SAON Strategic Framework

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## Document history

Comments were received to the version from 16th October from

- Eva Kruemmel, ICC  
- Helle Poulsen, Denmark  
- Sandy Starkweather, USA  
- Tom Barry, CAFF Secretariat  
- Ulf Jonsell, Sweden  
- Vito Vitale, Italy

In addition, Birgit Njaastad (Norway) and Tom Barry (CAFF) had provided comments as ‘free text’.

Based on these, the version from 8th November was drafted: <https://www.arcticobserving.org/images/pdf/Board_meetings/teleconference_2017DEC01/11_SAON_Strategic_Framework_08NOV.docx>

These drafting teams have updated the four main sections and produced the 30th November version:

|  |  |
| --- | --- |
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| Goal3: Ensuring sustainability of Arctic Observing | Eva Kruemmel, Lars Kullerud, Nicole Biebow |

# Introduction

SAON was established following the 2011 Arctic Council (AC) Nuuk Declaration. The declaration recognizes the “importance of the Sustaining Arctic Observing Networks (SAON) process as a major legacy of the International Polar Year for enhancing scientific observations and data-sharing.” The declaration text also defines the SAON governance structure.

In 2014, the SAON Board finalized the first implementation plan for SAON, including a decision to establish two committees: The Arctic Data Committee (ADC) and the Committee on Observations and Networks (CON). The overarching goal of 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. The overarching goal of CON is to promote and facilitate international collaboration towards the goal of a pan-Arctic observing system.

This SAON Strategic Framework provides a 5-10 year strategy for addressing current and future Arctic observing needs. It describes SAON’s vision, mission, guiding principle and goals, and outlines the manner in which the goals will be achieved. The Framework sets priorities for how SAON will fulfil its mission.

# Vision

SAON's vision is to facilitate a connected, collaborative, and comprehensive, long-term, pan-Arctic Observing System that serves societal needs.

# Mission

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

# Guiding Principles

SAON’s guiding principles reflect its overarching philosophies which inform how SAON operates. They include:

* SAON values both research and operational needs for Arctic observations;
* The design and operation of the Observing System is guided by a balance between bottom-up and top-down needs and priorities;
* The Observing System will be implemented and sustained in a transparent and open cooperation and collaboration with all those committed to Arctic observations;
* SAON promotes contributions of all types of Arctic observations including but not limited to *in situ*, remotely sensed, and community-based observations, and the infrastructure supporting them;
* The Observing System will utilize Indigenous and local knowledge guided by ethical use and honouring the proprietary rights of data contributors;
* SAON promotes ethically-collected, free and open data provision and access;
* SAON works with counterparts in Antarctic, global, as well as national observation communities, where appropriate.

Following these principles, SAON will promote Arctic observing and mobilize the support needed to achieve full implementation and sustained operation on time scales of decades and beyond.

SAON itself will not undertake research, science planning, policymaking, observations, data archiving, or funding of these efforts, which will remain the responsibility of the ongoing networks/sites/systems and data centers, the organizations that support them, or appropriate decision-makers.

# Goals

In keeping with the above vision and mission, SAON has adopted three goals which it shall pursue and emphasize in its work. SAON’s guiding principles support its work across these three goals and defines SAON’s operating procedures.

The SAON Strategy is organized around three key goals:

1. Creating a roadmap to well-integrated Arctic observing system;
2. Free and ethically open access to all Arctic observational data; and
3. Ensuring sustainability of Arctic Observing.

Each of these three goals includes a subset of objectives outlined below.

Addressing the goals will require the expertise and cooperation of a wide range of stakeholders and knowledge systems. While the Arctic Council is well-positioned to coordinate state level priorities and actions, effective implementation of the SAON Strategy will require partnership with policy makers at all levels, Arctic Indigenous Peoples organizations, non-Arctic states, academia, civil society and the private sector at the national level, as well as engagement from other multilateral/international groups. Effective implementation generally requires gender-responsive and gender-balanced approaches, and the participation of Indigenous Peoples and local communities.

