



Pan Eurasian Experiment (PEEX): a new research initiative focused on the Northern Pan-Eurasian Region

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The increasing human activities are changing the environment and the humanity is we are pushing the safe boundaries of the globe. It is of utmost importance to gauge with a comprehensive research program on the current status of the environment, particularly in the most vulnerable locations. Pan-Eurasian Experiment (PEEX) is a new multidisciplinary research approach aiming at resolving the major uncertainties in the Earth system science and global sustainability questions in the Arctic and boreal Pan-Eurasian regions.

The PEEX program aims (i) to understand the Earth system and the influence of environmental and societal changes in pristine and industrialized Pan-Eurasian environments, (ii) to establish and sustain long-term, continuous and comprehensive ground-based airborne and seaborne research infrastructures, and to utilize satellite data and multi-scale model frameworks, (iii) to contribute to regional climate scenarios in the northern Pan-Eurasia and determine the relevant factors and interactions influencing human and societal wellbeing (iv) to promote the dissemination of PEEX scientific results and strategies in scientific and stake-holder communities and policy making, (v) to educate the next generation of multidisciplinary global change experts and scientists, and (vi) to increase the public awareness of climate change impacts in the Pan-Eurasian region.

The development of PEEX research infrastructure will be one of the first activities of PEEX. PEEX will find synergies with the major European land-atmosphere observation infrastructures such as ICOS a research infrastructure to decipher the greenhouse gas balance of Europe and adjacent regions, ACTRIS (Aerosols, Clouds, and Trace gases Research InfraStructure Network-project), and ANAEE (The experimentation in terrestrial ecosystem research) networks and with the flag ship stations like the SMEARs (Station for Measuring Ecosystem-Atmosphere Relations) when design, re-organizing and networking existing stations networks in the Northern Pan-Eurasian region.