

## **Pan-Eurasian Experiment (PEEX)**

**A new bottom-up research, infrastructure, education and policy making initiative focused on the Northern Pan-Eurasian boreal and arctic regions**

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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 (<http://www.atm.helsinki.fi/peex/>, Kulmala et al. 2011). PEEX initiative is built on a bottom-up initiative by several European, Russian and Chinese research organizations and institutes. The main goal of PEEX Research agenda is to contribute to solving the scientific questions that are specifically important for the Pan-Eurasian region in the coming years, in particular the global climate change and its consequences to nature and human society. Pan Eurasian region represents one the Earth most extensive areas of boreal forest (taiga) and the largest natural wetlands, thus being a significant source area of trace gas emissions, biogenic aerosol particles, and source and sink area for the greenhouse gas (GHG) exchange in a global scale (Guenther et al. 1995, Timkovsky et al. 2010, Tunved et al. 2006, Glagolev et al. 2010).

One of the first implementation activities of the PEEX initiative is to establish a process towards high level Pan-Eurasian Observation Network Siberian region. A new typed, coherent ground based atmosphere-ecosystem measurement network is a crucial component for observing and predicting the effects of climate change in the Northern Pan-Eurasian region. The Preliminary Phase of the PEEX Observation network will cover the SMEAR-type stations in Finland (see Hari et al. 2009), Estonia and in China supplemented with selected existing observation stations in Russia and China. The ground based observation setup would be completed by the remote sensing infrastructure. The PEEX program will bring the observation setup into international context with the with standardized or comparable procedures. It will prove a basis for the long-term continuation of advanced measurements on aerosols, clouds, GHGs and trace gases in Northern Pan-Eurasian area.

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