## SAON: Establishing a Strategic Framework

This document is a compilation of the statements that over time have been formulated on the scope of SAON.

### 1. The SAON Mission, Vision, and Goals (itemized)[[1]](#footnote-1)

The Mission is “to support and strengthen the development of multinational engagement for sustained and coordinated pan-Arctic observing and data sharing systems that serve societal needs, particularly related to environmental, social, economic and cultural issues.”

The Vision is “well-defined observing networks that enable users to have access to free, open and high quality data that will realize pan-Arctic and global value-added services and provide societal benefits.”

The Goal is “to enhance Arctic-wide observing activities by facilitating partnerships and synergies among existing observing and data networks (“building blocks”), and promoting sharing and synthesis of data and information.”

### 2. The Terms of Reference (ToRs) for SAON

ToRs for SAON were approved in 2012 and are summarised in Appendix 1. ADC and CON have revised their ToRs in 2016 and these are found in Appendix 2 and 3.

### 3. The external review of SAON

The recommendations of the External Review Committee is summarised in Appendix 4 and 5.

**4. Other input**

The SAON Steering Group drafted an Implementation Plan, which is summarised in Appendix 6.

Input from external organisations/initiatives are:

* Arctic Monitoring and Assessment Programme (AMAP) Working Group
* Arctic Observing Summit 2016
* EU-PolarNet/Horizon2020
* Group on Earth Observations (GEO)
* White House Arctic Science Ministerial Meeting 2016
* World Meteorological Organisation (WMO)
* These external inputs are summarised in Appendix 7.

### Appendix 1. Terms of Reference for the Sustaining Arctic Observing Networks; Governance and Operations (excerpt)[[2]](#footnote-2)

* Promoting sustained Arctic observing and data management;
* Reviewing and coordinating work on current SAON Tasks;
* Identifying priorities for new SAON Tasks and potential Task leaders;
* Engaging with the existing observing and data management activities, and encouraging new activities as needed;
* Consulting with the broad science and user communities;
* Reporting and responding to co-sponsors;
* Publicizing SAON achievements;
* Other purposes to be determined.

### Appendix 2. ToRs for ADC (excerpt)[[3]](#footnote-3)

The overarching purpose of the ADC is to promote and facilitate international collaboration towards the goal of free, ethically open, sustained and timely access to Arctic data through useful, usable, and interoperable systems. Data should be made available fully, freely, and openly with minimal delay.

* Advise IASC and SAON on matters related to data management and data sharing where data are defined in the IASC Statement of Principles and Practices for Arctic Data Management (April 16, 2013) (The Statement).
* Contribute to the understanding of the nature and structure of the Arctic data system in the context of the global data system. The Arctic data system includes data objects (e.g. tables, databases, photographs etc.), data producers and managers, data stewardship organizations (e.g. data centers), applications that use data, funders and policy makers and any other entity involved in the data life cycle from creation to long-term preservation, and the relationships between and among these entities.
* In keeping with the The Statement, promote and enable:
  + Ethically open access to data.
  + Norms of fair attribution and use of data in keeping with the Ethics and Norms published by the Polar Information Commons
  + Long term access to usable data. The concepts of long-term and usable are context specific and can vary over time, discipline etc..
* Facilitate the adoption, implementation and development (where necessary) of standards that will enable free, open and timely access to data.
* Facilitate interoperability of data and systems as needed to support the needs of researchers, Arctic residents, decision makers and others.
* Establish expert groups to examine specific questions or coordinate the implementation of data management and sharing solutions.  Partnerships with existing or proposed initiatives driven by members of the Arctic science and data community and Northern communities will be encouraged.
* Coordinate the review of data management plans submitted for consideration by IASC under the terms of The Statement.
* Addition of facilitation of common data policies