The SAON Strategy is a living document that shall be updated over time.

## Goal 1: Creating a roadmap to well-integrated Arctic observing system

The rapid on-going changes in the Arctic present an urgent need to better observe, characterize and quantify processes and properties in all subsystems of the Arctic.

SAON will engage and facilitate connections among the producers and end-users of Arctic observations to create and maintain a sustained Arctic Observing System. A consistently adopted, community-endorsed framework will be essential to fulfilling this goal. The International Arctic Observations Assessment Framework, developed in partnership with SAON, provides such a starting point. SAON will help to flesh out the observations, products, and services that complete the Arctic Observations value tree. A holistic benefit analysis will assess the current observing system sustainability and its potential expansions and can be used to create a roadmap to well-integrated Arctic observing capacity. The case will be strengthened by identifying funding possibilities to support infrastructures required for observations.

SAON will work closely with other prominent Arctic and international organisations as well as with the AC Permanent Participants and Indigenous Peoples’ Organisations in finding synergies and joint activities, and avoiding overlaps in the efforts in reaching Goal 1. The collaboration will include, but is not limited to: AMAP, ARCS (Japan), CAFF (CBMP), EU-PolarNet, GEO, GEO CRI, INTAROS, INTERACT, SIOS, PRIC, US AON, ICC, Saami Council, WMO.

### Objective 1.1: Conducting an inventory of national observational capacities

Description: Develop an ongoing inventory of national capacities in terms of both long- and short-term observations and monitoring, science/implementation plans, and investment strategies. The purpose of the inventory is to give the countries an overview of the current observational capacities to identify gaps and overlaps to be addressed at regional, national or international level. The information will be gathered through national focal points and observing networks and maintained in an open database of - and gateway to - all Arctic observing activities.

Urgency: High

Timelines: 2018-2020. Requirements and prototypes to be finalised in 2018.

Lead: SAON CON

Tasks:

* SAON CON will lead the coordination of the inventory, together with the national organisations/offices. It will facilitate the establishment of national organisations by providing suggestions for ToR and relevant membership, and by providing examples on different organizational models.
* Each country will establish a national SAON organisation/office to gather information and report on capacity and monitoring efforts.
* Observing networks will provide input and information on the observations.
* The Atlas of Community Based Monitoring (CBM Atlas) will be utilized and recognised in the inventory. Other appropriate tools such as, e.g., the Arctic Adaptation Exchange Portal can also be utilized.
* The inventory will be compiled and maintained by the SAON Secretariat.
* Board will monitor the development of this objective and give feedback.

Outreach: Inventory will be open for utilization on the SAON web site.

Resources and funding: In-kind contributions from nations, networks, and organisations. In the early phases. EU-PolarNet inventory work is a contribution to this activity.

### Objective 1.2: Assessment of the Arctic observational capacity

Description: The assessment will, building upon the inventory (Objective 1.1), to identify infrastructure/technology gaps where the observational needs are not yet covered by the existing systems.

Urgency: High

Timelines: 2018-2020.

Lead: SAON CON

Tasks:

* SAON CON will lead the coordination of this activity.
* A task force or committee is needed to retrieve information from the inventory for analysis and produces the resulting assessment report together with the SAON Secretariat.
* The observing networks will participate in reaching these objectives by providing input and information for the assessment work and feedback on the resulting report.
* EU-PolarNet will provide the first gap analysis in 2017 as a part of their project outcomes, that can be utilized in the assessment for further analysis and updates.
* The Board will monitor the development of this activity and provide feedback.

Relationship with international/other organisations:

Outreach: Assessment report. Workshop(s) for SAON national offices and SAON networks during the assessment process. Meeting/event presenting the assessment results and launching the report.

Resources and funding: Funding for 1-2 years will be seeked from relevant international funding body.

