

The Distributed Biological Observatory (DBO) Hydrography For ICESCAPE and SWL cruises

Lee W. Cooper

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

OUTLINE

- Nutrients, chlorophyll CCGS Sir Wilfrid Laurier cruises: 2010-2012 (and previous years)
- CTD, nutrients, chlorophyll USCGC Healy, COMIDA Hanna Shoal 2012-2013
- Data from ICESCAPE (nutrients, chlorophyll)-Kevin Arrigo

DBO Data Meeting

February 27–March 1, 2013

NOAA/PMEL, 7600 Sand Point Way NE, Bldg. 3

Seattle, Washington, USA

Distributed Biological Observatory: Linking Physics to Biology

Core standardized ship-based sampling:

- CTD
- Chlorophyll
- Nutrients
- Ice algae/Phytoplankton (size, biomass and composition)
- Zooplankton (size, biomass and composition)
- Benthos (size, biomass and composition)
- Seabird (standard transects, no additional shiptime)
- Marine mammal observations (no additional ship time)

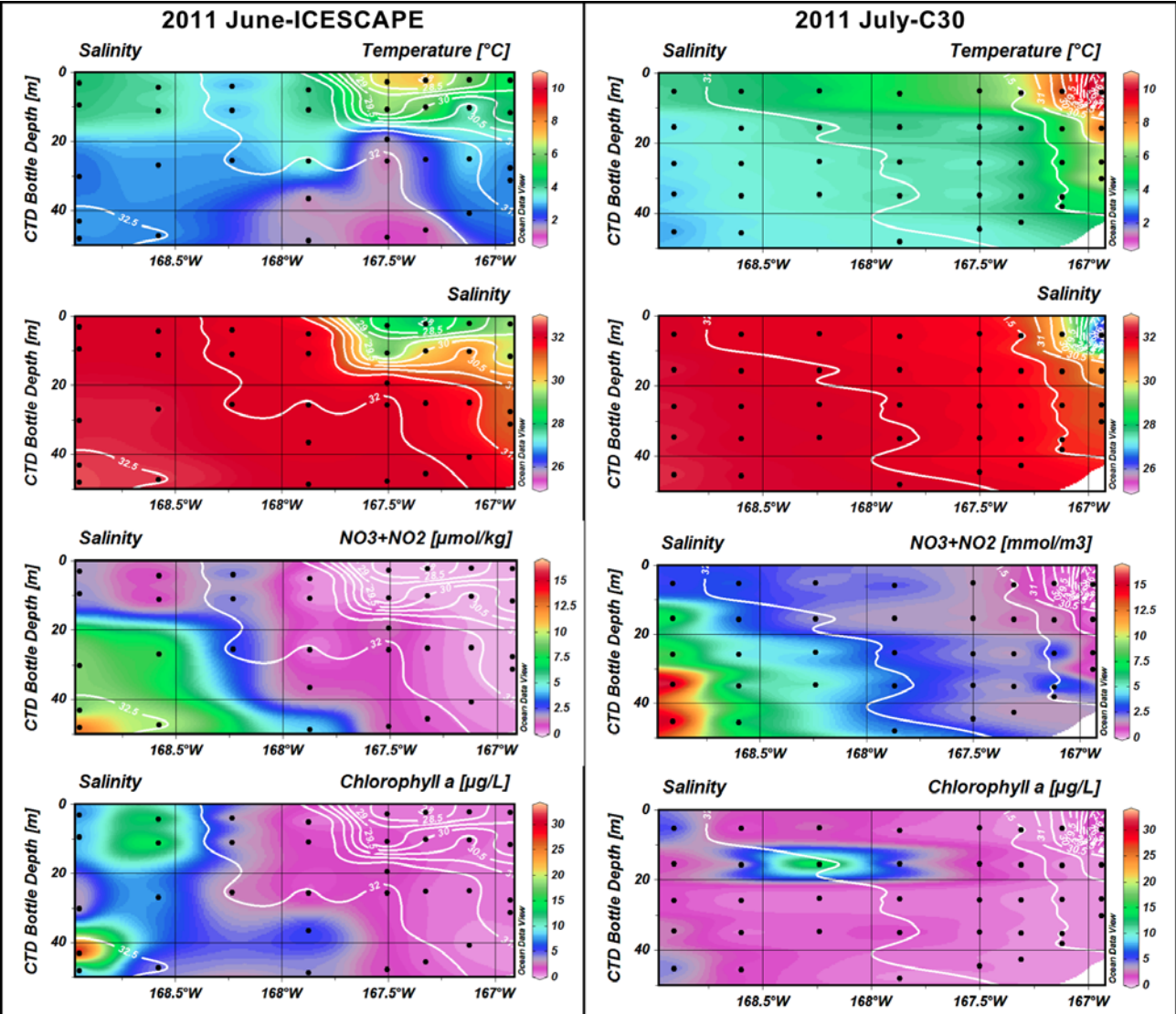
“Change detection array” – same measurements every year, process information in near real time <6 mos; detect regime shifts in rapid changes

