

PEEX supports adaptation

The Pan Eurasian Experiment is a science programme where basic research meets adaptation targets

In what way should climate models be improved? And how should people adapt to the consequences of climate change? These questions are asked not only by politicians and authorities but by citizens, as well. An international group of atmospheric and Earth system scientists has been working for years to find a solution for both problems simultaneously. This is why it has launched a new research programme, the Pan Eurasian Experiment (PEEX).

PEEX is a multidisciplinary, multi-decadal research programme for the Northern and Arctic areas. It mostly involves basic research in the natural sciences, but it is also expected to produce concrete and technical solutions for environmental problems. PEEX is headed by two top physicists and professors, Markku Kulmala and Sergej Zilitinkevich.

“The effects of global warming and other comparable ecosystem changes are most dramatic in the Arctic and Boreal regions. These are also the regions on which we have the least information,” states Hanna Lappalainen, executive officer of the PEEX programme. “These are among the fundamental reasons why, for example, climate models are still in many respects incomplete. PEEX is intended to fill these gaps in our knowledge.”

“In addition,” says Lappalainen, “we want to support the people whose livelihoods and culture are threatened by climate change. Their adaptation can be assisted, for example, by improving devices and systems for early warning about extreme weather events.”

In the middle of February, some 200 European, Chinese and Russian science leaders and researchers gathered together in Helsinki, Finland, to reveal the exact science plan of the PEEX.

The plan includes several parts focusing solely on feedbacks between climate and society and on different adaptation strategies. This is why the PEEX programme has been planned not only by physicists or other natural scientists but by social scientists, as well.

“There is an avalanche of concrete questions concerning social adaptation. How should the rules governing the construction of houses near coastal areas be changed? What kind of insurances should we innovate?” describes Lappalainen.

“However, before any new warning systems, financial or technical novelties can be introduced or implemented, we simply need to know what is going to happen. There, we are back to basics: to understand the couplings between the atmosphere, vegetation and the soil, measurement data with high regional coverage are required.”

The data can be obtained, for example, from observation stations or by using remote sensing equipment such as satellites.



Dr Hanna Lappalainen, executive officer of PEEX Program

Therefore, one of the goals of PEEX is to build and equip an extensive chain of observation stations from Scandinavia, over Siberia, to China. In the early stage of this subproject, the plan is to focus on the technical development of existing observation stations, as well as on ensuring their compatibility. Measurement stations already exist in, for example, Tiksi and Tomsk.

Lappalainen says: “As the Science Plan of PEEX has now been launched, we are concentrating on implementation. Several international science organisations – like the International Institute for Applied Systems Research – have joined our programme. We could greatly contribute to the adaptation of the Eurasian region, and this is why we wish for the participation of governments in Europe, Russia and China, as well.”



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