### Objective 1.3: Provide recommendations for future Arctic observational capacities

Description: The purpose of this objective is to identify and provide recommendations on future needs for networks, observing activities, technology and infrastructures:

1. Provide recommendations for closing gaps or extensions to the integrated Arctic-observing system
2. Engage potential operators and funding agencies to respond to the gaps and to sustain a well-integrated long-term observing capacity

Urgency: 1) high, 2) medium.

Timelines: 2020-2022

-Recommendation work in 2020- 2022. INTAROS will provide its gap analysis in 2022; this will be utilized to fine-tune and complete the recommendations.

-The potential operators and funding agencies should be engaged throughout the process to raise awareness and obtain feedback.

Board: Lead

Committees: Provide input. Respond/react/advocate.

Networks: Provide input. Repond/react/advocate.

National SAON organisations: Advocate and create awareness about the recommendations work on the national level (national observing entities, infrastructures, national funding bodies) and provide information back to the international SAON level.

Outreach: Recommendations report. Workshops and meetings to engage potential operators and funding agencies.

Resources and funding: Seek funding for 1-2 years in 2020-2022 to develop the recommendations, arrange associated workshops and meetings, and prepare the report.

### Objective 1.4: Create opportunities to develop and implement Arctic Societal Benefit Areas (SBAs)

Description: SAON will engage in global, regional and local initiatives, networks and organisations aiming to utilise arctic observations to gain societal benefits and aid sustainable observing technology development.

SAON CON will be facilitating the development of Arctic Societal Benefit Areas (SBAs), and creating awareness on how to utilise arctic observations and derived information to create societal benefits in the arctic regions and beyond, e.g. in the fields of Environmental Issues, Societal Issues, Economic issues, and Cultural Issues.

Secondly, SAON will reach towards the objective by organising technology fora in suitable events to support sustainable and innovative solutions and observation technology development in the Arctic. In the technology for a, the atmospheric, ocean, terrestrial and other domains could share knowhow and best practises on the Arctic observation technology and its implications, and innovate towards future developments. The gap analysis and recommendations obtained in Objectives 1.2 and 1.3. can be used to identify areas where the technology push is most needed for closing gaps or create extensions to reach the integrated Arctic-observing system.

Thirdly, SAON will organise a forum for bringing together the arctic observing community (organisations, networks, projects) and potential funding bodies to discuss how to secure sustained arctic observing networks and ensure future developments, and how to channel funding to leverage societal benefits from the arctic observations and infrastructures.

Urgency: Medium

Timeline: 2018-2022

Tasks:

-SAON CON will provide observation source information to the physical atmosphere and ocean related value tree analysis, starting in 2017 under the Finland AC chairmanship and delivered by 2019.

-SAON CON will arrange, with support from the SAON Secretariat, the technology and funding fora during suitable events, e.g. Arctic Observing Summit.

Board: Will monitor the development and provide feedback. Attendance to technology

Networks: Provide observation source information when needed. Participate in the technology and funding fora events.

National SAON organisations: Provide observation source information. Participate in technology and funding fora events.

Outreach: Technology and funding for a events to be marketed, commentary on results, reports. Arctic Observing Summit to arrange the events and to communicate the results.

Resources and funding: Resources from volunteering participants, national support for participation.

### Objective 1.5: Provision of a long-term repository for relevant project deliverables

Description: SAON offers to host a long-term repository for relevant project deliverables (e.g. inventories, workshop results, reports). The SAON web site will include element called ‘Arctic Archive’ for such outputs.

Urgency: Low

Timelines: 2018-2019

Board: None.

Committees: None. Should be informed about the opportunity to store deliverables.

Networks: None. Should be informed about the opportunity to store deliverables.

National SAON organisations: None. Should be informed about the opportunity to store deliverables.

Relationship with international/other organisations: None.

Outreach: Inform relevant projects.

Resources and funding: SAON Secretariat.

