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# Arctic Council Protection of Arctic Marine Environment WG PAME w/CAFF AMAP and SDWG

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PMEL

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# Examples of Arctic Council Work

- CAFF for examples CBMP Pacific Arctic Seabird Database; Arctic Biodiversity Assessment
- AMAP for example SWIPA – Snow water ice permafrost arctic
- PAME for example Arctic Marine Shipping Assessment IIC - Identification of Arctic marine areas of heightened ecological and cultural significance
- PAME Large Marine Ecosystems of the Arctic
- PAME Ecosystem Based Management, EBM, Integrated Ecosystem Assessment, IEA



# United States Overview for the Beaufort LME Approaches to IEA in the U.S. Beaufort Sea



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4<sup>th</sup> Ecosystem Approach to Management Workshop

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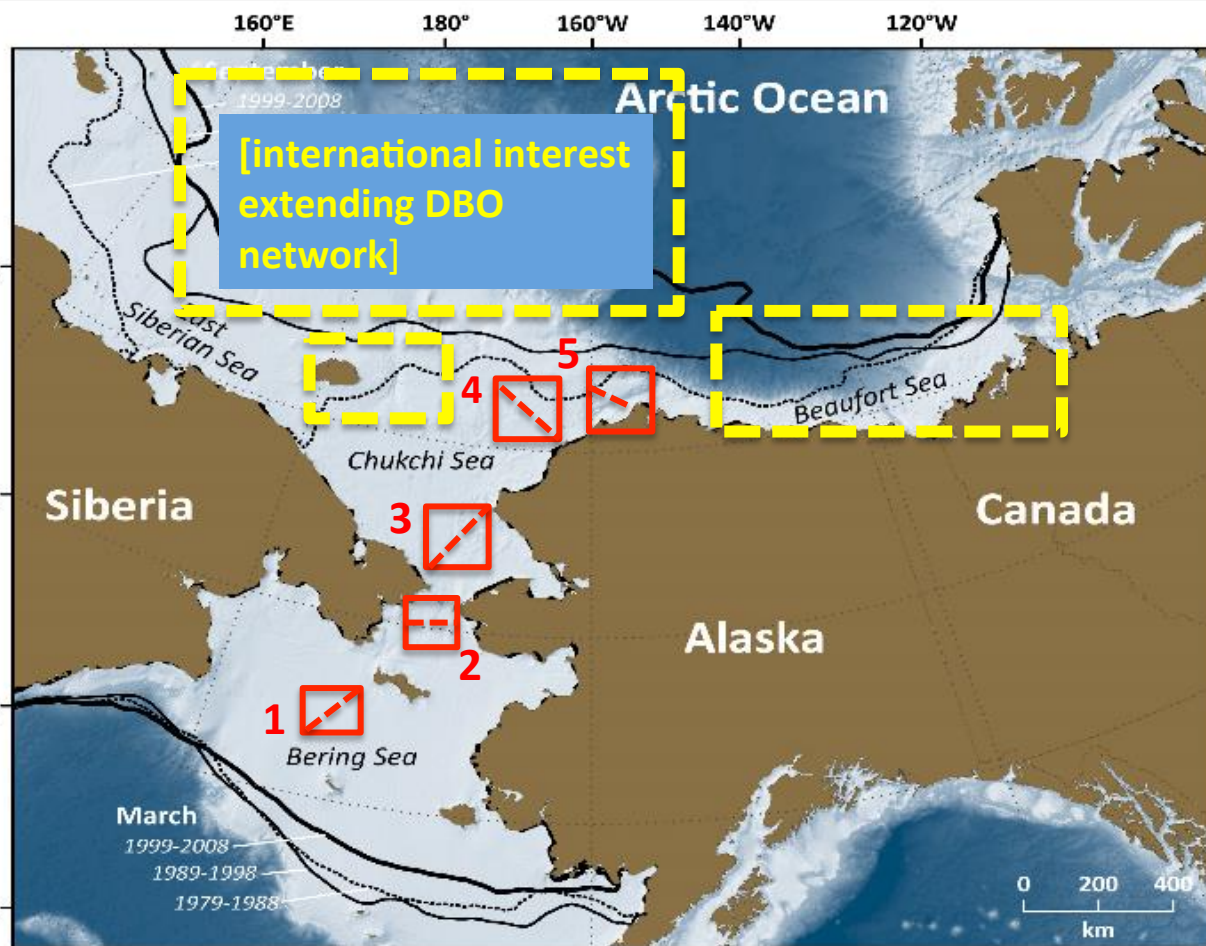
Integrated Ecosystem Assessment (IEA) – Understanding National  
Approaches and Reviewing Progress on IEA in Arctic LMEs Straddling  
National Boundaries: The Beaufort and Barents Seas

