

# USA Country Report

ISIRA Advisory Meeting  
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# USA report from 2015 being updated

- Project title Contact Institution - lead** Collaborative Research: The Polaris Project II: Amplifying the Impact [snatali@whrc.org](mailto:snatali@whrc.org) Woods Hole Research Center Paleoclimate Analysis of a Miocene Arctic Forest from the Kolyma River Basin, Northeastern Russia [hopejabren@gmail.com](mailto:hopejabren@gmail.com) University of Hawaii RCN-SEES: Building a Research Network for Promoting Arctic Urban Sustainability in Russia [fortung@gmail.com](mailto:fortung@gmail.com) George Washington University Collaborative Research on Carbon, Water, and Energy Balance of the Arctic Landscape at Flagship Observatories in Alaska and Siberia [gwk@umich.edu](mailto:gwk@umich.edu), [msbretharte@alaska.edu](mailto:msbretharte@alaska.edu), [gshaver@mbi.edu](mailto:gshaver@mbi.edu) University of Michigan Ann Arbor Surface Energy Budgets at Arctic Terrestrial Sites: Quantifying Energy and Momentum Fluxes and their Associated Physical Processes [Andrey.Grachev@colorado.edu](mailto:Andrey.Grachev@colorado.edu) University of Colorado at Boulder Developing Indigenous Research Methodologies in the Arctic (IRM-A): Examining the Impacts of Settlement on Socialization and Youth Experience in Siberia and Alaska [smrasmus@alaska.edu](mailto:smrasmus@alaska.edu) University of Alaska Fairbanks Community Adaptation and Knowledge Sharing in Alaska and Siberia \_ University of Alaska Fairbanks A Comparative Study of the Medical Ethnobotany of the Chukchi and Naukan Yupik of Siberia and the Central Alaskan Yup'ik [kjernigan@alaska.edu](mailto:kjernigan@alaska.edu) University of Alaska Fairbanks Investigation of Ultra-180 Depleted "Slushball" Earth Rocks from Karelia, Russia and the Timing of Paleoproterozoic Glaciations and the Great Oxidation Event [bindeman@uoregon.edu](mailto:bindeman@uoregon.edu) University of Oregon Correlating Infrasound Signals with Volcanic Emissions at Karymsky Volcano, Kamchatka, Russia [dfee@gi.alaska.edu](mailto:dfee@gi.alaska.edu) University of Alaska Fairbanks Doctoral Dissertation Research: Discovering Patterns of Language Change through the study of the Koryak Language and its Dialects [mithun@linguistics.ucsb.edu](mailto:mithun@linguistics.ucsb.edu) University of California, Santa Barbara Collaborative Research: Interactions between air temperature, permafrost and hydrology in the high latitudes of Eurasia. [strelets@gwu.edu](mailto:strelets@gwu.edu) George Washington University Collaborative Research: Sensitivity of Circum-Arctic Peatland Carbon to Holocene Warm Climates and Climate Seasonality [zy2@lehigh.edu](mailto:zy2@lehigh.edu) Lehigh University RUI: Collaborative Research: Fire regime influences on carbon dynamics of Siberian boreal forests [mloramy@colgate.edu](mailto:mloramy@colgate.edu) Colgate University Collaborative Research: Vegetation And Ecosystem Impacts On Permafrost Vulnerability [akholodov@gi.alaska.edu](mailto:akholodov@gi.alaska.edu) University of Alaska Fairbanks RCN-SEES Arctic-FROST: Arctic Frontiers Of SusTainability: Resources, Societies, Environments and Development in the Changing North [andrey.petrov@uni.edu](mailto:andrey.petrov@uni.edu) University of Northern Iowa Study of Environmental Arctic