Second tier ship-based sampling:

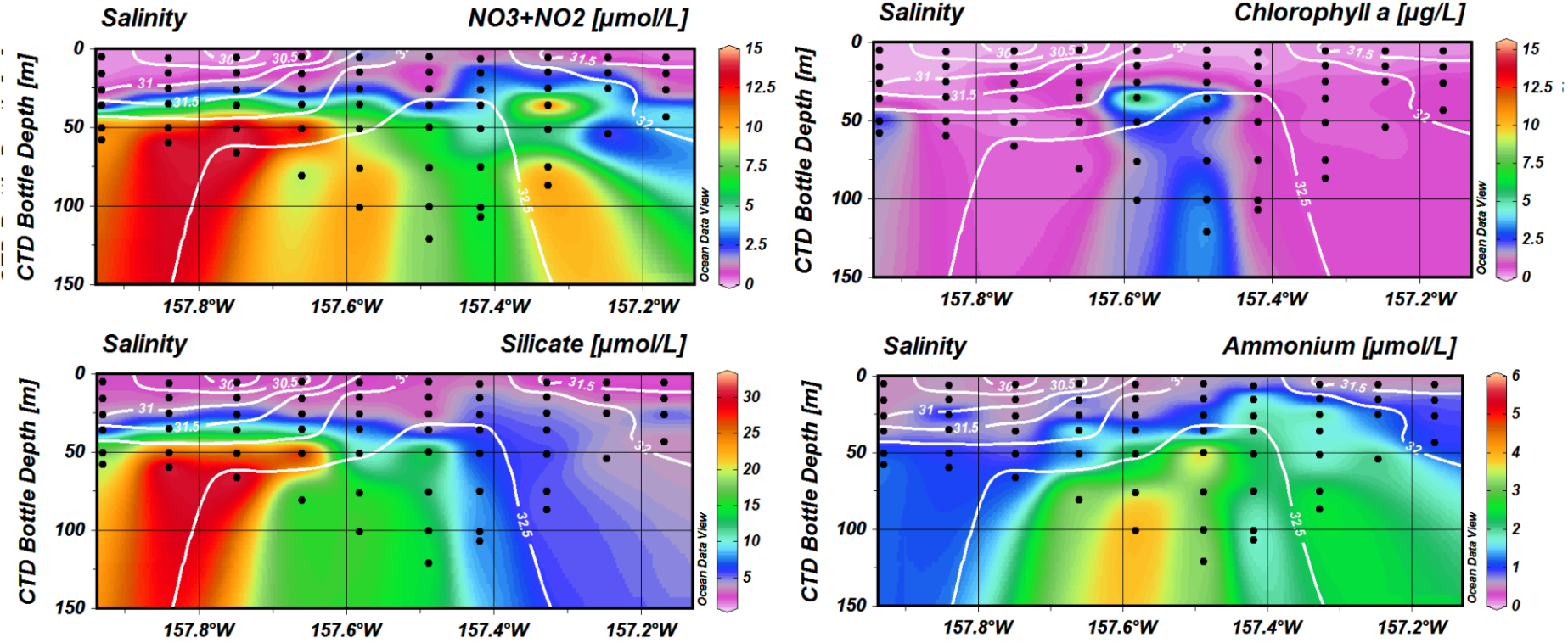
- Fishery acoustics (less effort than standardized bottom trawling)
- Bottom trawling (every 3-5 years)

