

MEETINGS

Northern Eurasia in the Global Earth System

Northern Eurasia Land Surface Properties and Change and Its Role in the Global Earth System Aspen, Colorado, 12–17 August 2007

Northern Eurasia is undergoing significant changes associated with warming climate and with socioeconomic changes during the entire twentieth century. Climatic changes over this vast landmass interact and affect the rate of global change through atmospheric circulation and through strong biogeophysical and biogeochemical couplings. Current and future interactions and feedbacks to the global system of this carbon-rich, cold-region component of the Earth system remain to a large extent unknown.

The Northern Eurasia Earth Science Partnership Initiative (NEESPI; <http://neespi.org>), an international and interdisciplinary program, was established to address these issues. NEESPI's overarching science question is, 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? Since 2004, more than 100 international research projects have joined NEESPI, and the initiative has been endorsed by several international programs and projects.

The goal of the recent workshop was to provide a venue for scientists from the climate and Earth system modeling and NEESPI communities to identify gaps and uncertainties in modeling across scales and observations in northern Eurasian systems.

Three workshop objectives were as follows: (1) evaluation of the state-of-the-art modeling efforts in the region along three spatial scales: microscale (or at the process level), regional scale (or within major biomes of the region and in the transitional zones between them), and global scale; (2) development of recommendations for collaboration between the global Earth modeling community and the NEESPI region researchers; and (3) iden-

tification of missing research topics critical for achievement of the NEESPI objectives and thus for global change research.

The *Eos* electronic supplement to this workshop report (see http://www.agu.org/eos_elec/) summarizes the current status of changes across the NEESPI domain, sets up major research priorities in the NEESPI domain, identifies the ongoing modeling efforts relevant to NEESPI, outlines missing links and deficiencies in data and process knowledge, and develops a set of recommendations and action items that will further advance the initiative toward its objectives. Taking into account global importance of changes in terrestrial carbon cycle in high latitudes, special attention was paid to local- to regional-scale biogeochemistry modeling for the NEESPI region and its linkage with regional hydrometeorological modeling. Among recommendations, the workshop stressed the need for performing multiple model intercomparisons over northern high latitudes (north of 45°N), focusing on the NEESPI domain. To make this recommendation happen, a protocol and road map were developed.

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