



ACCC Impact Week 7-10.12.2021

Co-designing science-based solutions for safe climate and clean air

PEEX/Global Observatory meeting 8th December 2021, 13:45-15:45 EET

Meeting Chair: Tuukka Petäjä, INAR, University of Helsinki

Participants: 38

Notes: Silja Häme, INAR, University of Helsinki

1. PEEEX program, GlobalSMEAR/ Observatory initiative, current approach, Hanna Lappalainen, Tuukka Petäjä, INAR University of Helsinki, FI

Oksana Tarasova: Would be nice to see how it works with GAW?

- We need to connect to already existing activities e.g., WMO GAW. As a practical example on our connection with GAW, our site in Hyytiälä (SMEAR II) is part of the GAW network.

Oksana Tarasova: We would need your experience to build capacity in the different parts of the world

- Knowledge transfer is an important part of PEEEX activities.

2. Russian Carbon Polygon in Tyumen, Pavel Smirnov, University of Tyumen, RU

Oksana Tarasova: how the sequestration was evaluated? flux measurements? traditional inventory? what about attribution?

- Plans to make measurements at three points, different mast heights, using the eddy covariance technique.

Oksana Tarasova: Suggestion to discuss with WMO WIGOS (WMO Integrated Global Observing System) group.

Jaana Bäck: Do you have plans for scaling up the results from your experimental fields to larger regions?

- We are ambitious and plan to scale up the results. At first to run the carbon polygon in Tyumen.

Markku Kulmala: As a future work items, it would be good to take the polygon idea to WMO direction and to follow SMEAR stations in bringing along measurements of other radiative forcers e.g., volatile organic compounds (VOCs) and aerosol particles

3. Carbon Polygons and Carbon Farms: advanced methods for monitoring of GHGs, Alexander Rodin, Moscow Institute of Physics and Technology (MIPT), RU

Nicolas Moussiopoulos: Are you planning to expand your instrumentation for detecting also nitrous oxide (N₂O)?

- Yes, NO_x also.

Oksana Tarasova: Any new instrumentation should be run with the internationally accepted equipment for at least one year to characterize performance.

Werner Kutsch: ICOS will be happy to support you in eddy covariance as well as atmospheric CO₂ and CH₄ observations. we have a long experience in standardisation. www.icos-ri.eu

Yubao Qiu: It would be fine to build a connection with satellite validation application for multi-parameters via Snowflake station?

Markku Kulmala: In our ACCC we have also a satellite component and we are happy to collaborate.

4. Black Sea SDG Observatory network, Nicolaos Theodossiou, Aristotle University of Thessaloniki, GR

Tuukka Petäjä: What is the timeline for the Black Sea SDG observatory?

- We can start from the point we are at the moment by using the existing network (local observatories in each country reporting their data) and move forward to have fully operational observatory. We will build the coordination of data collections but also create data. Challenging task but important to have.

5. DBAR program and big data, Yubao Qiu, Int. Res. Center of Big Data for SDGs; Beijing, China, Aerospace, CN, Information Research Institute, Chinese Academy of Science, Beijing, CN

Tuukka Petäjä: Important contribution, all the data sources are needed.

6. Discussion and perspectives of other ongoing activities

- Next steps of this group, when do we want to have the next check point of the ongoing activities next year?
- We could have the next meeting six months from now, in early June 2022 (7 / 8th, 12-16 EEST, Helsinki time). Longer session with more presentations. European RI presentation to be included in addition to Russian and Chinese activities.
- Questionnaire about the meeting time to be sent to the PEEX/Global Observatory group to decide the next meeting time.

Please, also note the EGU-2022: PEEX Special Session on Observation, Modelling and Assessment in the Arctic-Boreal Domain

Deadline for abstract submission is 12 January 2022

<https://peexhq.home.blog/2021/10/15/egu-2022-peex-special-session/>

List of Participants

Alexander Baklanov (WMO)
Alexander Mahura (INAR, University of Helsinki)
Alexander Makshtas (Arctic and Antarctic Research Institute)
Alexander Rodin (Moscow Institute of Physics and Technology, MIPT)
Alla Borisova (INAR, University of Helsinki)
Andrey Belotserkovskiy (Tver State University)
Andrey Bryksenkov (RSHU)
Ari Asmi (University of Helsinki)
Belan Boris (V.E. Zuev Institute of Atmospheric Optics SB RAS)
Dinda Shabrina (Nafas)
Dmitrii Mironov (Deutscher Wetterdienst)
Egor Dyukarev (Yugra State University / Mukhrino Field Station (Siberia))
Eija Asmi (Finnish Meteorological Institute)
Eija Juurola (ACTRIS)
Elena Klyuchnikova (Yugra State University / Mukhrino Field Station (Siberia))
Garik Gutman (NASA)
Guoqiang Jia (Aerospace Information Research Institute, Chinese Academy of Sciences)
Hanna Lappalainen (INAR, University of Helsinki)
Jaana Bäck (INAR, University of Helsinki)
Joni Kujansuu (INAR, University of Helsinki)
Konstantina Efstathiou (Raymetrics)
Kostas Eleftheriadis (NCSR Demokritos)
Larisa Sogacheva (Finnish Meteorological Institute)
Maija Marushchak (University of Eastern Finland)
Markku Kivinen (Aleksanteri Institute, University of Helsinki)
Markku Kulmala (INAR, University of Helsinki)
Nicolaos Theodossiou (Aristotle University of Thessaloniki, Black Sea SDG Network)
Nicolas Moussiopoulos (Aristotle University of Thessaloniki, Black Sea SDG Network)
Oksana Tarasova (WMO)
Pavel Smirnov (University of Tyumen, UTMN)
PL Fung (INAR, University of Helsinki)
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Sergey Chalov (Lomonosov Moscow State University, MSU)
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