## [Goal](file:///C:\SAON%20Strategy%20Framework\Updating%2008NOV%20version\02_30NOV_WA_11_SAON_Strategic_Framework_08NOV_PLP_WGA.docx#_djrrklsokyrs) 2: Free and ethically open access to Arctic observational data

SAON will facilitate and inform the development of a an Arctic monitoring system that will provide researchers and other stakeholders with free and ethically open access to all Arctic observing data.

A review of literature and the results of a series of different meetings, workshops and conference sessions focused on Arctic Data Management (cf. Lichota and Wilson 2010, Parsons et al. 2011, ADCN 2012, IASC 2013, PDF I 2013, Pulsifer et al. 2013, Pundsack et al. 2013, Pulsifer et al. 2014, PDF II 2015, Polar Data Community 2016) have identified myriad requirements, characteristics and visions for an open, interconnected, international system for sharing data across disciplines, domains and cultures. These include but are not limited to:

* A distributed design that connects different data repositories and other resources. This implies and requires interoperability that supports sharing data among various information systems in a useful and meaningful manner.
* “Common access, Single Window” to discuss and access data through information technology
* High quality, ethically open data preserved over time (implies sustainability)
* Data as a responsive, “live” service rather than simple download approach
* Inclusive of Indigenous and local perspectives and information
* Access to “big data” and powerful analytical tools (e.g. cloud platforms)
* Cost effective, maximizing the investments made to develop and maintaining the system.

The approximately sixty international participants at the 2016 Polar Connections Interoperability Workshop and Assessment Process (ref. website ; draft report) agreed that the key current challenges impeding the development of a globally connected, interoperable system are social and organizational rather than technical: supporting human networks, promoting standards, and aligning policy with implementation.

In recognizing the elements of the envisioned system and the key challenges identified by the community, SAON will first focus on working with the global Arctic data community, including data providers, technologist, funders, direct users and beneficiaries within society, to improve connections, collaboration and cooperation between and among actors. This will provide the necessary collaborative foundation needed to achieve the desired system.

Three interdependent objectives have been established.

### Objective 2.1: Create a road map outlining steps towards achieving a system that will facilitate access to Arctic observational data

Description: Facilitating the emergence of a world-wide system requires an understanding of the existing and emerging technical and human “nodes” in the system. This enhanced understanding will underpin the activities necessary to enhance cooperation and the establishment of the global network.

Urgency: High

Activitities: 2017 - 2019

* Historical: In late 2014, the ADC established the ”Mapping the Arctic Data Ecosystem” initiative. In late 2016, the ADC partnered with the Belmont Forum funded Pan-Arctic Options Project to establish resources for this effort. Mid 2017 a postdoctoral fellow (Dr. Katia Kontar) was hired to dedicate time to this effort. The Pan-Arctic Options component has been rebranded as the Arctic Data E-CoSystem initiative. Results will be contribute to the ADC effort. Initial focus of this effort will be on analysing the corpus of the Arctic Council working groups and the connected data resources and infrastructures.
* Additional activities through ADC, project outputs, national efforts will complement the Arctic Data E-CoSystem results.
* Ongoing – in addition to ADC and related Arctic Data E-CoSystem efforts, there are a number of projects/programs producing or disussing the production of relevant materials. Most notable are the EU-PolarNet project and the INTAROS project. Additionally, IARPC in the U.S. and the Canadian Consortium on Arctic Data Interoperability are proposing to do work focused on their national systems.
* Last quarter of 2017, propose initial technical model for collecting and disseminating data about systems at different scales so that they can be used together.
* Quarter 1 and Quarter 2 of 2018. Perform initial publication and analysis of system data combining various sources (e.g. Arctic Data E-CoSystem, EU-PolarNet, and other interested partners). Present results at POLAR 2018 conference.
* Quarter 3 of 2018. Iterate through analysis process; work with global community to establish model to sustain the (eco)system mapping efforts over time.
* Quarter 4 of 2018. If possible, present results at Second ASM as part of broader SAON and partner submission.
* 2019. Continue to populate and grow system capabilities. Provide analytical results to global efforts to enhance collaboration, cooperation etc.

