

## **GEO Work Programme 2017-2019 Application**

### **GEO Initiatives and GEO Flagships**

#### **Executive Summary**

This is an application from the Sustaining Arctic Observing Networks (SAON) to have a status within GEO as a GEO Initiative – ArcticGEOSS.

SAON's Vision is a connected, collaborative, and comprehensive long-term pan-Arctic Observing System that serves societal needs. The Mission of SAON is to facilitate, coordinate, and advocate for coordinated international pan-Arctic observations and mobilizes the support needed to sustain them.

The SAON Board has approved the Strategy for SAON in May 2018 (1) and adopted the following three goals:

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.

#### **1. Synopsis of objectives and benefits**

##### ***1.1 List of objectives and planned way of attaining them***

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

The Mission of SAON is to facilitate, coordinate, and advocate for coordinated international pan-Arctic observations and mobilize the support needed to sustain them.

SAON has adopted the following three goals:

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.

##### ***1.2 Expected outcomes, impacts and user/societal benefits***

The objectives (outcomes) of the three mentioned goals are listed below.

Goal 1 has five 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.
4. Create opportunities to develop and implement observations in support of Arctic Societal Benefit Areas (SBAs).
5. Develop a long-term repository for relevant project deliverables.

Goal 2 has three objectives:

1. Create a road map outlining the steps towards achieving a system that will facilitate access to Arctic observational data.
2. Advance a system to facilitate access to Arctic observational data.
3. Establish a persistent consortium of organizations to oversee the development of a sustainable, world-wide system for access to all Arctic data.

Goal 3 has three objectives:

1. Develop a strategy for long-term financial commitment in Arctic observations;
2. Apply the strategy developed in 3.1 to advocate to funding agencies and states to ensure sustainability of Arctic observing; and
3. Secure funding for international SAON secretariat and operational costs

The IDA Science and Technology Policy Institute (STPI) and SAON have published the International Arctic Observations Assessment Framework (2). The Framework defines 12 Social Benefit Areas (SBAs) that rely on Arctic observations. In the report, the Arctic SBAs are mapped to the GEO SBAs.

### ***1.3 Relevance to GEO's strategic objectives***

GEO's mission is to connect the demand for environmental information with the supply of data and information about the Earth. It is also to advocate for broad, open data policies that helps ensure that the data collected through national, regional and global observing systems is both made available and applied to decision-making for global priorities.

The GEO coordinates international efforts to build a Global Earth Observation System of Systems (GEOSS), and it links existing and planned Earth observation systems and supports the development of new ones in cases of perceived gaps in the supply of environment-related information. It aims to construct a global public infrastructure for Earth observations consisting in a flexible and distributed network of systems and content providers.

SAON through its Mission, Vision and Goals are in agreement with this, and SAON can contribute to GEO as an Arctic Regional Initiative.

## **2. Relationship to previous developments and results**

### ***2.1 New activity or an extension/follow-up to a previous activity***

SAON has been a Participating Organization to GEO since 2014. SAON is now applying to have status as a Regional Initiative.

### ***2.2 Relationship between the new and existing activity (objectives, teams, added value to ongoing activities within and outside of GEO)***

SAON is a contributor to the GEO Cold Region Initiative (GEOCRI), and will continue to contribute to this initiative (see also below).

### 3. Participants/contributors

#### 3.1 Organizations, institutions, government agencies, private sector

SAON is a joint initiative of the Arctic Council (AC)<sup>1</sup> and the International Arctic Science Committee (IASC)<sup>2</sup>. The SAON process was established in 2011 via the AC Nuuk Declaration (3). This 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 also defines the SAON governance structure and Terms of Reference, which were formally approved in 2012 (4).

The SAON Leadership Team, responsible for programmatic implementation and overall strategic development, consists of two bodies:

- The SAON Board, responsible for providing guidance and direction on programmatic operations, including science priorities, and project approval and integration, and
- The SAON Executive Committee, responsible for overall governance issues, including alignment of SAON strategic direction with the goals and objectives of both the AC and IASC.

The Arctic Council provides the Chair of SAON and IASC provides the Vice-Chair.

