



Sustaining Arctic Observing Networks - SAON

Volker Rachold

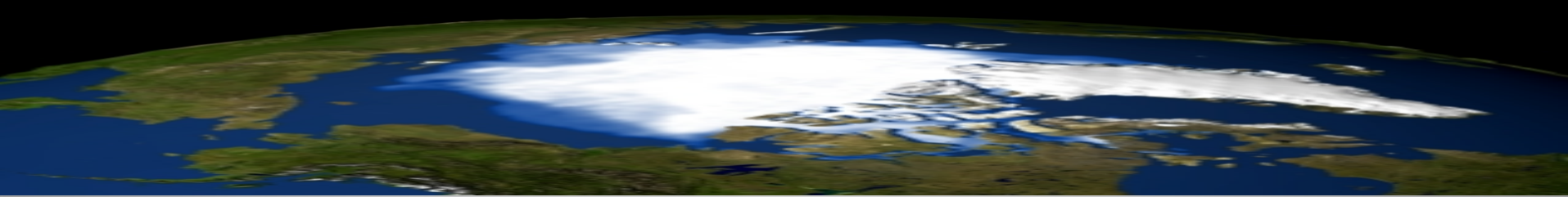
Executive Secretary, International Arctic Science Committee

SAON Secretariat



World Meteorological Organization
Working together in weather, climate and water

20 October 2009
SPACE AND THE ARCTIC
Stockholm, Sweden



Salekhard Declaration

In November 2006, the Arctic Council urged all member nations to maintain and extend long-term monitoring of change in the Arctic, with a view to building a lasting legacy of the International Polar Year.

Further, the AC requested that the Arctic Monitoring and Assessment Program work with other AC working groups, the International Arctic Science Committee (IASC) and other partners in this effort, to meet identified societal needs.

The goal of developing an Arctic Observing Network as a legacy of IPY was also endorsed by the WMO XV Congress in May 2007.



SAON Initiating Group (SAON-IG)

Arctic Council (represented by AMAP)

Arctic Ocean Sciences Board (AOSB)

Climate and Cryosphere (World Climate Research Program/WMO)

Forum of Arctic Research Operators (FARO)

Indigenous Peoples Secretariat (IPS)

International Arctic Science Committee (IASC)

International Arctic Social Science Association (IASSA)

International Polar Year (IPY)

International Study of Arctic Change (ISAC)

National Science Foundation (NSF, USA)

Global Ocean Observing System (GOOS)

International Permafrost Association (IPA)

European Polar Board (EPB)





SAON Vision

The SAON *vision* is that users should *have access to free, open and high quality data that will realize pan-Arctic and global value-added services and provide societal benefits.*

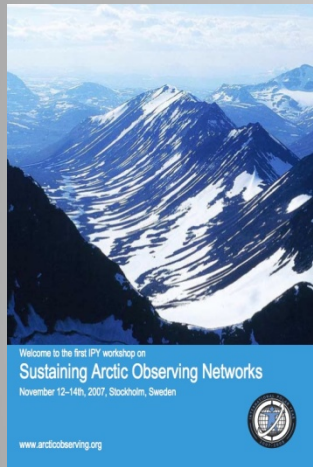
To attain the vision, SAON's goal is *to enhance Arctic-wide observing activities through coordination and integration and to promote sharing and synthesis of data and information.*



Five key questions posed by the SAON-IG

- 1: What Arctic observing sites, systems and networks currently **exist**?
- 2: What spatial, temporal and disciplinary **gaps** exist?
- 3: How will gaps be filled and the entire effort **sustained**?
- 4: How are these activities to be **coordinated** and integrated?
- 5: How are free, open and timely **access to data** to be achieved?

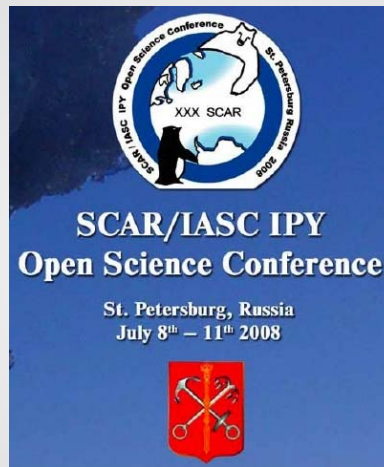
SAON-IG Workshops and Meetings



Stockholm
(November 2007)



Edmonton
(April 2008)



St. Petersburg
(July 2008)

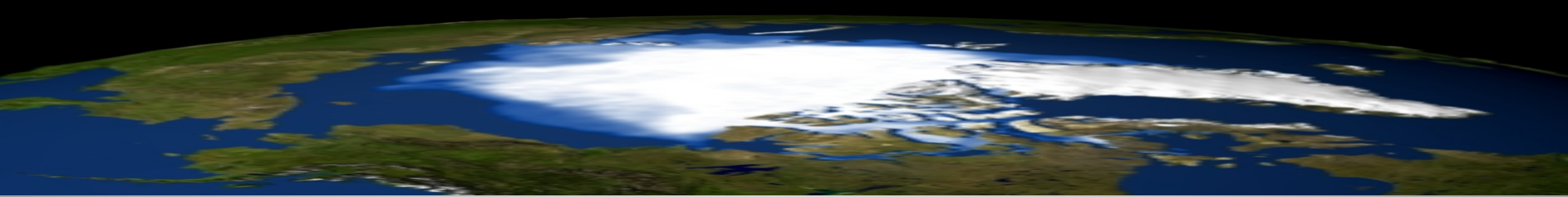


Incheon
(September 2008)



