Meteorological cooperation: a Finnish chairmanship priority and a possibility for PAME

Johanna Ekman, Project Manager, Finnish Meteorological Institute (presentation)
Jan Ekebom, Senior Specialist, Ministry of the Environment Finland
Anita Mäkinen, Chief Adviser to the DG of Maritime Sector in the Finnish Transport Safety Agency
Hermanni Kaartokallio: Senior Research Scientist , Finnish Environment Institute, Marine Research Centre

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Finland's chairmanship the Arctic Council

CLIMATE CHANGE

PARIS AGREEMENT

ENVIRONMENTAL PROTECTION

CONNECTIVITY

METEOROLOGICAL COOPERATION

EDUCATION

SUSTAINABILITY

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Meteorological cooperation

WHY?

To strengthen observation networks: Need for comprehensive and sustained Arctic observations and data management recognised, also within meteorology

To strengthen analysis and assessments: Meteorology explains vital components of monitored CLIMATE change patterns and feedback mechanisms in the Arctic.

To address societal needs: Enhanced situational awareness, forecasts and arctic climate science ensures *safety* at sea, in the air and on land, and is a prerequisite for *sustainability* in the Arctic.

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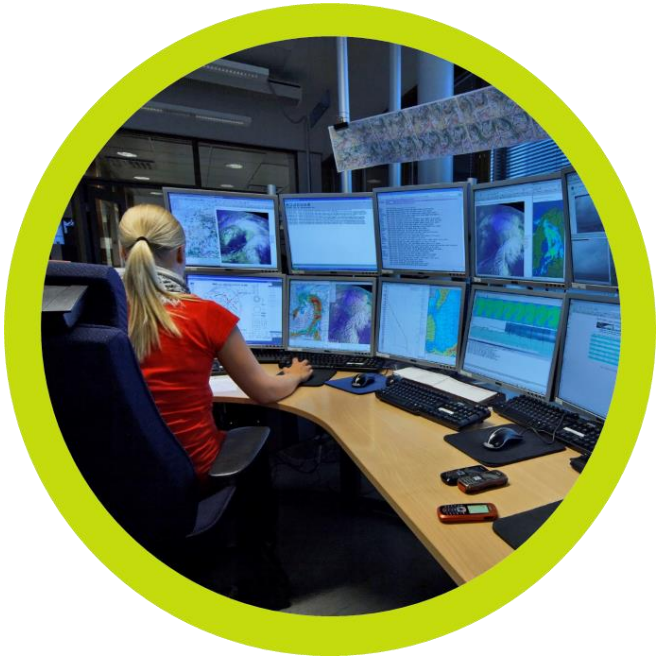
Meteorological cooperation

HOW?

- By implementation of WMO initiatives: *Arctic Polar Regional Climate Center* (PRCC) *Year of Polar Prediction* (YOPP) campaign
- By intensifying weather, climate and ocean monitoring in the Arctic → better data coverage
- By improving weather, climate and ocean modeling → better forecasting
- By developing services tailored for arctic users → improved safety
- By strenghtening the use of satellite based data for research, monitoring and services



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Indigenous peoples, local communities and meteorology

- Arctic Indigenous peoples have always been dependent on good weather knowledge e.g. to know when to hunt or fish, where to build a temporary or permanent habitation, or when and where to travel. Consequently, there is a lot of weather-related Indigenous knowledge available
- Improved meteorological information can benefit Indigenous and local communities, if the information is easily accessible and if it provides real added value such as weather warnings, and mid- and long term forecasts, at a sufficiently detailed geographical resolution.
- Combining improved forecasting with Indigenous knowledge (citizen science) could help adaptation to rapidly changing weather and/or seasonality patterns
- Providers of meteorological data would benefit from a tighter cooperation with Indigenous and local communities, e.g. by getting feedback on the quality of weather forecasts, or suggestions on how to develop the meteorological services and the observation network
- ”Connecting Meteorology and Indigenous Knowledge” is a FMI side event of the Arctic Council Ministerial meeting (Rovaniemi, Finland) in May 7, 2019.

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Meteorology and Shipping in Arctic waters

Safe shipping in Arctic waters depends on:

- Accurate weather forecasts
- Ice Expertise and accurate information on ice-conditions
- Availability and access to sea ice and iceberg climatology

Meteorological and oceanographic data is needed

- In voyage planning
- In planning infrastructure for shipping such as location of shipping routes and ports
- For onboard technical solutions
- In overall implementation of the Polar Code*

* In the International Conference on Harmonized implementation of the Polar Code in Helsinki on 22nd February 2018 the key note speakers were Mr Kitack Lim, Secretary General of IMO, and Mr Petteri Taalas, Secretary General of the World Meteorological Organization WMO.

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Meteorology and Arctic marine biodiversity

Meteorological and oceanographic data is useful for:

- Modelling migration routes of marine and coastal species
- Identifying potential new habitats for marine and coastal species under climate change
- Understanding the reasons for changes in the behaviour or abundance or migration of marine and coastal species
- Understanding changes in the Arctic food web interactions

Meteorological and oceanographic data is also useful for:

- Planning new marine protected areas
- Identifying areas where measures for managing human activities are needed for ensuring the safety of Arctic marine and coastal biodiversity
- Identifying areas where geomorphological changes may occur, e.g. landslides, permafrost thaw, increased run-off of freshwater, etc.


National Geographic


Worldpress


Michelle Valberg

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Meteorology and PAME

- **: Examples of possible meteorological topics likely to be relevant for PAME:**
  - **Meteorological observations, activities and projects in the Arctic**
  - **Oceaonography and drift modeling**
  - **Maritime traffic**
  - **Satellite safety services in the Arctic, including extreme events**
  - **Strengthening the Arctic Regional Ocean Observing System (ArcticROOS) intiative**
  - **Quantitative predictions of Arctic Climate change and its consequences**
  - **Improved meteorological information for/from Indigenous and local communities**

- **→ Links well with current PAME topics, such as:**
  - vessel traffic safety in the Arctic,
  - marine biodiversity monitoring, assessments, and planning of MPA networks
  - the Indigenous peoples and other coastal local residents in the Arctic


Hey guys! Provide me with better meteorology, please!