



ARCTIC OBSERVING SUMMIT 2016 - CONFERENCE STATEMENT

The Arctic is experiencing the fastest rate of climate change and related impacts on the planet. Co-occurring changes are widespread across the biological, physical and human components of the system. These changes are of concern for Arctic peoples and nations and also to the wider global community. For people that call the Arctic home the changes affect livelihoods, economies and cultures, including the ability to respond and plan for the future. The Arctic is also an integral element of the larger Earth system. Arctic change is contributing to global sea level rise and is expected to lead to environmental and weather changes in mid- and lower latitudes, thereby affecting millions of lives and having significant social, economic and political impacts. As a result, Arctic Change is moving to the forefront of scientific and societal concern.

Timely access to information and data about the Arctic is critical as projections of future change and identification of emerging issues are increasingly urgent. A diverse range of information is needed for managing, planning, adaptation, and sustainable development at local to planetary scales. The users of this information are diverse with varied and pressing needs and addressing Arctic change requires cooperation across cultural, disciplinary, and political boundaries. It demands a pan-Arctic, cross component, multipurpose observing system that can provide information over time and across space and that answers the needs of a wide range of stakeholders. Of necessity, this system needs to be co-designed to incorporate the best of Indigenous Knowledge and scientific approaches with local expertise.

Last week in Fairbanks, Alaska, at the 3rd Biennial Arctic Observing Summit, over 450 delegates, from 30 countries, representing a broad spectrum of the scientific community, Indigenous peoples from Alaska, Northern Canada, Greenland, Arctic Scandinavia and Arctic Russia, representatives of the private sector, governmental agencies, non-governmental and nonprofit organizations, and Arctic Council observers, Permanent Participants and working group representatives came together to discuss and develop recommendations and a pathway toward the implementation of an internationally supported, pan-Arctic observing system that is considerate of and responsive to both local and global needs.

Seven major recommendations emerged from the 2016 Arctic Observing Summit. These are:

1. **Develop** international principles and protocols that establish ethical guidelines for research, for the involvement of Arctic Indigenous Knowledge holders, for the use of Indigenous Knowledge and the co-production of knowledge. Develop mechanisms to enable collaborative approaches and building of trust among partners, such as researchers, Indigenous Peoples, private sector entities and others, to define observational needs, and to plan, prioritize, implement, and use sustained observations.
2. **Propose** to the highest levels of government, the business case for a comprehensive pan-Arctic observing system. This proposal should assess the costs and demonstrate the benefits for society at various levels, including an Implementation Plan that builds upon the present system and past planning, and that identifies needed resources including infrastructure, instrumentation, human capacity, the pathways to financing, and a strategy for sustained financing.
3. **Create** opportunities for stakeholder engagement as a critical component of an effective pan-Arctic observing system that includes strategies for improved communication, takes advantage of existing natural capital, creates avenues for research collaboration, identifies resources for capacity building and participation of local and Indigenous knowledge holders, and resolves jurisdictional, regulation and policy hindrances to active participation.

4. **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.
5. **Advance** a strategy for international funding, ideally with a single application and review process and contributions of resources from all partner countries, along with established national support mechanisms. Full implementation of a pan-Arctic Observing System requires coordination of funding efforts to support a globally connected and internationally accessible network.
6. **Prioritize**, on an ongoing basis, observations that should be started and maintained over the long-term by operational and other relevant agencies. Collaborative, sustained observations need to be implemented through a combined research-operational system that extends across all scales relevant to those it serves, making use of both long-term national/institutional funding and of project based competitive funding.
7. **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.

The Arctic community has the knowledge and expertise to collaborate on the development and implementation of a sustained observing system that supports decision-making in response to rapid Arctic change. However, resource and coordination limitations have, to date, hampered appropriate progress. International investment into sustained, coordinated observations will actively ensure bi-directional capacity building, relevant education, and best practices. Most critically, it will provide the information that is necessary to minimize the environmental, social and economic impacts of rapid Arctic change and the associated and even unanticipated costs. Arctic change is a consequence of global change, with global repercussions, and addressing it is a global responsibility. It is time to move forward with full intent and full engagement and act on these recommendations of Summit participants.

The Arctic Observing Summit (AOS) is an international, biennial forum of scientists, agencies, Indigenous Peoples' organizations, Arctic community members and the private sector. Its purpose is to coordinate the design, development and implementation of a comprehensive and sustained pan-Arctic observing system at the international level. The International Study of Arctic Change (ISAC) leads the development and planning of the AOS in partnership with SAON and local organizers. AOS is an outreach event of SAON. SAON is co-led by the Arctic Council through the Arctic Monitoring and Assessment Programme (AMAP) and the International Arctic Science Committee (IASC). SAON works 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. AOS 2016 is the third Summit, with previous events held in 2013 in Vancouver, Canada and 2014 in Helsinki, Finland. The fourth AOS is scheduled for 2018. Dates and location will be announced at www.arcticobservingsummit.org