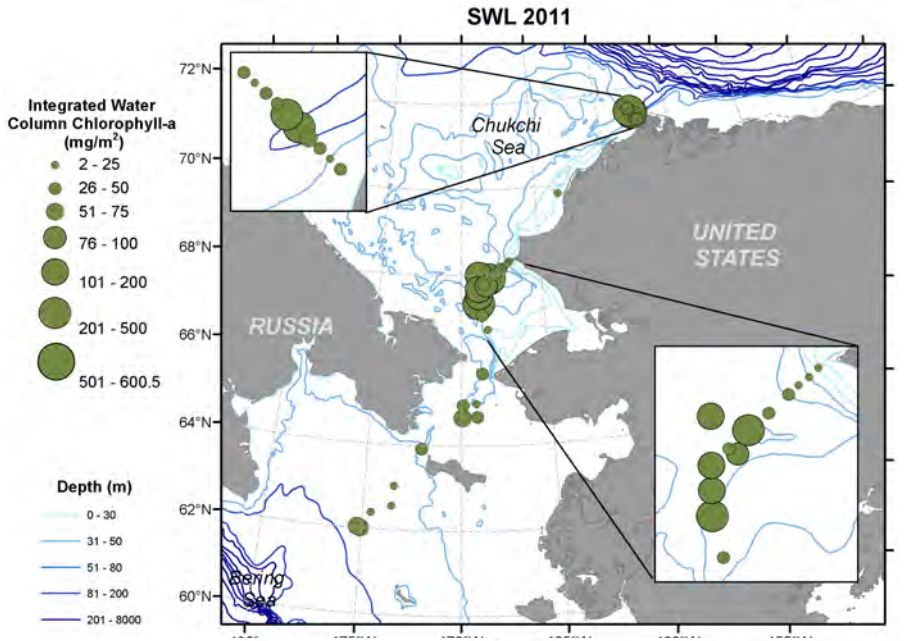


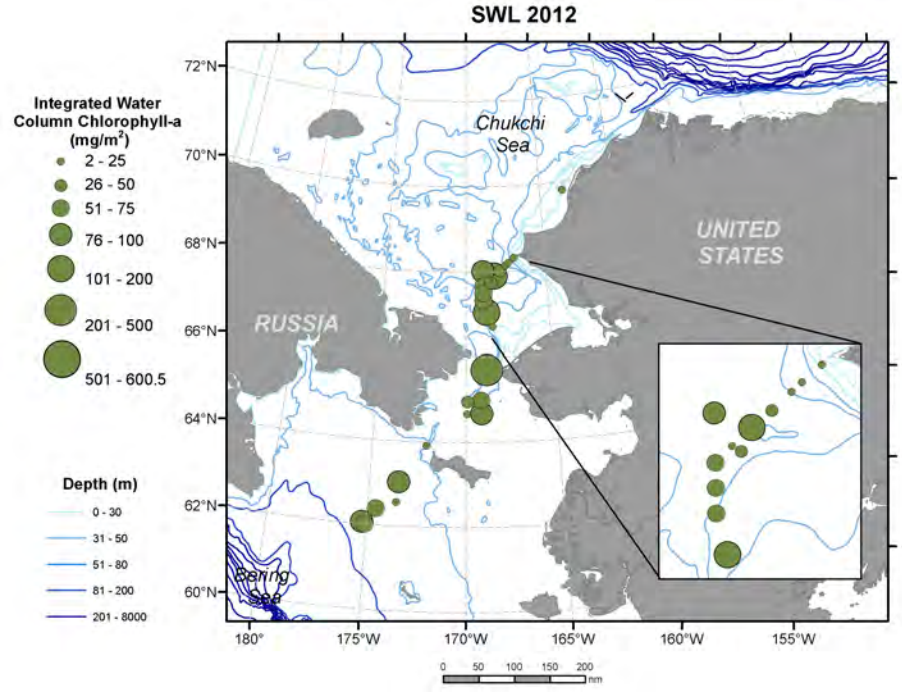
C3O ARC PAC ATL Canada's Three Ocean's

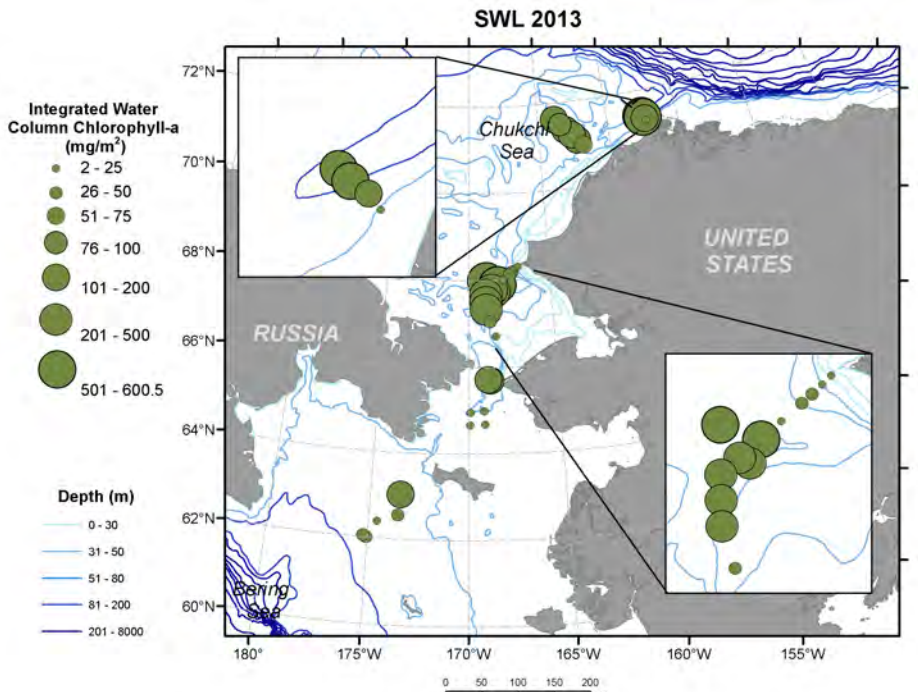
Biological Distributed Observatory Arctic

