INTERNATIONAL ARCTIC IARC RESEARCH CENTER
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NEESPI Cold Land & Arctic Coast (CLAC) Focus Center Workshop

IARC, Fairbanks, Alaska, April 6 - 8, 2006

Workshop sponsors: International Arctic Research Center (IARC), UAF
Office of Polar Programs, National Science Foundation, USA
NASA

General Information about NEESPI

The Northern Eurasia Earth Science Partnership Initiative, or NEESPI, is an *active* multidisciplinary program of research focused on critical Earth system science issues in Northern Eurasia which are relevant to regional and global scientific and decision-making communities. Development of NEESPI started in 2002 via a dialog, formally initiated by U.S. (NASA) and Russian (Russian Academy of Sciences) scientific groups. Three international science planning workshops took place in 2003. Based on these workshops and follow-up activities, the NEESPI Science Plan has been prepared and published in 2004. The Plan is currently available at http://neespi.org.

The overarching NEESPI Science Question is: *How do Northern Eurasia's terrestrial ecosystems dynamics interact with and alter the biosphere, atmosphere, and hydrosphere of the Earth?* This question can be reformulated in a pragmatic way as: *How do we develop our predictive capability of terrestrial ecosystems dynamics over Northern Eurasia for the 21st century to support global projections as well as informed decision making and numerous practical applications in the region?* This and the subsequent NEESPI science questions are expected to be addressed by development of an interactive suite of the land surface models that can interactively feed back to regional and global climate, environmental, societal, and economic models and perform all necessary studies to make this suite of models a viable working tool; using modern tools of environmental monitoring and integrating the results from historical data sets, present observational systems, and process studies into a unified knowledge base.

Major NEESPI focuses are (a) transient zones that are most vulnerable in future changes: arctic coastal zone, tundra-forest, forest-steppe, steppe-desert, and mountains; and (b) feedbacks that make the projection of the future changes uncertain and include biogeochemical feedbacks, biogeophysical feedbacks, and feedbacks associated with human activity. It is expected that major NEESPI-related research deliverables, in approximately ten years, will be a suite of process–oriented models for each major terrestrial process in all its interactions; a suite of global and regional models that seamlessly incorporate all major regionally specific feedbacks associated with terrestrial processes; an integrated observational knowledge data base for environmental studies; and an environmental hazards warning system in place that can serve the emergency needs of the society. A synergetic approach to projections of the future changes is the core of NEESPI.

In March 2005, the NEESPI organizers asked IARC to take a lead and establish the NEESPI Focus Center for Cold Land Processes and Arctic Coastal Studies in support of NEESPI activities in the Arctic and sub-Arctic.

This upcoming Workshop is the first meeting of the interested parties related to the NEESPI "Cold Land Processes and Arctic Coastal Studies" Focus Center. At this stage, the most important goal of this Workshop is to bring together the PIs of the NEESPI-related projects within the University of Alaska Fairbanks that were funded or just-to-be-funded with several representatives from the Russian Scientific and Science Management communities. The principle objective is to start the dialog between the Russian and American scientists to address the scientific and logistics issues that will help to better coordinate the science and the logistics within and between these newly funded NEESPI projects. It will be rather an informal Workshop with several practical results to achieve in planning the coming fieldwork campaign in Russia during the next two to three years.

AGENDA

Tuesday - Wednesday: 4 - 5 April 2006

Arrivals: Sophie Station Hotel, 1717 University Avenue, Fairbanks 479-3650

Thursday: 6 April 2006 (International Arctic Research Center, room 401)

0830 - 0900 Registration and continental breakfast

0900 - 0910 Opening: Welcomes and objectives

0910 - 0930 **Larry Hinzman**, *IARC* Deputy Director: ***Arctic Studies at the IARC***

0930 - 1000 **Pavel Groisman**, NEESPI Project Scientist: ***Current State and the Future Directions of NEESPI***

Introduction of the UAF NEESPI Projects

1000 - 1030 **Donald (Skip) Walker**, *University of Alaska Fairbanks*

- ***Application of space-based technologies and models to address land-cover/land-use change problems on the Yamal Peninsula, Russia.***

1030 - 1100 **Igor Semiletov**, *University of Alaska Fairbanks*

- **The exploration of the coastal zone in the East-Siberian Sea and adjacent parts of the Laptev and Chukchi Seas**

1100 - 1115 Coffee Break

1115 - 1145 **David Atkinson**, *University of Alaska Fairbanks*

- ***Social Vulnerability to Climate Change in Arctic western North America and eastern Russia***

1145 - 1215 **Gary Kofinas**, *University of Alaska Fairbanks*

- ***Heterogeneity and Resilience of Human-Rangifer Systems: A Circumpolar Social-Ecological Synthesis***

Introduction of the Related Russian Projects

1215 - 1235 **Marina Leybman**, *Earth Cryosphere Institute*, Moscow

- ***Current research directions and results***

1235 - 1305 **Natalia Moskalenko**, *Earth Cryosphere Institute*, Moscow

- ***Current research directions and results***

1305 - 1430 Lunch

1430 - 1630 ***Discussions in two sub-groups: "Yamal" and "East Siberia",*** **Rooms 401 and 417**

1510 - 1530 Coffee Break

1630 - 1700 ***Short reports on the discussion in sub-groups,*** **Rooms 401 and 417**

1730 - 2100 Reception

Friday: 7 April 2006 (International Arctic Research Center, room 401)

0830 - 0900 Continental Breakfast

Introduction of the UAF NEESPI Projects (continued)

0900 - 1000 **Vladimir Romanovsky, Larry Hinzman, and Kenji Yoshikawa,** *University of Alaska Fairbanks*

- ***Permafrost dynamics within the Northern Eurasia region and related impacts on surface and sub-surface hydrology***

- ***Current climate changes over Eastern Siberia and their impact on permafrost landscapes, ecosystem dynamics, and hydrological regime.***

- ***Thermal State of Permafrost (TSP): The US Contribution to the International Network of Permafrost Observatories***

1000 - 1030 **David McGuire,** *University of Alaska Fairbanks*

- ***Are decreases in snow cover moderated by increased carbon storage in fire-disturbed high-latitude terrestrial ecosystems?***

Introduction of the Related Russian Projects

1030 - 1100 **Alexander Vasiliev,** *Earth Cryosphere Institute*, Moscow

- ***Thermal State of Permafrost (TSP) in Russia: West Siberia***

1100 – 1130 **Mikhail Zheleznyak**, *Melnikov Permafrost Institute*, Yakutsk

- ***Thermal State of Permafrost (TSP) in Russia: East Siberia and Far East***

1130 - 1150 Coffee Break

1150 - 1220 **Dmitri Sergeev**, *Institute of Environmental Geoscience*, Moscow

- ***Thermal State of Permafrost (TSP) in Russia: Trans-Baykal Region***

Emerging Logistics Questions

1220 - 1250 **Vladimir Gruzinov**, Deputy Director State Oceanographic Institute

- ***Introduction to the Polar Foundation: Who We Are and How We Can Help***

1250 - 1410 Lunch

1410 - 1610 ***Discussion on the logistics needs in two sub-groups: "GOA and CARMA" & "TSP"***

1610 – 1630 Coffee Break

1630 - 1700 ***Short reports on the discussion in sub-groups***

Saturday: 8 April 2006 (International Arctic Research Center, room 401)

0930 - 1230 ***Informal discussion: Specific logistics needs and possible solutions***

1230 Adjourn