ARCTIC NETWORKS AND DATA REPORTING

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The aim of Villum Research Station is to provide a unique state-of-the-art research infrastructure in the High Arctic for investigating climate change and its effects on atmospheric, oceanographic, biological, and geological conditions and processes in the Arctic.
NETWORKS

REPORTING DATA

AMAP; Arctic Monitoring and Assessment program
EMEP; European Monitoring and Evaluation Program
WMO- GAW; global atmospheric watch
ICOS; International carbon observatory system
ACTRIS; Aerosols, Clouds and Trace gases (Observatory status)
ERA PLANET (IGOSP - Integrated Global Observing Systems for Persistent Pollutants and ICUPE - Integrative and Comprehensive Understanding on Polar Environments)
COPERNICUS CAMS 84

Interact

Professional networks
UARCTIC, IASOA, IASC, PEEX, GMOS; SMEAR, VRS user group

"Internal" networks
ARC, iCLIMATE, ASP, MOSAiC
NETWORK CHALLENGES

Each network often want their format of the data (exception AMAP, EMEP and WMO-GAW) => labour intensive

It is difficult to know which one is the important ones and in any case it takes time

You might be loose a lot of time if choosing wrongly
BENEFITS

Be together with people with low for these remote and tuff but also incredible beautiful places

Collaboration not competitors (Terry)

Awareness of what is going on

Visibility

Joint application

Joint publications

Establishment of bilateral collaboration

Ensuring the quality

Storage of results for future scientists (Open source policy => more publications)

Educating new generation of scientists

INTERACT does a lot of the above
Pan-Arctic aerosol number size distributions: seasonality and transport patterns

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Abstract. The Arctic environment is an amplified response to global climate change. It is crucial to understand the aerosol budget in order to inform future climate models and predict regional air quality. Aerosol data from the Arctic are still limited in number and duration, but recent studies have shown that the Arctic atmosphere is significantly influenced by aerosol transport from the lower latitudes. This study aimed to investigate aerosol concentrations and composition in the Arctic atmosphere, with a focus on the long-range transport of aerosols from the lower latitudes to the Arctic. The study was conducted in the Arctic during the period of 2014-2016.

There are also indications of aerosol aging occurring in the Arctic, which is expected to have implications on the regional and global climate. The study results indicate that the Arctic atmosphere is significantly influenced by aerosol transport from the lower latitudes, and that long-range transport of aerosols is an important process in the Arctic. The study results also highlight the need for further research on aerosol transport and aging in the Arctic in order to better understand the regional and global climate implications.

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Chemical cycling and deposition of atmospheric mercury in polar regions: review of recent measurements and comparison with models

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Abstract. Atmospheric mercury (Hg) is a worldwide contaminant that can cause adverse health effects in wildlife and humans. While atmospheric mercury provides the link from emissions to deposition of Hg into environmental and ecotoxicological systems, its impacts on human health are still poorly understood. The study results indicate that the Arctic atmosphere is significantly influenced by atmospheric processes such as oxidation, deposition, and re-emission. Atmospheric Hg cycling in the Arctic is affected by regional and local processes that contribute to the formation and deposition of Hg in the Arctic region. The study results also highlight the need for further research on atmospheric Hg cycling in the Arctic in order to better understand the regional and global impacts of atmospheric Hg cycling in the Arctic.
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Thank you for your attention