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SIRS NEESPI megaproject on land – atmosphere processes in Siberia: results and perspectives

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The Siberia Integrated Regional Study (SIRS, http://sirs.scert.ru/en/) is the Siberia-focused NEESPI Mega-Project. SIRS is developed in line with Earth System Science Program (ESSP) approach in cooperation of Russian Academy of Science (Siberian Branch) specialists with their European, American and Asian partners/counterparts and is aimed at coordination of multidisciplinary and "distributed" teams of specialists carrying out different scale projects on Siberia environment dynamics. Currently SIRS is supervised by the Russian National Committee for IGBP and managed by its Siberian Branch.

Reported are recent results of investigations of the two major Siberian ecosystems dynamics, which are boreal forests and wetlands, with special emphasis on their role in the carbon cycle as well as results of climatic modeling for the region under study and first elements of the SIRS information-computational infrastructure forming glue for relevant multidisciplinary research. Among those are: recent results obtained at the Zotino Tall Tower Observation Facility; analysis of carbon balance between 2 emission and accumulation based on ground observations performed at the Great Vasyugan Bog, recent development in high resolution regional climate modeling and new elements of the SIRS information-computational infrastructure.

New SB RAS initiatives aimed at organization across Siberia a set of environmental observatories to monitor regional ecosystems and climate dynamics with special emphasis upon desertification and permafrost thawing processes and synchronized development of distributed facilities supporting obtained data storage and delivery are described in details. Scientific plans relying upon these developments are discussed as well.