Each AC member country has a seat on the Board, and each of the AC Permanent Participants (Arctic indigenous peoples' organizations) and each of the AC Working Groups are also entitled to one seat on the Board. Non AC countries and international organization are invited to have a seat on the Board as long as they contribute actively to SAON activities.

The SAON Secretariat is hosted by Secretariat of the Arctic Monitoring and Assessment Programme (AMAP)<sup>3</sup>. The secretariat function for SAON is a joint effort of AMAP and IASC.

SAON works through two Committees:

- The Committee on Observations and Networks (CON)
- The Arctic Data Committee (ADC, joint with IASC)

#### 3.2 Their roles in/contributions to the project

The composition of the SAON Board is explained above. The Board shall be responsible for all programmatic and operational issues, including determination of SAON scientific priorities, approving new SAON Tasks and the continuation or termination of existing SAON Tasks.

Each national member of the SAON Board establishes a national SAON organization.

SAON has partnership with a number of observational networks (5).

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<sup>1</sup> [www.arctic-council.org](http://www.arctic-council.org)

<sup>2</sup> <https://iasc.info/>

<sup>3</sup> [www.amap.no](http://www.amap.no)

## ***4. Description of activities***

### **4.1 Tasks definition, overall logic and phasing**

SAON has adopted three goals.

1. *Create a roadmap to a well-integrated Arctic Observing System.* The goal has these objectives:  
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.
4. Create opportunities to develop and implement observations in support of Arctic Societal Benefit Areas (SBAs).
5. Develop a long-term repository for relevant project deliverables.

The Committee on Observations and Networks (CON) is responsible for the implementation of Goal 1.

2. *Promote free and ethically open access to all Arctic observational data.* The goal has these objectives:
  1. Create a road map outlining the steps towards achieving a system that will facilitate access to Arctic observational data.
  2. Advance a system to facilitate access to Arctic observational data.
  3. Establish a persistent consortium of organizations to oversee the development of a sustainable, world-wide system for access to all Arctic data.

The Arctic Data Committee (ADC) is responsible for the implementation of Goal 2 in partnership with a wider range of different partner organizations.

### ***3. Ensure sustainability of Arctic observing***

1. Develop a strategy for long-term financial commitment in Arctic observations;
2. Apply the strategy developed in 3.1 to advocate to funding agencies and states to ensure sustainability of Arctic observing; and
3. Secure funding for international SAON secretariat and operational costs

The SAON Board is responsible for the implementation of Goal 3. The implementation of Goal 3 has a dependency on the two other SAON Goals, especially Goal 1. More details about the implementation are found in the SAON Implementation Plan (1).

### ***4.2 Geographical scope***

The geographical scope of SAON is the Arctic, more specifically the circumpolar region, as defined by AMAP (6)

### ***4.3 Tasks description (for each of them: description, planning, partners responsibilities, resources)***

More details about the implementation of the SAON Strategy are found in the SAON Implementation Plan (1). The Implementation Plan describes the activities, their urgency and timelines. It describes the involvement of the SAON Committees, partners/networks, and national SAON organizations. It also

describes the relationship with international/other organizations and the involvement of AC Permanent Participants (Arctic indigenous peoples' organizations). It finally describes outreach and the need for resources and funding.

#### ***4.4 Capacity building/science & technology/training activities; communication/outreach/branding***

Each SAON activity has an associated outreach plan. Especially objective 1.4 ("Create opportunities to develop and implement observations in support of Arctic Societal Benefit Areas (SBAs)") describes how CON will organize technology fora in suitable events to support sustainable and innovative solutions and observation technology development in the Arctic.

The Arctic Observing Summit (AOS) is SAON's outreach event and is organized in cooperation between the International Study of Arctic Change (ISAC) and SAON. 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 (decades) operation of an international network of Arctic observing systems (7).

The AOS provides a platform to address urgent and broadly recognized needs of Arctic observing across all components of the Arctic system, including the human component. It fosters international communication and the widespread coordination of long-term observations aimed at improving understanding and responding to system-scale Arctic change. The AOS is an international forum for optimizing resource allocation through coordination and exchange among all involved or interested in long-term observing activities, while minimizing duplication and gaps.

