

USA 2015

Project title
Collaborative Research: The Polaris Project II: Amplifying the Impact
Paleoclimate Analysis of a Miocene Arctic Forest from the Kolyma River Basin, Northeastern Russia
RCN-SEES: Building a Research Network for Promoting Arctic Urban Sustainability in Russia
Collaborative Research on Carbon, Water, and Energy Balance of the Arctic Landscape at Flaga
Surface Energy Budgets at Arctic Terrestrial Sites: Quantifying Energy and Momentum Fluxes at
Developing Indigenous Research Methodologies in the Arctic (IRM-A): Examining the Impacts of
Community Adaptation and Knowledge Sharing in Alaska and Siberia
A Comparative Study of the Medical Ethnobotany of the Chukchi and Naukan Yupik of Siberia and
Investigation of Ultra-18O Depleted "Slushball" Earth Rocks from Karelia, Russia and the Timing of Paleoc
Correlating Infrasound Signals with Volcanic Emissions at Karymsky Volcano, Kamchatka, Russia
Doctoral Dissertation Research: Discovering Patterns of Language Change through the study of the Korya
Collaborative Research: Interactions between air temperature, permafrost and hydrology in the t
Collaborative Research: Sensitivity of Circum-Arctic Peatland Carbon to Holocene Warm Climate
RUI: Collaborative Research: Fire regime influences on carbon dynamics of Siberian boreal fore
RCN-SEES Arctic-FROST: Arctic Frontiers Of Sustainability: Resources, Societies, Environment
Study of Environmental Arctic Change" (SEARCH)
Climate-Ecosystem Interactions and Ocean Exploration
Tiksi International Hydrometeorological Observatory
Collaborative Research: IPY: Arctic Great Rivers Observatory (Arctic-GRO)
Bering Sea Sub Network: A Distributed Human Sensor Array to Detect Arctic Environmental Cha
AON: Development of Sustainable Observations of Thermal State of Permafrost in North Americ
Nansen and Amundsen Basin Observational System (NABOS-II)
Northern Eurasia Earth Science Partnership Initiative (NEESPI)
The Circumpolar Active Layer Monitoring Network-CALM IV (2014-2018): Long-term Observati
Land-cover and Land-use Changes on the Yamal Peninsula, Russia
The Japan-Kamchatka-Alaska Subduction Processes (JKASP)"
Shared Beringian Heritage Program
The Alaska Volcano Observatory
The U.S. Fish and Wildlife Service
Stanford University
The International Arctic Research Center (IARC)
International Volcanological School
Bilateral Cooperation on Black Carbon Emission in the Russian Arctic
Arctic Contaminants Action Program (ACAP)
National Plan of Action for the Protection of the Arctic Marine Environment

USA Country
 Report, 2015, ISIRA
Lee W. Cooper,
 University of
 Maryland Center for
 Environmental
 Science, USA

