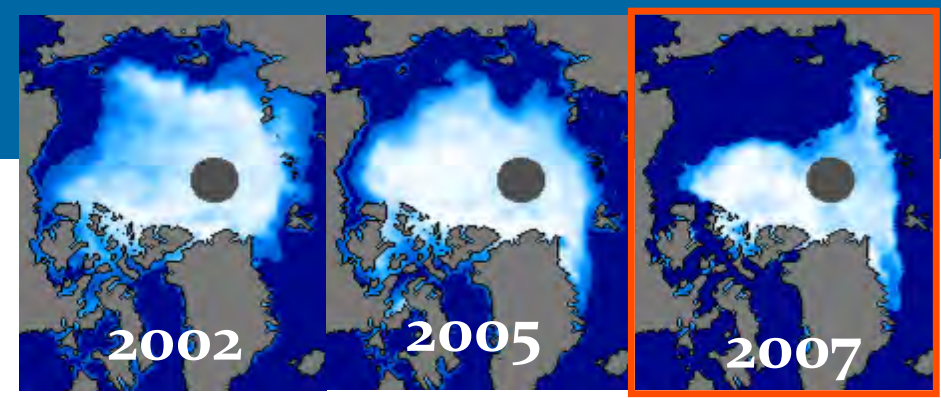


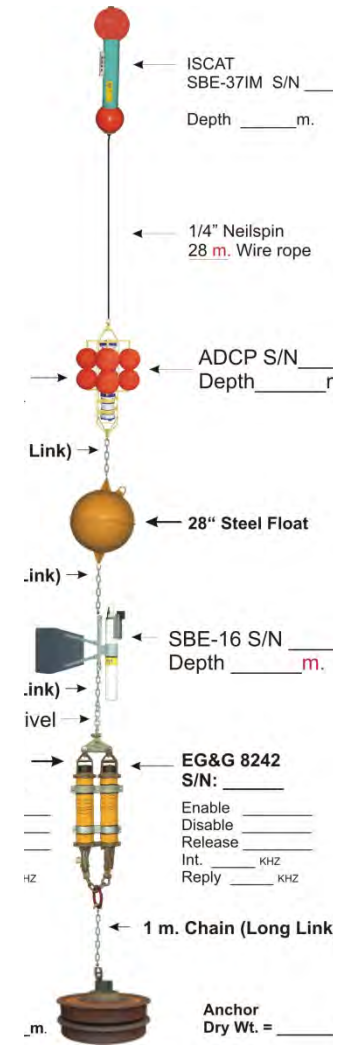
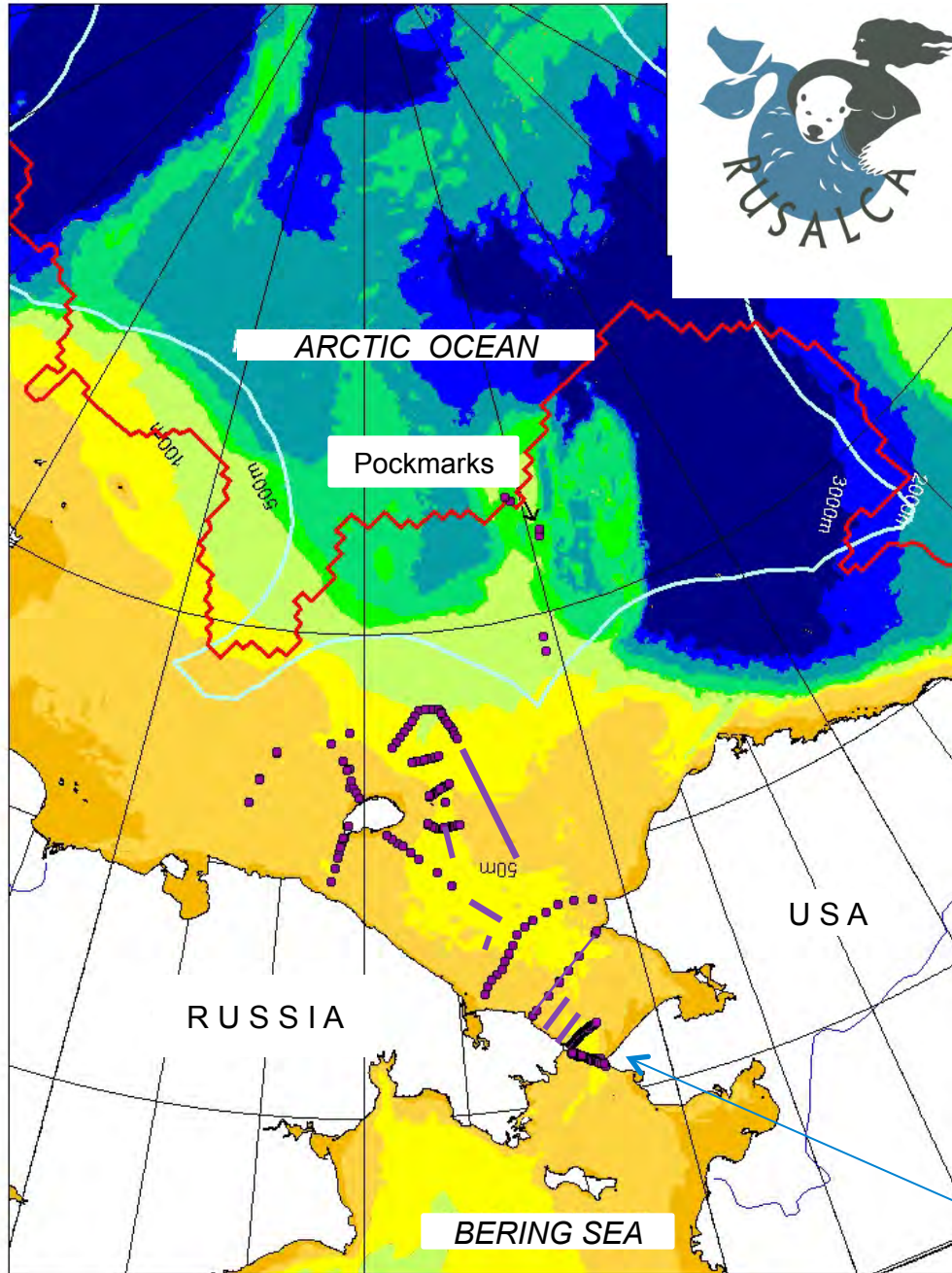


