

PEEX Preview

The University of Helsinki's Professor Markku Kulmala on the PEEX programme into climate in the Northern Eurasian area

The vision of the Pan-Eurasian Experiment (PEEX) is to solve interlinked global challenges influencing the human wellbeing and societies in northern Eurasia, such as climate change, air quality, biodiversity loss, chemicalisation, food supply, energy production and fresh water in integrative ways recognising the increasing important role of the arctic and northern boreal ecosystems. The PEEX vision includes to establish and to maintain a long-term coherent and co-ordinated research activity and research and educational infrastructure in PEEX domain.

PEEX will use an integrated observational and modelling framework to identify different forcing and feedback mechanisms in the northern parts of the Earth system, and therefore enable more reliable predictions of future regional and global climate. Due to the already-seen impacts of climate change on society and the specific role of permafrost and boreal forest regions in this context, the PEEX initiative emphasises the fast actions needed for establishing PEEX domain, the next generation research infrastructure in the field of boreal and arctic research. PEEX is targeted to provide fast track assessments for climate policy making in a global scale and mitigation strategies for the northern pan-Eurasian region. PEEX is built on collaboration by EU, Russian and Chinese parties, involving scientists from various disciplines, experimentalists and modellers, and international research projects.

PEEX is planned to be active starting from 2013-2014 in a continuous manner establishing a long-term research infrastructure (RI) in the northern pan-Eurasian area. The PEEX domain covers the Eurasian boreal forest zone and arctic permafrost regions of the northern hemisphere including marine areas such as the Baltic and North seas and the Arctic Ocean. The PEEX research agenda is focused on the process understanding of water/energy and the biogeochemical cycles. The research agenda provides improved conceptual understanding over the relevant spatial and temporal scales and processes from nano to global scale. New knowledge at the process level in all scales, from nano to global, is implemented into Earth system models at the global scale.

The future PEEX RI is supporting and complementing aircraft and satellite observations and has the important role in validation, integration, and full exploitation of remote sensing data. The

The PEEX 'Pan-Eurasian Experiment' study is a multidisciplinary climate change, air quality, environment, ecosystem and research infrastructure programme focused on the Northern Eurasian, particularly arctic and boreal regions. The PEEX research agenda is reinforced by the services, adaptation and mitigation plans for the northern societies to cope with the global change. It is a bottom up initiative by several European, Russian and Chinese research organisations and institutes. PEEX is open for other institutes to join in.

Preparatory Phase Committee:

Academy Professor Markku Kulmala (University of Helsinki), Professor Sergej Zilitinkevich (Finnish Meteorological Institute), Director Yrjö Viisanen (Finnish Meteorological Institute), Professor Vladimir Kotlyakov (Institute of Geography), Professor Nikolay Kasimov (Moscow State University), Professor Valeriy Bondur (AEROCOSMOS), Professor Gennady Matvienko (Institute of Atmospheric Optics SB RAS) and EU/JPI representatives.

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More information on the project can be obtained from:
www.atm.helsinki.fi/peex

strategic focus is to ensure the long-term continuation of advanced measurements in land-atmosphere-ocean continuum in the northern Eurasian area.

PEEX's scientific outcome is exploited via new climate scenarios at the global and regional scales. PEEX will also address and provide mitigation plans for the air quality problematics (emission sources, long-term transport) and natural hazards and land use under changing climate. PEEX aims to contribute to the Earth system science agenda and climate policy for topics inherent to the pan-Eurasian environment and provide mitigation assessment of northern pan-Eurasian societies to cope with climate change.



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