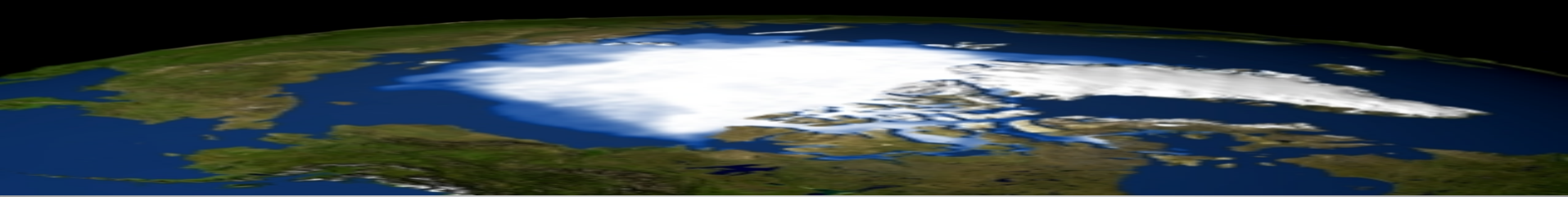
Helsinki
(October 2008)

Final SAON-IG report was distributed in January 2009



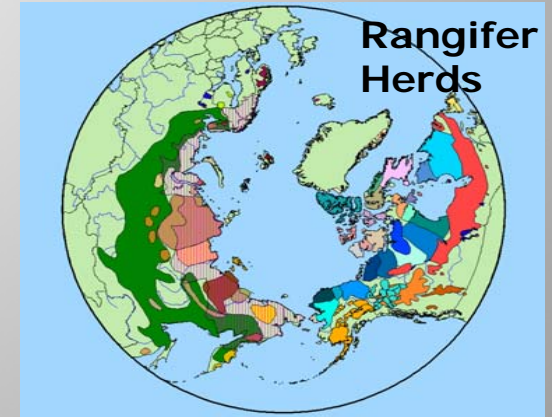
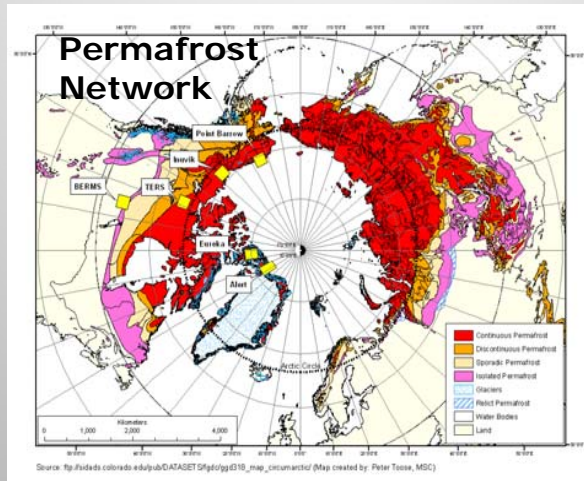
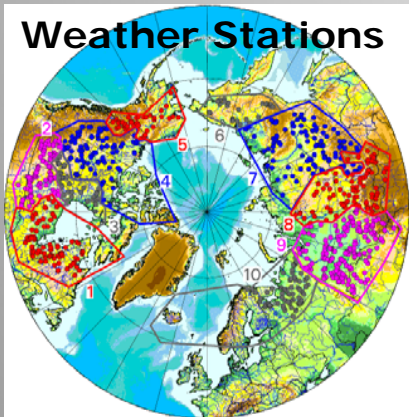
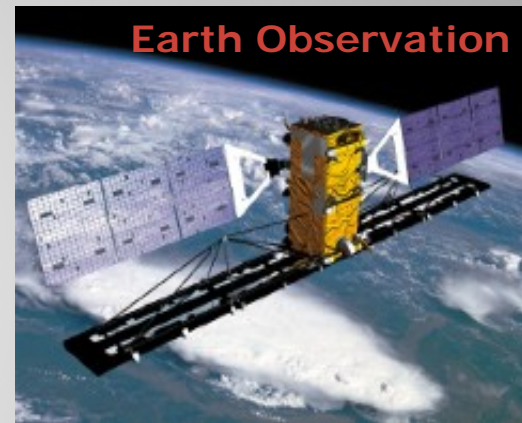
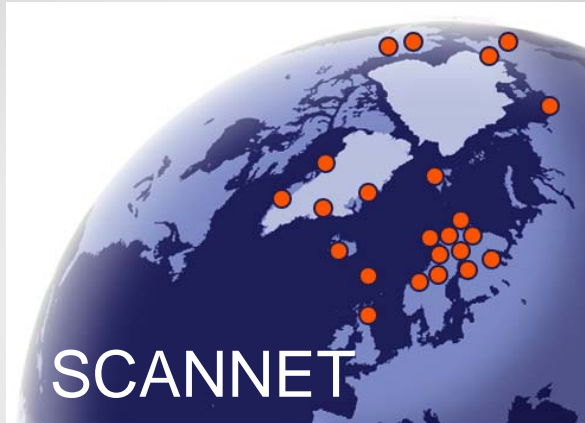
Key Points from SAON-IG Workshops (1)