AOS has been held in 2013, 2014, 2016, and 2018. The theme of the 2018 AOS was *The Business Case for a pan-Arctic Observing System*.

#### ***4.5 Expected connections to other areas of the GEO Work Programme***

SAON is a contributor to the GEO Cold Region Initiative (GEOCRI), and will continue to contribute to this initiative.

## **5. Involvement of end-users**

### ***5.1 How established user communities link to, or participate in the initiative***

Addressing the goals of SAON requires the expertise and cooperation of a wide range of stakeholders and knowledge systems. SAON as members currently has 18 country members, two AC Permanent Participants (Arctic indigenous peoples' organizations) and a series of regional and international organizations. This inherently means that SAON maintains strong connections to national level research policy priorities and activities of its member countries and organizations.

Effective implementation of SAON, however, requires partnerships. Such partnerships include engagement of regional and international organizations like the European Commission (EC), European Space Agency (ESA), Group on Earth Observations (GEO), International Study of Arctic Change (ISAC), the World Meteorological Organisation (WMO) and many more (5). SAON collaborates with policy-makers at all levels, academia, civil society and the private sector.

SAON seeks to involve users through meetings and conferences at the widest possible level:

- The Arctic Observing Summit (AOS) engages researchers, indigenous organizations, the public, private and not-for profit sectors and all others involved or interested in the Arctic (7)
- The Arctic Data Committee (ADC) is a co-organiser of the Polar Data Forum (PDF) in 2013 and 2015 (8). The next PDF is planned for 2019.
- The Committee on Observations and Networks (CON) is continuously engaged in fora to establish a dialogue with end-user, most notably during the Arctic Science Summit Week (9) and the Arctic Circle (10).
- The physical meetings of the SAON Board are open to the public.

### *5.2 How the activity would benefit stakeholders*

Widely used by key stakeholders is the International Arctic Observations Assessment Framework mentioned above. It defines 12 Social Benefit Areas (SBAs) that rely on Arctic observations (2).

SAON is committed to facilitating the inclusion of Arctic indigenous peoples in its activities. An example includes the *Atlas of Community-Based Monitoring & Indigenous Knowledge in a Changing Arctic* (11).

### *5.3 How it feeds into decision-making processes*

One of the main themes at the 2016 Arctic Science Ministerial (12) was *Strengthening and Integrating Arctic Observations and Data Sharing*. The ministers committed to the “*shared development of a science-driven, integrated Arctic-observing system*” and saw “*a critical role for the Sustaining Arctic Observing Networks (SAON) initiative*”.

In the 2017 Fairbanks Declaration (13), Arctic Council governments “*recognize the need to increase cooperation in meteorological, oceanographic and terrestrial observations, research and services, and the need for well-maintained and sustained observation net-works and continuous monitoring in the Arctic*”.

The theme of the 2018 Arctic Observing Summit was *The Business Case for a pan-Arctic Observing System*. The conference statement from the 2018 AOS has been brought forward to the Second Arctic Science Ministerial in October 2018 (7, 14). One of the themes of the Ministerial Meeting will be *Strengthening, Integrating and Sustaining Arctic Observations, Facilitating Access to Arctic Data, and Sharing Arctic Research Infrastructure*. SAON has submitted statements to the ministerial and is one of the international organizations that have been invited to attend the Arctic Science Forum at the ministerial.

SAON is regularly reporting to the Arctic Council’s Senior Arctic Officials (SAO); the latest reporting was on the SAON strategy at the SAO meeting in March 2018.

SAON submitted a statement to the Arctic Environment Ministers Meeting in October 2018 (15).

## **6. Planning, including specific milestones and deliverables**

### ***6.1 Implementation plan***

More details about the implementation of the SAON Strategy are found in the SAON Implementation Plan (1).

### ***6.2 Milestones and deliverables (with Gantt chart)***

More details about the implementation of the SAON Strategy, including milestones and deliverables are found in the SAON Implementation Plan (1).

### ***6.3 Monitoring and evaluation approach, including feedback from participants/partners***

The SAON Board reviews the work and progress of the Committees and the Board reports to the SAON parent organizations (AC and IASC). SAON is subject to external reviews with regular intervals as described in SAON Terms of Reference (4). The latest external review of SAON was conducted in 2016 (16).