The Arctic Research Program: Future PAG Collaboration 2015-2025



Arctic Research Program
Kathleen Crane,
NOAA

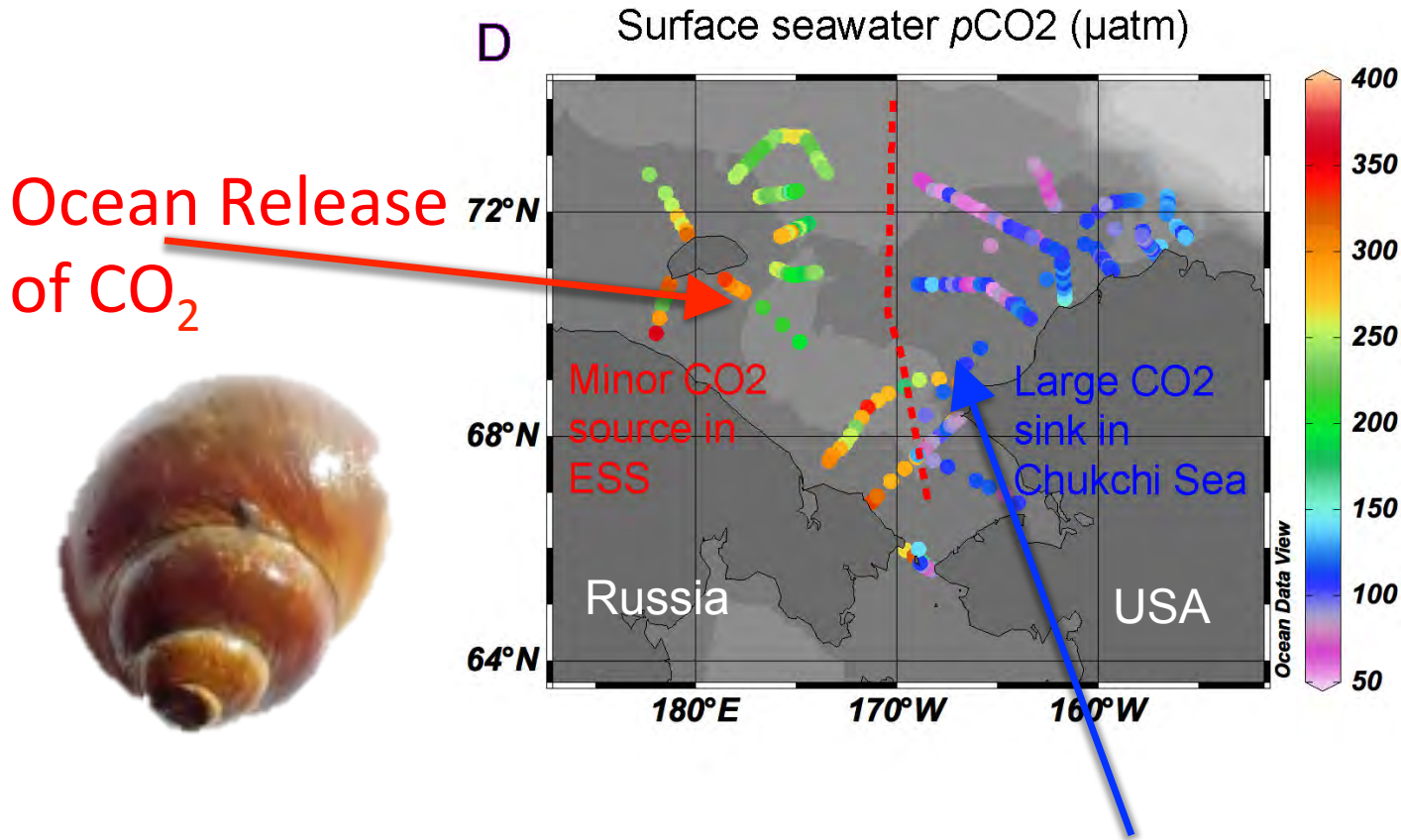
RUSALCA STATIONS 2004-2014



Oceanic fluxes of volume and heat through the Bering Strait increased by ~50% between 2001 and 2011