DBO Integrated Chlorophyll a (mg/m2) during July

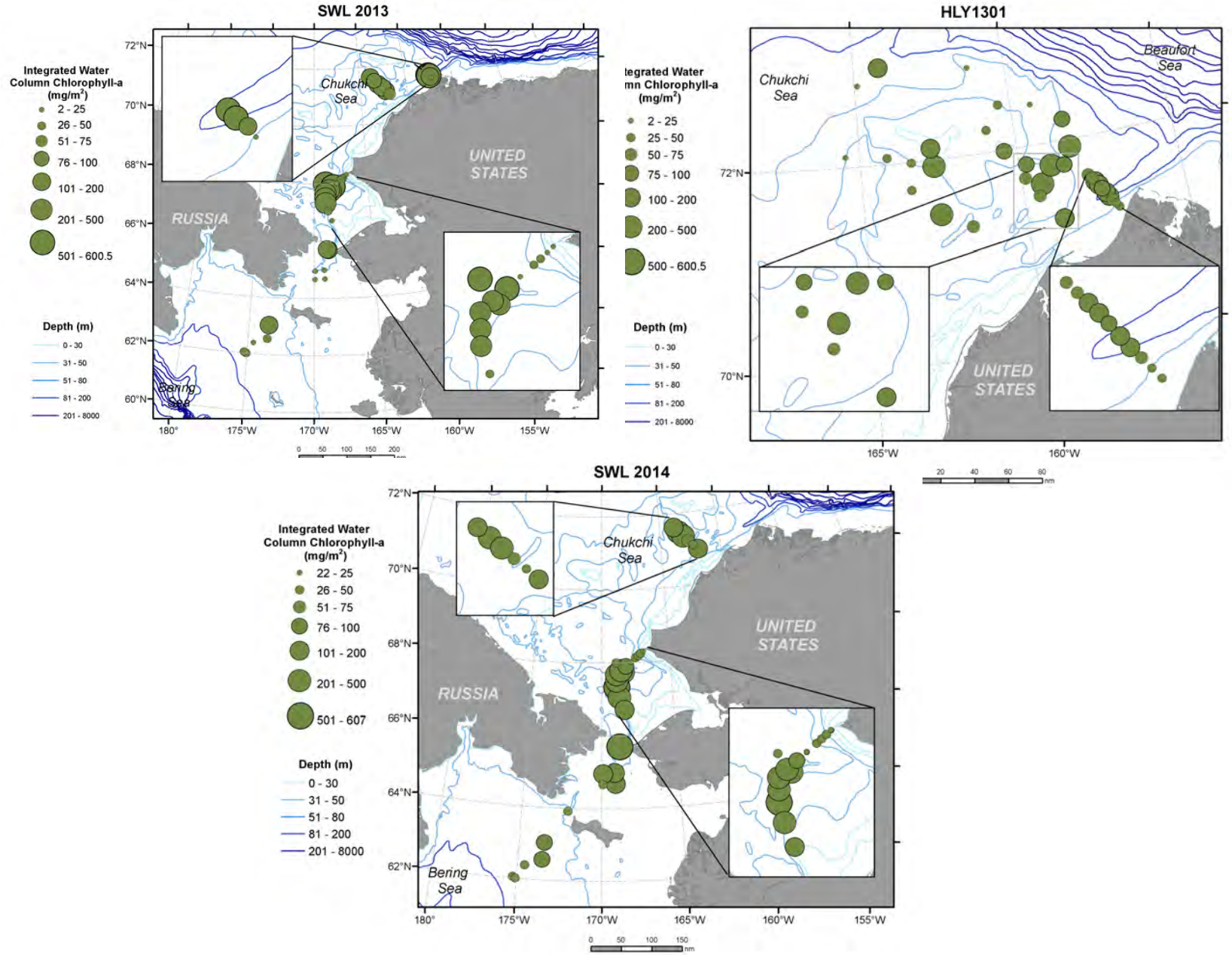




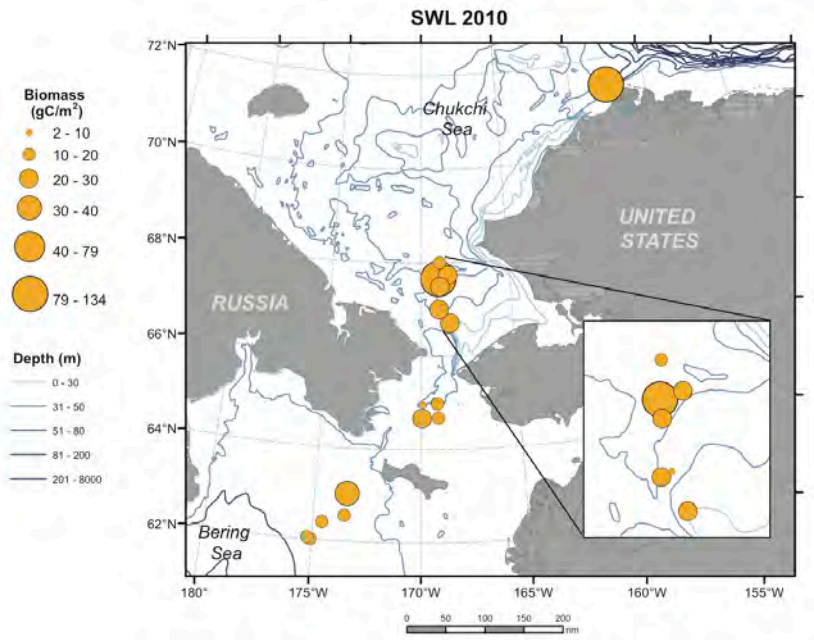


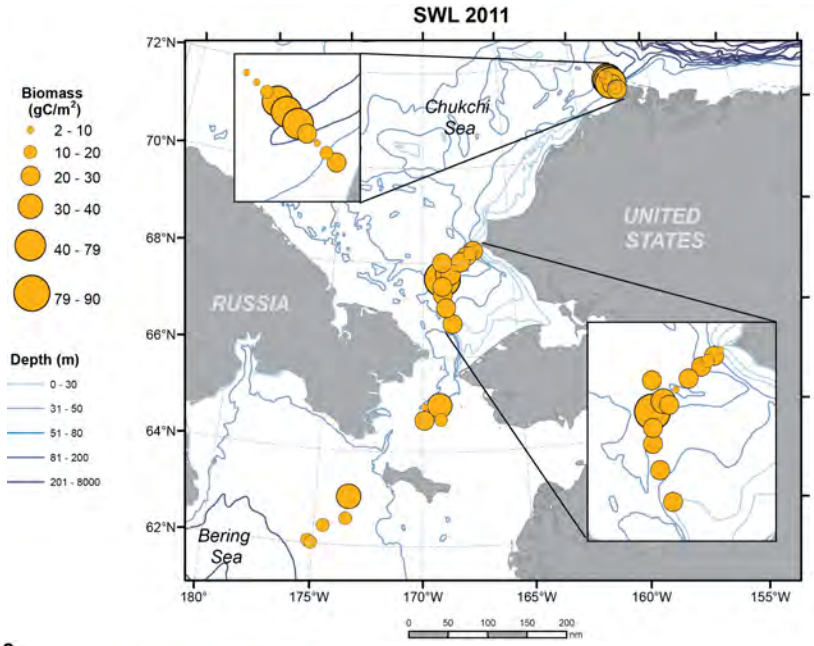