Toyama Japan, 25 April 2015

Project Highlight

*Russian-American Long-term
Census of the Arctic:
RUSALCA*



RUSALCA Russian Government Partners

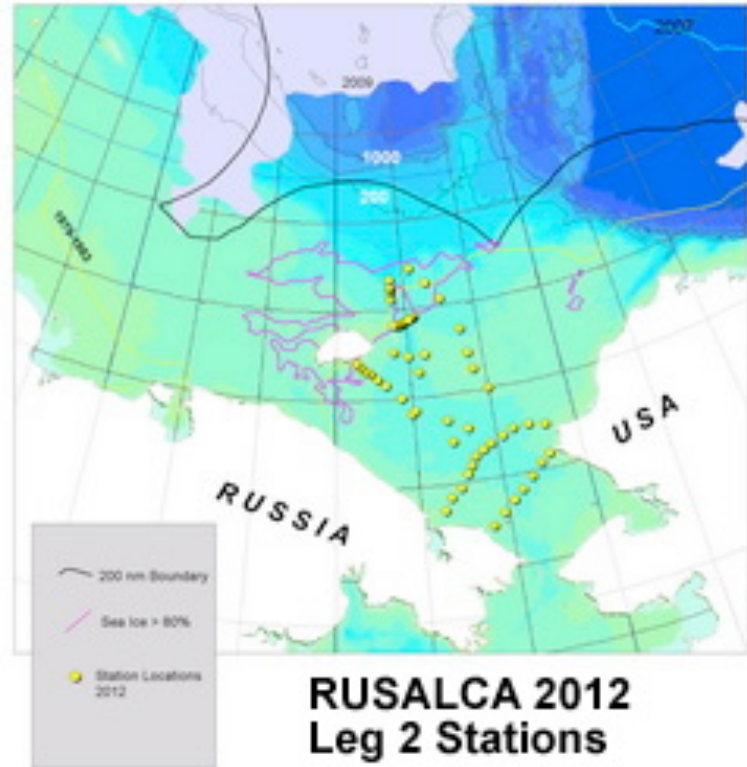
- Russian Academy of Sciences
 - Shirshov Institute of Oceanology
 - Zoological Institute
 - Institute of Microbiology
 - Pacific Oceanological Institute
- Roshydromet
 - AARI
 - FEHRI

- Ministry of Defense
 - Russian Federation Navy
- Ministry of Natural Resources
 - VNIIOkeangeologica
- Ministry of Sciences
- Foreign Ministry



Khromov at 77.5 N, 2012

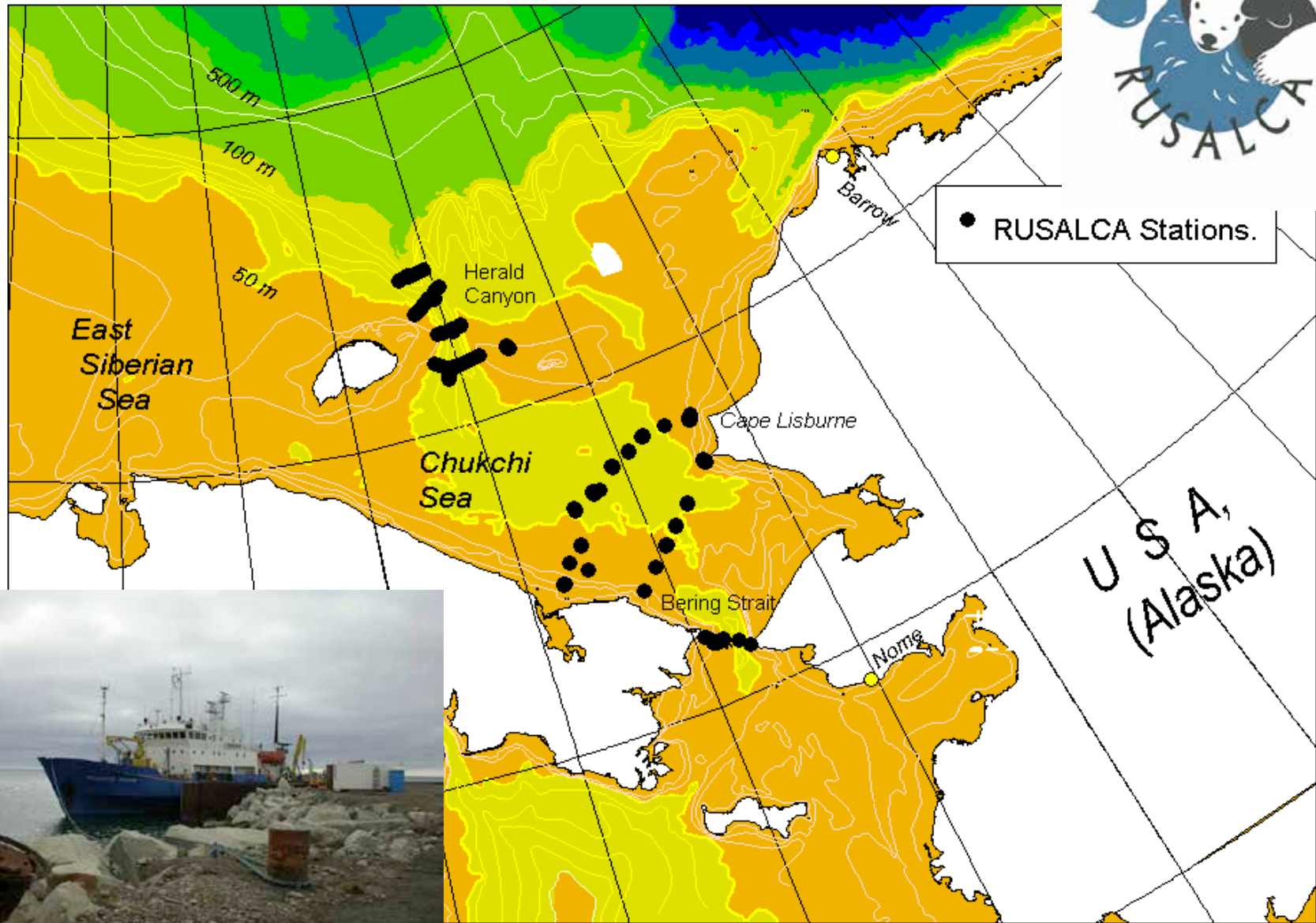
<http://www.arctic.noaa.gov/aro/russian-american/>