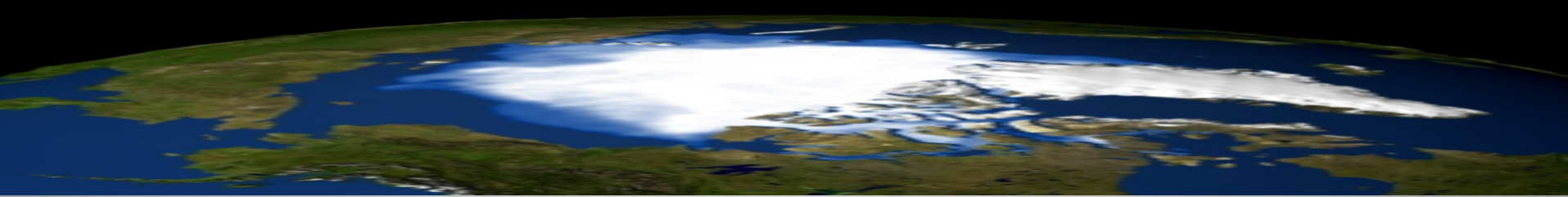
- Both bottom-up science integration and top-down agency-level integration are needed;
- SAON is an opportunity to improve linkages between users and providers;
- A coordinated and sustained set of observing networks would be very worthwhile;
- Coordination on circum-polar scale would improve ability to detect and attribute environmental trends;



Key Points from SAON-IG Workshops (2)

- Coordination requires a “coordinating entity” and tools that promote and facilitate integration;
- Acknowledge and respect knowledge of Arctic residents;
- Non-polar states can contribute to SAON goals;
- Take advantage of existing networks – **building blocks**.





