Development of web based information-computational infrastructure for Siberia Integrated Regional Study

E. Gordov (1,2), A. Fazliev (3), V. Lykosov (4)

(1) Siberian Center for Environmental research and Training, Tomsk, Russia, (2) Institute of Monitoring of Climatic and Ecological Systems SB RAS, Tomsk, Russia, (3) Institute of Atmospheric Optics SB RAS, Tomsk, Russia, (4) Institute for Numerical Mathematics RAS, Moscow, Russia

(gordov@scert.ru / Fax: +7 3822 49 25 37 / Phone: +7 3822 49 21 87),

To understand dynamics of regional environment properly and perform its assessment on the base of monitoring and modeling an information-computational infrastructure is required. Management of multidisciplinary environmental data coming from large regions requires new data management structures and approaches. In this paper on the base of an analysis of interrelations between complex (integrated) environment study in large region and modern information-computational technologies major general properties of distributed information-computational infrastructure required to support planned within Siberia Integrated Regional Study (SIRS, http://sirs.scert.ru) investigations of environmental changes in Siberia are discussed. SIRS is a Northern Eurasia Earth Science Partnership Initiative (NEESPI, http://neespi.org) mega project co-ordinating national and international activity in the region in line with Earth System Science Program (ESSP) approach. The infrastructure developed in cooperation of Russian Academy of Science (Siberian Branch) specialists with their European and American partners/counterparts is aimed at support of multidisciplinary and "distributed" teams of specialists performing cooperative work with tools for exchange and sharing of data, models and knowledge optimizing the usage of information-computational resources, services and applications.

Recently developed key elements of the SIRS infrastructure are described in details. Among those are the Climate site of the environmental web portal AT-

MOS (http://climate.atmos.iao.ru) providing an access to climatic and mesoscale meteorological models and the Climate site of the Enviro-RISKS web portal (http://climate.risks.scert.ru/), providing an access to interactive web-system for regional climate assessment on the base of standard meteorological data archives. As an example of the system usage dynamics of some regional climatic characteristics is analyzed.