Bering Strait

Loss of Sea Ice Impacts on Arctic Ocean Acidification RUSALCA



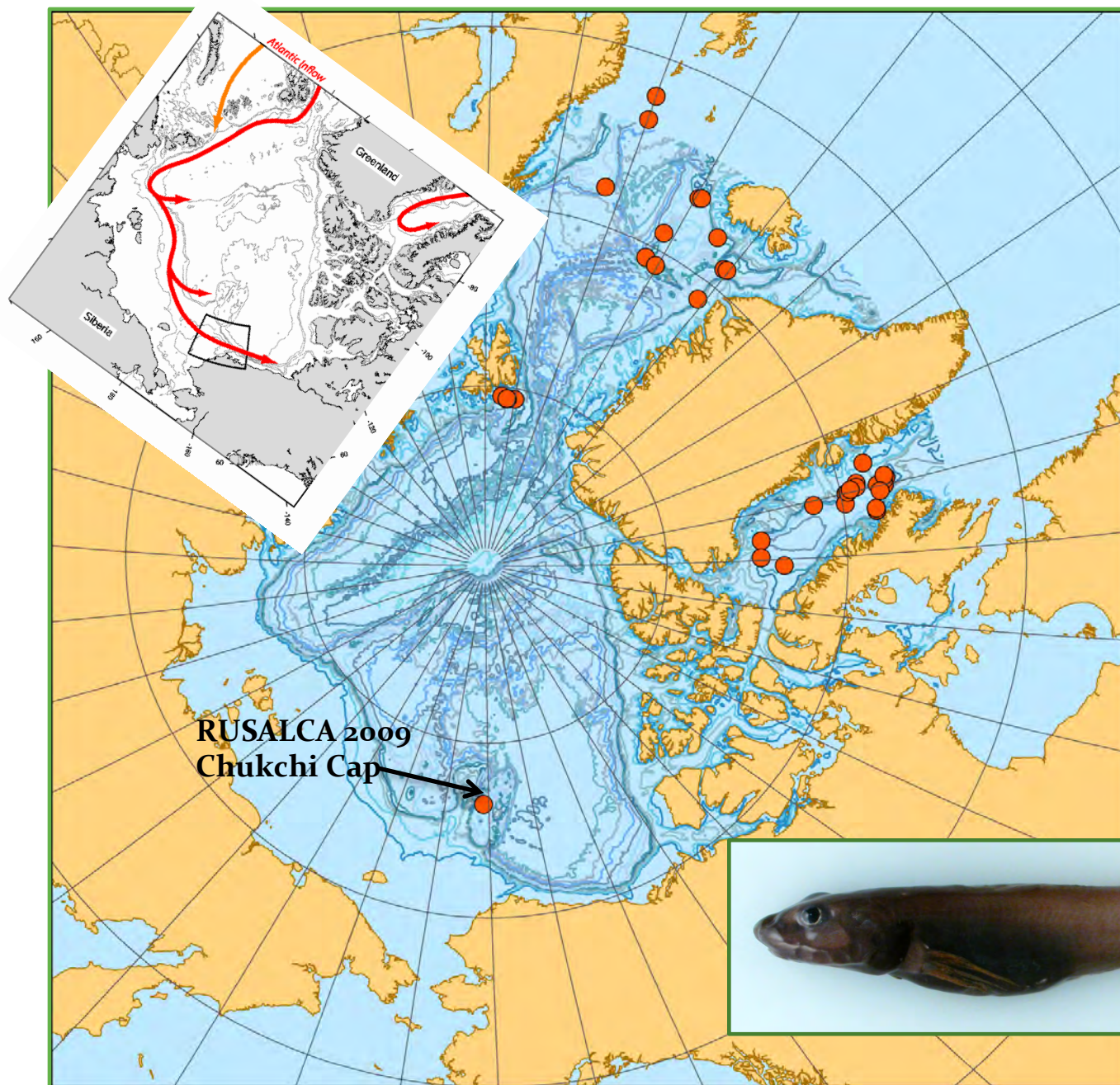
N. Bates, 2011

large ocean uptake of CO_2 in area of low seawater $p\text{CO}_2$

TRACKING MIGRATIONS FROM THE ATLANTIC

Lycodes adolfi Adolf's Eelpout

Nielsen & Fosså 1993