### ***6.4 Reporting to participants and to GEO PB/Secretariat (GEO Strategic Plan reference document)***

The SAON Committees and Board regularly report to its members through meeting minutes, progress reports, etc. Reporting to the GEO Programme Board and Secretariat will be done according to the general GEO requirements.

## **7. Data management & data policy**

### ***7.1 Description of the key datasets used or created by the activity***

A broad range of different data infrastructures and datasets are represented in the SAON process. The connected, collaborative, and comprehensive long-term pan-Arctic Observing System that serves societal needs being coordinated by SAON includes a comprehensive data system. This includes but is not limited to physical science data for specific environmental phenomena such as sea ice, permafrost, atmosphere, snow, oceans, biology and life sciences and many others. Additionally, the Arctic observing community that SAON serves produces and manages social science data resources including surveys, demographic data, and qualitative data of many kinds. Lastly, but importantly, Arctic indigenous peoples and their representative organizations generate data and information in many different form including observations from community based monitoring programs, geographic data (e.g. place names), heritage data, economic data and more.

Within the area of data management, a SAON-led ArcticGEOSS initiative will build on existing activities being carried out by the Arctic Data Committee (ADC) in partnership with the GEO Cold Regions Initiative, for example, chairing the Polar Data Planning Summit held in 2018 (17), and engagement in the POLDER group that is focusing on federated search (18). Under ArcticGEOSS, this existing, productive partnership between SAON and GEOCRI can be enhanced and further developed through integration as a regional GEOSS node.

### ***7.2 Degree of adherence to the GEOSS Data Sharing and Data Management Principles***

At minimum, SAON adheres to and promotes the IASC Statement of Principles and Practices for Arctic

Data Management (19). This statement is consistent with a number of international data policies including those developed by WMO and ICSU bodies such as the World Data System. The GEO Data Sharing Principles have been developed under the leadership of CODATA and ICSU, and thus are generally consistent with the IASC Statement. The IASC statement uses the concept of “ethically open data” which does provide some well accepted exceptions to fully open data. A primary role of the Arctic Data Committee is to promote the IASC Principles, long-term preservation of data, norms of attribution and citation, and open data in general.

### ***7.3 Contributions to the GEOSS Data CORE***

All data that adhere to the IASC Statement could be contributions to the GEOSS Data CORE. However, there are seminal datasets that would act as important reference data sets of importance to scientists, Arctic communities, decision-makers and the GEO community as a whole. These might include sea ice data sets such as those held at the National Snow and Ice Data Center (20), permafrost data hosted by the Global Terrestrial Network for Permafrost (GNT-P) (21), Indigenous knowledge and community-based monitoring data highlighted in the *Atlas of Community Based Monitoring in a Changing Arctic* (11), and many others. As a starting point, identifying these Data CORE data sets could be related to SAON CON and GEOCRI activities that are aiming to identify “essential variables”.

### ***7.4 Interoperability with the GCI (GEOSS Common Infrastructure)***

Currently, the Arctic Data Committee is co-sponsoring a working group that is examining the different data discovery portals for the Arctic and polar regions in support of federated search. This includes the GEO Cold Regions Initiative as a partner (18). As this develops, we will have a much better understanding of the full scope of data that fall within SAON’s mandate and we will have the tools and protocols to share metadata, including more extensive connection to the GEOSS Data Portal. Early results indicate that many Arctic-related data portals are interoperable with many other systems through the use of popular protocols such as OAI-PMH, OGC Catalogue Services for Web, and OpenSearch. It is expected that a comprehensive study of Arctic/Polar data discovery resources and systems will be published late 2018.

## **8. Risk assessment**

The parents of SAON are the Arctic Council and IASC and the countries and organizations behind these institutions. They have the resources to manage and mitigate risks. The SAON Secretariat is hosted by Secretariat of the Arctic Monitoring and Assessment Programme (AMAP). The secretariat function for SAON is a joint effort of AMAP and IASC.