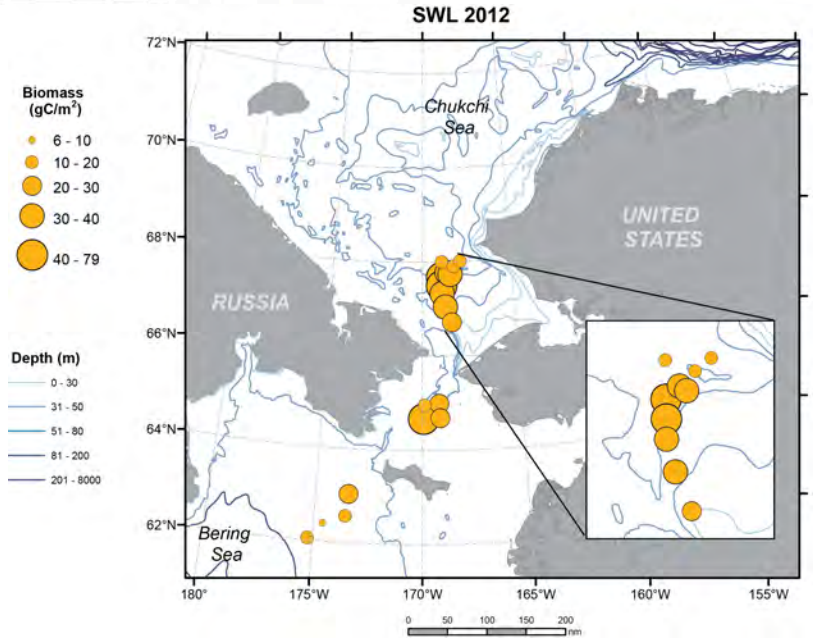
Integrated Chl a 2013 July and August and 2014 July



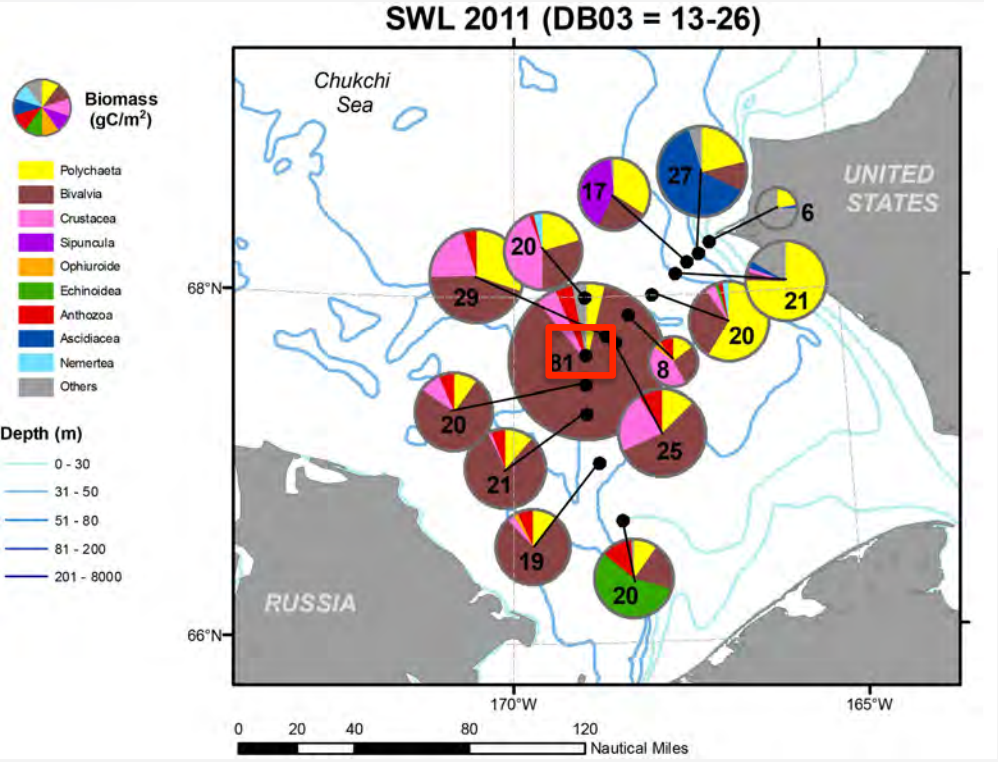
Distribution of macroinfaunal biomass (gC/m2) 2010-2012