**RUSALCA 2012
Leg 2 Stations**



2003 Memorandum of Agreement
between NOAA and the Russian
Academy of Sciences

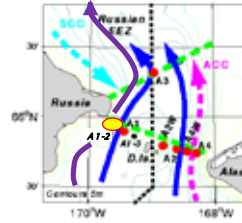
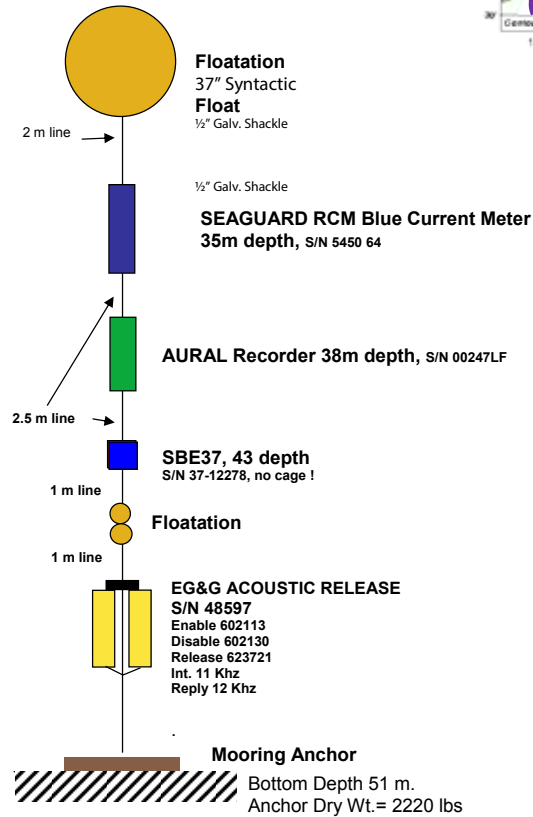


Actual RUSALCA Stations, 2004

RUSALCA 2014 Mooring

A1-2 – RUSSIAN Territorial Waters

Latitude 65° 55.994'N
Longitude -169° 36.990'W



ARDEM bathymetry used for the base map: Danielson, S., M. Johnson, S. Solomon & W. Perrie, 2008. <http://mather.sfos.uaf.edu/~seth/bathy/>

