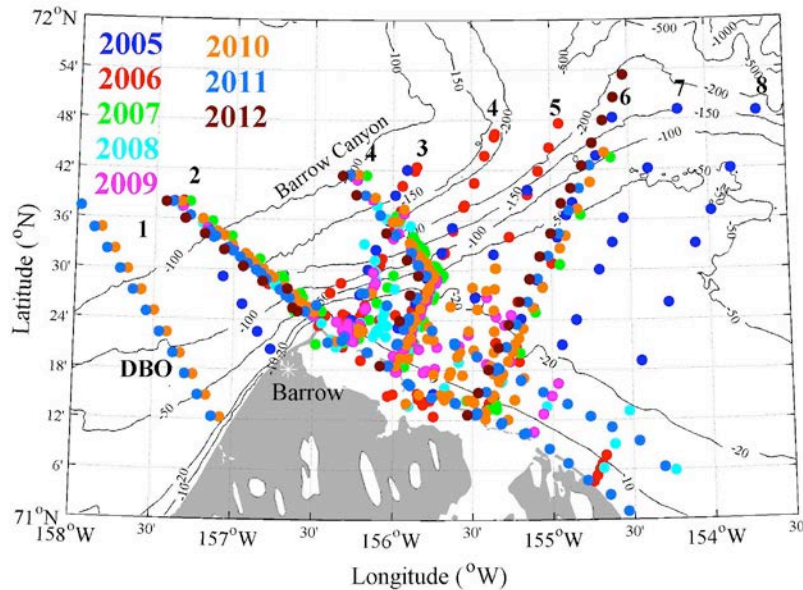


DBO Observations on Barrow Transect

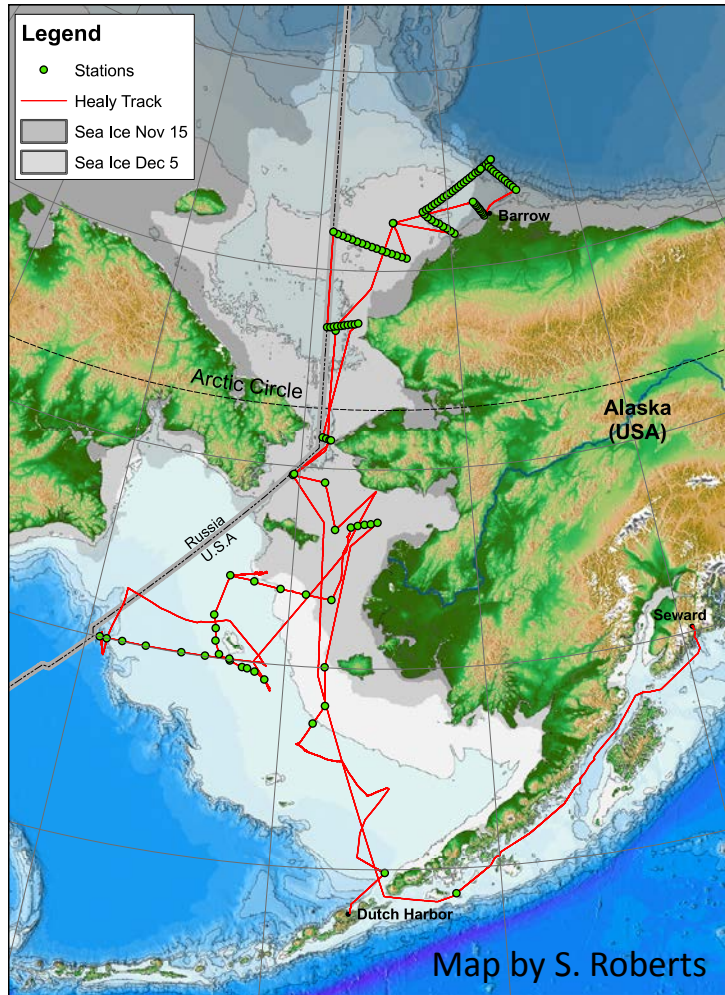
Carin Ashjian (WHOI), Bob Campbell
(URI), Steve Okkonen (UAF)

DBO 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; weather was too awful in 2012 to do DBO Line
- CTD equipped with fluorescence and PAR, Acrobat towed vehicle equipped with CTD, chlorophyll and DCMU fluorometer, and optical backscatter
- ADCP
- Ring nets (150 μ m) and Tucker Trawl
- Microzooplankton, chlorophyll, flow cytometry, and nutrients at 0, 10, 40 m
- Birds and marine mammals, 2010: dedicated birder, 2011: observations by non-birders/marine mammal observers