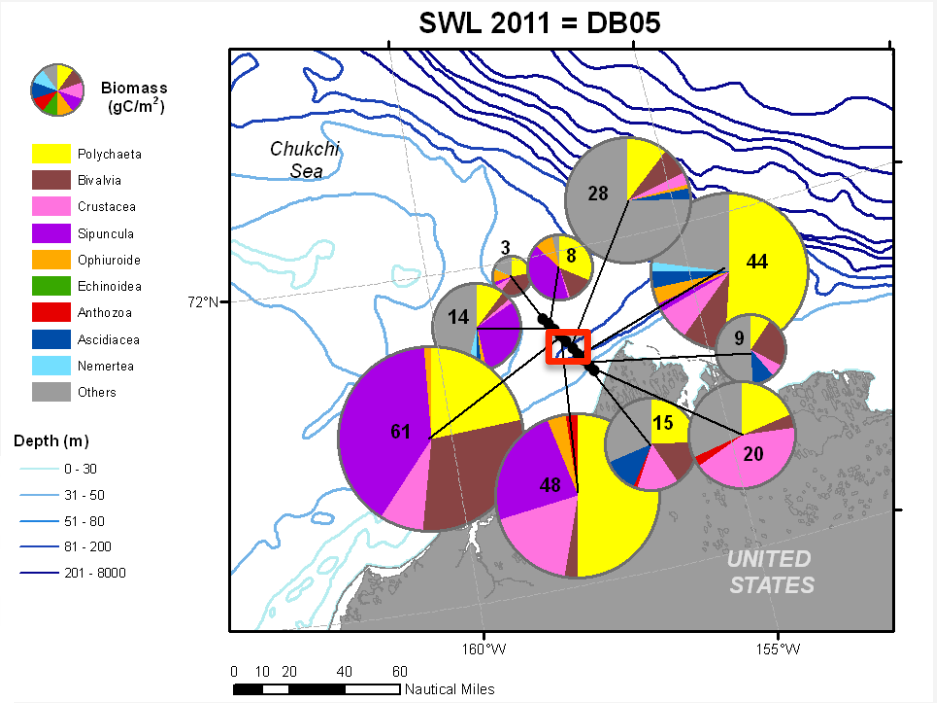






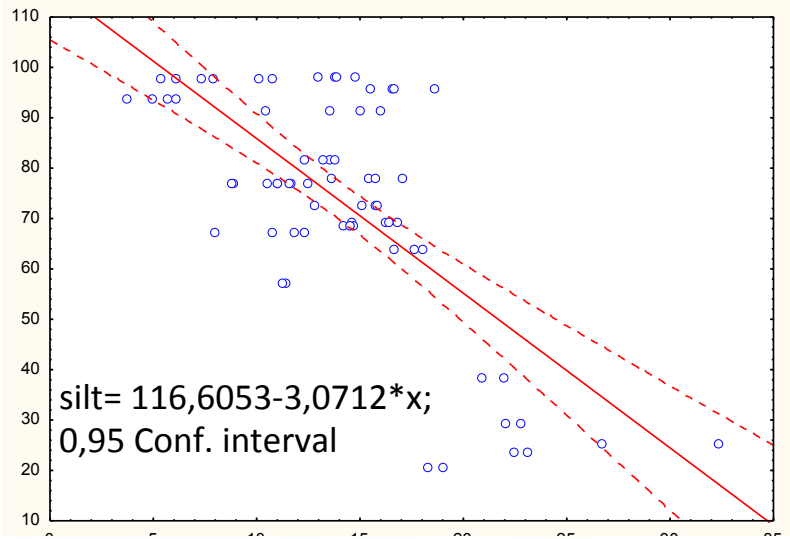
DBO Chukchi Sea Benthic macroinfaunal biomass- July 2011





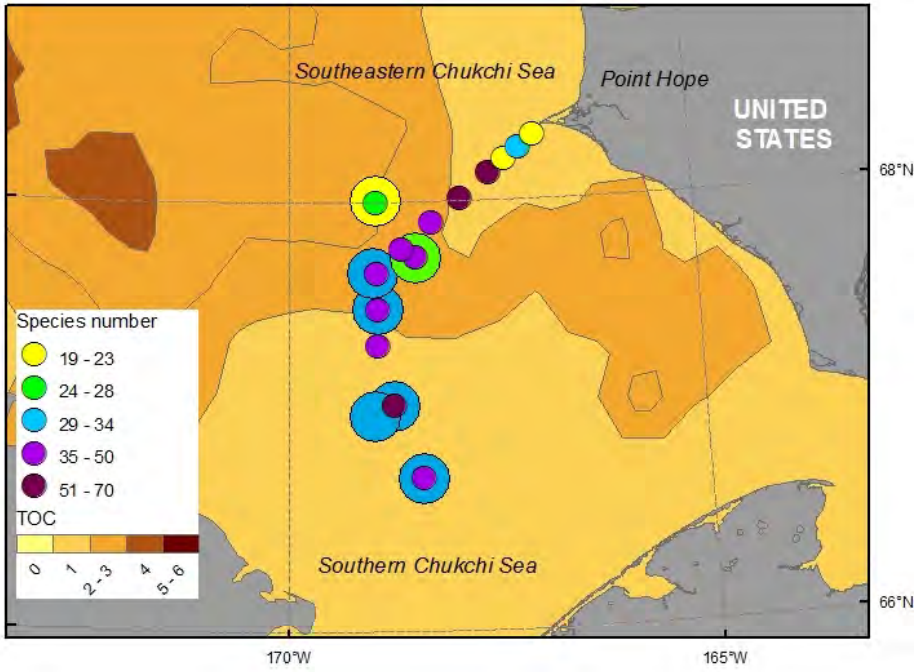
[J. Grebmeier]

