



**PEEX Working Group & iCUPE – ERA-PLANET Meeting  
in collaboration with  
GlobalSMEAR Climate-KIC and TRAKT projects**

When:	1 <sup>st</sup> –2 <sup>nd</sup> November 2018
Where:	Cultural Centre Sofia (Kallvikinniementie 35, FI-00980 Helsinki, Finland)
Minutes:	Päivi Haapanala, Hanna K. Lappalainen, Tuukka Petäjä, and Alexander Mahura, University of Helsinki
Appendix1:	Participant list
Appendix2:	Agenda
Presentations:	<a href="https://www.atm.helsinki.fi/peex/index.php/intranet-login">https://www.atm.helsinki.fi/peex/index.php/intranet-login</a>
Next meeting:	iCUPE Workshop 26-27.03.19 in Potsdam PEEX- Scientific overview meeting in Jan 2019, in Helsinki

The combined PEEX working group & iCUPE-ERA-PLANET Meeting organized in collaboration with GlobalSMEAR Climate-KIC and TRAKT projects was held in Helsinki, Finland in the beginning of November 2018. Aims of the Meeting were to facilitate interaction within each of the participating communities and projects (PEEX, iCUPE, DBAR-HIMAC, SMEAR, Climate-KIC, TRAKT, ClimEco, and INTAROS). By combining several meetings and workshops, we gained synergies and enhanced the collaboration between the different communities and projects. The two-day meeting gathered almost 60 participants from 15 different affiliations and 10 different countries:

University of Helsinki and Finnish Meteorological Institute, Finland  
World Meteorological Organization (WMO) and Paul Scherrer Institute, Switzerland  
Lomonosov Moscow State University (MSU), Russia  
Consiglio Nazionale delle Ricerche, Italy  
Aarhus University, Denmark  
Stockholm University, Sweden  
Estonia University of Life Sciences, Estonia  
German Research Centre for Geosciences, Helmholtz-Zentrum Geestacht, Alfred Wegener Institute, and University of Leipzig, Germany  
Institute of Remote Sensing and Digital Earth, and Tsinghua University from China  
Nansen Environmental Remote Sensing Center (NERSC), Norway

The Meeting was opened by Markku Kulmala, Tuukka Petäjä and Hanna Lappalainen from University of Helsinki. Theme of the first day was to introduce PEEX and iCUPE concepts and the different projects involved, their current status, future plans and modelling tools used and to discuss on impacts & integration incl. socio-economic aspects. In addition, possibilities on collaboration were discussed during the day. After the plenary session, there were four different parallel project meetings after which the evening continued with informal working dinner at the same venue. The second meeting day concentrated on baselines for scientific overviews of PEEX and iCUPE and to sharing the future perspectives of PEEX and iCUPE projects as well as GlobalSMEAR-Climate-KIC and TRAKT projects. Especially, the European ecosystem research infrastructures and education aspects and synergies were introduced and discussed. Tuukka Petäjä and Hanna Lappalainen gave the closing remarks and summarising the outputs of the meeting. During the meeting synergies between the programmes and projects (PEEX, iCUPE, GlobalSMEAR, HiMAC, TRAKT) and with INTAROS and other international frameworks were discussed and new ideas for co-operation were born.



New data products and plans for publishing the first PEEEX results using novel data analysis and visualization tools were introduced during the meeting.

During the meeting connection between PEEEX, INTAROS and ClimeCO were discussed. Tasks of the **Horizon-2020 INTAROS** (*Integrated Arctic Observation System*; [www.intaros.eu](http://www.intaros.eu)) and **Academy of Finland ClimeCO** (*Mechanisms, pathways and patchiness of the Arctic ecosystem responses and adaptation to changing climate*; [www.atm.helsinki.fi/peex/index.php/climeco](http://www.atm.helsinki.fi/peex/index.php/climeco)) projects are well **linked to** the activities of the PEEEX programme. In particular, for INTAROS, the PEEEX Integrated Arctic Observation System (PEEX Observing System) – for Atmosphere, Cryosphere and Terrestrial parts was demonstrated on examples of the 11 Arctic Russian stations. The PEEEX MetaData for these as well as for other stations are provided under request at [peexdata.atm.helsinki.fi](http://peexdata.atm.helsinki.fi). PEEEX in close collaboration with Russian partners is providing a living document “In-Situ Atmospheric-Ecosystem Collaborating Stations-Russian Federation” e-catalogue include information about 60 Russian stations in the Arctic region ([www.atm.helsinki.fi/peex/index.php/peex-russia-in-situ-stations-e-catalogue](http://www.atm.helsinki.fi/peex/index.php/peex-russia-in-situ-stations-e-catalogue)). For ClimeCO collaboration with PEEEX, the processing local scale sites (3 Russian and 3 Finnish) and analyses of related ground-based vs. remote sensing observations; links for climate and land surface changes; as well as processing and analyses of meteorological (20+ parameters) observations for more than 100 Russian stations in the Arctic and sub-Arctic regions (rp5.ru) are in focus.