Found north of Spitsbergen on east side of Yermak Plateau in 2007–2009 (Byrkjedal In press), indicating distribution probably extends eastward along the upper slope of Nansen Basin (and thence to the Pacific-Arctic, where we caught it)





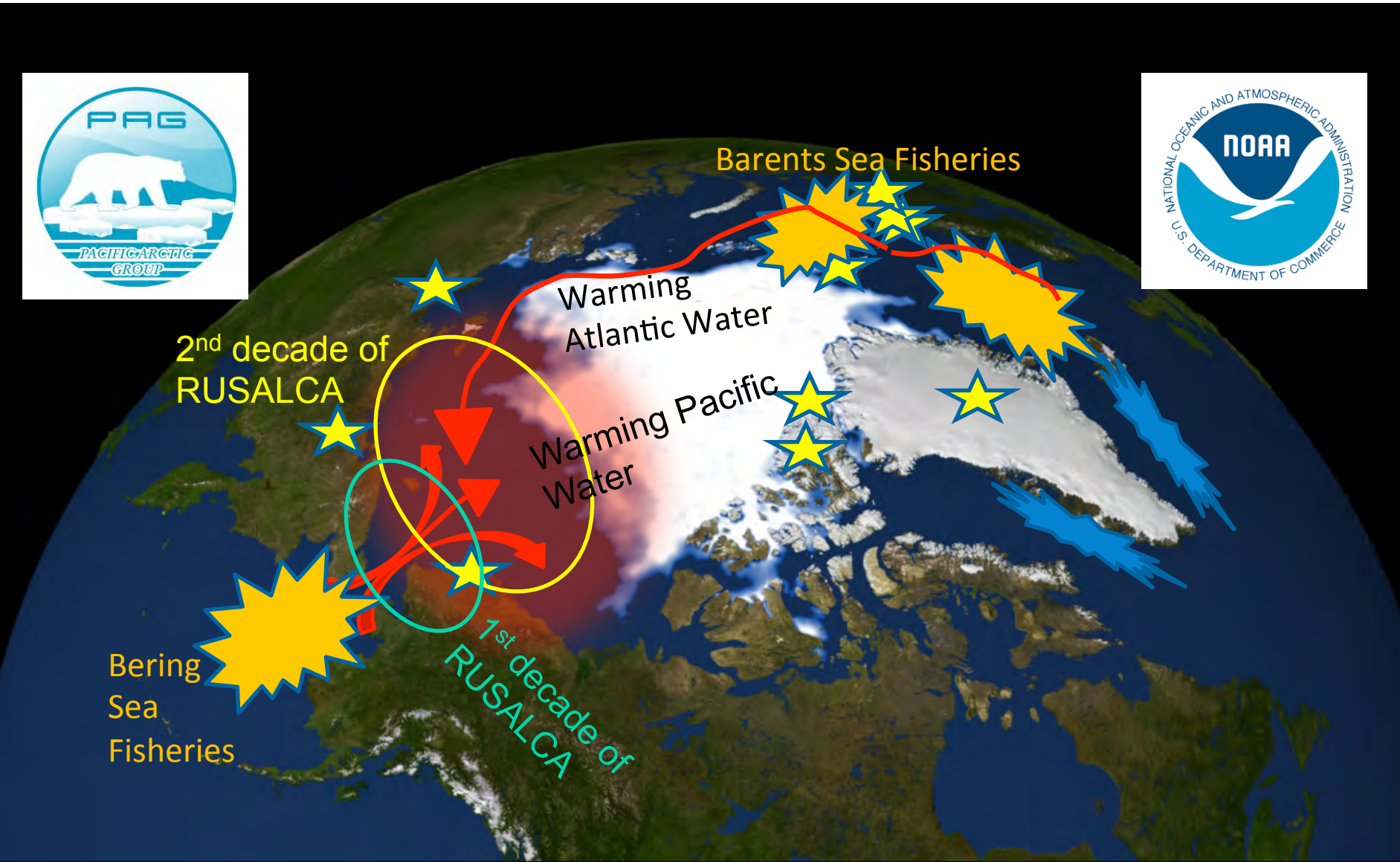
Hemilepidotus jordani (Yellow Irish Lord), a boreal species moving to the Bering Strait in 2006.



