Geophysical Research Abstracts
Vol. 13, EGU2011-13874, 2011
EGU General Assembly 2011
© Author(s) 2011

Siberia Integrated Regional Study: from climate change study to adaptation/mitigation strategy

Evgeny Gordov

Siberian Center for Environmental Research and Training (http://www.scert.ru/en/); Institute of Monitoring of Climatic and Ecological Systems SB RAS (http://www2.imces.ru/en), Tomsk, Russian Federation (gordov@scert.ru, http://www.scert.ru/en/about/persons/gordov/).

Siberia Integrated Regional Study (SIRS; Gordov, Vaganov, 2010)) is a NEESPI (http://neespi.org) megaproject coordinating national and international activity in the region in line with Earth System Science Program. Near ten years SIRS history yields in development of key elements of SIRS information-computational infrastructure, in understanding main features of sharply pronounced Global change impact on regional climate and ecosystems dynamics and in elaboration of capacity building activity targeted to early career researchers thematic education and training. These results were obtained in course of carrying out of different scale national and international projects and will be described briefly. Among undertaken activities the FP6 EC Enviro-RISKS project aimed at analysis of man made risks in Siberia and its major outcomes (Gordov, Baklanov, 2008) should be specially emphasized.

Current challenges are in study of future potential changes in the region and in estimation of possible influence of those processes on the whole Earth System dynamics, as well as in elaboration of relevant adaptation and mitigation strategy. On-going and projected processes lead to major regional and global risks rising with regional environment changes. Urgent understanding is currently required to three interrelated problems, which solution has strong regional environmental and socio-economical impacts and is very important for understanding potential change of the whole Earth System dynamics: a) permafrost border shift, which seriously threatens the oil and gas transporting infrastructure and leads to additional carbon release; b) desert - steppe- forest-tundra ecosystems changes, which might vary region input into global carbon cycle as well as provoke serious socio-economical consequences for local population; c) and Temperature/precipitation/hydrology regime changes, which might increase risks of forest and peat fires, thus causing significant carbon release from the region under study.

These problems have the global importance and to address them properly, a large scale EU project comprising efforts of international community dealing with Northern regions environment might be an adequate response.