### Appendix 3. ToRs for CON (excerpt)[[4]](#footnote-4)

1. **Objectives/Goals**

* Through the use of inventories, advise the SAON Board on co-ordination/collaboration of Arctic observing activities and address questions regarding sustainability of observational platforms among Nations and Organizations (including Indigenous Peoples) to improve efforts on sustaining Arctic observing networks (i.e. identify synergies, gaps, duplication) to enable effective planning (including funding) of current and future observational systems. It should also ensure the promotion of community-based monitoring within SAON and work on best practices for the utilization of traditional knowledge within Arctic observing activities
* Co-ordinate and represent the linkage among National SAON committees. This intersection would facilitate the sharing of information and inventories of Arctic Observing Systems managed nationally. Where needed support the development of National SAON committees.
* Support via participatory engagement (e.g. workshops, capacity within CON) and where possible with resources, inventories and/or networks of inventories of Arctic observations (project, programs, platforms, networks) that span across the social, economic, health and environmental/natural sciences to provide the Board with baseline observational assets currently available.
* Support a community of observing networks by creating guidelines for the documentation and operation of these and facilitating the sharing of best practises.
* Work with partner SAON committee, Arctic Data Committee (ADC) in an active and practical way, on common products and strategies (e.g. develop visualization methods, link inventories and data etc.).
* Participate and support inventory requests/needs for AC-relevant themes. Ensure engagement and linkages with inventory activities carried out by AC Working Groups (like the monitoring programs of AMAP and the biodiversity programs with CAFF).
* Outside of AC and AC Working Groups’ develop partnerships with other initiatives (e.g. GEOCRI, GEO/GEOSS) by membership, joint meetings or collaboration on joint products like inventories

### Appendix 4. External Review: Executive Summary (excerpt)[[5]](#footnote-5)

[…] the Committee concluded that SAON was valued by the Arctic observing community, but had yet to reach its full potential. With

1. refinements to its Vision, Mission and Goals,
2. improvements to its Organizational Structure,
3. a new focus on funding and sustainability, and
4. increased outreach and communication efforts,

SAON should be able to make great strides in the next five years to enhance pan-Arctic observing networks to meet the needs of Arctic peoples.

[…]

The Review Committee identified the following recommendations as the most critical:

**Critical Organization Structure Recommendations:**

1) National SAON Coordination Committees need to be established in all SAON Member Countries. These Committees are critical to the success of SAON and need to be strengthened (or established in some cases) with the development of guidelines, mandates and terms of reference. The SAON Secretariat should be tasked with providing assistance to SAON Member Countries in establishing and supporting these National Committees. The Committees should reflect the inclusive nature of SAON.

2) The SAON Board needs ongoing and productive communication with the SAON Committees and within the Board itself, via regular teleconferences and face-to-face meetings. Productive discussions at the SAON Board level would be assisted with the development of specific SAON goals, and annual work plans with milestones and deliverables and review and reporting requirements.

3) SAON’s role and interactions with its networks and programs need to be clarified and strengthened. The existing Arctic observing networks and activities are looking to SAON for it to help coordinate and facilitate observing activities, but not necessarily for SAON to have a role in actual implementation of observing activities. The SAON Board needs to address questions raised in the Review regarding what it means to be a SAON network and what the networks mean to SAON. This should be a priority for the SAON Board to address and underscores the need for increased dialogue between the SAON Board and the SAON networks.

**Critical Recommendations for Fulfilment of SAON Vision, Mission and Goals:**

4) SAON’s Mission, Vision, and Goals must be clear, consistent, more explicitly pronounced in SAON documentation and more easily discoverable on the SAON website. SAON should develop a Strategic Plan that would more fully articulate the Vision, Mission and Goals and serve as a road map for SAON into the future. These all need to be reviewed on a regular basis as the Arctic political, environmental and economic landscape changes.

5) SAON must develop more task-oriented Goals that are reflective of the SAON Vision and Mission and are a key component of a newly developed Strategic Plan. Annual work plans for the SAON Committees should specify deliverables, milestones and annual review and reporting so as to demonstrate progress and success.

6) To increase its transparency, a Communications Plan should be developed by SAON that identifies its broad range of audiences, proposes strategies to reach out to these stakeholders and includes clear and consistence messaging. As well, the Arctic Observing Summit should be used more effectively as a mechanism to communicate about, and deliver on, SAON.

7) SAON should explore new, innovative forms of funding with a focus on additional resources for the SAON Committees. A key component of a proposed new SAON Strategic Plan should be a Funding Strategy that provides resources across national boundaries – either in the form of funding or in-kind personnel support - in support of the Vision, Mission and Goals.

**Additional Recommendations to Strengthen SAON:**

8). The SAON Committees have been a successful addition to the SAON organizational structure and ongoing guidance from the SAON Board and resourcing with funds or dedicated personnel should be made available.