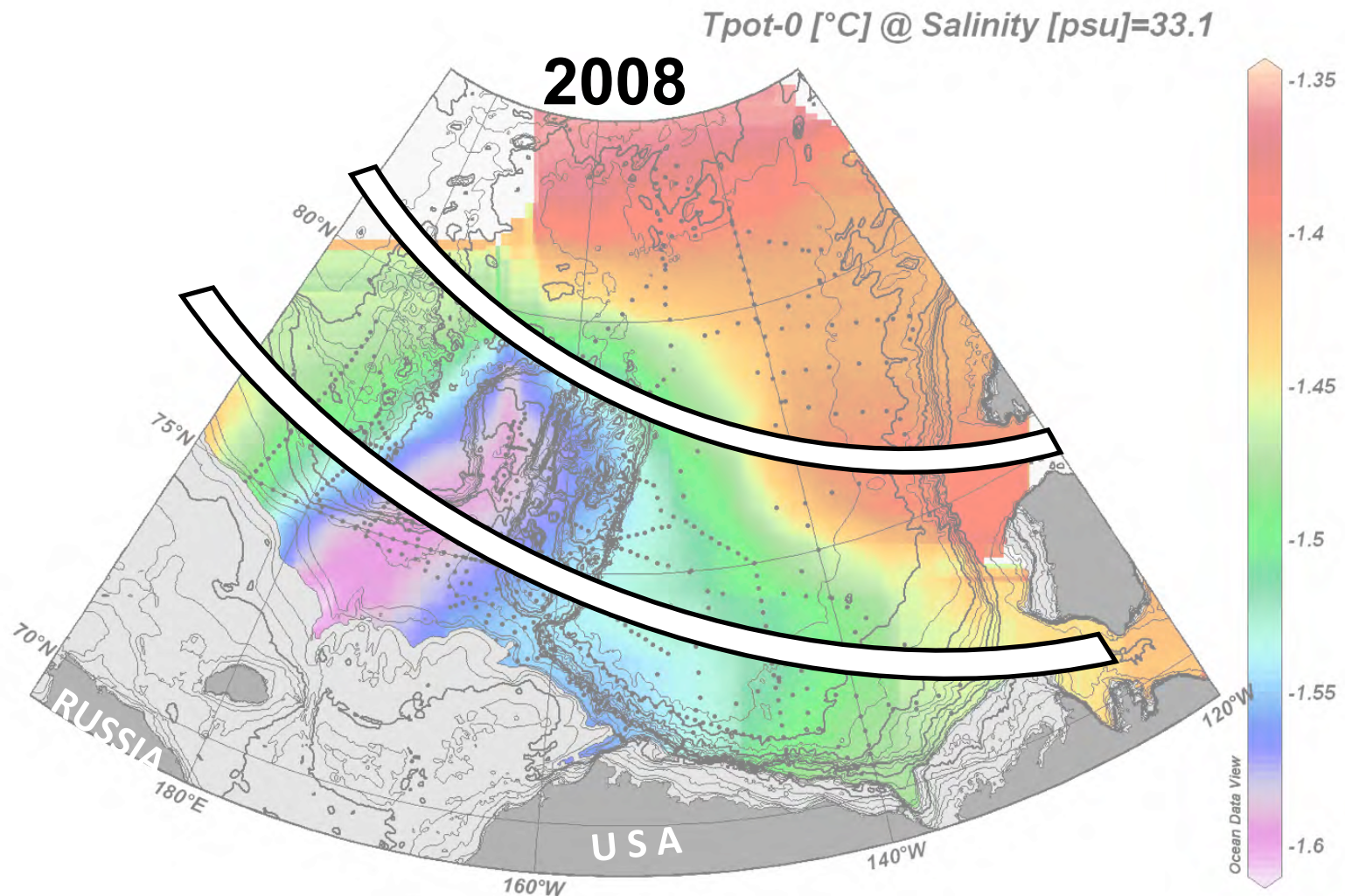
Myoxocephalus polyacanthocephalus (Great Sculpin) has been moving northwards into the Eastern Chukchi Sea Sampled during RUSALCA