SAON is based on the contributions of volunteers (countries, organizations, institutions, individuals), and the main risk is lack of engagement in SAON’s goals and objectives.

## **9. Management and governance**

### ***9.1 Organizational structure***

The SAON Leadership Team, responsible for programmatic implementation and overall strategic development, consists of two bodies:

- The SAON Board, responsible for providing guidance and direction on programmatic operations,



- including science priorities, and project approval and integration, and
- The SAON Executive Committee, responsible for overall governance issues, including alignment of SAON strategic direction with the goals and objectives of both the AC and IASC.

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Each AC member country has a seat on the Board, and each of the AC Permanent Participants (Arctic indigenous peoples' organizations) and each of the AC Working Groups are also entitled to one seat on the Board. Non AC countries and international organization are invited to have a seat on the Board as long as they contribute actively to SAON activities (4).

### ***9.2 Project coordinator and supporting organization***

The SAON Secretariat is hosted by Secretariat of AMAP. The secretariat function for SAON is a joint effort of AMAP and IASC.

### ***9.3 Advisory/steering committee***

The SAON Leadership Team, responsible for programmatic implementation and overall strategic development, consists of the SAON Board and the SAON Committees. The list of Board members is found on the SAON web site (22).

### ***9.4 Communication with partners and participants***

Meeting documents and minutes from meetings of the SAON Board, Executive and Committees are circulated to members and partners and available on the SAON web site (23). The Arctic Observing Summit (7) is SAON's outreach event. SAON issues a quarterly newsletter and has a Facebook page (24)

## **10. Summary of committed resources and annual budget(s)**

### ***10.1 Secured and expected resources (cash and in-kind)***

Board members are expected to seek financial resources needed to undertake SAON tasks.

Since 2011 Norway has supported the SAON secretariat, including a full-time Executive Secretary and funds to support SAON activities. From 2018, it is expected that a series of member countries will contribute with an annual amount of 5-15.000 € per member.

### ***10.2 Sources of funding, data, services, etc.***

In addition to the contributions described under 10.1 to the SAON Secretariat, it is expected that a series of member countries will provided in-kind contributions. The SAON web site is hosted by Arctic Portal (25).

### ***10.3 Annual budget allocation***

Budget for the SAON Secretariat 2018

Expenses:

	Amount (k€)	Comment

Salary, social security, office	120	The cost of a full-time staff member at the AMAP Secretariat is estimated as 1.2 million NOK / 120 k€
Travel	20	The Secretary attends meetings of the Board and Committees and represents SAON at various other meetings. In some cases, the Secretariat has also covered travelling expenses for Indigenous participation and Committee chairs' attendance in relevant meetings, etc.
Meeting expenses	5	The Secretariat covers the expenses associated with the meetings of the Board and Committees. The costs are meeting rooms, catering, AV equipment, Internet connections, etc.
Total	145	

## Income:

	Amount (k€)
Funds required to be raised by member contributions	55
Contribution from Norway (expected)	90
Total	145