Board: *(To be completed)*

Committees:

* ADC: Convening role
* CON: Contributing role as connection to the observing systems

Networks: Leadership, as central partners

National SAON organisations: Leadership, as central partners (Note: This could be challenging in short term, but may improve with effectiveness of initiative)

Involvement of Permanent Participants/Indigenous organisations; Indigenous/Local knowledge: Leadership, as central partners (Note: Follows also from Permanent Participants’ representation on ADC).

Relationship with international/other organisations: Currently there are many initiatives that are funded or conceptualized who are or should be engaging at a global level. To achieve the initial goals should engage at minimum global efforts such as: Global Cryosphere Watch/YOPP, GOOS, ICES, RDA; Regional initiatives such as: Arctic Portal, University of the Arctic, SCADM, SOOS , EU-PolarNet, INTAROS as part of the new EU Arctic Cluster, CAFFs Arctic Biodiversity Data Service (ABDS), ESA Arctic, SIOS Data Management System; GEO Cold Regions Initiative, Polar View, Arctic Spatial Data Infrastructure; National institutions such as IARPC, Canadian Consortium for Arctic Data Interoperability; Asian partners (e.g Polar Research Institute of China, National Institute for Polar Research in Japan, KOPRI Korea, Russian partners etc.), SIOS; Private industry (Google, World Ocean Council (WOC), Association of Arctic Oil Producer, Publishers?); Academia including University of the Arctic

Outreach: SAON, IASC, Arctic Council, Arctic Portal, ARCUS, European Polar Board, EU Arctic Cluster, Arctic Observing Summit.

Resources and funding: i) Leverage existing funding (e.g. Arctic Data E-CoSystem, ADC member contributions etc.)

### Objective 2.2: Advance a system to facilitate access to Arctic observational data

Description: Advancing a system to facilitate access to Arctic observational data will require global cooperation. There are many projects and programs across scales that are active in polar data management and stewardship. Many of those initiatives now have resources available and are making progress towards an envisioned connected, interoperable polar data system. The international polar data community is eager to improve cooperation and coordination of their efforts. SAON can play a central role in bringing together the actors who will build the system.

Urgency: High

Activites: 2017-2019

* In the spring of 2018, representatives from a wide range of different active programs and projects will meet to focus on coordination of efforts to facilitate data access This meeting will complement past workshops and fora (e.g. IPY, Polar Data Forums etc.) that have been effective in defining important community challenges and technical issues. The focus of the planned meeting will be to generate detailed plans on how best to mobilize activities to develop a particular international data sharing case study.   A decision on the nature of the case study will be made during the fall of 2017.
* July 2017 – proposal submitted to NSF by ADC Chair Peter Pulsifer, Dr. Colleen Strawhacker, and Prof. Maribeth Murray. Grant awarded. Project start date 1 October 2017.
* September 16-18 2017 ADC-SCADM meeting: Set foundation of concept and consulted with members of the community on value of the workshop and planning details.
* Present on workshop goals, plans etc. at Arctic Change conference, December 2017: Community engagement, outreach.
* Present at ISAR-5 Conference, Tokyo, Japan, January 2018: Community engagement, outreach; Particularly valuable for engaging Asian community, Community engagement, outreach.
* Q4 2017.
  + Confirm preliminary co-organizers of workshop. For example, Global Cryosphere Watch, EU Arctic Cluster, Polar View GEOCRI, Arctic Spatial Data Infrastructure have all confirmed intention to co-organize.
  + Establish clear model for continued engagement of Permanent Participants
  + Confirm process to to: i) confirm the focus of the “case study” and the initial contributing partners – this will consider societal relevance, appropriateness of scope, existing capacity etc. ; ii) establish a model that will allow for sufficient representation at the workshop while maintaining a group size that is small enough to remain productive ; iii) confirm the schedule, location and other logistical details of the workshop.
  + Start the process of obtaining work plans and relevant resource levels (funds, human resources, infrastructure) from each project. These will be analysed by the organizing team to establish opportunities for synergy, overlap, gaps etc. across projects/programs.
  + Start initial technical discussions to establish high level architecture (e.g. foundational protocols, services etc.)
* Q1 2018 – Iterate through process started in Q4 2017
* Q2 2018 - May 2018 (estimated, dates TBD): Main Workshop.
  + Detailed work planning and project “sign off” - associated with specific issues identified by community through previous activities
  + Confirmation of system architecture
  + Confirmation of key overacting priorities based on other activities (EU-PolarNet, Interoperability workshop, INTAROS, etc.)
* POLAR 2018, Arctic Observing Summit, June 2018, Davos, Switzerland:
  + Hold ½ - 1 day meeting to share results of the the May workshop. Room has been reserved.
  + Reporting results of workshop at POLAR conference and AOS. Consultation, feedback, visibility
  + Community engagement, outreach.

