

First Circular

International Workshop on the Northern Eurasia Mountain Ecosystems and Regional (High Elevations) NEESPI Science Team Workshop

September 9 - September 15, 2009
Central Asia Institute for Applied Geosciences 73/2 Timur Frunze Street,
Bishkek 720027, Kyrgyz Republic

First Announcement and Call for Abstracts

Background

The mountainous regions have a common cultural and economic character, and also share similar natural habitats. The main natural features of the regions include high elevated ridges, alpine meadows and forest, foothill shrubs and steppes, vast deserts, rivers originating in high mountains, and a range of lakes fed by these rivers. The mountains are especially important since they are rich in water and hydroelectric potential. Conditioned by mountain relief, atmospheric activity and precipitation, the relationship between the mountains and the surrounded plains provides the most important link for the moisture exchange mechanism over the large land masses. The mountain's river basins are highly vulnerable to the changes in energy and mass fluxes at the land surface and to the near-surface physical conditions (e.g., snow cover extent, glacier mass balance and thermal state of glaciers, freshwater, and so on). Current and further expected retreat of seasonal snow cover and glaciers and the changes in precipitation partitioned among land surface storage significantly affect river runoff, permafrost state, and ground water reservoirs. Mountain ecosystems support the unique multitude of plants and animals. Forests and shrubs play a crucial role in stabilizing the land. However, the majority of mountain river basins are characterized by complex social and economic problems ensuing from extensive resource consumption; natural responses to climate change; growing anthropogenic pressure; inappropriate location of hydropower and industrial facilities; and inefficiencies of agricultural and industrial production practices. The human activity has been identified as contributing to land degradation via poorly constructed and maintained irrigation systems, especially distribution canals located on steep, unstable slopes; poor soil and water management for crop production; salinisation of irrigated lands; poor pasture management, in particular the overgrazing of pastures; and over reliance on fuel-wood, shrubs, dung, and peat to meet household energy needs. Among the potentially harmful feedback effects of natural and anthropogenic land changes are: extended desertification, increased wind erosion, atmospheric contamination, and dust loading (which also accelerate snow and glacier melt), reduction in yield, contamination of surface and ground waters due to extensive use of agricultural chemicals, and, finally, increasing human mortality rates. To formulate integral and effective mitigation approaches, both the direct and root causes of negative environmental changes have to be properly evaluated and projected.

Assuming the aforesaid as a rationale, the International Workshop on the Northern Eurasia Mountain Ecosystems (NEESPI Regional Workshop with Focus on the High Elevation Areas of Northern Eurasia) is planned on the second week of September 2009 in Bishkek, Kyrgyzstan at the Central Asia Institute for Applied Geosciences. This Workshop has the goal to promote further research development in the mountainous regions of the NEESPI domain to enhance coordination of the ongoing studies (including those conducted within the Monsoon Asia integrated Regional Study, MAIRS), and to discuss their achievements.

Since 2004 about 30 projects were funded through and/or joined the NEESP Initiative (<http://neespi.org/science/>) to study mountainous regions of the Northern Eurasia, including Alps, Carpathians, Caucasus, Ural, eastern and central Siberia, Altai-Sayan, Tien Shan, and Pamir. The ongoing projects focus to study potential consequences of climate variability and global change on very sensitive mountainous ecosystems, water resources, and land degradation in Northern Eurasia. Most projects are also intended to provide a comprehensive and objective environmental management setting for the sustainable development in mountainous regions. Interest in High Elevation Areas research within the MAIRS community is also high and one of four major MAIRS research themes is "Multiple stresses on ecosystems and biophysical resources in high Mountain Zones".

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Northern Eurasia Earth Science Partnership Initiative (NEESPI) together with Central Asia Institute for Applied Geosciences (CAIAG), German Research Centre for Geosciences (GFZ), the University of Idaho, Institute of Geography of the Russian Academy of Sciences (IG RAS), and Voeikov Main Geophysical Observatory of Roshydromet will hold the seven-day-long scientific and educational Event that will include:

- (a) International Workshop devoted to Climatic, Environmental, Land Cover-Land Use Change Studies at High Elevations
- (b) Regional NEESPI Science Team Research Workshop focuses on discussion of existing projects results and development new research within mountain regions of the NEESPI domain
- (c) International Young Scientists School on Environmental Studies at High Elevations.

