

SAON Annual Report 2024

1. SAON is a facilitator and coordinator

SAON facilitates, coordinates, and advocates for coordinated international pan-Arctic observations and mobilizes the support needed to sustain them.

Addressing the goals of SAON requires the expertise and cooperation of a wide range of stakeholders and knowledge systems. With the Arctic Council (AC) and IASC as the parent organisations, SAON as members currently has 18 country members, three AC Permanent Participants (Arctic Indigenous Peoples organisations) and a series of regional and international organisations.

Effective implementation of SAON, however, requires partnerships. Such partnerships include engagement of regional and international organisations like the European Commission (EC), the European Space Agency (ESA), the World Meteorological Organisation (WMO) and many more (1). SAON collaborates with policy-makers at all levels, Arctic Indigenous Peoples organizations, academia, civil society and the private sector.

A strategy for SAON was approved in May 2018. It describes SAON's vision, mission, guiding principle and goals, and outlines in concrete steps the way the goals will be achieved (2). The strategy identifies these main goals for SAON:

1. Create a roadmap to a well-integrated Arctic Observing System;
2. Promote free and ethically open access to all Arctic observational data; and
3. Ensure sustainability of Arctic observing.

One of the themes for the 3rd Arctic Science Ministerial (2021) was *Observe: implementing observing networks; data-sharing*. In the Joint Statement from the Ministerial (3), near-term actions include "Strengthen the work of SAON:

- Encourage finalizing the Roadmap for Arctic Observing and Data Systems (ROADS) through the coordination and cooperation between national and international programs, small and large projects, and infrastructures, and prioritize implementation.
- Promote the expansion of the ROADS efforts to also reflect priorities of Indigenous Peoples.
- Encourage SAON to update a gap analysis of where Arctic observations are missing and recommend strategies to address priority gaps."

2. Achievements

2.1 A roadmap to a well-integrated Arctic Observing System

In its strategy, SAON has identified the need for a Roadmap for Arctic Observing and Data Systems (ROADS) (4) as a way of defining the needed observing and data system and to specify how the

various partners and players are going to collectively work towards achieving that system. An element in the ROADS process is Shared Arctic Variables (SAVs); these support translation of societal requirements into observing system requirements and coordination of observing implementation strategies.

As a response to the European Commission call for *Supporting the implementation of GEOSS in the Arctic in collaboration with Copernicus*, the Arctic PASSION programme has been established (5). Through the AMAP Secretariat, the SAON Secretariat is engaged in several work packages and is responsible for several deliverables in Arctic PASSION. In one of the work packages, work is ongoing to develop a series of SAVs (including permafrost and wildfires) and the framework necessary to document these. This work includes collaboration with Canadian partners (on sea ice as a SAV) and University of Alaska, Fairbanks, USA on food security, salmon and harmful algal blooms in the Pacific Arctic region (6).

The SAON Committee on Observations and Networks (CON) has initiated work to conduct an inventory of national observational capacities. This is supported by the *Polar Observing Assets Working Group* (7) and its work to develop the *Registry of Polar Observing Networks* (8).

2.2 Free and ethically open access to all Arctic observational data

The Arctic Data Committee (ADC) works towards making Arctic data FAIR (Findable, Acceptable, Interoperable, and Reusable). Activities in 2024 include:

- Since 2020 an open series of virtual workshops under the heading ‘Polar to Global Online Interoperability and Data Sharing’ has been held. In 2024, three subgroups have worked under the headings
 - Federated Search (9, 10)
 - Vocabularies and Semantics (11)
 - Updating the IASC 2013 Statement of Principles and Practices for Arctic Data Management (12)
- Organising the *Polar Data Forum VI* (PDF) in October 2025 in cooperation with the Standing Committee on Antarctic Data Management (SCADM), the Southern Ocean Observing System (SOOS), and the World Data System (13).
- Through Arctic PASSION, the AMAP Secretariat has produced a report on the Arctic (polar) ‘data ecosystem’ (14). This involved contacting existing data catalogues and organising technical information about the exchange of data between these.

2.3 Arctic Observing Summit (AOS)

SAON is the co-organizer of the Arctic Observing Summit (AOS) (15). AOS is a high-level, biennial summit that aims to provide community-driven, science-based guidance for the design, implementation, coordination and sustained long-term operation of an international network of Arctic observing systems. AOS 2024 was held in Edinburgh, UK, and 2026 will be held in Aarhus, Denmark. AOS is SAON’s outreach event.

3. SAON and the Arctic Council

The Arctic Council and its subsidiary bodies went into a state of pause in February 2022. This included SAON, and its Board and Committees have had no formal meetings during the pause. Guidance from the Chair of the Senior Arctic Officials of the Arctic Council (Norway) has allowed SAON and its subsidiary bodies to meet virtually, but not physically.

4. References

- 1) SAON Board Membership: <https://www.arcticobserving.org/governance/board/board-members>
- 2) SAON Strategy and Workplan: <https://www.arcticobserving.org/strategy>
- 3) Joint Statement of the Ministers: https://asm3.org/library/Files/ASM3_Joint_Statement.pdf
- 4) Sustaining Arctic Observing Networks' (SAON) Roadmap for Arctic Observing and Data Systems (ROADS): <https://journalhosting.ucalgary.ca/index.php/arctic/article/view/74330>
- 5) Arctic PASSION / Pan-Arctic Observing System of Systems: <https://arcticpassion.eu>
- 6) For an overview of the development of Shared Arctic Variables, see the web page of the ROADS Advisory Panel: <https://roadsadvisorypanel.org/expert-panel>
- 7) Polar Observing Assets Working Group: <https://www.polarobservingassets.org/>
- 8) Registry of Polar Observing Networks: <https://polarobservingregistry.org/>
- 9) SAON Data Portal: <https://data.arcticobserving.org/>
- 10) POLDER: Polar Data Discovery Enhancement Research: <https://polder.info>
- 11) Vocabularies and Semantics WG: <https://arcticdc.org/activities/core-projects/vocabularies-and-semantics-wg>
- 12) The International Arctic Science Committee, 2013. Statement of Principles and Practices for Arctic Data Management: <https://www.iasc.info/data-observations/iasc-data-statement>
- 13) Polar Data Forum: <http://www.polar-data-forum.org/>
- 14) Updated mapping of the Arctic Data System: <https://nextcloud.awi.de/s/nQNaZLQeS8n6WzP>
- 15) Arctic Observing Summit: <https://arcticobservingsummit.org>