Science in Diplomacy - the History of International Scientific Cooperation in the Polar Regions

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The Polar Regions – Physio-Geography
Arctic is home to 4 Million people and it is not no man’s land.
The Polar Acronym Soup

Arctic
- Arctic Council
- IASC
- FARO
- IASSA
- UArctic
- etc.
- NRF

Bipolar
- APECS
- CliC
- PEI
- EPB
- IPA
- WMO
- ICSU
- UNEP
- WWF
- UNESCO

Antarctic
- Antarctic Treaty
- SCAR
- COMNAP
- ACAP
- CCAMLR

Global

etc.
The First International Polar Year 1882-1883
First International Polar Year 1882-1883

Carl Weyprecht: “die arktische Forschung ist für die Kenntnis von den Naturgesetzen von höchster Bedeutung”

Constitution of the International Polar Commission in Hamburg, 1879
Decision to organize First International Polar Year at International Polar Conference in St Petersburg, 1881

14 manned Polar Stations – 12 of them in the Arctic
World Meteorological Organization (WMO)

- intergovernmental organization
- 191 Member States and Territories
- established in 1950
- originated from the International Meteorological Organization (IMO), which was founded in 1873

WMO Executive Council Panel of Experts on Polar and High Mountain Observations, Research and Services (EC-PHORS)
International Council for Science (ICSU)

- non-governmental organization
- 120 multi-disciplinary National Scientific Members, Associates and Observers representing 140 countries
- 31 international, disciplinary Scientific Unions
- established in 1950

- originated from the International Association of Academies (IAA; 1899-1914) and the International Research Council (IRC; 1919-1931)
The Second International Polar Year 1932-1933
Second International Polar Year (1932-1933)

• Proposed by the International Meteorological Organization (IMO)
• Focused on the electrical geophysics of the Earth and observations in the polar regions to improve the accuracy of weather forecasts and the safety of air and sea transport
• 44 countries participated
• 27 observation stations were established in the Arctic
• global financial crisis - network of stations in Antarctica was not implemented
• world data center was created under IMO (later WMO)
The Geophysical Year
1958-1959
Third International Polar Year (1958-1958) =
International Geophysical Year

- Stalin’s death in 1953 opened the way;
- Focus on earth sciences: aurora and airglow, cosmic rays, geomagnetism, gravity, ionospheric physics, precision mapping, meteorology, oceanography, seismology and solar activity;
- 67 countries participated;
- First satellite missions (Sputnik 1+2, Explorer 1 and Vanguard 1)
- 18 months of Antarctic Research
Third International Polar Year - Legacy

ICSU Word Data Centers

Amundsen-Scott Station

Scientific Committee on Antarctic Research
SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH

- An Interdisciplinary Scientific Body of the International Council for Science (ICSU)
- An observer to the Antarctic Treaty and the United Nations Framework Convention on Climate Change
- 43 countries members + 9 ICSU Scientific Unions
Third International Polar Year - Legacy

Amundsen-Scott Station

ICSU Word Data Centers

Scientific Committee on Antarctic Research

Antarctic Treaty
The Antarctic Treaty

signed in Washington on 1 December 1959, to ensure

"in the interest of all mankind that Antarctica shall continue for ever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord."
Glasnost and Perestroika
Arctic Environmental Protection Strategy
Finnish Initiative

Encouraging and facilitating cooperation in all aspects of Arctic research, in all countries engaged in Arctic research and in all areas of the Arctic region.

1995
2000
2005
2010

IASC After 25 Years
A Quarter of a Century of International Arctic Research Cooperation

Arctic Climate Impact Assessment (ACIA)

An international project of the Arctic Council and IASC to evaluate and synthesize knowledge on Arctic climate variability, climate change, and their impacts.

ACIA Reports
- Scientific Report (1000 pages)
- Synthesis Report (140 pages)
- Policy Report

Published 2005

www.iasc.info
IASC’s membership today includes national science organizations from 23 countries involved in Arctic research.

IASC is an International Scientific Associate of the International Council for Science (ICSU) and observer on the Arctic Council.
Arctic Council
Arctic Council

Working Groups

• Arctic Contaminants Action Program (ACAP)
• The Arctic Monitoring and Assessment Programme (AMAP)
• Conservation of Arctic Flora and Fauna (CAFF)
• Emergency, Prevention, Preparedness and Response (EPPR)
• Protection of the Arctic Marine Environment (PAME)
• The Sustainable Development Working Group (SDWG)

Permanent Participants

• Aleut International Association (AIA)
• Arctic Athabaskan Council (AAC)
• Gwich'in Council International (GCI)
• Inuit Circumpolar Conference (ICC)
  • Saami Council
• Russian Association of Indigenous Peoples of the North (RAIPON)
• Indigenous Peoples Secretariat (IPS)
Arctic Council

Observer States

- China
- France
- Germany
- India
- Italy
- Japan
- Korea
- Poland
- Singapore
- Spain
- The Netherlands
- United Kingdom
- European Union