2018 Berlin Arctic Science Ministerial;

* Present a collectively developed road map and architecture outlining a world-wide system that will provide researchers and others with access to a significant set of Arctic data related to a particular case study.
  + A coordinated, integrated work plan identifying goals, objectives and associated existing and identified.
  + Will include hard infrastructure as well as “soft” models establishing societal value, a related viable business model, value to researchers and others.
* Present a representation of the arctic data system (Results of Objective 2.1)

Board: Provide support in planning efforts. Review of proposed process, outreach and community engagement, review of outcomes.

Committees:

* ADC: Convening role
* CON: Contributing role as connection to the observing systems

Networks: Leadership, as central partners

National SAON organisations: Leadership, as central partners (Note: This could be challenging in short term, but may improve with effectiveness of initiative)

Relationship with international/other organisations: As for 2.1. The meeting will be co-led and co-organized by key polar data projects and programs. As of writing, organizers include: IASC/SAON Arctic data Committee; SCAR Standing Committee on Antarctic Data Management; Southern Ocean Observing System; Global Cryosphere Watch and related WMO activities; Polar View; Arctic Spatial Data Infrastructure; EU Arctic Cluster including 8 current EU funded projects; SIOS Data Mangement System; GEO Cold Regions Initiative; Canadian Polar Data Workshop Network; Canadian Consortium on Arctic Data Interoperability; representatives from the Arctic Social Science Community; Research Data Alliance. One International Indigenous organization, Inuit Circumpolar Council, was part of the initial conceptualization of project in June of 2017 and more input is needed and is actively being sought from Indigenous organizations.

Involvement of Permanent Participants/Indigenous organisations; Indigenous/Local knowledge: Leadership, as central partners (Note: Follows also from Permanent Participants’ representation on ADC)

Outreach: ARCUS, IASC, European Polar Board, EU Initiatives

Resources and funding: i) Leverage existing funding; ii) Leverage existing NSF workshop grant iii) ESA; iv) Others.

### Objective 2.3 Establish a Persistent Consortium of Organisations to Oversee the Development of a world-wide system for access to all Arctic data

Description: The initial results of the Arctic Data Committee’s Mapping the Arctic Data Ecosystem initiative and a series of other related meetings and activities confirm there are many stakeholders who will be part of developing a world-wide system for access to all Arctic data (cf. Pulsifer talk on 4 October at <https://www.arcus.org/research-seminar-series/archive)>. Additionally, developing such a system will requiring ongoing effort of many years. Thus, it is critical for SAON to work cooperatively to establish a persistent consortium of organisations to oversee this development. In recent years, the Arctic Data Committee has consistently take a leadership role in coordinating community activities. Moving forward, this must continue and expand to ensure that all stakeholders are represented in the process.

A primary goal under Objective 2.1 will be to identify the stakeholders who need to be part of the process. A primary goal under Objective 2.3 will be to establish a persistent global consortium of organizations and a process to oversee the development of a world-wide system for access to all Arctic data..