Vancouver, BC, Canada

16 June 2014

\* Thanks to Jackie Grebmeier, Kathy Crane and Sue Moore

# Linking Physics to Biology: the Distributed Biological Observatory (DBO)



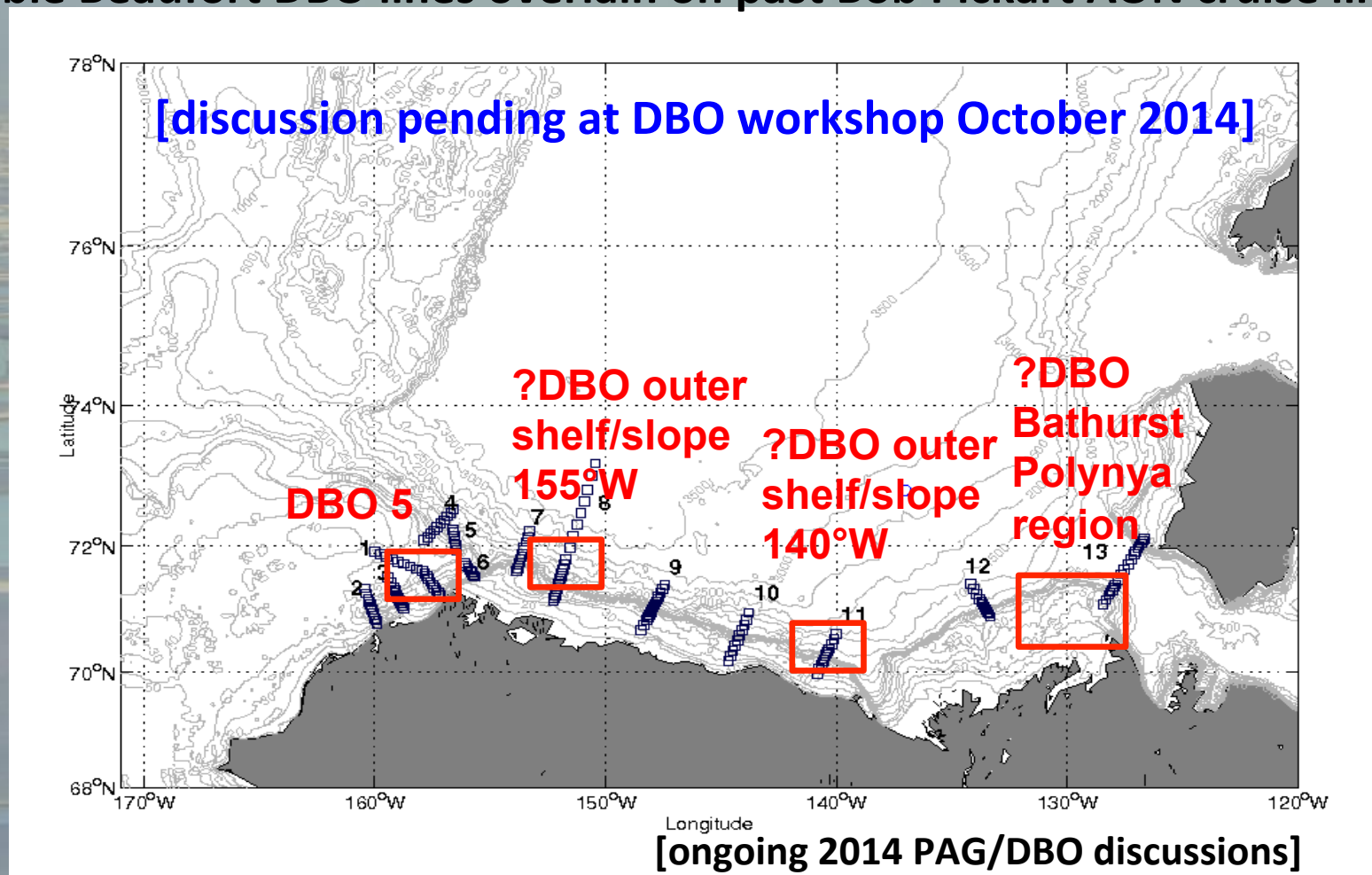
[modified by Karen Frey from Grebmeier et al. 2010, EOS 91]

- DBO sites (red boxes) are regional “hotspot” transect lines and stations located along a latitudinal gradient
- DBO sites are considered to exhibit high productivity, biodiversity, and overall rates of change
- DBO sites will serve as a change detection array for the identification and consistent monitoring of biophysical responses
- Sites occupied by national and international entities with shared data plan





