

PAN-EURASIAN EXPERIMENT (PEEX) – THE FIRST TWO YEARS IN ACTION

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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 (Lappalainen et al. 2014). During the next twenty years PEEX will be active in implementing the research agenda as well as infrastructure and education program. After the implementation phase PEEX continues as a large-scale umbrella coordinating different research and education activities, running a harmonized and coordinated in-situ observations and providing coherent observational data needed for reliable early warning systems.

During the first two years in action, after the kick off meeting in Helsinki in October 2012, PEEX has taken the first steps towards the PEEX implementation. The PEEX Science Plan has been written based on a bottom up approach. The very early versions of the science plan were produced as summaries of the topics introduced in the PEEX meetings (Helsinki in 2012 and Moscow, Hyytiälä and the China PEEX Kick-off meetings in 2013). After having the output of the future research need from the research communities from Europe, Russia and China, a more general approach determining the key research topics vs. large scale research questions were performed. The final version of PEEX Science Plan will be released in February 2015.

The PEEX geographical domain covers natural and urban environments of Northern Pan-Eurasian region. The majority of the PEEX geographical domain is situated in the territory of Russia and China. One of the strategically most important tasks of PEEX is to fill the observational gap in atmospheric in-situ data in the Siberian and Far East regions and start the process towards standardized and harmonized data procedures (Kulmala et al. 2011). During the first two years we have collected metadata information of the potential atmospheric and ecosystem ground stations particularly in the Russian region. At the moment the database covers information on 171 different stations. The next step is to include information on the stations in China. After having the station metadatabase ready we will (i) analyse the capacity of the existing observation infrastructure to serve as a basis of the PEEX observation program and (ii) identify what type of new infrastructure is needed in the PEEX domain. 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 2011-2015), Global Atmospheric Watch (GAW), and ANAEE

(The experimentation in terrestrial ecosystem research) networks and with the flag ship stations like the SMEAR (Station for Measuring Ecosystem-Atmosphere Relations) when making the implementation plans for the PEEEX observation infrastructure.

PEEX has been introduced in several conferences and scientific forums such as: ISAR-3 (Tokyo 2013), Future Earth (Paris 2013), GEO Secretariat meeting (Geneve 2013), the Climate Change Northern Territories Arctic meeting (Reyjavik 2013), EMS Annual conference (Reading 2013), Partnership Conference Geophysical observatories, multifunctional GIS and data mining (Kaluga 2013), Siberian Aerosol Conference (Tomsk 2013), EGU (Vienna 2013, Vienna 2014), Arctic Observing Summit (2014), 4th iLEAPS Science Conference (Nanjing 2014) and GEIA Conference (Boulder 2014). The first PEEEX Science Conference and the 5th PEEEX meeting will take place on the 10-13.Feb.2015 in Helsinki (<https://www.atm.helsinki.fi/peex/index.php/science-conference>).

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