Urgency: High

Timelines:

* The process has already started through the activities of the Arctic Data Committee and a number of other organizations.
* Foundational work will continue through fall 2018 as part of Objective 2.2
* Ongoing

Board: Extensive guidance and engagement in establishing persistent body.

Committees:

* ADC: Convening role
* CON: Contributing role as connection to the observing systems

Networks: Leadership, as central partners

National SAON organisations: Leadership, as central partners (Note: This could be challenging in short term, but may improve with effectiveness of initiative)

Relationship with international/other organisations: As for 2.1. The establishment of a persistent consortium will be co-led and co-organized by key polar data projects and programs and ideally the Permanent Participants of the Arctic Council. As of writing, organizers include: IASC/SAON Arctic data Committee; Arctic Portal; University of the Arctic; SCAR Standing Committee on Antarctic Data Management; Southern Ocean Observing System; Global Cryosphere Watch and related WMO activities; Polar View; Arctic Spatial Data Infrastructure; EU Arctic Cluster including 8 current EU funded projects; SIOS Data Management System; GEO Cold Regions Initiative; Canadian Polar Data Workshop Network; Canadian Consortium on Arctic Data Interoperability; representatives from the Arctic Social Science Community; Research Data Alliance. One International Indigenous organization, Inuit Circumpolar Council, was part of the initial conceptualization of project in June of 2017 and more input is needed and is actively being sought from Indigenous organizations.

Involvement of Permanent Participants/Indigenous organisations; Indigenous/Local knowledge: Leadership, as central partners (Note: Follows also from Permanent Participants’ representation on ADC)

Outreach: IASC, SAON, ARCUS, IARPC, European Polar Board, EU Initiatives, many others.

Resources and funding: i) Leverage existing funding; ii) Leverage existing NSF workshop grant; iii) ESA; iv) Others.

## Goal3: Ensuring sustainability of Arctic Observing.

Goals 1 and 2 can only be successful if the need for improved coordinated Arctic Observation and sharing of data and resources, as well as need for additional resources are understood, accepted and supported by all relevant stakeholders over the long term. Several steps are needed to achieve sustained Arctic observing, which should be realized through Objectives 3.1 to 3.3.

### Objective 3.1: Develop a strategy for long-term financial commitment in Arctic observations

Description:

SAON has the mandate to mobilize new/additional resources to meet observing needs as well as promote cooperation and coordination among existing initiatives.

SAON shall develop a short and concise engagement strategy to ensure long term support and engagement for Arctic Observations. The strategy will address:

* A short list of key rationales for why long term – sustained – observation is needed (including examples of successful sectors, e.g. – remote sensing, meteorology – and where the advantages are obvious, such as community-based monitoring.)
* A set of arguments why existing observation system benefits from cooperation, infrastructure and data sharing (eg quality of data, necessity of circumpolar coverage, cost saving etc.)
* Study of [science / observation] strategies of existing actors and identify places where cooperation would help
* Study of [science / observation] strategies to identify gaps (topics where one nation study parameter X while the neighbour in stead study Y ..)
* A discussion on the challenge of national priorities vs circumpolar coordination priorities (apply to Arctic 8), and assessment of the benefits of Arctic coordination for the respective national observation priorities
* A summary with main society benefits of long term monitoring in the Arctic
* A list of key actors that would benefit from improved observation cooperation – with concrete “what’s in it for me” ideas for each
* A list of organizations/departments that can be approached for support, and a break-down of how much is needed for which activities.

Existing meetings and projects can be used to gather information that support this objective. Examples are the ASM 2018, and the IMOBAR project.

Urgency: High

Timelines: 2017-18. The strategy will be revised according to needs to ensure that the goal of sustained Arctic observing can be achieved.

