

The Arctic Observing Summit

Craig M. Lee, Martin Jakobsson and Jinping Zhao

Objectives

The Arctic Observing Summit (AOS) will provide a regular (biennial) forum for assessing the science basis for Arctic observing activities and improving coordination and optimizing resource allocation for the International Network of Arctic Observing Systems (INAOS). The AOS will actively seek participation from all entities that collect and/or use Arctic observations, and anticipates engaging both basic research and mission-oriented communities. Participants will include academia, government agencies and Arctic stakeholders, such as local communities, industry and non-governmental organizations. AOS activities will analyze the INAOS within the framework of state-of-the-art understanding of Arctic science and, in collaboration with SAON (Sustaining Arctic Observing Networks), identify and pursue specific tasks designed to improve network performance for a full spectrum of applications, from climate research to the delivery of useful products to Arctic stakeholders. The AOS complements SAON by focusing on the science of the INAOS, specifically how this drives observing priorities and informs INAOS design and implementation. The AOS collaborates with and contributes to SAON by synthesizing Arctic science and INAOS design options in a manner useful for policy makers and identifying INAOS issues that need attention from SAON members. A common SAON/INAOS goal is the implementation and maintenance of a sustained, long-term (decades) INAOS that serves this spectrum of needs.

Expected Outcomes/Products of the first AOS

1. Identification of broad themes in stakeholder needs for data products based on INAOS observations and their links back to the science basis for Arctic observing. This will be used to inform INAOS priorities.
2. A roadmap for building the INAOS based on the results of (1) and community identified science priorities. Activities will include:
 - a) Synthesis of existing reports and catalogs of national Arctic observing systems to define the potential scope of a network built by knitting existing systems. This will expand on existing inventories by assessing the potential longevity of ongoing activities, to alert AOS of pending dropouts in the observing systems. This may provide a template for regular assessments of the state of the network.
 - b) Review current understanding of Arctic change and community assessment of high-priority science questions.
 - c) Assess fit between stakeholder needs identified in (1), science objectives and existing Arctic observing systems.

- d) Recommend actions for optimization and coordination of existing observing systems, with the ultimate goal of integration into a 'network of networks'. Recommendations should address near term (see 3, below), medium term (5 years) and long term (10+ years) activities.
3. Identification of one or more pilot integration projects, aimed at networking two or more existing observing systems that share common disciplinary, regional or operational themes. Pilot efforts must be tractable and capable of demonstrating substantive progress in the two years between the first and second AOS. These will serve as case studies for evaluation during the second AOS, and should help shape implementation of the next steps along the roadmap produced in (2).
4. Identify long-term AOS goals and develop initial plans for addressing them. Examples include unifying data access, distribution and archiving practices and improving international access to the Arctic.

Planning Activities

OC Co-chairs

Drs. Craig Lee, Martin Jakobsson and Jinping Zhao have agreed to co-chair the first AOS. Along with Dr. Maribeth Murray (ISAC Executive Director), the co-chairs held an initial teleconference in late November, focusing on identification of broad AOS goals and objectives.

Organizing Committee

Potential OC members were identified and invitations extended through ISAC. The following have agreed to serve:

- Carina Keskitalo, Sweden
- Johannal Wandel, Canada
- Maribeth Murray, USA
- Peter Schlosser, USA
- Jean Claude Gascard, France
- Hanne Sagen, Norway
- Leif Anderson, Sweden
- Bruce Forbes, Finland
- Volker Rachold, IASC/SAON
- Hiroyuki Enomoto, Japan

Pending:

- Sergey Priamokov, Russia
- Sung Ho Kang, Korea

AGU Town Hall

An evening ISAC Townhall Meeting held at the 2011 San Francisco AGU provided a forum for community discussion of potential AOS objectives and activities.

Discussions covered broad AOS objectives, data access and the practicalities of achieving a successful summit. Participants were enthusiastic about AOS objectives but were concerned that adopting too broad a focus for the first meeting might make it difficult to make substantive progress in any one area. Issues of data sharing and access were thus tabled in favor of evaluating network design and developing concrete recommendations for coordination, optimization and network integration. Discussions also touched on how best to structure the AOS to best utilize the limited time and maximize its ability to produce substantive outcomes. Suggestions included:

- Assemble working groups to drive progress on key objectives well in advance of the summit. Examples include teams focused on (1) and (2a-c) above. A data management group might begin sketching broad objectives for (4), with the intent of driving progress prior to the second AOS. SAON could be enlisted to assist with the long-term goal of improving international access to the Arctic for scientific research.
- Implement a community white paper process, similar to that used for the OceanObs '09 meeting, to facilitate grass-roots organization to provide guidance and shape AOS priorities, activities and recommendations.
- Optimize effectiveness of national coordination meetings, such as that being held in the US, by providing advance guidance on AOS objectives and anticipated outcomes. This will be critical, as it enables national representatives to prepare appropriate contributions for the AOS.
- Identify key questions and needs that have the potential to unite different disciplines or communities (e.g. academia, government, industry) toward the development of an integrated network.
- Draw from existing efforts to avoid duplication. Examples include exploiting inventories of observing activities developed through SAON as a starting point for AOS synthesis.

Synthesis of Townhall discussions is ongoing, and we expect to use this community input to shape the summit.

Next Steps

The OC co-chairs are working on an overall approach and draft agenda, to be used as a starting point at the first meeting of the full organizing committee. The OC co-chairs are also developing a brief document for distribution to national coordination efforts. We expect these initial activities to rapidly lead to the formation of focused working groups and more detailed AOS planning. Questions for SAON and ISAC include:

- What resources (personnel and funds) will be made available to assist with AOS planning and implementation?
- What specific products and outcomes would ISAC and SAON like to see coming out of the AOS?
- What assistance can SAON provide toward achieving broad AOS objectives? Could SAON assist with issues of international access and data sharing?