9) SAON needs to capitalise on its strengths, including its position and unique nature as an organization with close ties to both the International Arctic Science Committee and the Arctic Council. SAON is well positioned at the international level to facilitate and coordinate Arctic observing activities. SAON complements and leverages the observing efforts of other organizations and initiatives and this strength should be further exploited

### Appendix 5. SAON Board actions

The list below is a synthesis of the specific actions proposed by the External Review Committee[[6]](#footnote-6)

**Strategic Plan**

SAON should develop a Strategic Plan (Findings #1 and #2) that would more fully articulate the Vision, Mission and Goals and also include both a Communications Plan as well as a Funding Strategy. SAON must develop more task-oriented Goals that are reflective of the SAON Vision and Mission. The detail-oriented Goals will be a key component of a Strategic Plan, and should specify deliverables, milestones and annual review and reporting so as to demonstrate progress.

* SAON should develop a Strategic Plan that would serve as a road map for SAON into the future.
* SAON’s Mission, Vision, and Goals must be clear, consistent and more explicitly pronounced in SAON documentation.
* The current wording of the Mission, Vision and Goals does not always lend them to creating actionable tasks. SAON’s Goals need more specificity in order to develop action-oriented work plans, performance metrics and outcomes, and demonstrations of progress.
* The Mission, Vision and Goals need review on a regular basis as the Arctic political, environmental and economic landscape changes.
* The Arctic Observing Summit could be used as the venue or platform where the SAON Board could report on and discuss their Goals every two years.

**Funding**

SAON should explore new, innovative forms of funding with a focus on providing additional resources for the SAON Committees and Secretariat. (Finding #9)

**Communication**

A key component of the SAON Strategic Plan, should be a Communications Plan. This plan should develop and communicate the added value of SAON and reach the many and diverse audiences of the SAON community. The Arctic Observing Summit could be used more effectively as a mechanism to communicate about, and deliver on, SAON activities, products and deliverables. (Finding #10)

**Relationship with Networks**

Clarify and strengthen SAON’s role and interactions with its networks and programs. SAON needs to clarify what it means for an observing network to be part of SAON. At the same time, the observing networks need to determine what value they can bring to SAON. (Finding #3)

* The SAON Board needs to address questions raised in the Review regarding what it means to be a SAON network and what the networks mean to SAON.

**National Committees**

National SAON Coordination Committees need to be established in all SAON Member Countries. These Committees are critical to the success of SAON and need to be strengthened with the development of guidelines, mandates and terms of reference. The SAON Secretariat should be tasked with providing assistance to SAON Member Countries in establishing and supporting these National Committees.

* Guidelines, mandates and terms of reference should be developed for these Committees. (Finding #5)

**Capitalize on unique strengths**

SAON should take actions that capitalize on its unique strengths that make it well-positioned at the international level to facilitate, coordinate and enhance Arctic observing activities. (Finding #4)

**SAON Board**

* Frequent dialogue is needed at the SAON Board level to ensure communications among this diverse membership. Regular face-to-face meetings, and frequent teleconferences between these meetings, are a necessity (#Finding #7)
* The SAON Committees have been a successful addition to the SAON organisational structure and ongoing guidance from the SAON Board and resourcing should be made available. Additional and ongoing guidance is required to these Committees by the SAON Board to ensure their activities are aligned with the overall SAON Vision and Mission.The SAON Board needs ongoing and productive communication with the SAON Committees (Finding #7)

### Appendix 6. The SAON Steering Group Implementation Plan (excerpt)[[7]](#footnote-7)

The Board will be a coordinating and reporting mechanism, and will have an outreach function to engage with the broad community. It will review proposed Tasks and endorse those that meet the criteria. As needed, the Board may provide advice and guidance to Task Teams, and may encourage the development of new Task Teams to take on work deemed important by the Council. The Board will meet at least annually to discuss progress on SAON Tasks, and identify new priorities.

The Board has the responsibility of maintaining awareness of current SAON tasks, and of determining the most useful path for future SAON tasks. The latter responsibility will require periodic consultation with a broad segment of the Arctic community.

SAON may propose some guidelines and best practices to improve access and exchange of high quality data.

The established observing and monitoring networks provide most of the long time-series Arctic data and are intended as major beneficiaries of the work of SAON. The SAON Board will communicate closely with these networks and anticipates inviting network leaders to join in Board activities

### Appendix 7. External input

### Arctic Monitoring and Assessment Programme (AMAP)

AMAP WG has invited SAON to contribute to its work. The invitation includes

* Assist in completing review of AMAP monitoring programme implementation[[8]](#footnote-8)
* Jointly organise the reporting of National Implementation Plans

### Arctic Observing Summit 2016

**Coordinate** the implementation of a pan-Arctic observing system with regional and global observing initiatives, and organize efforts in securing resources for its sustained operation through the leadership of the Sustaining Arctic Observing Networks (SAON) initiative.

