Joint Statement of Ministers On the occasion of the Third Arctic Science Ministerial (excerpt)

URL: <https://asm3.org/library/Files/ASM3_Joint_Statement.pdf>

# Observe: implementing observing networks; data-sharing

Reliable data about changes in the Arctic are more limited than for most other parts of the planet. Vast gaps of *in situ* data in the Arctic remain, and there are limited long-term and space-based observations. In addition, foundational geospatial mapping is a fundamental input to a better understanding of Arctic ocean and coastal ecosystems, but much of the Arctic is not surveyed or is inadequately mapped. As observations of a wide range of variables (such as wildlife, atmosphere, water, land, ice, snow, coastlines, oceans, as well as of social, cultural, and economic impacts) are required from a variety of observation platforms (such as marine, surface, upper air, and space-based), sustaining long-term *in*

*situ* observation systems in the Arctic is demanding and requires considerable human and financial resources. International commitment is required to sustain critical pan-Arctic observation infrastructure, ocean and coastal mapping, a high level of coordinated campaign observations, and a focus on data management and sharing. For some observation systems, empowering Indigenous Peoples and other Arctic residents to engage in research and monitoring programs is important for fostering a localized observing system that includes community-driven observation. The urgency of these actions has become even clearer during the COVID-19 pandemic, apart from satellites and surface networks, which has amplified some of the existing weaknesses in sustaining long-term observational research.

# Proposed Actions

We therefore intend to cooperate through the following actions: Explore opportunities for mapping as well as supporting the implementation of an enhanced observing system for sharing data and results and deepening collaboration among scientists, technical experts, Indigenous Peoples, and other Arctic residents. We recognize the need to support and integrate Indigenous and community-led observations and foster the co-production of knowledge based on their free, prior and informed consent, as appropriate. We recognize the role the Sustaining Arctic Observing Networks (SAON) initiative has already played and acknowledge that supporting implementation mechanisms identified by SAON will continue to generate long-term benefits for strengthening Arctic observation and data systems. We recognize the need for research partnerships to be built on equal respect, with mutually beneficial and transparent protocols for data governance and intellectual property rights built on ethical guidelines as outlined in the International Arctic Science Committee (IASC) Data Statement.

# Long-term:

* + Encourage the strengthening and cooperation of existing long-term observation programs essential to tracking atmosphere, cryosphere, ocean, coasts, terrestrial, social, and ecosystem change and responding to a warming climate, and encourage the expansion into areas and subdisciplines where monitoring is absent to sparse, including through a co-production process in remote communities.
  + Promote planning for international cooperation in observational efforts to monitor the accelerating changes in the Arctic environment through national and international domain awareness platforms (satellites, stations, community-led observations, vessels, buoys, and other marine technology) through or in partnership with SAON.
  + Support ongoing efforts from the IASC/SAON-led Arctic Data Committee and others to harmonize data collection and sharing, particularly those working to make Arctic data and metadata more consistent, discoverable, interoperable, ethically open and accessible, and respect the rights of Indigenous Peoples, as applicable, especially with data pertaining to Indigenous Peoples.

# Near-term:

* + Strengthen the work of SAON:
    - Encourage finalizing the Roadmap for Arctic Observing and Data Systems (ROADS) through the coordination and cooperation between national and international programs, small and large projects, and infrastructures, and prioritize implementation.
    - Promote the expansion of the ROADS efforts to also reflect priorities of Indigenous Peoples.
    - Encourage SAON to update a gap analysis of where Arctic observations are missing and recommend strategies to address priority gaps.
  + Foster the development and Arctic deployment of new technologies, such as autonomous and interoperable tools for observations, share advances in technology innovation across the Arctic community of interest.
  + Encourage the inventory of Arctic mapping gaps and develop operational coordination plans to acquire and share new data to support Arctic science and community resilience.