Change" (SEARCH) [hajo.eicken@gi.alaska.edu](mailto:hajo.eicken@gi.alaska.edu) University of Alaska Fairbanks, Chair, Science Steering Committee Climate-Ecosystem Interactions and Ocean Exploration [kathy.crane@noaa.gov](mailto:kathy.crane@noaa.gov) NOAA, Climate Obsevation Office Tiksi International Hydrometeorological Observatory [maksh@aari.nw.ru](mailto:maksh@aari.nw.ru), [Taneil.Uttal@noaa.gov](mailto:Taneil.Uttal@noaa.gov) Arctic and Antarctic Institute, NOAA Collaborative Research: IPY: Arctic Great Rivers Observatory (Arctic-GRO [rspencer@whrc.org](mailto:rspencer@whrc.org) Woods Hole Research Center Bering Sea Sub Network: A Distributed Human Sensor Array to Detect Arctic Environmental Change [victoriag@alaska.net](mailto:victoriag@alaska.net), [afia@uaa.alaska.edu](mailto:afia@uaa.alaska.edu) Aleut International Association AON: Development of Sustainable Observations of Thermal State of Permafrost in North America and Russia: The U.S. Contribution to the Global Terrestrial Network for Permafrost [veromanovsky@alaska.edu](mailto:veromanovsky@alaska.edu) University of Alaska Fairbanks Nansen and Amundsen Basin Observational System (NABOS-II) [igor@iarc.uaf.edu](mailto:igor@iarc.uaf.edu) University of Alaska Fairbanks Northern Eurasia Earth Science Partnership Initiative (NEESPI) Pasha.Groisman@noaa.gov NOAA The Circumpolar Active Layer Monitoring Network-CALM IV (2014-2018): Long-term Observations on the Climate-Active Layer-Permafrost System [shiklom@udel.edu](mailto:shiklom@udel.edu) George Washington University Land-cover and Land-use Changes on the Yamal Peninsula, Russia [dawalker@alaska.edu](mailto:dawalker@alaska.edu) University of Alaska Fairbanks The Japan-Kamchatka-Alaska Subduction Processes (JKASP)" , [pavel@gi.alaska.edu](mailto:pavel@gi.alaska.edu), [gordeev@kscnet.ru](mailto:gordeev@kscnet.ru), [chebr@emsd.iks.ru](mailto:chebr@emsd.iks.ru), [hiroaki@mail.sci.hokudai.ac.jp](mailto:hiroaki@mail.sci.hokudai.ac.jp), [mnakagawa@mail.sci.hokudai.ac.jp](mailto:mnakagawa@mail.sci.hokudai.ac.jp) USGS Volcano Hazards Program, University of Alaska, Fairbanks, University Shared Beringian Heritage Program [janis\\_kozlowski@nps.gov](mailto:janis_kozlowski@nps.gov) National Park Service The Alaska Volcano Observatory [steve@giseis.alaska.edu](mailto:steve@giseis.alaska.edu) University of Alaska Fairbanks, Geophysical Institute, US Geological Survey The U.S. Fish and Wildlife Service [Steven\\_Kohl@fws.gov](mailto:Steven_Kohl@fws.gov) Russia-East Asia Branch, Division of International Conservation, U.S. Fish and Wildlife Service Stanford University [elmiller@pangea.stanford.edu](mailto:elmiller@pangea.stanford.edu) Stanford University The International Arctic Research Center (IARC) [Ihinzman@iarc.uaf.edu](mailto:Ihinzman@iarc.uaf.edu) University of Alaska Fairbanks International Volcanological School [pavel@gi.alaska.edu](mailto:pavel@gi.alaska.edu), [jeichelberger@usgs.gov](mailto:jeichelberger@usgs.gov) University of Alaska Fairbanks Bilateral Cooperation on Black Carbon Emission in the Russian Arctic [kuklinski.teresa@epa.gov](mailto:kuklinski.teresa@epa.gov) US Environmental Protection Agency Arctic Contaminants Action Program (ACAP) US Environmental Protection Agency National Plan of Action for the Protection of the Arctic Marine Environment US Environmental Protection Agency