Cruise on *USCGC Healy* (HLY1104)



- DBO Line sampled on Nov 23-24, 2011
- Line was sea ice covered when sampling occurred
- Sun did not rise during sampling
- Sampling:
 - CTD w/fluorometer, oxygen sensor, PAR
 - ADCP
 - Bongo nets (53, 150 μm)
 - Nutrients, chlorophyll, oxygen, flow cytometry, (microzooplankton)
 - Phytoplankton composition (Laney)
 - Organic carbon, bacteria (Longnecker)
 - Seabirds (and marine mammals)

Hydrography, chlorophyll, velocity

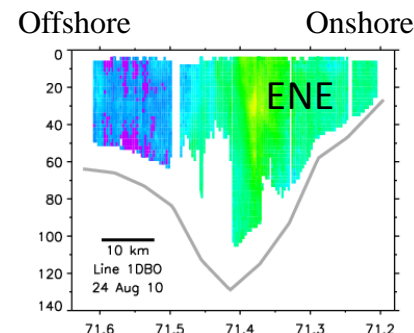
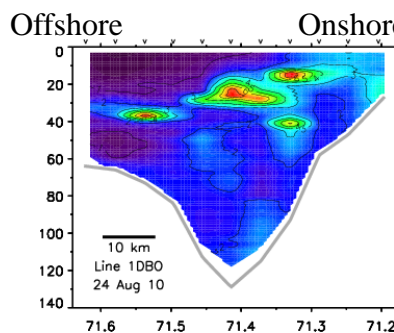
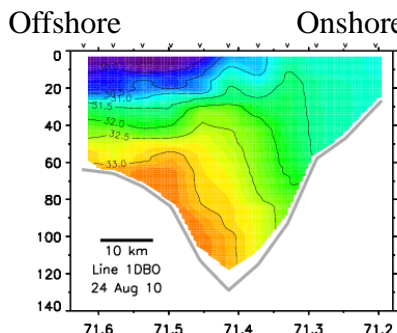
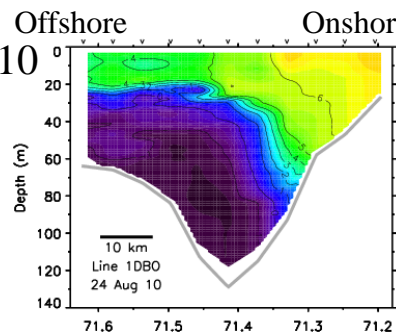
Temperature

Salinity

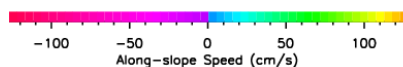
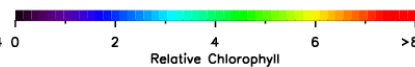
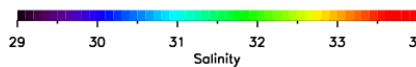
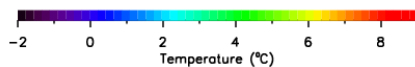
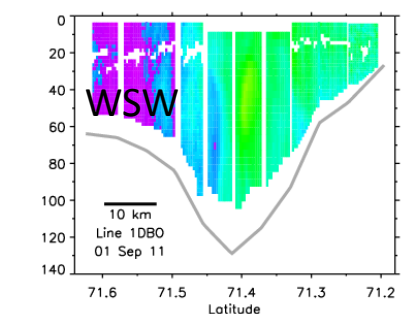
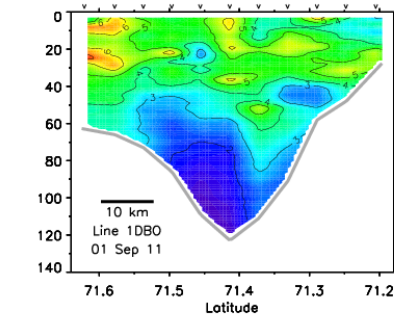
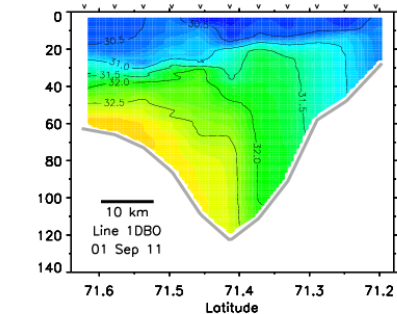
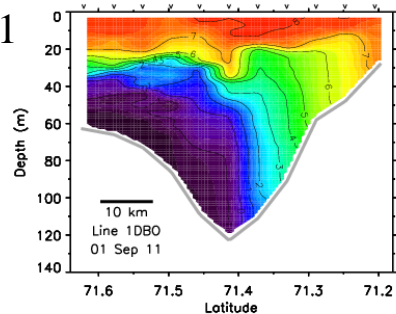
Relative Chlorophyll