## References

- (1) The SAON Strategy 2018-2028: <https://www.arcticobserving.org/strategy>
- (2) The IDA Science and Technology Policy Institute (STPI) and SAON (2017): The International Arctic Observations Assessment Framework: <https://www.arcticobserving.org/news/268-international-arctic-observations-assessment-framework-released>
- (3) Nuuk Declaration. On the occasion of the Seventh Ministerial Meeting of the Arctic Council. 12 May 2011, Nuuk, Greenland: [https://www.arcticobserving.org/images/pdf/nuuk\\_declaration.pdf](https://www.arcticobserving.org/images/pdf/nuuk_declaration.pdf)
- (4) SAON Terms of Reference: [https://www.arcticobserving.org/images/pdf/Terms\\_of\\_Reference/saon-terms-of-reference.pdf](https://www.arcticobserving.org/images/pdf/Terms_of_Reference/saon-terms-of-reference.pdf)
- (5) The SAON collaboration includes a number of partners: <https://www.arcticobserving.org/partners>
- (6) The geographical coverage of the Arctic Monitoring and Assessment Programme (AMAP): <https://www.amap.no/about/geographical-coverage>
- (7) Arctic Observing Summit web site: <http://www.arcticobservingsummit.org/>
- (8) Polar Data Forum web site: <http://www.polar-data-forum.org/>
- (9) ASSW (POLAR2018 web site: <http://www.polar2018.org/>
- (10) Arctic Circle web site [www.arcticcircle.org](http://www.arcticcircle.org)
- (11) Atlas of Community-Based Monitoring & Indigenous Knowledge in a Changing Arctic: <http://www.arcticcbm.org/index.html>
- (12) Joint Statement of Ministers. On the occasion of the first White House Arctic Science Ministerial. 28 September 2016, Washington, DC, USA: <https://www.whitehouse.gov/the-press-office/2016/09/28/joint-statement-ministers>
- (13) Fairbanks Declaration. Arctic Council, 2017: [https://oaarchive.arctic-council.org/bitstream/handle/11374/1910/EDOCS-4339-v1-ACMMUS10\\_FAIRBANKS\\_2017\\_Fairbanks\\_Declaration\\_Brochure\\_Version\\_w\\_Layout.PDF?sequence=8&isAllowed=y](https://oaarchive.arctic-council.org/bitstream/handle/11374/1910/EDOCS-4339-v1-ACMMUS10_FAIRBANKS_2017_Fairbanks_Declaration_Brochure_Version_w_Layout.PDF?sequence=8&isAllowed=y)
- (14) Second Arctic Science Ministerial, 25-26 October 2018, Berlin, Germany: <https://ec.europa.eu/research/index.cfm?pg=events&eventcode=187D5765-E38F-9AFC-958DA987ECDD0613>
- (15) Arctic Environment Ministers Meeting 11-12 October 2018 is announced here: <https://www.arctic-council.org/index.php/en/our-work2/8-news-and-events/485-sao-levi-2018-01>
- (16) SAON External Review Report (2016): [https://www.arcticobserving.org/images/pdf/Review/SAON-External-Review-Final-Report\\_August-29-2016.pdf](https://www.arcticobserving.org/images/pdf/Review/SAON-External-Review-Final-Report_August-29-2016.pdf)
- (17) Polar Data Planning Summit: <https://arcticdc.org/meetings/conferences/polar-data-planning-summit>
- (18) ADC project on "Federated Search for Polar Regions": <https://arcticdc.org/activities/core->

[projects/metadata](#)

(19) IASC *Statement of Principles and Practices for Arctic Data Management*:

[https://iasc.info/images/data/IASC\\_data\\_statement.pdf](https://iasc.info/images/data/IASC_data_statement.pdf)

(20) National Snow and Ice Data Center: <https://nsidc.org/>

(21) Global Terrestrial Network for Permafrost: <https://gtnp.arcticportal.org/>

(22) SAON Board members: <https://www.arcticobserving.org/governance/board/board-members>

(23) SAON web site: [www.arcticobserving.org](http://www.arcticobserving.org)

(24) SAON Facebook page: <https://www.facebook.com/Sustaining-Arctic-Observing-Networks-SAON-1016390421715264/>

(25) Arctic Portal web site: <https://arcticportal.org/>

## Acronyms

AC: Arctic Council  
ADC: Arctic Data Committee  
AMAP: Arctic Monitoring and Assessment Programme  
AOS: Arctic Observing Summit  
ASSW: Arctic Science Summit Week  
CODATA: Committee on Data for Science and Technology  
CON: Committee on Observations and Networks  
GEO: Group on Earth Observations  
GEOCRI: GEO Cold Regions Initiative  
GTN-P: Global Terrestrial Network for Permafrost  
IASC: International Arctic Science Committee  
ICSU: International Council for Science  
IDA: Institute for Defense Analyses  
NSIDC: National Snow and Ice Data Center  
OAI-PMH: Open Archives Initiative Protocol for Metadata Harvesting  
OGC: Open Geospatial Consortium  
PDF: Polar Data Forum  
PP: Permanent Participant (Arctic Council indigenous peoples' organizations)  
SAON: Sustaining Arctic Observing Networks  
SBA: Societal Benefit Areas  
STPI: IDA Science and Technology Policy Institute  
WMO: World Meteorological Organization