Existing Observing Networks are the SAON Building Blocks

Ocean, Sea Ice

- IABP
- Arctic ROOS
- iAOOS

Coasts

- ACCO-Net

Rivers

- Arctic-HYDRA

Terrestrial

- SCANNET
- CEON

Cryosphere

- IGOS
- TSP, GTN-P, CALM
- GLACIODYN

Atmosphere

- IASOA
- WMO Networks

Biodiversity / Biology

- CBMP
- Polar Bear Group
- CARMA

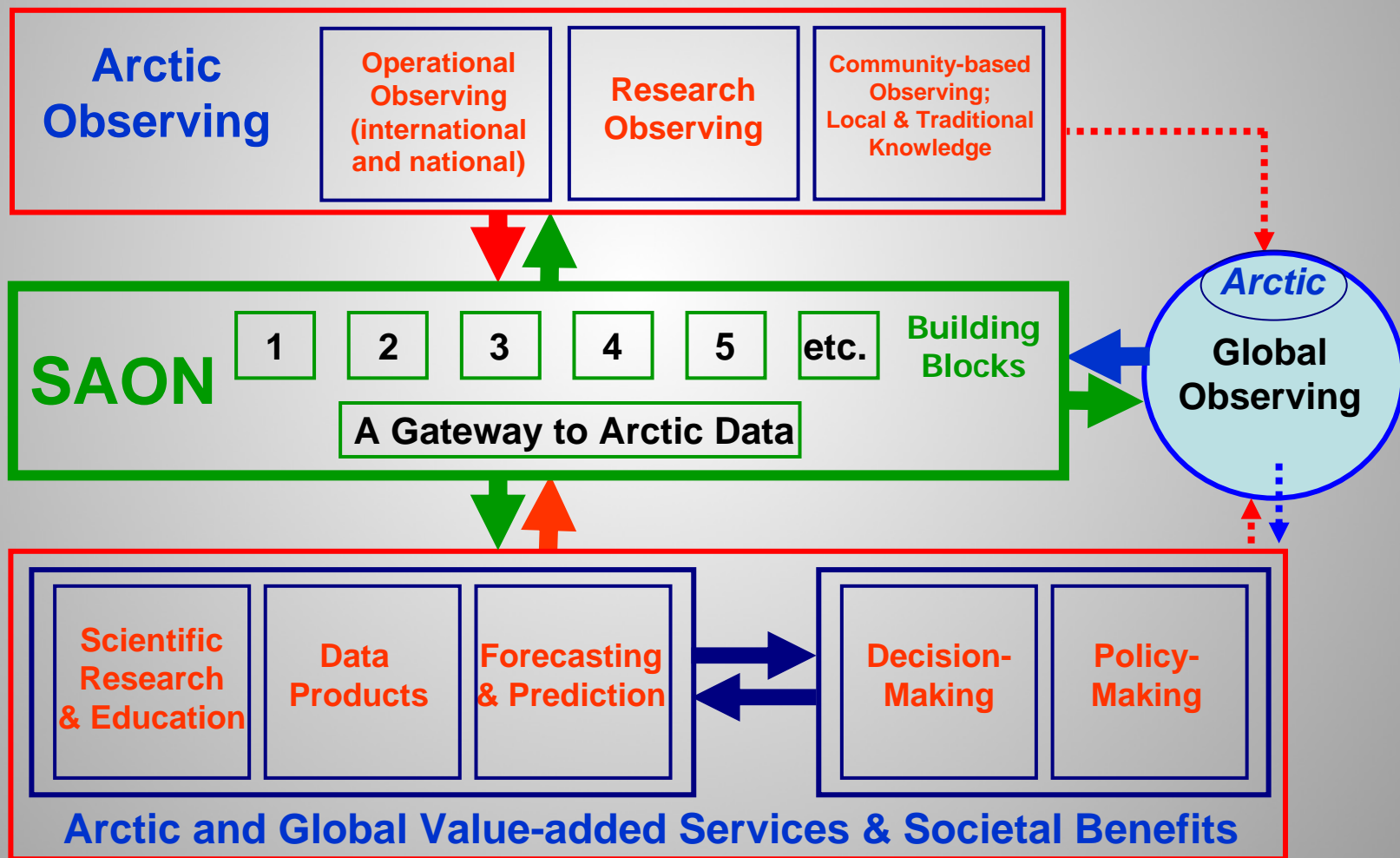
Human Dimensions

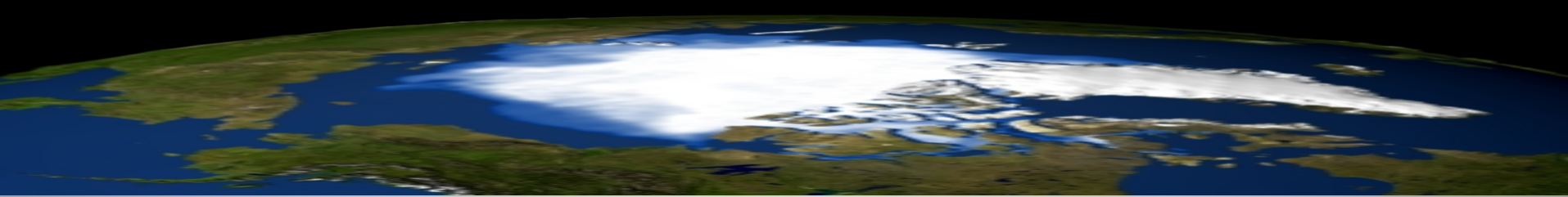
- Arctic Social Indicators
- Bering Sea Sub-Network
- ELOKA
- Arctic Human Health Initiative

(..and many others)



SAON will provide coordination & services for Arctic networks



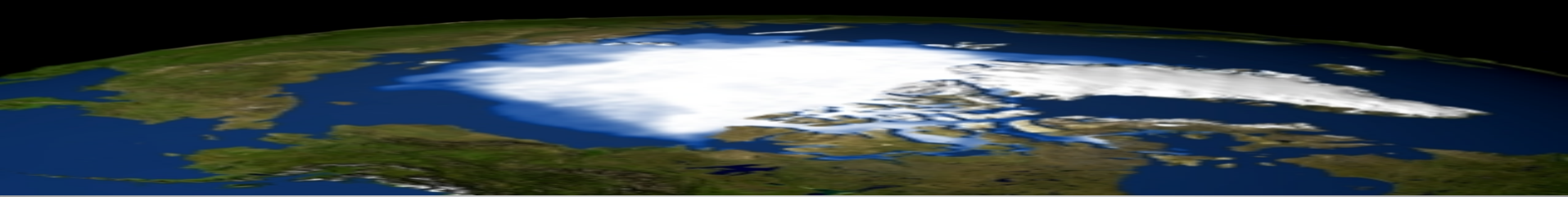


SAON-IG Report - Recommendations

1: The Arctic Council (including permanent participants and observers) should lead the facilitation of international collaboration among government agencies, researchers, and northern residents, especially indigenous people at community level, to ensure a sustainable pan-Arctic observing system.



To this end, the Arctic Council and partners are encouraged to establish an Arctic Observing Forum (AOF), with adequate resources and defined roles for Arctic Indigenous Peoples, to facilitate arctic observing and related data and information management services. The AOF shall address issues that transcend individual arctic observing systems and national capabilities.



SAON-IG Report - Recommendations

2: The governments of the Arctic Council member states should commit to:

- sustaining their current level of observing activities and data and information services, and to making every reasonable effort to increase the scope of those activities in the future;
- creating a data dissemination protocol to make data and information freely, openly and easily accessible in a timely fashion at minimal costs to users, taking into account relevant national legislation, and seek to ensure that relevant national organizations adhere to similar policies.



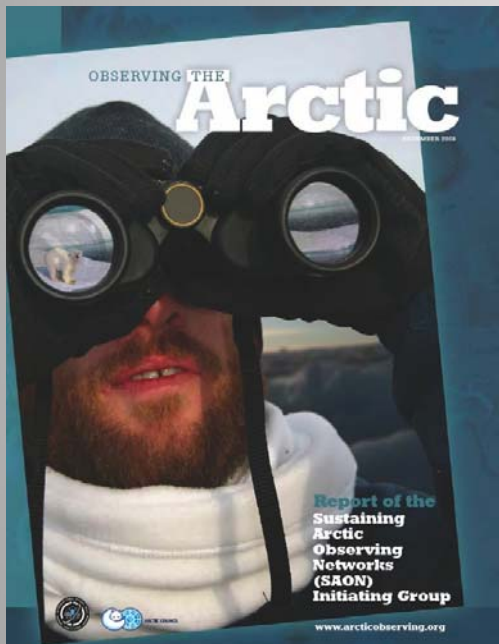


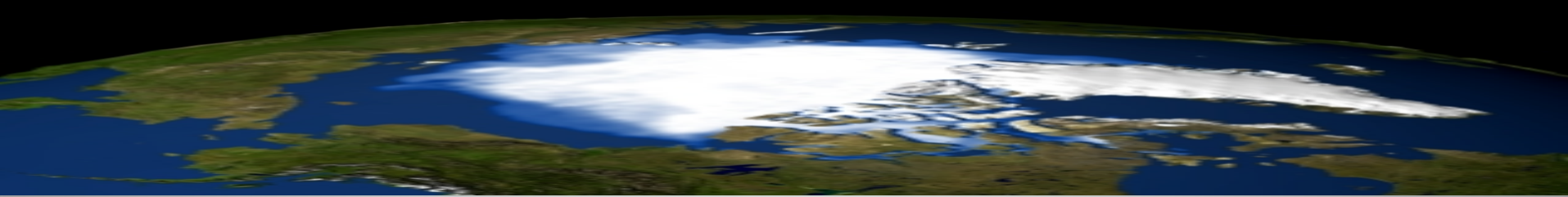
SAON-IG Report - Recommendations

3: The Arctic states are urged to increase inter-governmental cooperation in coordinating and integrating Arctic observing activities, and associated data and information management.