DBO occupations by national and international science programs

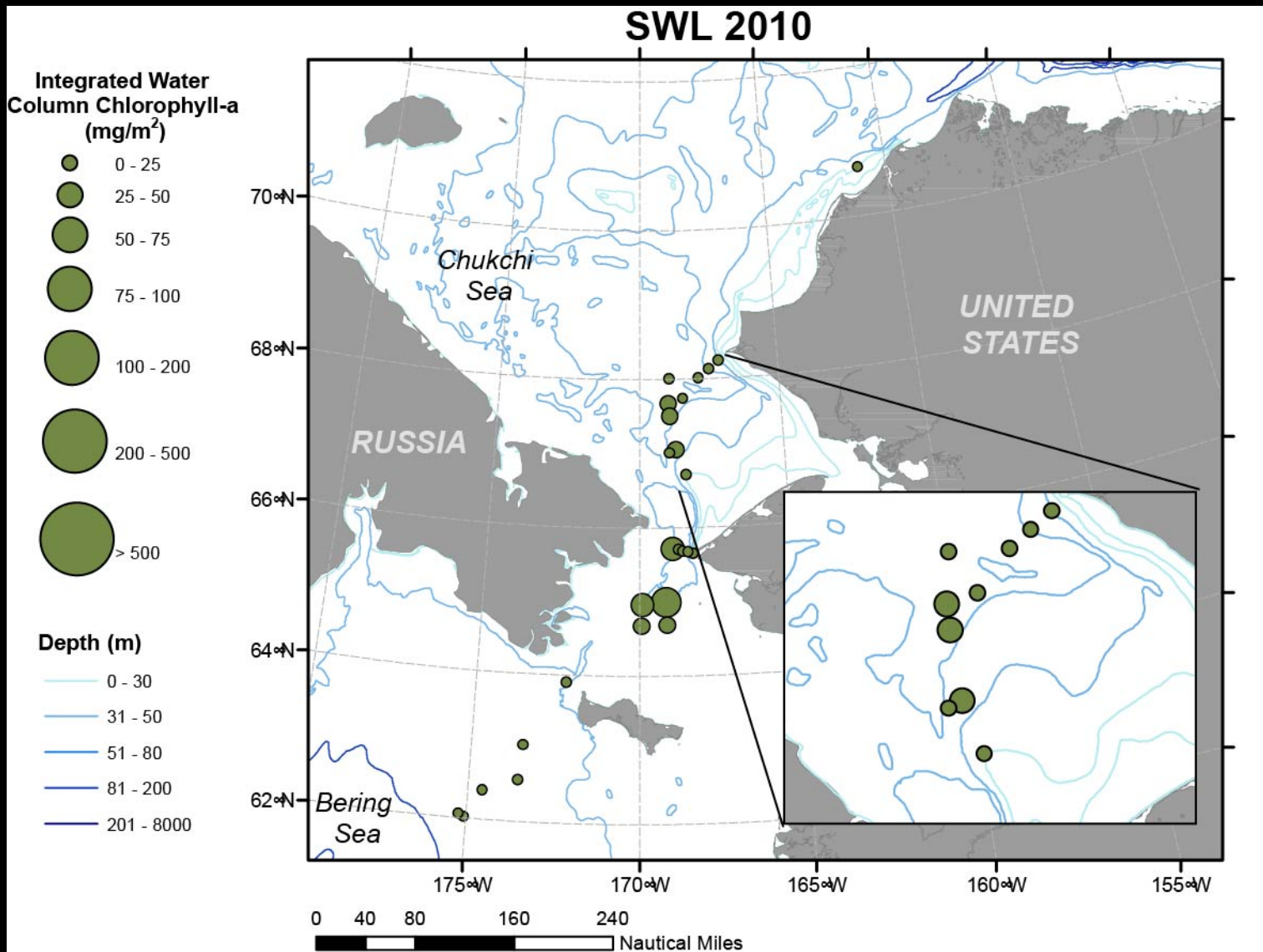
Temperature, salinity, nitrate/nitrite and chlorophyll a profiles overlain on salinity collected in 2011 on the DBO-SCS line by the ICESCAPE program (data courtesy Kevin Arrigo) and the C30 program (data from Grebmeier/Cooper).



Nutrient data (nitrate, silicate and ammonium) and chlorophyll a ($\mu\text{g/L}$) overlaid on salinity (white isopleths) in Barrow Canyon during the CCGS Sir Wilfrid Laurier cruise in July 2011.



2010 Integrated Chl (mg/m²)



2011 Integrated Chl (mg/m²)