The Event will be held in Bishkek, Kyrgyzstan in the foothills of Tien Shan Mountains (www.traveljournals.net/pictures/kyrgyzstan/bishkek). The Event will take place on the premises of the Central Asia Institute for Applied Geosciences. The local Organizing Committee is chaired by Dr. Bolot Moldobekov (CAIAG) (b.moldobekov@caiaq.kg), Secretary of the Committee is Ms. Cholpon Akulueva ch.akulueva@caiaq.kg.

The Young Scientists School on Environmental Studies at High Elevations will be held on September 8-9, 2009 (all lectures will be presented *in Russian*). Those who are interested in attending the School may receive information at <http://neespi.org/news/BishkekSchool2009.html>.

The International Workshop and the NEESPI Workshop will be held immediately after the School of Young Scientists. The School attendees and Lecturers are cordially invited to extend their stay in Bishkek and to participate in the Workshops devoted to Climatic, Environmental, Land Cover-Land Use Change Studies at High Elevations. However, the working language of the Workshops will be *English*.

The International Workshop will be opened on September 10, 2009 with a kick-off discussion of the Foci of the Event and one-day Remote Sensing Class Session "The techniques of the latest remote sensing data processing for the mountainous areas". The next three days (September 11-13, 2009) will be engaged by the Workshops Sessions. A field trip to "Ala-Archa" National Park will conclude the Conference Program. **After the Event completion**, an optional two-day-long field trip to Issik Kul Lake will be organized for those who are interested.

The audience of the Workshops will include scientists from around the world involved in environment-related studies in mountainous regions of Eurasia and beyond. Oral and Poster Sessions are planned. Both Workshops will have a form of scientific discussions on the defined topics. Each topic or objective will have one keynote speaker who will illuminate the problem and make an overview of relevant research that has been done and possible approaches to new proposed research and solutions. While the theme of both Workshops will be the same, we distinguish the International Workshop from the Northern Eurasia Earth Science Partnership Initiative (NEESPI) Workshop mostly by the status of their presenters: Presentations at the International Workshop will be invited from the entire scientific community involved in High Elevation Areas research in Northern Eurasia, while presentations at the NEESPI Workshop will be reserved to the NEESPI Science Team members only.

The International Workshop Sessions will be devoted to the following four topics:

- (a) The state and dynamics of high elevation cryosphere and natural hazards caused by changes in this state
- (b) Monitoring and modeling of the water resources changes in the mountainous regions affecting downstream areas
- (c) High elevation climate change studies.
- (d) Land cover, land use changes in the mountainous areas and corresponding ecological problems

At the NEESPI Workshop, in addition to reports on advance of NEESPI projects related to the High Elevation Areas in Northern Eurasia (cf., <http://neespi.org/science/invest.html>), assessment of the current state of understanding of processes that control regional environmental changes, and planning of the future NEESPI studies, particular attention (a special Session) will be dedicated to the current and planned activities of the Central Asia Institute for Applied Geosciences in Bishkek, Kyrgyzstan. Workshop Statement on status of High Elevation Environment studies, current gaps of knowledge, and the priorities of further research will be drafted and discussed. The Workshops Programs are currently under development.

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The Program Committee will determine specialists in the area to present focused papers covering the state of the art and their recent results in accordance with the selected topics. The power point presentations of the lectures, presented papers, and poster presentations¹ will be published at the NEESPI web-site (<http://neespi.org>) and distributed among participants on CD.

Potential International Workshop participants are kindly requested to submit the following information to the members of the Permanent Core of the Event Organizing Committee.

- (a) **A 1-page abstract of their presentation(s)**,
- (b) **Names of the early career scientists** who may benefit from the School attendance, and
- (c) **The attendance plans**

In addition to the abstract body, it should include: (1) Title, (2) Authors (presenting author first), (3) Affiliation and Address for Each Author (Mailing address, telephone, fax, e-mail), (4) Topic chosen, and (5) suggested paper status (oral or poster). **ABSTRACT DEADLINE: 1 May 2009.** Conference fee for early career scientists and graduate students will be reduced. Other related deadlines will be determined later.

Permanent core of the Event Organizing Committee

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Questions about the Workshop organization and logistic information can be sent to Ms. Cholpon Akulueva (ch.akulueva@caiaq.kg), Dr. Pavel Groisman (Pasha.Groisman@noaa.gov), or Dr. Vladimir Aizen (aizen@uidaho.edu).

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¹ in pdf and/or in jpg format.