

INTAROS WP2 activities related to the Roadmap

- **D2.10 and D2.11**
- **AOS2020: co-organizer of Sub-Theme 1: Design, Optimization and Implementation of the Observing System**
- **EGU2020: co-convener of session on “Arctic observations: data collection, management, and user engagement”**
- **Polar Observing Assets Working Group (POAwg): co-funder**
- **WP2 synthesis paper**

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D2.10 - Key Conclusions and Recommendations

- High sustainability is a proxy for high scores across the board and such systems result from national, regional or global infrastructures often not specific to the Arctic ⇒ Integrate Arctic observing in existing national/regional/global program rather than inventing new Arctic specific systems
- Scientific campaigns/expeditions provide the highest quality observations, but are deficient in almost all other aspects, especially on data management ⇒ Revisit funding models for this activity and increase coordination between operational and scientific organizations
- Satellites provides the only data with sufficient spatial and temporal cover, but quality is sometimes lacking ⇒ Invest in better satellite retrievals and improved models and data assimilation

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D2.11 - Key Conclusions and Recommendations

It is clear that observing system maturity is intrinsically linked to the sustainability of support, both financial and expertise. Those observing systems that have sustainable support have better documentation, metadata, data management and uncertainty characterisation. Further work is required to ensure more sustainable support for Arctic observing programs in order to make observations more useable and widely available, in agreement with the FAIR principles.

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AOS 2020 - Key Conclusions and Recommendations

- Use SAON's Roadmap for Arctic Observing and Data Systems process to identify Essential Arctic Variables and prioritized Shared Arctic Variables, identified by their importance to multiple information user groups and applications, where Arctic Indigenous collaboration is critical for the success of the process and outcome.
- Enhance coordination of Arctic observations, including identification of gaps and integration with global observing systems, to better inform adaptation and policy responses.
- Expand Arctic Observing efforts to reflect holistic Indigenous worldviews by directing funding to local and regional activities; Increase engagement of Indigenous expertise in international work.
- Work towards a broadly networked, collaborative, interoperable Arctic digital system based on a co-production model and ethical data principles (e.g., CARE).

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EGU 2020 - “Arctic observations: data collection, management, and user engagement”

- 15 displays
- 88 registered attendants
- 2-7 questions per display
- Officially 1h 45 min, it lasted at least 2 hours

It stimulated a lively discussion around the Roadmap theme

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Polar Observing Assets Working Group (POAwg):

<https://www.polarobservingassets.org/>

Coordinator and creator: Bill Manley, University of Colorado

Interoperability “Beyond the Dataset Level”

A new group collaborates on compatible sharing of high-order, discovery-level details — *structured metadata* — about monitoring and observing assets: Sites, transects, observatories, projects, and networks or systems .

Goals

- make observing-related information more Findable, Accessible, Interoperable, and Reusable
- promote best practices for interoperability “beyond the dataset level”
- help span a spectrum across science planning, data management, & disciplinary or interdisciplinary science

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Jan Rene and Lisa Loseto from SAON: We believe that the outcomes of POAWG will be important for SAON CON when it wants to address these three objectives:

1. Conduct an inventory of national observational capacities.
2. Complete an assessment of adequacy of Arctic observational capacity in support of Arctic Societal Benefit Areas (SBAs).
3. Provide recommendations for a roadmap for future Arctic observational capacities

Use case:

Countries and institutions associated with SAON should be asked to compile this information and make it available for consolidation and analysis. In the simplest case, countries and institutions will organise and maintain this information in spreadsheets in publicly available web folders that can be harvested.

An outcome of the POAWG should be to define the structure of these spreadsheets and recommend the vocabularies that will support them.

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QUESTIONS:

1. Can the ARCMAP tool serve (also) SAON needs (in INTAROS-2)?
2. Can the ARCMAP tool implement recommendation by POAwg concerning terminology and system specifications (in INTAROS-2)?
3. TOMORROW there will be a SAON CON meeting where POAwg and SAON CON collaboration will be better designed. Should we send a INTAROS message?

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WP2 synthesis paper

Status at Sopot GA:

In Sopot, an overview of what was still needed to write the paper was made:

- Info from observing systems from Russian and Chinese partners
- Selection of key messages from the synthesis deliverables

Progress after Sopot:

- Russian data: 5 in situ Observing systems (ocean, sea ice, atm), 7 in situ data collections (ocean, snow on sea ice, atm), 1 overview on satellite data (unusable...)
- Chinese data: 3 in situ Observing systems (terrestrial cryosphere, sea ice), 4 in situ data collections (biogeophysical, sea ice/snow), 18 satellite products (Eurasian Arctic Rivers area and ice extent, Eurasian Arctic lakes area and ice extent, snowmelt on Greenland, soil freeze/thaw, sea ice melt pond, sea ice thickness, classification, concentration, terrestrial snow depth and swe).