PAN-EURASIAN EXPERIMENT (PEEX)

A NEW RESEARCH INITIATIVE FOCUSED ON THE NORTHERN PAN-EURASIAN REGION

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Abstract

Frequency of natural hazards will increase under climate change and corresponding transformations in the land cover. The Pan-Eurasian region is prone to natural hazards of different origin. Hazards are related to the atmospheric processes of various temporal and spatial scales: strong winds, floods and landslides caused by heavy precipitation, fires caused by drought, extreme temperatures, etc. To build scenarios of their future frequency and behaviour, one should analyse the atmospheric mechanisms behind the circulation structures.

The PEEX project aims to establish a long-term research activities and collaboration in the Pan-Eurasian region covering EU, Russia and China. The PEEX project will deliver critical long-term datasets for the climate and air quality research including evaluation of weather forecast, air quality and climate models. Important focus of the PEEX project is early-warning systems, based on Integrated Land Information System (ILIS). The geo-referenced background of the ILIS is represented by a hybrid land cover which is developed by using multi-sensor remote sensing concept and all available ground information.

Population adaptation and response to both environmental and economic changes would improve evaluation of socio-ecological fragility and vulnerability. Early-warning systems for timely mitigation of negative socio-ecological effects of both environmental and natural resources change is a crucial tool. Such systems would be useful for federal, regional and local authorities, as well as

for local communities. PEEX research agenda provides information for mitigation and adaptation strategies, which will be made in collaboration with stakeholders through different mechanisms. Reliable climate information is crucial for the planning and adaptation for climate change impacts on the society in the coming decades. The future plans by various societal stakeholders requires scientific information of the physical and social processes in order to avoid the most harmful risks and to take sustainably an advantage of new opportunities. The innovations like measurement techniques and predictions of extreme events are of great value for diverse social groups, providing improved knowledge and scenarios of climate phenomena. Basic research, as well as applied research, is important for policy-making and society as a whole.

The PEEX research agenda supports the planning for adaptation through the provision of scientific knowledge of natural and climatic processes in order to assess the extent of climate risks in the future. The PEEX project will accumulate scientific knowledge of how societies in the PEEX area are able to adapt to climate change and what issues can hamper these processes.