Keep Monitoring the migrations of Boreal Species

Expand RUSALCA northwards to observe the Pacific Arctic hot spot.



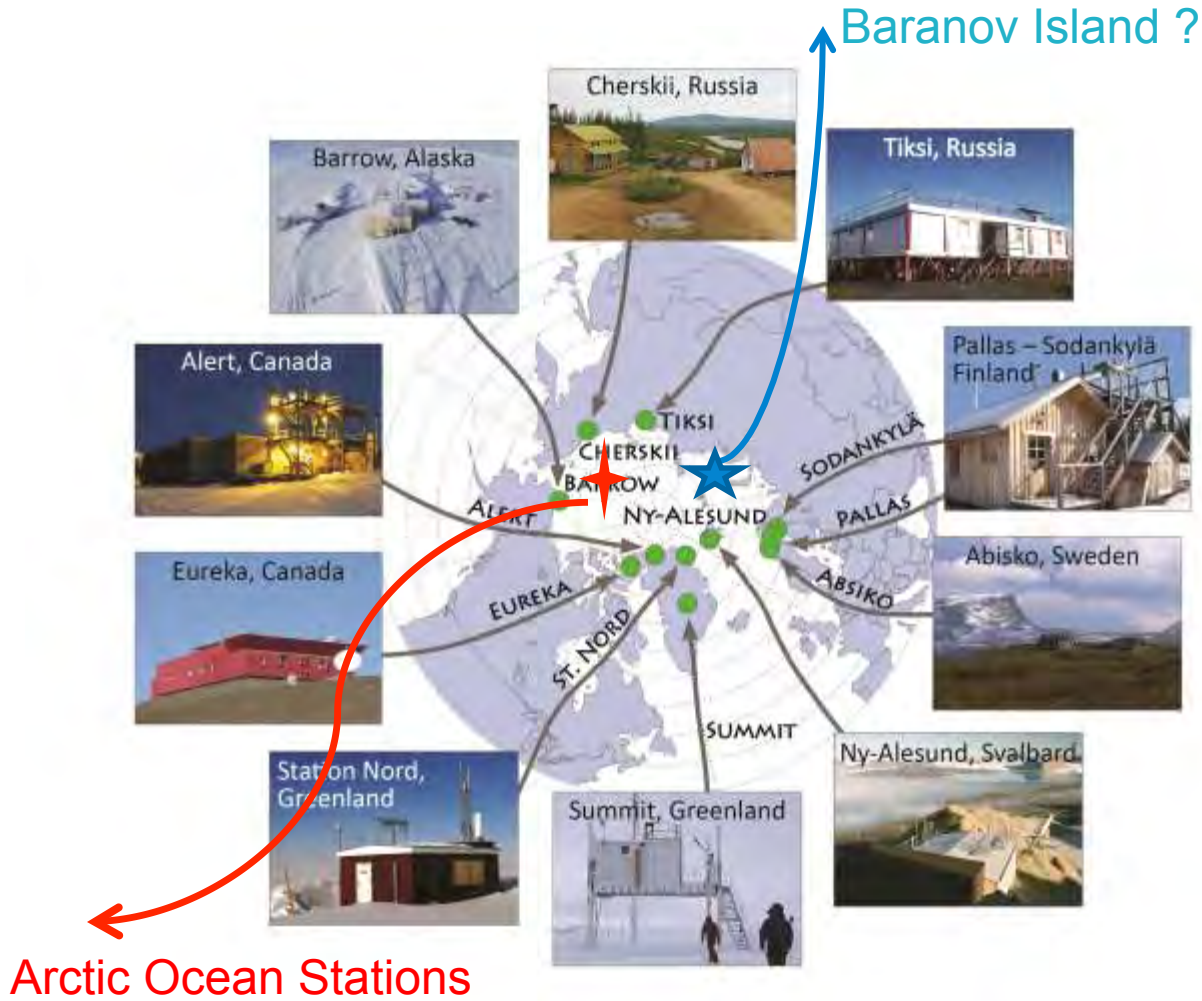
Goal 4: Design Pacific Arctic Ocean Climate Lines with the Pacific Arctic Group (China, Korea, Japan, Russia, Canada and the USA)



