Collaborative research in Russian Arctic seas

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What is NABOS?

**NABOS** (=Nansen and Amundsen Basins Observational System) is a large-scale long-term observational program launched in 2002 in conjunction with **CABOS** (=CAnadian Basin Observational System)

**Goal:** To provide a quantitative, observationally based assessment of circulation, water mass transformations, key mechanisms of variability in the Arctic Ocean, and links to the lower-latitude processes.
Mooring-based near-slope multi-year observations
complemented by multi-disciplinary oceanographic surveys
Strong Arctic Ocean warming was captured in 2004
Warm anomaly originating in the North Atlantic entered the Arctic Ocean

From Polyakov et al., 2005
Maritime jurisdiction and boundaries in the Arctic region

Source: www.durham.ac.uk/ibru
Typical NABOS field program
Russian EEZ is shown by yellow line
1st page of Rules, [document available on web]

I. General information.
1. The Rules present the order of offering and examination of Letters of Inquiry concerning of marine scientific research in the exclusive economic zone of the Russian Federation (hereinafter accordingly - Letters of Inquiry, marine scientific research), evaluation of Letters of Inquiry and accepting decisions on them.
2. .................................................................
Getting permission for work within the Russian EEZ: Is it easy?

Number of approved (blue) and denied (red) applications in 1992-2001
Getting permission:
NABOS utilizes two-way approach

Using personal scientist-to-scientist and institution-to-institution contacts

Using inter-governmental and other high-level umbrellas
NABOS is in the Program of Activities for 2008-09 as a part of Memorandum of Understanding (MoU) between NOAA (USA) and Roshydromet (Russia) for collaboration in the fields of meteorology, hydrology, and oceanography.

References on documents like this MOU help facilitate permissions.
At the early stage, NABOS meetings helped explain essentials of the program to Russian authorities.

Active participation of top UAF representatives was & is extremely helpful.

UAF scientists of Russian origin help to Program success.
Our cruises are truly international. Strong Russian participation is essential.
Use of a Russian ship helps
Joint analysis of observational data

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STATE OF THE CLIMATE IN 2009

D. H. LINTON AND J. H. LAWRENCE, ED.
ASSOCIATE ED.: A. ANGLE, M. J. DUNN, T. HUTCHINS, A. HURA, F. KAY

A Long-term Circulation and Water Mass Monitoring Program for the Arctic Ocean

By I. Palkin, D. Walsh, J. Delechenko, R. Golzar, J. Hutchings, L. Halka, M. Johnson, and C. Carmack

Seasonal modification of the Arctic Ocean intermediate water layer off the eastern Laptev Sea continental shelf break


Joint analysis of observational data

Arctic Ocean Freshwater Changes over the Past 30 Years and Their Causes
L. V. Polshikov, V. A. Avgurenko, G. J. Johannessen, D. V. Yashin, R. J. Elderfield, and A. A. Korablev

Retrieved from marine discharge data collected at the sediment surface and sea ice of the eastern Laptev Sea continental shelf break, in the intermediate Arctic Ocean waters, with generally higher temperatures and salinities from August. During 1980, the sea ice was present from November to January, while the sea ice was present from November to December 1980. During 1981, the sea ice was present from November to January, while the sea ice was present from November to December 1980.
Participation of Russian PIs is essential
Climate change:
Looking for new commercial and technological opportunities
Re-negotiation of boundaries in the Arctic region: Potential negative impact on Arctic science

Source: www.durham.ac.uk/ibru
Observations carried out in 2009:
For eight years NABOS was successful in leveraging the permission.

Future?
SUMMARY

Since 2002 our program has accumulated a great deal of experience working in the Russian EEZ.

Established observational network has become an important element of the Arctic Observing System.

Gradual increase of our field experiment in the Russian EEZ utilizing multitude of undertakings was essential for the project success.

Still, getting permission from the Russian authorities remain a year-to-year business and new territorial claims may have negative impact on the process.