Board: Lead and appoint a task force for rapid implementation

Committees: Identify and contribute information

Networks: Contribute and identify targets

National SAON organisations: National/regional offices must be established within 2018. Should nominate experts and contribute to the implementation

Relationship with international/other organisations: Important messages to get support from others, multiple outings of the same message. UN agencies …

Involvement of Permanent Participants/Indigenous organisations; Indigenous/Local knowledge: PP’s will have experts in the task force

Outreach: To be determined as part of the strategy

Resources and funding: Board with support from the Secretariat

### Objective 3.2: Apply the strategy developed in 3.1 to lobby funding agencies and states to ensure sustainability of Arctic observing

Description: SAON has the mandate to mobilize new/additional resources to meet observing needs. SAON will play the liaison/advocate role between the research communities and policy makers.

Develop a prioritized action plan in 2018 – 2019 after Objective 3.1 is finished that targets specific gaps and work with relevant funders to address those.

Urgency: High

Timelines: An ongoing and long-term activity central to the SAON mission with immediate actions to be implemented according to the outcome of Objective 3.1.

Board: The SAON member nations (Board members) will name the individual responsible to provide essential information and provide required resources.

Committees: None

Networks: Provide information of costs of ongoing and projected activities. Provide input to planning

National SAON organisations: The SAON member nations (Board members) will name the individual responsible to provide essential information and provide required resources. Review plans and communicate comments on national support to implement.

Relationship with international/other organisations: Arctic Council Working Groups, ESA, GEO, IASC, ICES, WMO, and others as identified in the outcomes of 3.1.

Involvement of Permanent Participants/Indigenous organisations; Indigenous/Local knowledge: To be part of the activities.

Outreach: Success stories and engagement messages to be contributed for SAON’s outreach activities (see further below)

Resources and funding: to be determined (Objective 3.1)

### Objective 3.3: Secure funding for international SAON secretariat and operational costs

Description: SAON as a networked organisation will need a minimum core capacity to ensure progress and in particular awareness.

A “membership fee”, and possibly a “inverted fee” structure, where those who contribute less in-kind work pay higher fees may be an option. A task force has been established to work on proposals and options.

Urgency: High

Timelines: Funding for SAON secretariat must be secured during 2017.

Board: Has established task force in 2017 to address the issue.

Committees: None.

Networks: None.

National SAON organisations: The SAON member nations (Board members) will name the individual responsible to provide essential information and provide required resources.

Relationship with international/other organisations: Board members will be in contact with their respective national departments and funding agencies.

Involvement of Permanent Participants/Indigenous organisations; Indigenous/Local knowledgePP organizations to appoint members to the task force.

Outreach: [*To be completed*]

Outreach: [*To be completed*] Funding structures will be proposed by the task force and after agreement of the Board, will be communicated to appropriate national departments and funding agencies.Resources and funding: [*To be completed*] Board membership, countries, as determined

# Outreach

SAON should contribute to strengthening Arctic observational activities and networks, and sharing the successes that SAON achieves through the plan above. It should communicate the outcome of SAON’s own activities, including the outcome of the Committees. SAON needs a strong, comprehensive communication and outreach plan to achieve this goal.

SAON should have a dedicated communications officer (either in the central SAON office or a sub-secretariat) who is responsible for developing and implementing this plan. A SAON communications plan should be developed and implements as soon as funding is obtained for such a position.

The target for SAON outreach is broad, including (but not necessarily limited to):

* Academia and government agencies
* Arctic residents and indigenous people
* SAON’s own organisation: Networks, Board, Committees, National organisations
* Relevant national and international projects, for example EU-funded projects like EU-PolarNet and INTAROS

[We need a more clear strategy here .. WHAT shall be told .. and to WHOM ..

Success stories critically important for general support

Economic benefits (saving trough collaboration) important for policy makers – this include long term economic benefit from long term monitoring .. cost of monitoring v.s cost of crisis management ..

Spreading of Stories should be VIA PARTNERS – f.ex. ALL org’s in SAON should write stories in media like Arctic Now – about stories of success – what they found – why this matters – A commitment of 1-2 stories in national newsletters for EACH partner would make allot of impact.

Arctic Council should be willing to spread NEWS in their channles.]