Along-Canyon Velocity

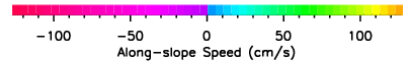
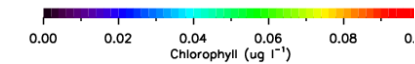
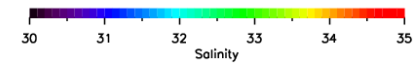
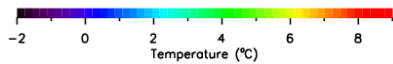
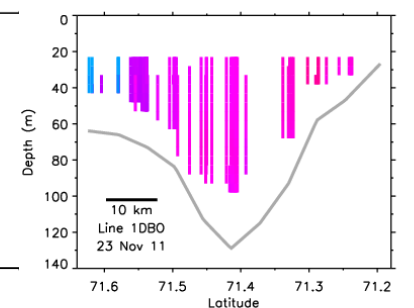
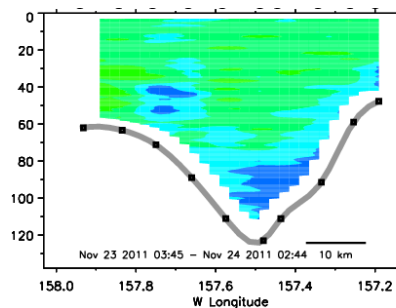
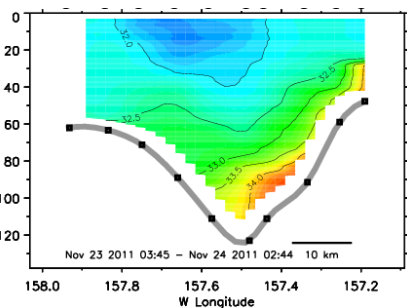
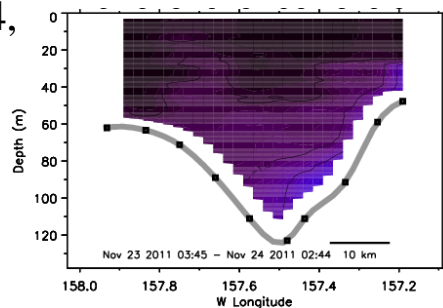
Aug. 24, 2010