Koji Shimada

2015-2025

Facilitate new Atmospheric Observations above the Arctic Ocean



TIKSI

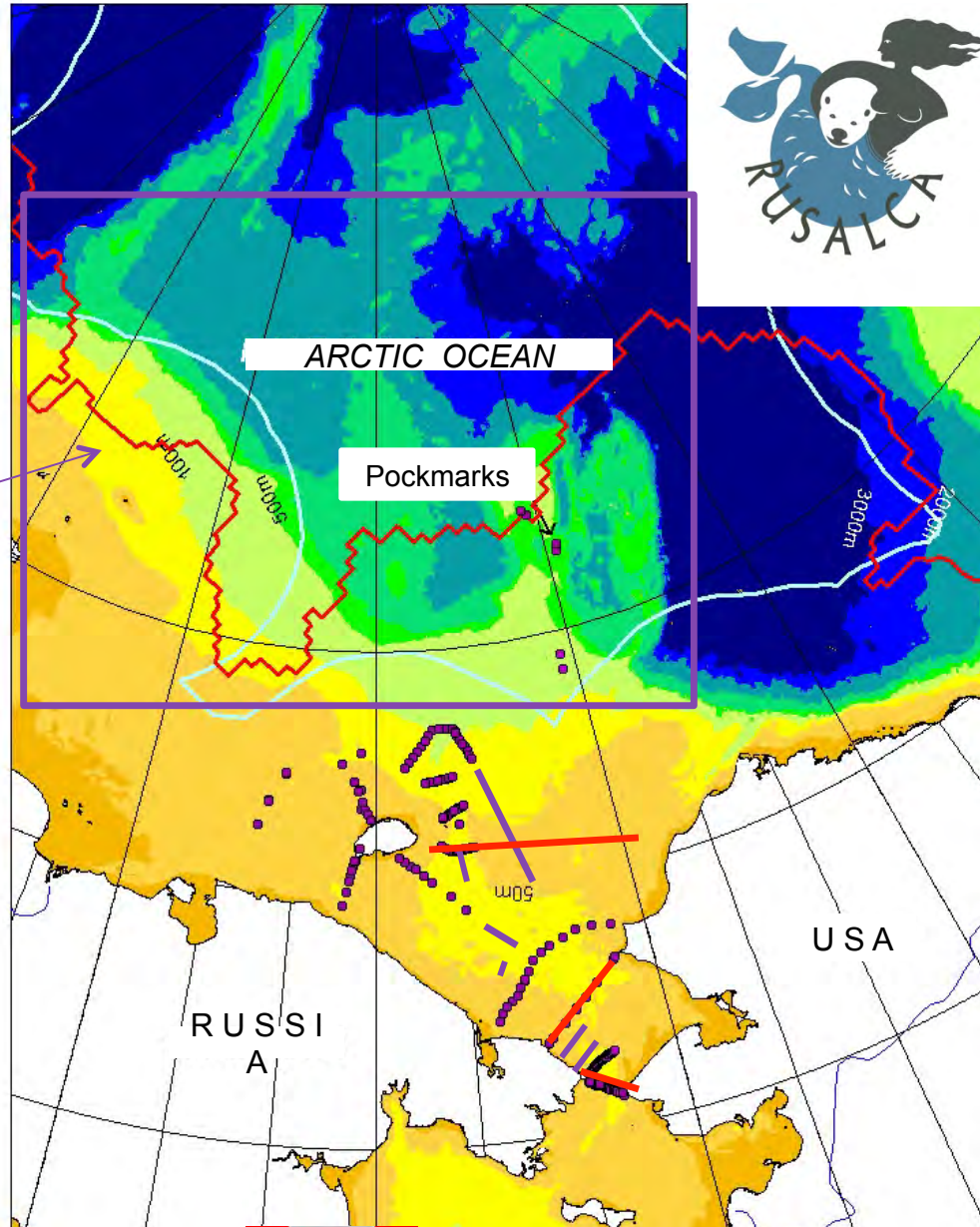


Taneil Uttal, Lead, ESRL

RUSALCA 2nd Decade



**RUSALCA-PAG
Proposed survey
area 2016-2020**



Sandy Pinned & Pushed West

Makings of a "Frankenstorm"