Special issue with Russian – US joint authorship published in Oceanography, September 2015 synthesizing first decade of results

## Russian-American Long-term Census of the Arctic (RUSALCA) Goals

1. Take observations where Arctic sea ice reduction is a maximum
2. Monitor freshwater, heat, and nutrient fluxes and transport pathways through the Pacific Gateway to the Arctic
3. Monitor ecosystem indicators of climate change in the Pacific Arctic
4. Monitor changes in ecosystems and Arctic-wide physical systems that impact global climate and ecosystem stability
5. Improve Russian-US Arctic science relations
6. Explore the unknown Arctic

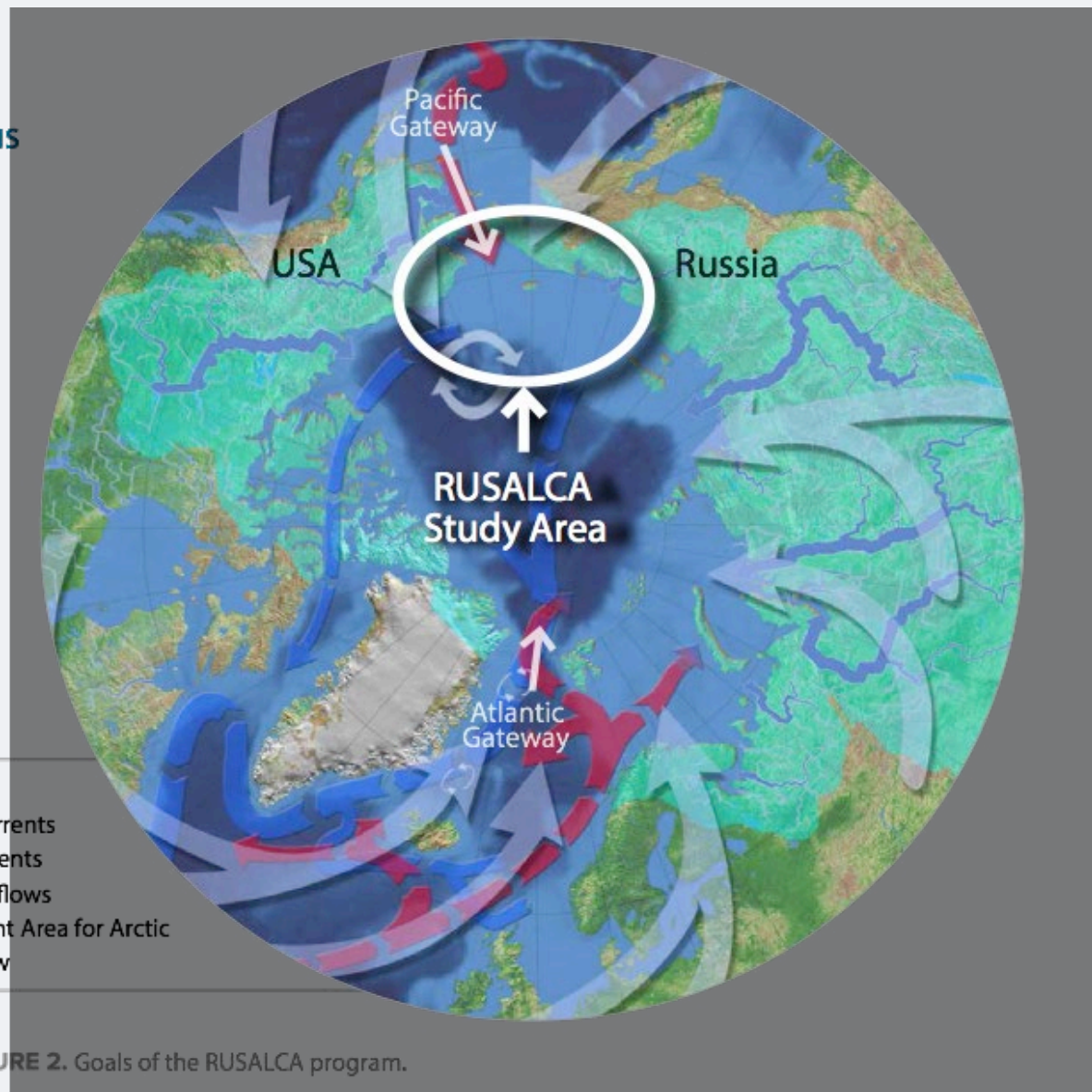
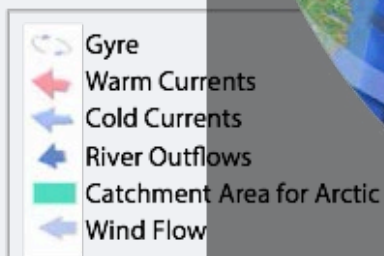