Observer Organizations

- IFRC - International Federation of Red Cross and Red Crescent Societies
- WWF - Worldwide Fund for Nature
- Arctic Circumpolar Route
- AWRH – Association of World Reindeer Herders
- CCU - Circumpolar Conservation Union
- IASC - International Arctic Science Committee
- IASSA – International Arctic Social Sciences Association
- IUCH - International Union for Circumpolar Health
- IUCN – The World Conservation Union
- IWGIA – International Work Group for Indigenous Affairs
- NAMMCO - North Atlantic Marine Mammal Commission
- NCM - Nordic Council of Ministers
- NEFCO – Nordic Environment Finance Corporation
- Northern Forum
- SCPPAR – Standing Committee of Parliamentarians of the Arctic Region
- UAARctic – University of the Arctic
- UNDP – United Nations Development Programme
- UNEP-GRID/Arendal
The Fourth International Polar Year 2007-2008
Fourth International Polar Year 2007/2008

IPY Joint Committee
(Oslo 2010)
Fourth International Polar Year 2007/2008

...uniquely positioned the polar science community to address the important societal issues.

- 220 projects
- 50,000 participants
- 60 nations
Outreach and Education

~570+ Projects

~70 Countries

More than 24 million people
Outreach and Education

Polar Educators International
Connecting Arctic and Antarctic

SCAR and IASC promote cooperation in research that is of interest to both the Antarctic and Arctic scientific communities. Areas of current and future collaboration include studies related to the cryosphere and to the roles of the polar regions in the climate system. SCAR and IASC are also jointly considering how best to preserve and build on their stewardship responsibilities for the legacy of the International Polar Year in observing systems, data and information management, and mentoring of students and early career scientists.
Connecting Arctic and Antarctic

2008
St. Petersburg

2010
Oslo

2012
Montreal
Connecting Arctic and Antarctic

2018
Davos

www.polar2018.org
Association of Polar Early Career Scientists

Shaping the Future of Polar Research

Jenny Baeseman

Allen Pope
Modern Polar Research is International
Example: MOSAiC

Multidisciplinary drifting Observatory for the Study of Arctic Climate
Forum of Arctic Research Operators

• Aims to facilitate and optimize logistics and operational support for scientific research in the Arctic. The forum encourages international collaboration for all those involved in Arctic research.

• Is acting as a forum for information exchange, establishment of cooperation and development of new ideas among the national logistics operators in countries with Arctic research activities.
The Future of International Polar Research
The Future of Science in the Antarctic Region

The proven method of "Horizon Scanning" is applied to develop a community view of the 100 most important scientific questions in Antarctic and Southern Ocean science over the next two decades.

- Community input has provided about 1000 questions
- SCAR assembled 70 of the world's leading Antarctic scientists, policy makers, leaders, and visionaries in NZ in April 2014

http://www.scar.org/horizonscanning/
Six Priorities for Antarctic Science

* nature 6 August 2014

- Define the global reach of the Antarctic atmosphere and Southern Ocean.
- Understand how, where and why ice sheets lose mass.
- Reveal Antarctica's history.
- Learn how Antarctic life evolved and survived.
- Observe space and the Universe.
- Recognize and mitigate human influences.
Integrating Arctic Research - a Roadmap for the Future

3rd International Conference on Arctic Research Planning

ICARP III
Arctic Research Priorities for the Next Decade

- The Role of the Arctic in the Global System
- Observing and Predicting Future Climate Dynamics and Ecosystem Responses
- Understanding the Vulnerability and Resilience of Arctic Environments and Societies and Supporting Sustainable Development
Overarching Messages

- **Communication**: Facilitate science-policy knowledge transfer between research community and end-users

- **Traditional and Local Knowledge**: Greater effort to incorporate traditional and local knowledge and to engage northern and indigenous communities in setting priorities, co-designing and co-producing research

- **Capacity Building**: Build long-term human capacity among researchers, decision-makers and Arctic indigenous and nonindigenous residents
First Arctic Science Ministerial Meeting
EU Arctic Policy and Research Priorities

EU-PolarNet

JOINT COMMUNICATION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

An integrated European Union policy for the Arctic
<table>
<thead>
<tr>
<th>ICARP III</th>
<th>US-led Arctic Science Ministerial</th>
<th>EU Arctic Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Role of the Arctic in the Global System</td>
<td>Arctic Science Challenges and their Regional and Global Implications</td>
<td>International Cooperation on Arctic Issues</td>
</tr>
<tr>
<td>Observing and Predicting Future Climate Dynamics and Ecosystem Responses</td>
<td>Strengthening and Integrating Arctic Observations and Data Sharing</td>
<td>Climate Change and Safeguarding the Arctic Environment</td>
</tr>
<tr>
<td>Understanding the Vulnerability and Resilience of Arctic Environments and Societies and Supporting Sustainable Development</td>
<td>Applying Expanded Scientific Understanding of the Arctic to Build Regional Resilience and Shape Global Responses</td>
<td>Sustainable Development in and around the Arctic</td>
</tr>
<tr>
<td>Artic Science as a Vehicle for STEM Education and Citizen Empowerment</td>
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<td></td>
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</tbody>
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Arctic Council Task Force on Science Cooperation

- Legally binding agreement of the Arctic States to enhance scientific cooperation
- Open for participation of Observer States
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Global
Questions?