### Overview of the parallel sessions held on 1<sup>st</sup> Nov 2018

**Parallel session on GlobalSMEAR Climate-KIC project together with DBAR** concentrated on the current status and future plan of the project. GlobalSMEAR initiative has been accepted for EIT Climate-KIC accelerator program to make an upscaling plan for GlobalSMEAR. It received funding for 5 months. SMEAR concept and GlobalSMEAR vision were discussed and further developed during the meeting and also future Climate-KIC funding opportunities were discussed.

**Parallel session on iCUPE data products and PEEEX urban activities.** During the meeting, steps to develop one showcase iCUPE data product to a pilot application with the stakeholders and the status of data products were discussed.

- iCupe Data Management Plan (DMP; [https://www.atm.helsinki.fi/icupe/images/Deliverables/D5.1.1\\_DMP\\_ver1b.pdf](https://www.atm.helsinki.fi/icupe/images/Deliverables/D5.1.1_DMP_ver1b.pdf)) is available as a living document & it will be updated with new incoming information. Second version of the DMP is expected in Nov 2018.
- Section of DMP with contact information about datasets (DS) Leaders is placed in a separate file and available through the iCUPE intranet (Register to get access - <https://www.atm.helsinki.fi/icupe/index.php/intranet>)
- Information on iCUPE deliverables listed as datasets is available at: <https://www.atm.helsinki.fi/icupe/index.php/list-of-datasets-as-deliverables>
- Information about iCUPE “teasers” of datasets (& non-iCUPE datasets from interested collaborators) is available at: <https://www.atm.helsinki.fi/icupe/index.php/submitted-datasets>
- Questionnaires for iCUPE datasets were distributed among DS Leaders; & received

**Parallel session on TRAKT-2018 project** “*TRAnsferable Knowledge and Technologies for high-resolution environmental impact assessment and management*” (<https://www.nersc.no/project/trakt-2018>) had involvement of NERSC, MSU, UHEL, WMO and was led by Dr. Igor Esau (NERSC). During this session, the project related presentations were delivered: project overview and tasks (by Igor Esau, NERSC), SMEAR-I data (Pyy Poutanen, UHEL), satellite products (Victoria Miles, NERSC), EC-Earth climate (Risto Makkonen, UHEL) and Enviro-HIRLAM downscaling (Alexander Mahura, UHEL) modelling with zooming to the Northern Fennoscandia and Kola Peninsula, education aspects of the project (Pavel Konstantinov, MSU), integration with global projects, ALPAKA (by Alexander Baklanov, WMO). It followed by discussions on project final stage and overall final scientific reporting (as well as NEFCO meeting on 2<sup>nd</sup> Nov) and future dissemination plans



linked with the PEEEX programme. It also included discussions of project output with alignment with political agenda, black carbon in Arctic, transboundary pollution, emission inventories, etc. All project Special Reports to be available at: <https://www.nersc.no/page/trakt-publications-outreach-and-special-reports>. Planned scientific publications were also discussed: general overview of the project methodology and its aspects for Geography, Environment, Sustainability and Modern Methods of Remote Sensing of the Earth (in Russian); ACP PEEEX special issue publication of the TRAKT science with details; and in addition, PEEEX related review publication on northern urbanization; intercomparison publication of downscalings with Enviro-HIRLAM and COSMO-CLM for case study with focus on Northern Fennoscandia and Kola Peninsula; Apatity case study with evaluation of impact and sensitivity to lower atmospheric conditions.