In order to facilitate this and the efficient operation of an Arctic Observing Forum, each of the Arctic states is encouraged to create a national inter-agency/department group to coordinate and integrate their Arctic observing activities, and resulting data and information services.

These groups shall form the basis for increased inter-governmental communication and cooperation on Arctic observing.

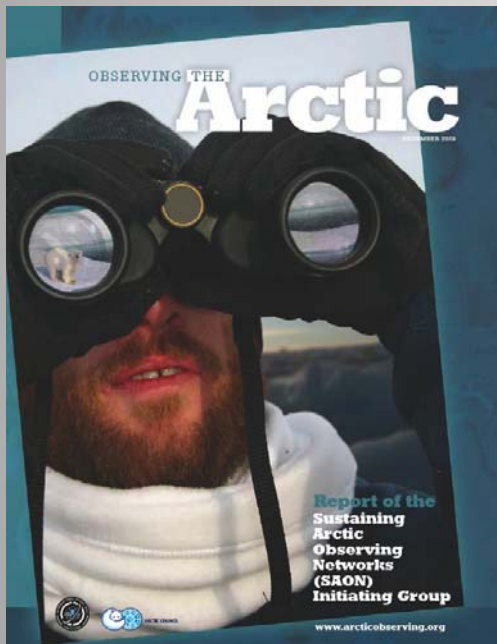


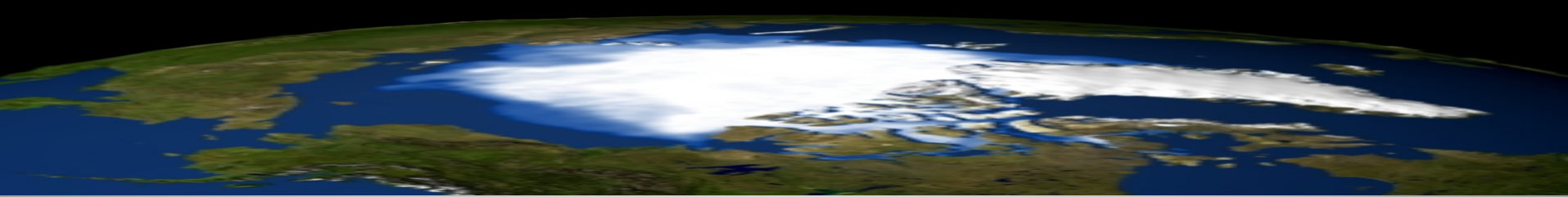


SAON-IG Report - Recommendations

4: Recognizing that the Arctic issues are of global common concern and that they are open for scientific study by all states, the Arctic Council member states are urged to welcome non-Arctic states and international organizations as partners to the inter-governmental cooperation that will be necessary to sustain and improve Arctic observing capacity, and data and information services.

Non-Arctic states are therefore also encouraged to adopt, support and implement actions that are recommended to the Arctic states in 1-3 above.





The Tromsø Declaration

In April 2009, Arctic Council Ministers agreed to:

- Recognize the valuable contribution of the Sustaining Arctic Observing Networks (SAON) process as an IPY legacy to enhance coordination of multidisciplinary Arctic data acquisition, management, access and dissemination, encourage the continuation of this work with emphasis on improving sustained long term observation, and welcome the participation of indigenous organizations in future work; AND
- Decide to take the lead in cooperation with IASC and other relevant partners in the continuation of the SAON process, including to consider ways to develop an institutional framework to support circum-Arctic observing, and the preparation and implementation of a workplan for the next two years to initiate work on priority issues including sustained funding and data management.



SAON Steering Group

- As defined by the Arctic Council Senior Arctic Officials, the new SAON Steering Group (SAON-SG) consists of representatives from:
 - each of the 8 Arctic Council member states
 - AC Permanent Participants
 - AC Working Groups
 - IASC
 - WMO
- AMAP and IASC providing a co-chair and secretariat support
- The SAON-SG is focused on “doing” not on “planning”



Current SAON-SG membership

Arctic Council Permanent Participants

Victoria Gofman (AIA)

Andrea Grant-Friedman AIA - *alternate*)

Bridget Larocque (GCI)

Eva Kruemmel (ICC)

Rodio Sulyandziga (RAIPON)

vacant (Saami Council)

vacant (AAC)

Arctic Council Working Groups

Aevar Petersen (CAFF)

Tom Barry (CAFF)

Mike Gill (CBMP- CAFF)

Maria Holleran Rivera (EPPR)

Marianne Lykke Thomsen (SDWG)

Bernard Funston (SDWG)

World Meteorological Organization

David Grimes

Co-chairs

John A. Calder (AMAP)

David Hik (IASC)

National Representatives

Helen Joseph (Canada)

Anne B. Klitgaard (Denmark)

Jouni Pulliainen (Finland)

Lone Nukaaraq Moller (Greenland)

Halldor Johansson (Iceland)

Helgi Jensson (Iceland - *alternate*)

Ola Glesne (Norway)

Igor Ashik (Russia)

Anders Clarhall (Sweden)

Martin Jeffries (USA)

Peter S. Murdoch (USA - *alternate*)

SAON Secretariat

Volker Rachold (IASC)