## Possible Beaufort DBO lines overlain on past Bob Pickart AON cruise lines



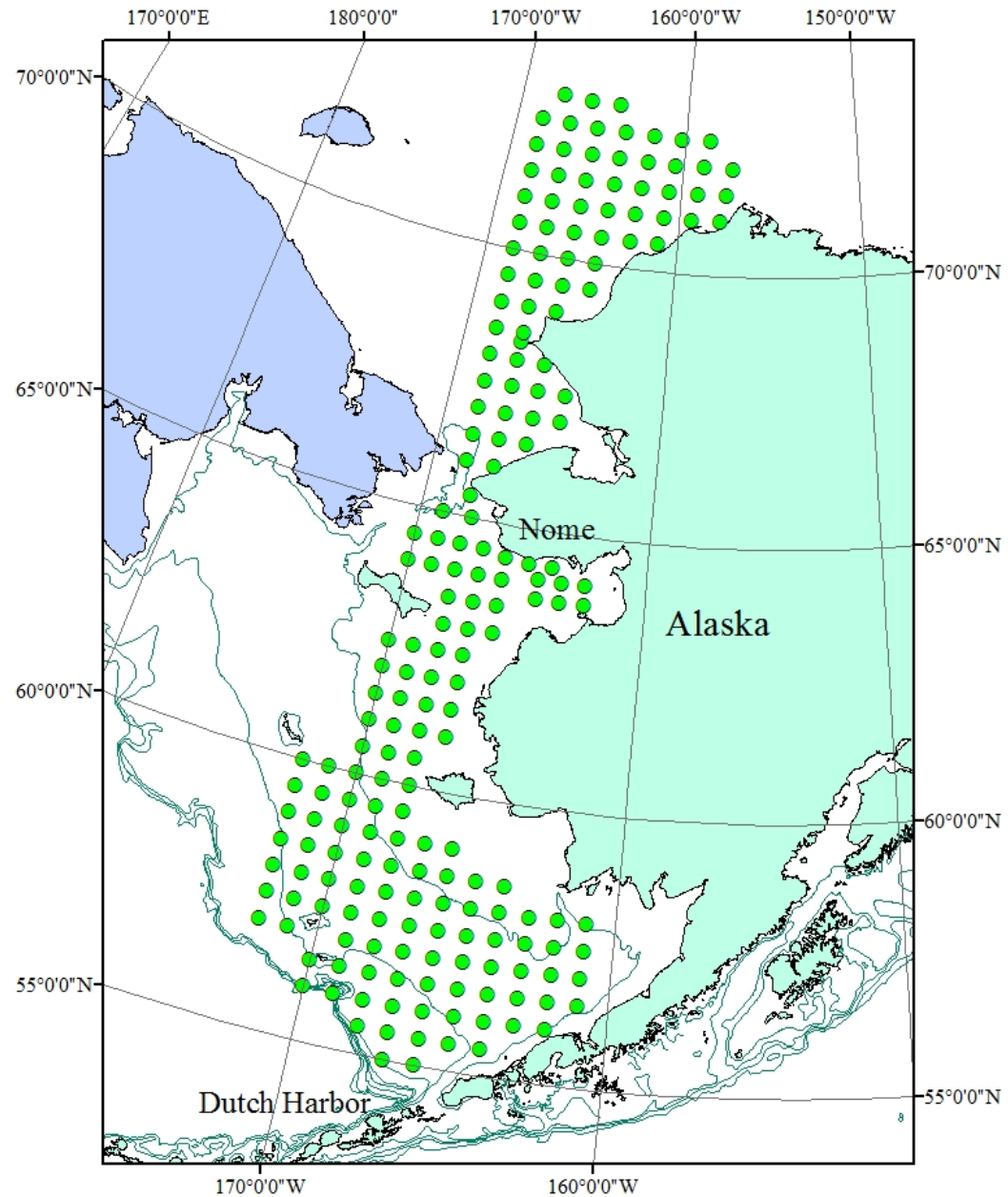
# Examples of interim products of an IEA

- Conceptual models that synthesize our knowledge about how the ecosystem functions, produces ecosystem services, and responds to anthropogenic changes
- Assessments of status and trends in ecosystem pressures, states, and services
- Risk Analysis for key ecosystem indicators and services
- Forecast of the future condition of the ecosystem and its services under a range of likely policies and management strategies to evaluate the relative success of management actions in achieving the desired target conditions
- **ULTIMATE PRODUCT:** Comprehensive/holistic information provided to managers to support and inform management decisions in a dynamic, multi-sectoral ecosystem context



**Bering Arctic Subarctic  
Integrated Survey –  
Auke Bay Laboratories,  
Fisheries Oceanography,  
surface trawl,  
midwater trawl,  
hydroacoustics, CTD, NPZ**

**Ed Farley  
Lisa Eisner**



# The End

[www.pame.is](http://www.pame.is)