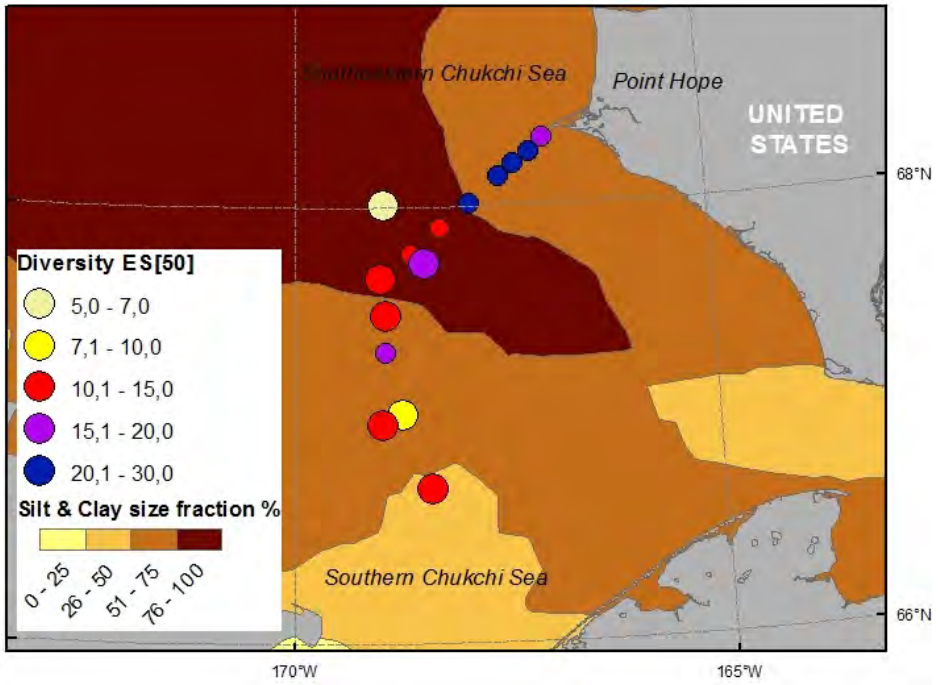
Southern and southeastern Chukchi Sea-2011 C30



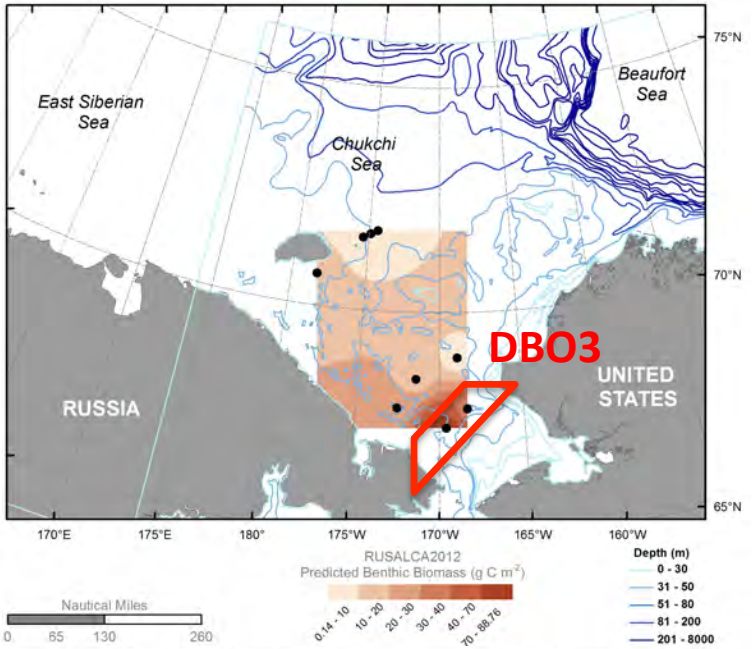
Spearman correlations:
Diversity & coarse sand/gravel: 0.51*
Diversity & fine sand: 0.47*
Diversity & silt: -0.52*
Diversity & TOC : -0.57*