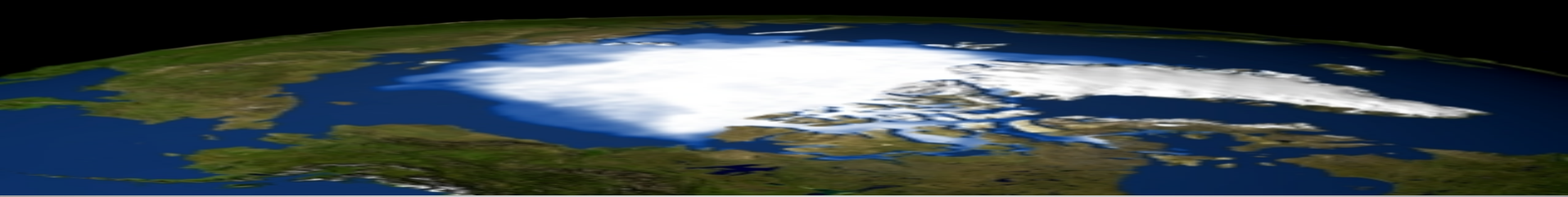
Lars-Otto Reiersen (AMAP)

Odd Rogne (AMAP)



SAON-SG objectives (2009-2011)

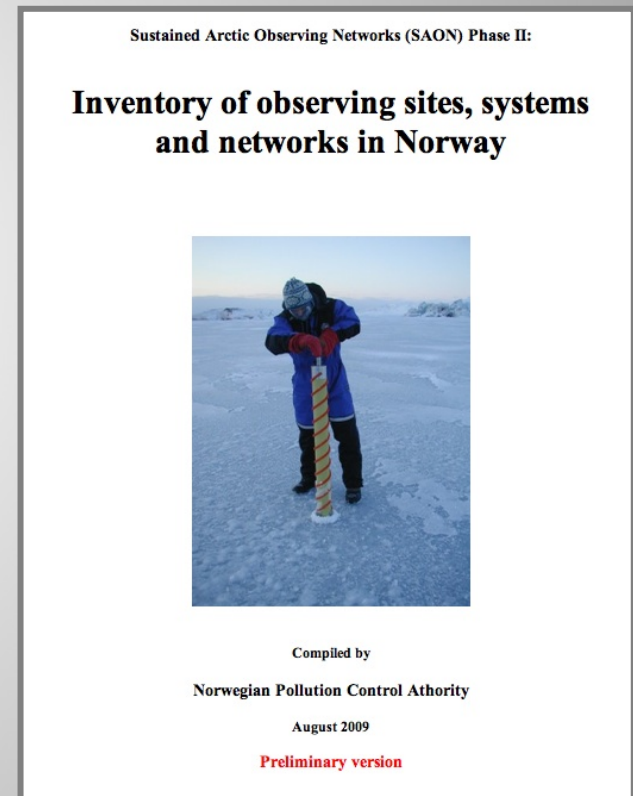
- The SAON-SG retains the vision defined by the SAON-IG;
- SAON-SG will identify and implement steps to improve coordination and integration, and to promote sharing and synthesis of data and information;
- Priority activities are:
 - Identify needs, gaps, and opportunities for improving data access and data sharing;
 - Facilitate coordination and integration among activities supported by national agencies;
 - Improve the linkage between community-based monitoring and science-based monitoring.

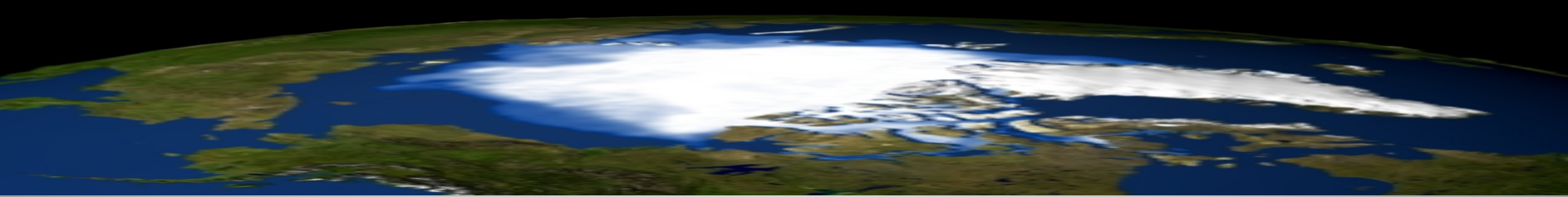


1. Surveys of national observing networks

Country representatives are providing inventory lists of established networks and data archives using a standard format.

- Focus on long-term networks initially;
- Information to be made available on the SAON web site;
- New and updated information will be added to this initial list on an ongoing basis.





2. Meeting of National Funding Agencies

One of the most important steps toward realization of sustained Arctic observations is to obtain the views and support of the many funding and implementing organizations that deal with observations on the Arctic region.

The SAON-SG will sponsor a workshop focused on defining benefits from and means to accomplish improved coordination and collaboration in funding and performing Arctic observations.

This meeting is tentatively scheduled to be held during on 19 March during the **State of the Arctic Conference** in Miami.