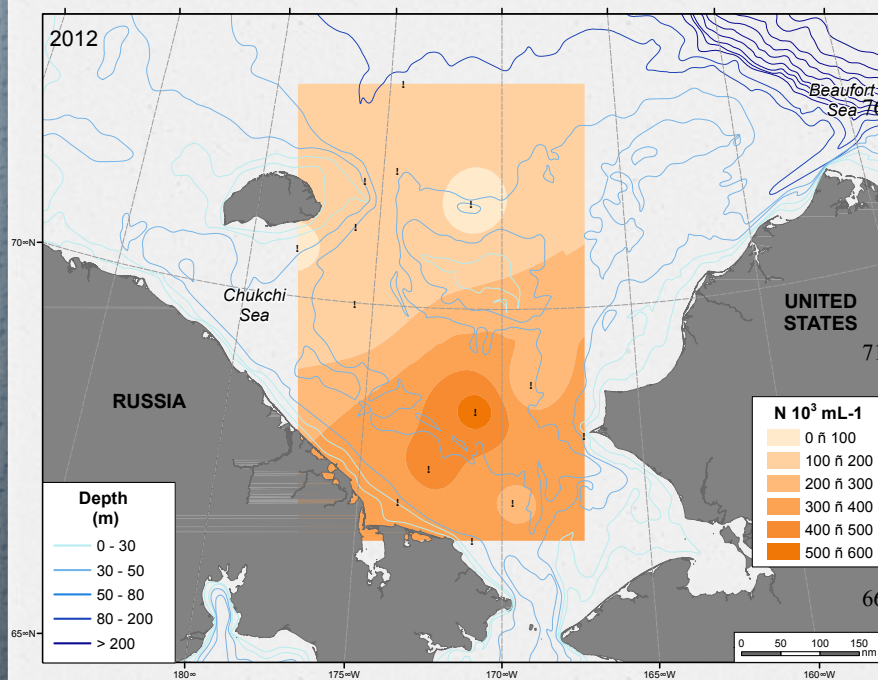
RUSALCA GOALS:

- 1. Take observations Where Arctic Sea Ice reduction is a Maximum**
- 2. Monitor Fresh Water and Nutrient Fluxes and Transport Pathways Through the Pacific Gateway.**
- 3. Monitor Ecosystem Indicators of Climate Change.**
- 4. Improve Russian-U.S. Arctic Climate Science Relations**
- 5. Explore the unknown Arctic**

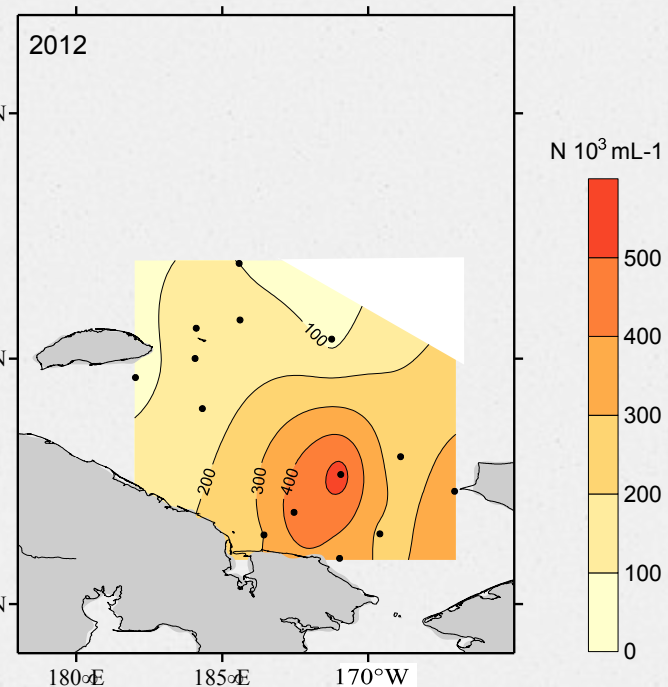
RUSALCA Implementation:

- 1. Annual Mooring Cruises in Bering Strait**
- 2. Process cruises in 2004, 2009, 2012 in both US and Russian waters**
- 3. 2014-2015 Synthesis Year**
- 4. 2015- New phase**