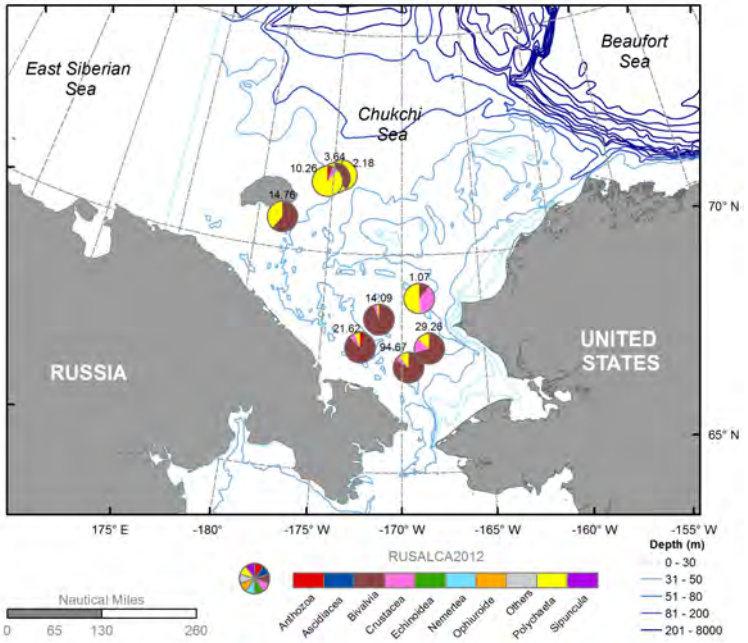
[Monika Kedra, CBL]