3. Community Based Monitoring

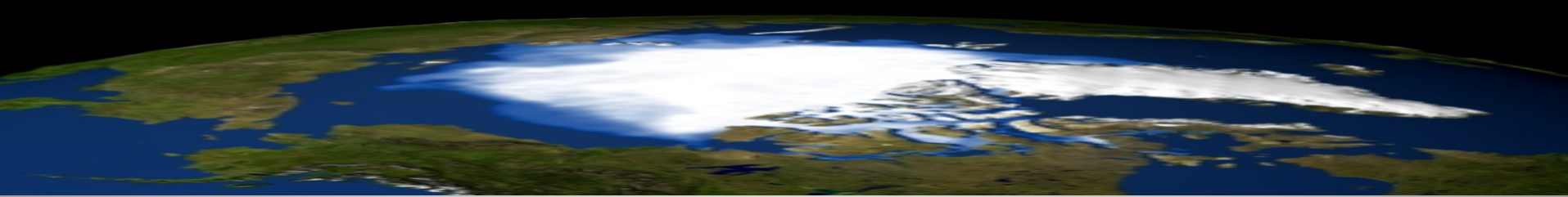
A subgroup of SAON-SG members, supported by CAFF, are currently compiling a list of organizations, programs, and networks implementing or making use of Traditional and Local Knowledge.





4. Data Access and Sharing

- What is the current state of technology and support for discovering, accessing, and sharing Arctic data?
- What are the key gaps?
- What are the barriers to filling the gaps?
- What process should be used to design and implement the optimal (minimal?) system for single entry, Arctic-wide data discovery, access, and sharing?



To Summarize:

Research and observational activities in the Arctic region must lead to predictive skill for:

- Integrated real-time ice-ocean-atmosphere-hydrosphere forecasts for present and future residents and users;
- Ecosystem status and change as the best indicator of overall Arctic health and as the basis for material and cultural wealth;
- Economic and social factors and trends, local and distant, that will require and constrain local, regional and global responses;
- Individual and community health and well-being;
- Impact of a rapidly changing Arctic and global climate on all of the above.

New SAON web site hosted by the Arctic Portal

www.arcticobserving.org



The screenshot shows the ArcticObserving.org website. The header features the Arctic Council logo and the text "ArcticObserving.org IPY Workshops on Sustaining Arctic Observing Networks". The main content area is titled "Sustaining Arctic Observing Networks" and contains a paragraph about the SAON process. A sidebar on the left includes a "Navigation" menu with links like "Home", "Background", "SAON SG", and "Contact". Below the main text, there is a section for "News" titled "SAON at the Arctic Council Ministerial Meeting" dated Wednesday, 16 September 2009. At the bottom, there is a section for "Download the SAON Report 'Observing the Arctic'" and a note about hard copies.

ArcticObserving.org
IPY Workshops on Sustaining Arctic Observing Networks

Sustaining Arctic Observing Networks

As a response to the Arctic Council Tromsø Declaration, the SAON process has now begun a second phase. The continuing process is lead by a steering group (SAON SG) consisting of representatives of the eight Arctic countries, permanent participants in the Arctic Council, and Arctic Council working groups. With the inclusion of representatives from IASC and WMO, the SAON SG is also connected to the Arctic science, observing and data management activities and interests of the non-Arctic countries, as well as to global observing systems.

The SAON SG relies on information and advice from those who use observing data and information, those who operate observing sites, systems and networks, and those who provide data and information management services. The SAON SG will work with users, providers and operators to promote communication, cooperation and coordination, and with governments to advocate for the resources necessary to sustain and increase Arctic observing activities, and to encourage inter-governmental cooperation in Arctic observing.

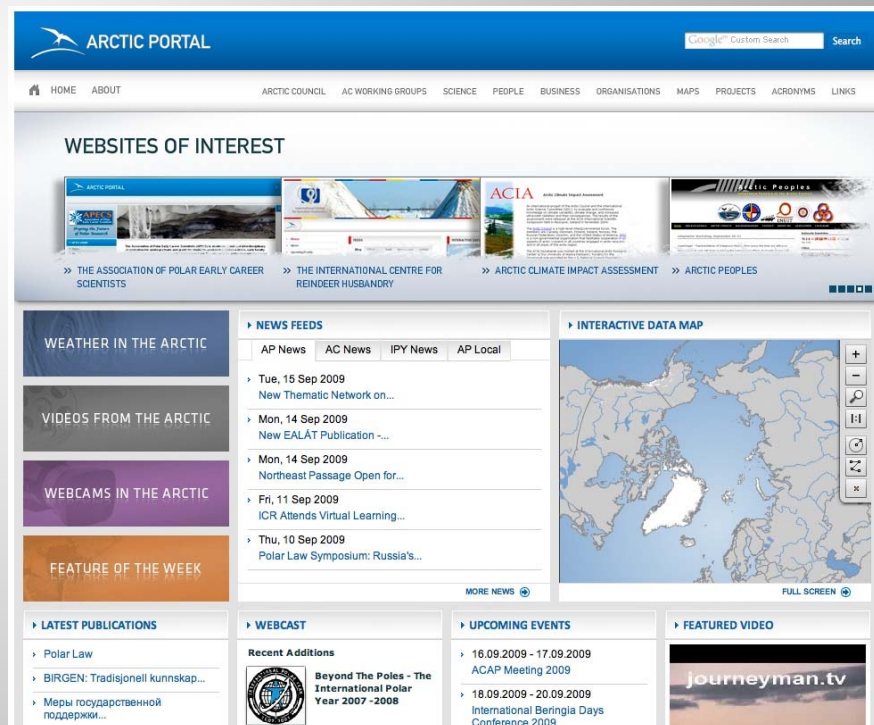
The SAON SG is currently developing a work plan and setting priorities for its activities between now and April 2011, when the Arctic Council Ministers meet in Greenland.