RUSALCA collaboration with Alexander Savvichev

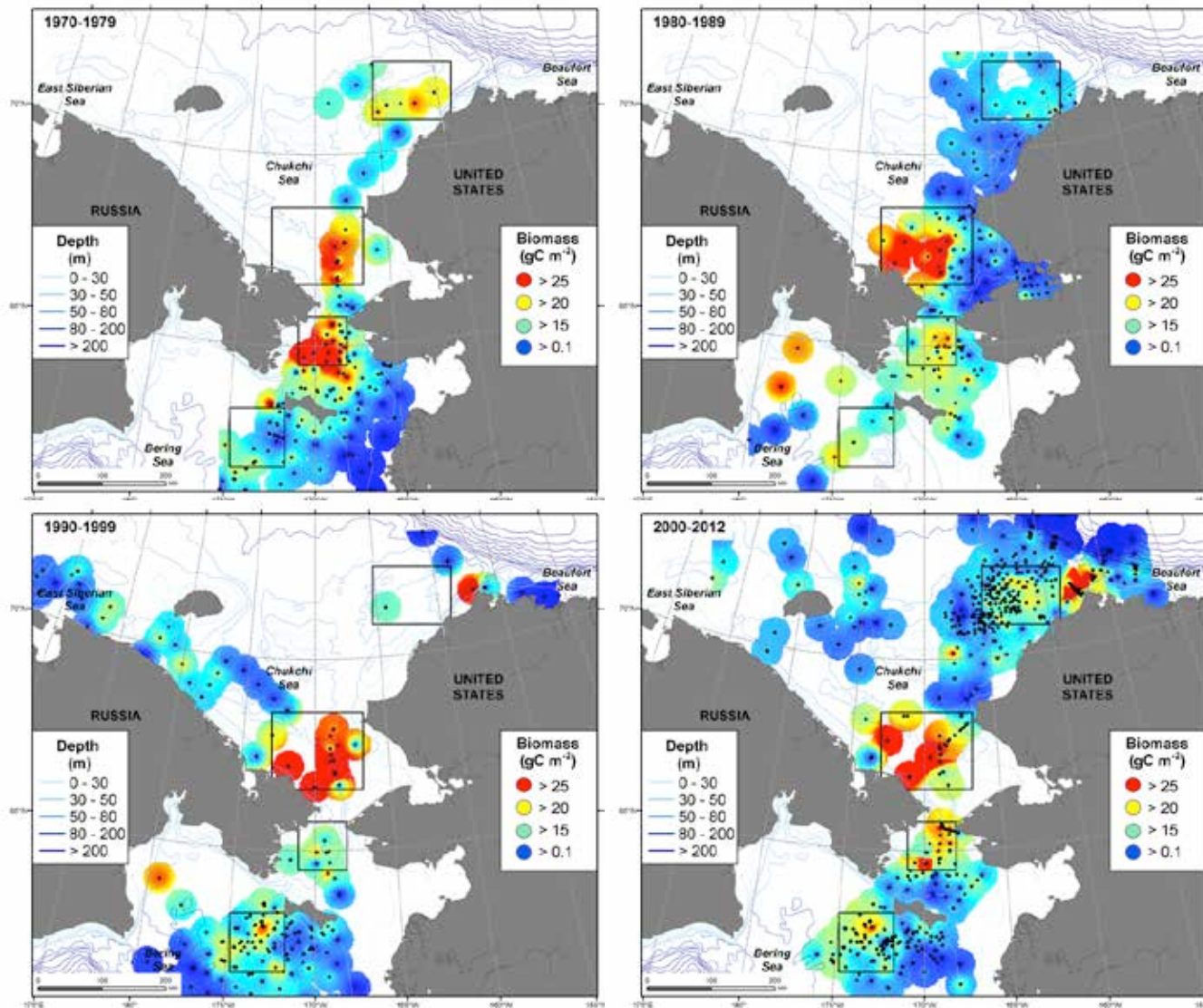


*Chesapeake Biological Laboratory
University of Maryland Center for
Environmental Science, USA*



*Winogradsky Institute of
Microbiology, Russian Academy
of Sciences, Moscow, Russia*

Time series of benthic macrofaunal biomass in the Pacific Arctic



[Grebmeier et al. SOAR benthic paper, in revision]