**Work**, through the IASC-SAON Arctic Data Committee, to develop a broad, globally connected Arctic observing data and information system of systems that is based on open access data and standards, in addition to recognizing and addressing ethical use and proprietary rights of Indigenous Knowledge and  that delivers value to Arctic and global communities.

### EU-PolarNet/Horizon2020

AMAP is the lead for three deliverables to EU-PolarNet (<http://www.eu-polarnet.eu/>). The SAON Committees have and will provide input to these:

* Inventory of existing monitoring and modelling programmes
* Roadmap for optimisation of monitoring and modelling programmes
* Data management recommendations for polar research data systems and infrastructures in Europe

The Horizon2020 call on ‘[An integrated Arctic observation system](http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/bg-09-2016.html)’ says that the action should contribute to implementing the Transatlantic Ocean Research Alliance, the Sustaining Arctic Observation Networks (SAON) and the Cold Region Initiative of the Group on Earth Observation (GEO).

### Group on Earth Observations (GEO)

* SAON is a Participating Organisation to GEO and has been invited to develop an ”Arctic GEO”.
* SAON is taking part in GEO’s Cold Regions Initiative (GEOCRI).

### White House Arctic Science Ministerial Meeting 2016

The joint statement mentions SAON as a critical contributor to 'Strengthening and Integrating Arctic Observations and Data Sharing'

The associated Fact Sheet informs that the U.S. National Oceanic and Atmospheric Administration (NOAA) will open a U.S. SAON Office : "It will foster interagency and international collaboration in the development of Arctic observing and data systems, as well as the delivery of higher-level data and information to the scientific community and policymakers":

In the same Fact Sheet two initiatives are mentioned as having been established in support of SAON:

* “EyesNorth,” a U.S. National Science Foundation research-coordination network of community-based observing initiatives in the Arctic and beyond. It involves scientists and northern residents in Finland, Greenland, Iceland, Norway, the Russian Federation, Sweden, the United States, and elsewhere.
* Norway is establishing SIOS (Svalbard Integrated Arctic Earth Observing System), a research infrastructure coordination organization of 26 partners from Europe and Asia.

### World Meteorological Organisation (WMO)

At the Board meeting in Potsdam in 2012, it was agreed to contribute to WMO’s process ‘Rolling Review of Requirements’[[9]](#footnote-9)

The SAON Secretary attends the meeting of the WMO Commission of Basic Systems (CBS) Inter-Programme Expert Team on Observing Systems Design and Evolution (IPET-OSDE). The SAON Secretary will attend the fourth meeting of the GCW Steering Group.

1. <http://www.arcticobserving.org/images/pdf/Background/saon_report_february_2011.pdf> [↑](#footnote-ref-1)
2. <http://www.arcticobserving.org/images/pdf/Board_meetings/4th_potsdam/34_saon%20terms%20of%20reference.doc> [↑](#footnote-ref-2)
3. <http://www.arcticobserving.org/images/pdf/Board_meetings/2017_Washington/08_ADC_Draft_Terms_of_Reference_Review_Draft_01042017.doc> [↑](#footnote-ref-3)
4. <http://www.arcticobserving.org/images/pdf/Board_meetings/2017_Washington/06_Terms_of_Reference_for_SAON_CON_Draft_13DEC2016.doc> [↑](#footnote-ref-4)
5. <http://www.arcticobserving.org/images/pdf/Review/SAON-executive-summary.pdf> [↑](#footnote-ref-5)
6. <http://www.arcticobserving.org/images/pdf/Review/SAON-External-Review-Final-Report_August-29-2016.pdf> [↑](#footnote-ref-6)
7. http://www.arcticobserving.org/images/pdf/Background/saon\_report\_february\_2011.pdf [↑](#footnote-ref-7)
8. [www.amap.no/documents/download/2076](http://www.amap.no/documents/download/2076) [↑](#footnote-ref-8)
9. <http://www.arcticobserving.org/home/11-networks-projects-and-programs/125-t20-wmo-contribution-to-the-sustaining-arctic-observing-networks-saon-through-the-wmo-rolling-review-of-requirements> [↑](#footnote-ref-9)