News
SAON at the Arctic Council Ministerial Meeting
Wednesday, 16 September 2009

Together with IASC, AC now takes the lead in a continuation of the SAON process.
[+ Read more](#)

Download the SAON Report 'Observing the Arctic'

Hard copies of Observing the Arctic can be ordered from Anders Clarhäll



The screenshot shows the Arctic Portal website. The header features the Arctic Portal logo and a search bar. The main content area is titled "WEBSITES OF INTEREST" and contains several links to external websites. Below this, there are sections for "WEATHER IN THE ARCTIC", "VIDEOS FROM THE ARCTIC", "WEBCAMS IN THE ARCTIC", and "FEATURE OF THE WEEK". A sidebar on the right includes a "NEWS FEEDS" section with links to AP News, AC News, IPY News, and AP Local. Below this is an "INTERACTIVE DATA MAP" showing a map of the Arctic region. At the bottom, there are sections for "LATEST PUBLICATIONS", "WEBCAST", "UPCOMING EVENTS", and "FEATURED VIDEO".

ARCTIC PORTAL

WEBSITES OF INTEREST

- » THE ASSOCIATION OF POLAR EARLY CAREER SCIENTISTS
- » THE INTERNATIONAL CENTRE FOR REINDEER HUSBANDRY
- » ARCTIC CLIMATE IMPACT ASSESSMENT
- » ARCTIC PEOPLES

WEATHER IN THE ARCTIC

VIDEOS FROM THE ARCTIC

WEBCAMS IN THE ARCTIC

FEATURE OF THE WEEK

NEWS FEEDS

- AP News
- AC News
- IPY News
- AP Local

- Tue, 15 Sep 2009
New Thematic Network on...
- Mon, 14 Sep 2009
New EALAT Publication...
- Mon, 14 Sep 2009
Northeast Passage Open for...
- Fri, 11 Sep 2009
ICR Attends Virtual Learning...
- Thu, 10 Sep 2009
Polar Law Symposium: Russia's...

INTERACTIVE DATA MAP

LATEST PUBLICATIONS

- Polar Law
- BIRGEN: Tradisjonell kunnskap...
- Меры государственной поддержки...

WEBCAST

UPCOMING EVENTS

- 16.09.2009 - 17.09.2009
ACAP Meeting 2009
- 18.09.2009 - 20.09.2009
International Beringia Days Conference 2009

FEATURED VIDEO

Journeyman.tv



INTERNATIONAL POLAR YEAR OSLO SCIENCE CONFERENCE 2010 6-12 JUNE

- International and interdisciplinary polar science
- Endorsed by the IPY Joint Committee.
- Will demonstrate, strengthen, and extend IPY's remarkable accomplishments in science and outreach.

Polar Science - Global Impact



Theme 1 Linkages between Polar Regions and global systems	Theme 2 Past, present and future changes in Polar Regions	Theme 3 Polar ecosystems and biodiversity	Theme 4 Human dimensions of change: health, society and resources	Theme 5 New frontiers, data practices, and directions in polar research	Theme 6 Polar science education, outreach and communication
T1-1 Polar Oceans and their importance for global ocean circulation	T2-1 Climate and paleo-climate dynamics and processes	T3-1 Chemosynthetic ecosystems in polar waters	T4-1 Human health and well-being in the Polar Regions	T5-1 New frontiers and directions in biology, ecology and biodiversity	T6-1 Learning together: The impacts of integrating education, outreach and research in IPY
T1-2 Plate tectonics and polar gateways in earth history	T2-2 Troposphere, stratosphere, magnetosphere & heliosphere dynamics and processes	T3-2 Invasive and introduced species in polar environments	T4-2 Natural resource exploration and utilisation	T5-2 New frontiers and directions in observing and technologies	T6-2 Incorporating polar science into formal education
T1-3 Chemical exchanges between snow, ice, atmosphere and ocean in Polar Regions	T2-3 Snow and ice dynamics and processes	T3-3 Arctic-subArctic connections: Ecosystems and biodiversity	T4-3 History of polar exploration, cooperation, research and logistics	T5-3 New frontiers and directions in subglacial exploration	T6-3 Adventures in the field: Impacts of field programs for students, teachers, artists, writers and others
T1-4 Polar climate feedbacks, amplification, and teleconnections, including impacts on mid-latitudes	T2-4 Permafrost on a warming world	T3-4 Processes in polar ecosystems	T4-4 Communities and human impacts	T5-4 Data and other cross-cutting issues for future polar research	T6-4 Global learning: The impact of the media
T1-5 Polar contribution to sea level rise	T2-5 Hydrological, coastal, near-shore and ocean shelf processes	T3-5 Arctic and Antarctic freshwater ecosystems	T4-5 Polar lessons: Arctic and Antarctic governance and economics		T6-5 Informal initiatives and polar inspiration: IPY in museums, art, films, books and drama
T1-6 Arctic and Antarctic marine chemistry: The role of the polar oceans in global carbon cycling and acidification	T2-6 Ocean physical and geochemical dynamics and processes	T3-6 Impact of climate change on polar terrestrial ecosystems	T4-6 Human impacts in the Arctic and Antarctic: Environmental and management implications		
T1-7 Polar/global atmospheric linking processes: Polar aerosols - sources and impacts	T2-7 Solid earth geophysical and geochemical processes	T3-7 Integrated processes in leads and polynyas			
		T3-8 Ecosystems of the Southern Ocean			

New Frontiers and Directions in Observing and Technologies

Deadline for abstract submissions: 20th January 2010

www.ipy-osc.no



INTERNATIONAL
POLAR YEAR



Thank You!



www.arcticobserving.org

