



Overview

Council on Foreign Relations Independent Task Force on U.S. Strategy in the
Arctic | August 2016

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Background

- Integrated Ecosystem Research Program
 - Multi-disciplinary
 - Five-year commitment plus synthesis opportunity
 - NPRB facilitates communication throughout
 - Annual PI meetings
 - Logistics planning meetings prior to field seasons
 - Monthly webinars



Participants

- 27 PIs from 11 institutions



Background

- Funding partners: North Pacific Research Board, Bureau of Ocean Energy Management, North Slope Borough/Shell Baseline Studies Program, Office of Naval Research Marine Mammals and Biology Program
- In-kind support from National Oceanic & Atmospheric Administration and University of Alaska Fairbanks
- \$15.5 million investment 2016-2021



Overarching hypothesis

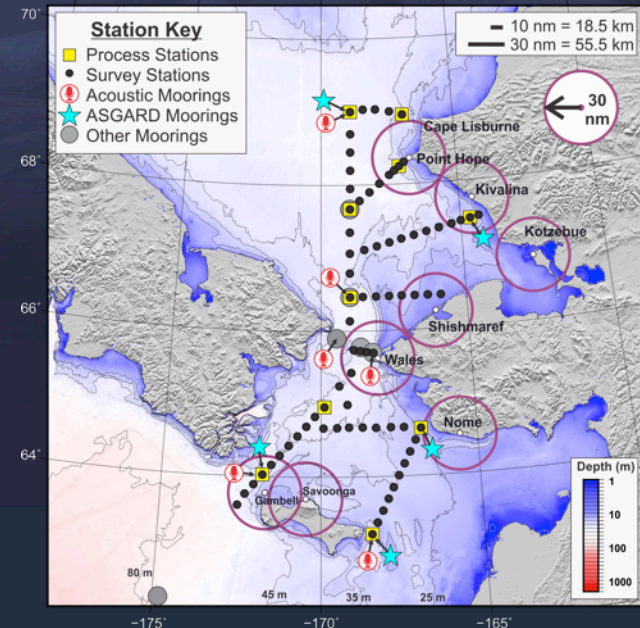
Reductions in Arctic sea ice and the associated changes in the physical environment influence the flow of energy through the ecosystem in the Chukchi Sea that influence:

- Transport, seasonal composition, distribution, and production of phytoplankton, particulate matter, zooplankton, fishes, benthic invertebrates, seabirds, and marine mammals
- Timing, magnitude and fate of the primary and secondary productivity
- Partitioning/flux of energy between pelagic and benthic realms
- Distribution, condition, and standing stocks of large crustacean zooplankton that serve as the prey base for upper trophic level fishes and seabirds
- Assemblages, distributions, abundances, and condition of larval and early juvenile fishes that influence the recruitment success of later life stages
- Density of marine mammals and seabirds
- Human use of and interaction with the marine environment

Scope

- UAF cruises aboard vessel Sikuliaq in northern Bering and southern Chukchi Seas in late May-early June 2017 & 2018

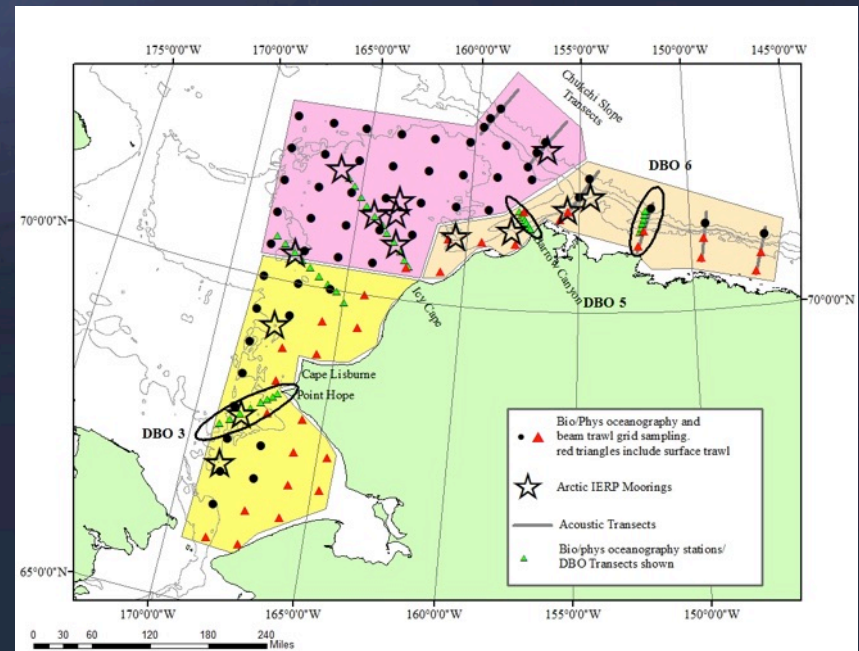
Focus on rate process measurements, physical, chemical, biological oceanography



Scope

- NOAA cruises aboard chartered fishing vessels in Beaufort & Chukchi Seas in August – October 2017 & 2019

Focus on factors driving the distribution of fish, especially Arctic & saffron cod, and pink and chum salmon



Scope

- Acoustic recorders on moorings in Bering Strait and southern Chukchi Sea
- Social science study on Chukchi Coastal Communities' Understanding of and Responses to Environmental Change

Collaboration & Coordination

- 22 existing federally-funded research projects have committed to collaboration
 - Attend annual PI meetings
 - Share data



Collaboration & Coordination

- Participate in Pacific Arctic Group
- Sample Distributed Biological Observatory stations
- Interested in scaling regional science to pan-Arctic scale via collaboration with international programs



Contacts

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