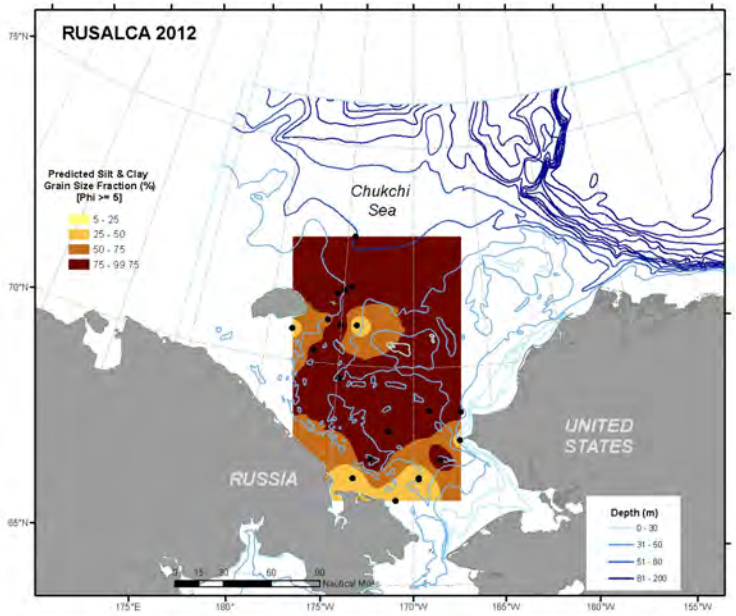


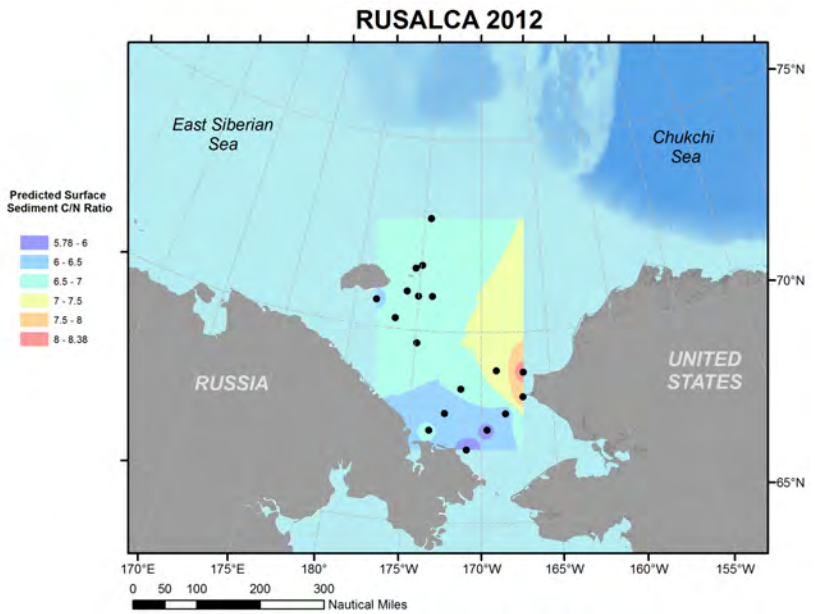


Benthic data for RUSALCA12

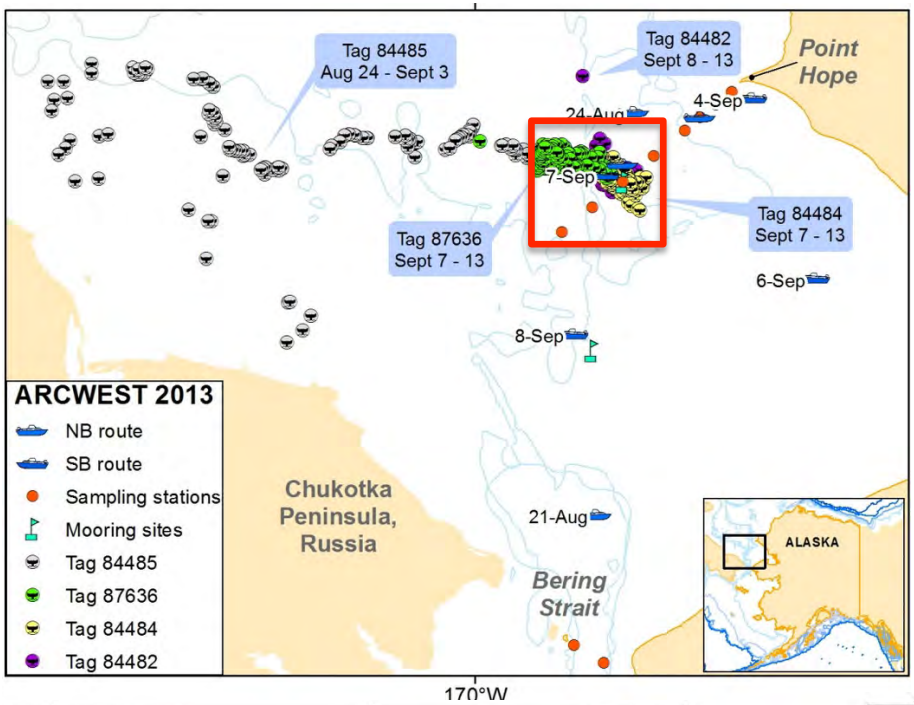
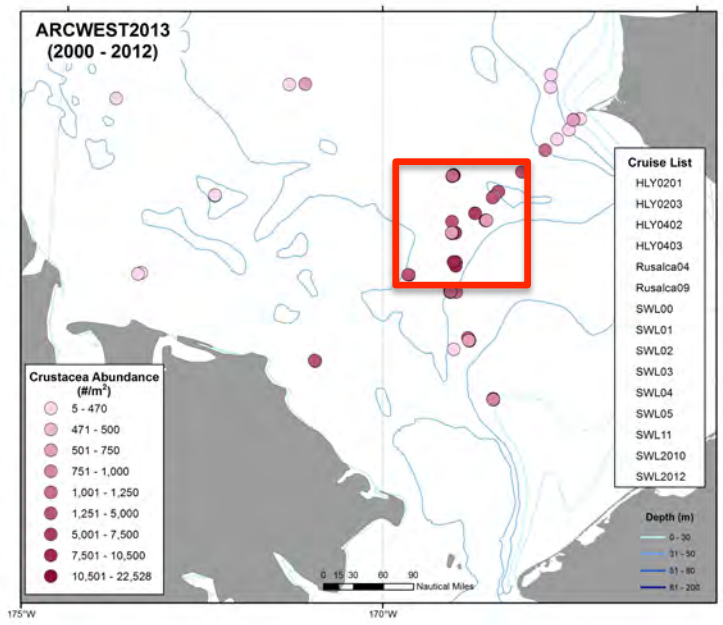
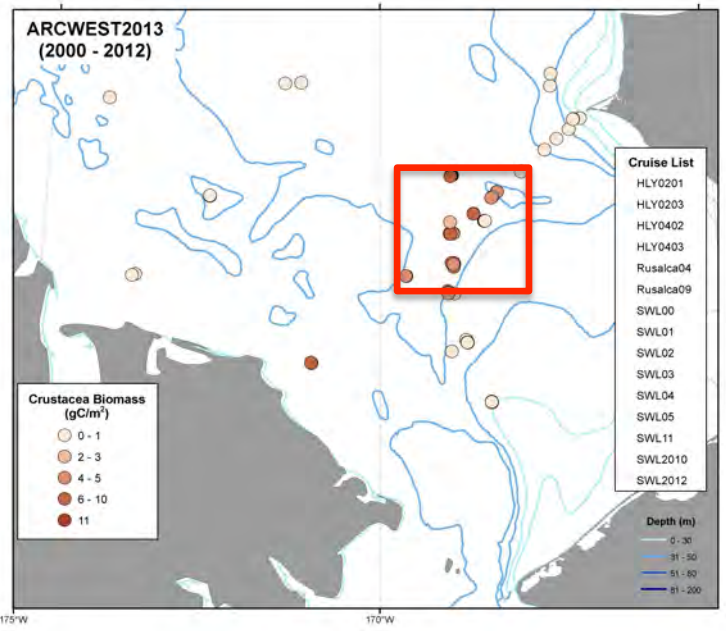








Tagged gray whales and benthic crustaceans-SE Chukchi Sea



- Tagged gray whales in DBO SE Chukchi Sea hotspot; then moved westwards
- Benthic crustaceans highest abundance and biomass in hotspot and SW off Russian coast, lower westward