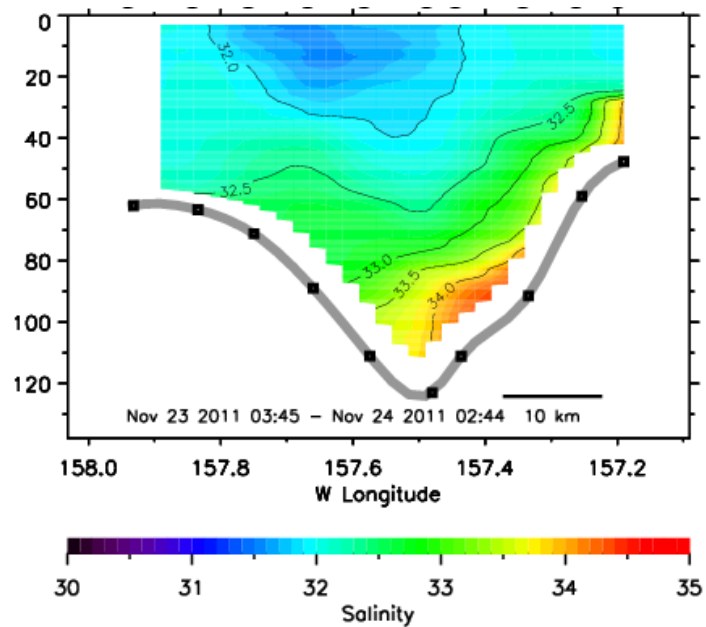
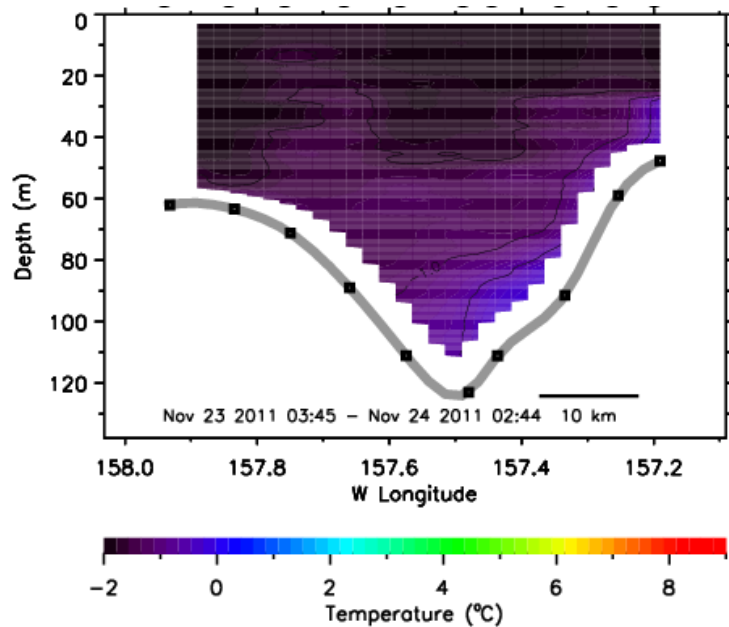
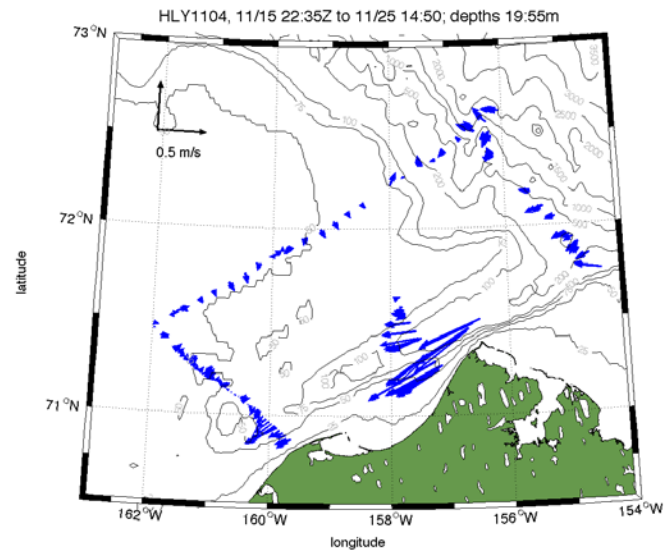
Sept. 1, 2011