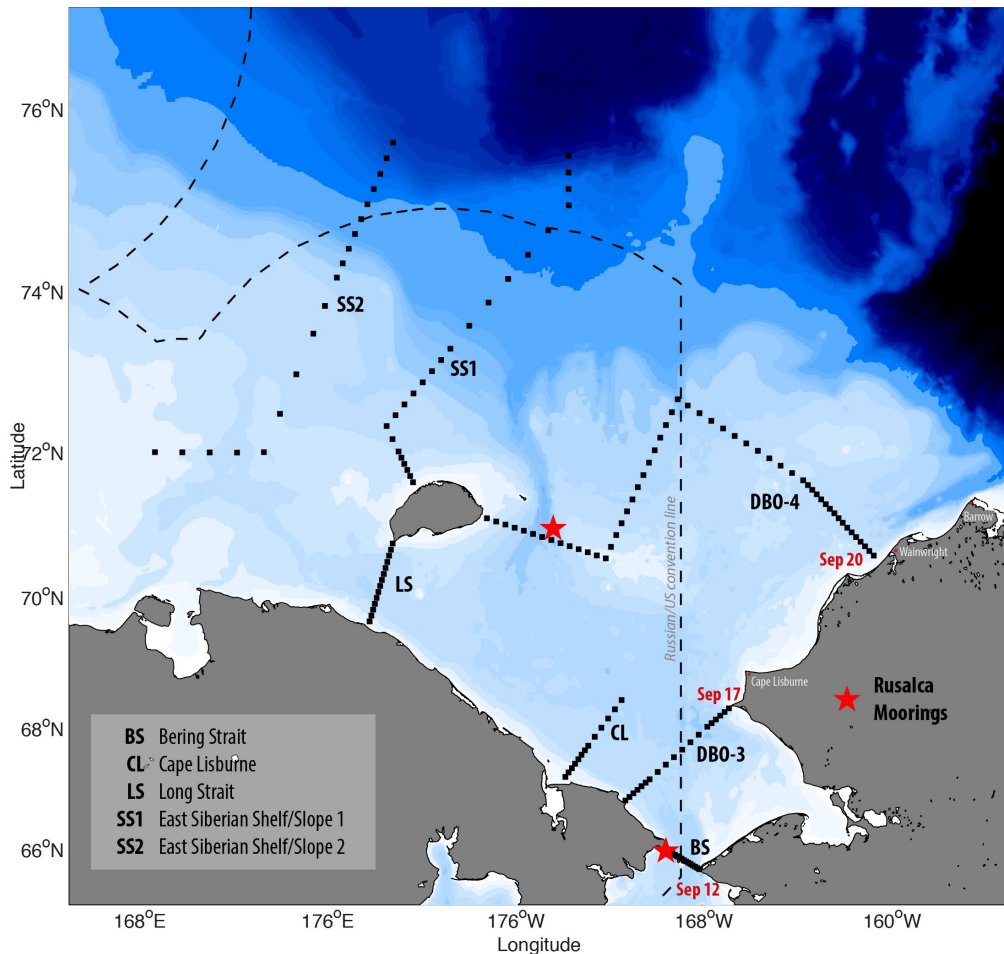
FIGURE 2. Goals of the RUSALCA program.



# Russian-American Long-term Census of the Arctic (RUSALCA)

## Cruise aboard *RV Victor Buynitskiy*, September, 2016

**USA RUSALCA science contact:** Jeremy Mathis, Arctic Research, NOAA, [jeremy.mathis@noaa.gov](mailto:jeremy.mathis@noaa.gov); Jackie M. Grebmeier, [jgrebmei@umces.edu](mailto:jgrebmei@umces.edu); Robert Pickart, [pickart@whoi.edu](mailto:pickart@whoi.edu); Russian partners through NOAA-Russian Academy Agreement include Zoological Institute, P.P. Shirshov Institute of Oceanography, and Autonomous Non-commercial Organization "Marine Technologies and Safety"



### Field Measurements:

- Physical: CTD and lowered ADCP, moorings
- Chemical: nutrients, oxygen-18, chlorophyll-a (Chl a),
- Biological: zooplankton (abundance and biomass, growth rates), larval fish
- Benthos: macrobenthos abundance, biomass and population structure,
- Sediment: organic carbon/nitrogen content, chl a content, grain size, Cs-137 and Pb-210 content; benthic oxygen uptake and nutrient exchange
- Upper trophic: marine mammal shipboard surveys, passive acoustics on moorings