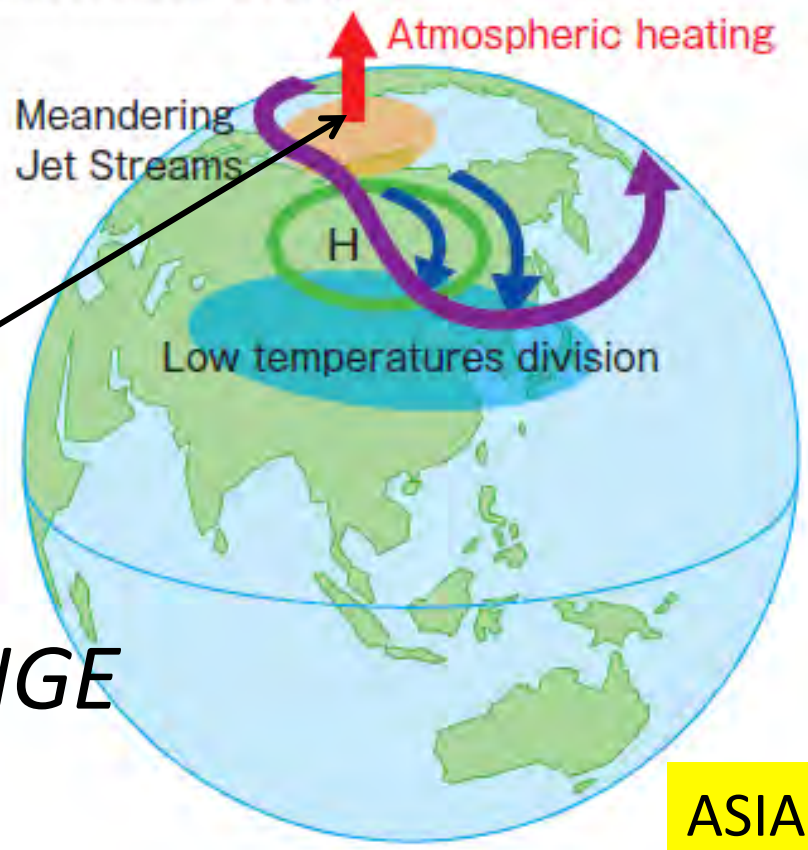


NORTH AMERICA

NEED OBSERVATIONS FROM THE PACIFIC ARCTIC HOT SPOT

Goal: Provide data to modelers of Global Environmental response to Arctic change

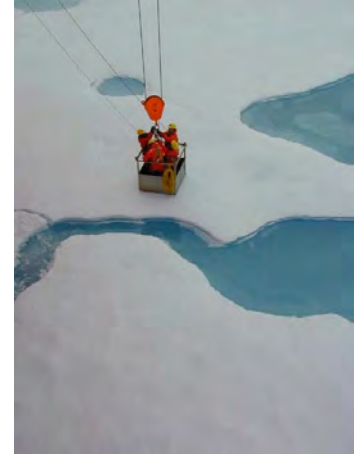
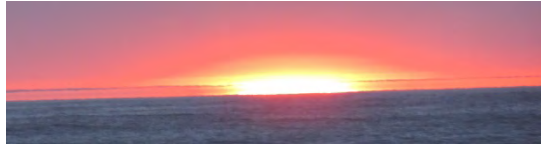
The impacts of Arctic changes on weather and climate in Japan



ASIA

IMPACTS OF ARCTIC CHANGE ON THE MID-LATITUDES

GOALS: 2015-2025 ARP ecosystem observations



1. Continue repeat sampling of three transects in the Chukchi Sea (Bering Strait, DBO 3 and westward extension of DBO 4)
2. Expand RUSALCA northwards
3. Design and implement Pacific Arctic ocean climate -ecosystem repeat transects with the Pacific Arctic Group
4. Provide data to the Alaska Ocean Observing System and as a U.S. contribution to the Arctic Council's Arctic Biodiversity Data Service for CBMP.