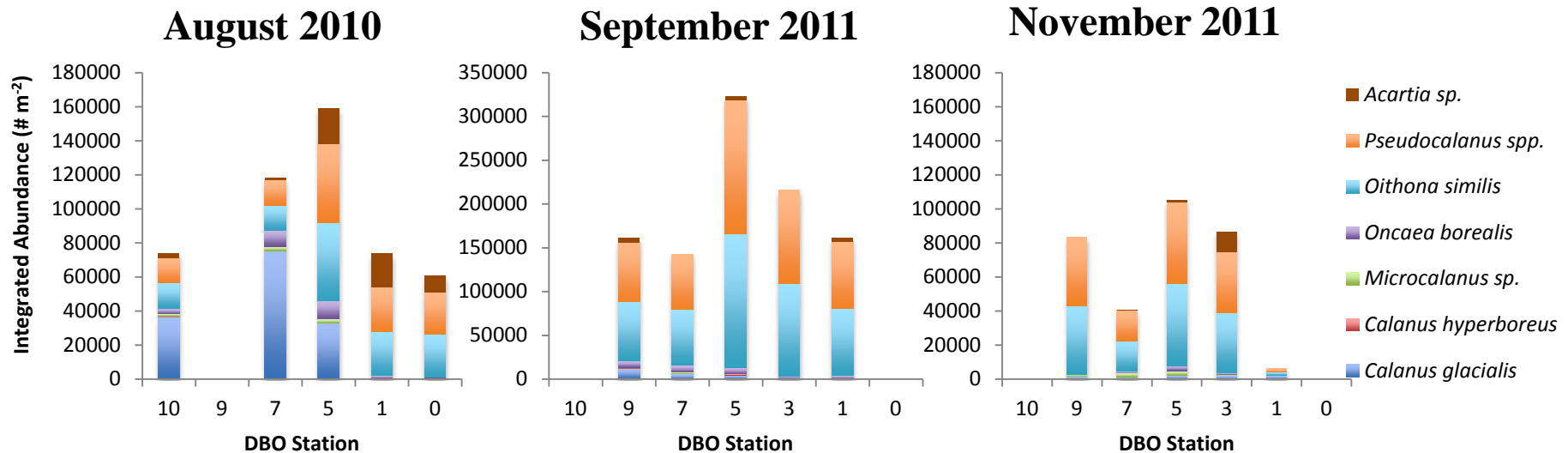
Nov. 23-24, 2011



November 2011



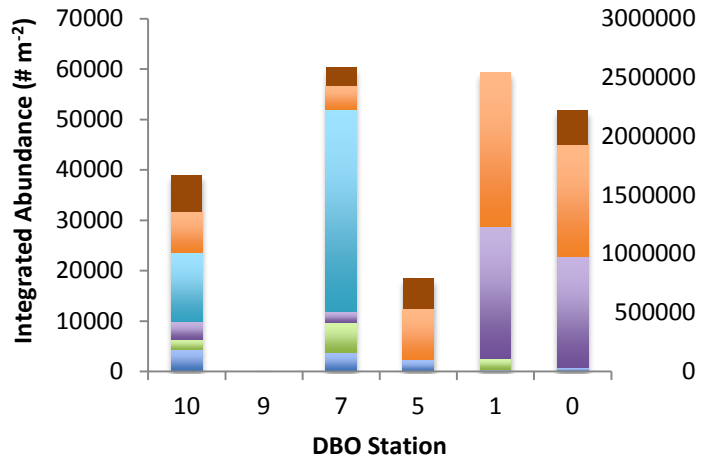
Water Column Abundance of Dominant Copepods



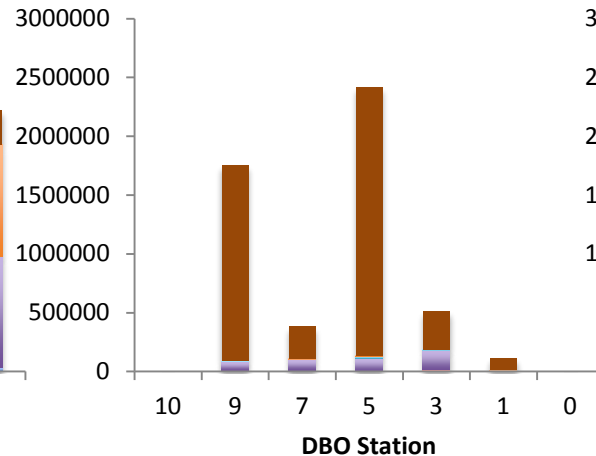
- Abundance in fall greater in 2011 than in 2010
- Species composition also differed between the two years
- (*C. glacialis* important in 2010, *Oithona* and *Pseudocalanus* in 2011)
- Lowest abundances in early winter 2011
- Species composition was similar between both fall and early winter of 2011

Water Column Abundance of Non-Copepods

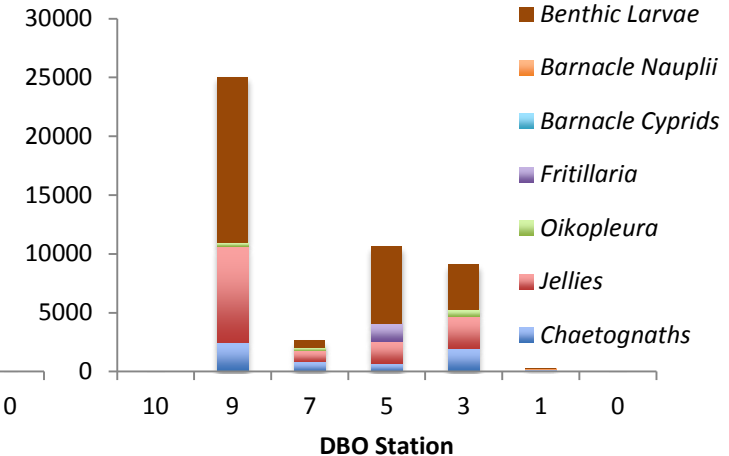
August 2010



September 2011



November 2011



- Highest abundances in September 2011
- September 2011 abundances were dominated by benthic larvae, particularly echinoderm larvae
- Not surprisingly, abundances of all forms were lowest in the early winter

Bowfest WBC: Sep 2010 – present

AON EBC: Aug 2010 - present

