

Recent Developments in International Polar Data Management

Peter L. Pulsifer
Chair, Arctic Data Committee

SAON CON Meeting
Arctic Change Conference
Room 106, Shaw Centre
9 December 2014 09:00 – 11:00 AM



Overview of Developments

- International Polar Year 2007-09 catalyzed development in the area of polar data management, including expansion of the PDC
- Formal and informal international networks developed
- A series of major meetings/workshops held before during and after IPY (e.g. GeoNorth, IPY OSLO, IPY Montreal, ELOKA Boulder, Polar Data Forum)

**Minutes of the workshop of the
Arctic Data Coordination Network
IPY 2012, Palais des Congrès, Montréal, Québec, Canada
27 April 2012, 13:30-17:00**

1 Background

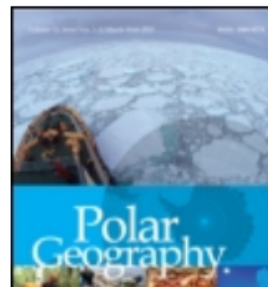
An organizing committee had worked under the chairmanship of Mark Parsons (USA) and workshop invitation and agenda is Appendix 1. The purpose of the workshop was to develop a Sustaining Arctic Observing Network (SAON)

SAON Data Management Workshop Report

Developing a Strategic Approach

Prepared by:
Gillian B. Lichota, NOAA Arctic Research Program
Simon Wilson, AMAP

June 7-8, 2010



International Forum on Polar Data Activities in Global Data Systems Communiqué

Recommendations & Observations Arising From the 'International Polar Data Forum'

15-16 October 2013, Tokyo (Japan)

Participants in the International Polar Data Forum (comprising of data managers, scientists, and research coordinators) share their observations about the current state of polar data activities and their recommendations for enhancing and sustaining core data services into the future.

General Remarks

Despite the focus generated by the International Polar Year 2007-2008 (<http://www.ipy.org/>) there are still unresolved deficiencies in the way polar data are managed. These shortcomings continue to hamper our ability to discover and reuse existing and new data assets. The significant public investment in polar science made through national and international research programs is accompanied by an expectation that data should be preserved and be openly available for reuse and verification purposes. This is the responsibility of both scientists and science funders supported by data managers. Achieving these goals requires implementation of open data policies, development of long-term funding strategies to support data repositories, and a change in scientific practices to require the sharing and citation of data. In addition, the ideas and interpretations that have traditionally underpinned research publication need to be updated accordingly. Scientists must factor the costs of managing and publishing data in their research/monitoring funding proposals, and explicitly address these tasks in research/observing system plans.

The Scientific Committee on Antarctic Research (SCAR) and the International Arctic Science Committee (IASC), the two lead non-governmental organizations coordinating international polar research, are now embarking on long-term science planning activities (i.e., the SCAR Science Horizon Scan and the 3rd International Conference on Arctic Research Planning). Both organizations are committed to recommending—through their strategic-direction setting initiatives—not only that the development of robust polar data networks is seen as a science-funded activity but also that this activity has visibility in IASC- and SCAR-sponsored science plans and strategies. Through their policies and actions, IASC and SCAR member countries are encouraged to promote the funding of data management as an integral part of science implementation and to contribute to the design and development of shared global data infrastructure. Participation in the ICSU World Data System (ICSU-WDS; a global system of accredited scientific repositories and data service providers) is one mechanism for member countries to engage in such collaborative infrastructure and capability development.

Forum Observations & Recommendations

Improving polar data discovery, data preservation, and reusability relies in part on building more pervasive systems interoperability. This interoperability is now a commonly stated goal for polar research organizations, but it is recognized that interoperability needs to be addressed at a number of different levels and covers both social and technical aspects; the combination of which is difficult to address. Considerable investment

Polar Geography

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/tpog20>

Introduction: local and traditional knowledge and data management in the Arctic

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DM Recognized by International Science Bodies

Statement of Principles and Practices for Arctic Data Management April 16, 2013

All IASC-endorsed scientific results shall be verifiable and reproducible through ethically open access to all data necessary to produce those results. Data shall be preserved, accessible, and used in accordance with scientific norms of fair attribution and use.

To this end, IASC Council approves the following actions:

1. Endorsement of the Statement of Principles and Practices for Arctic Data Management;
2. Establishment of an IASC Data Standing Committee;
3. To undertake measures towards adoption of national data policies consistent with

IASC Principles and Practices

- Data is central to science and understanding; data exchange central to collaboration
- Encourage the exchange and dissemination of information
- Encourage means of initiating and maintaining observational systems and the data they produce, and coordinating with other long-term observational programs in the Arctic and globally
- “Ethically open data” – Indigenous knowledge, human subjects, potential to do harm
- **Recommendation:** form IASC Data Standing Committee

Data Management & SAON

- SAON tasks evolved to networks, projects and programs
- Many related to data management:
 - *A Research Coordination Network for Very Interdisciplinary Arctic Data and Information*
 - *IPA workshop on data user requirements definition for permafrost observing GTN-P*
 - *The Canadian IPY Data Assembly Centre Network: A Case Study*
 - *Polar Metadata Profile and Recommended Vocabularies*
 - *Polar data and information management principles and practice (workshop)*
 - *Coordination of existing Arctic relevant Meta-databases and Project Directories*
 - *PEOPLE – ACE*
 - *Sharing & integrating environmental information to support a coherent Arctic knowledge and evidence base*
 - *An International Review of Community-Based Monitoring in the Context of Sustaining Arctic Observing Networks Process (Canada and ICC)*
 - *Development of Community-Based Monitoring Classification to Improve Standardization of Vocabularies*

SAON Structure

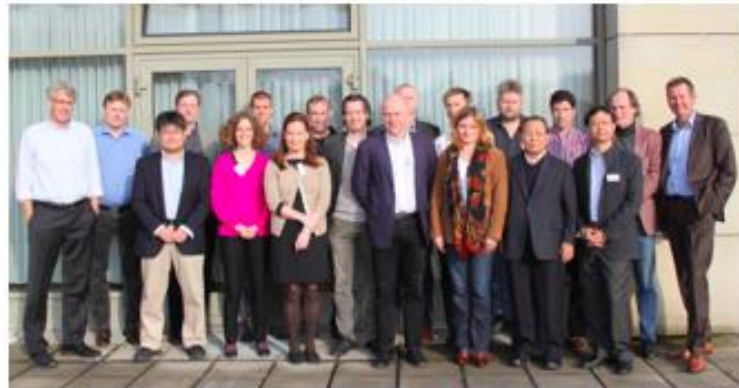
- April 2014 – Arctic Science Summit Week
- Formation of SAON Committee on Data and Information Services



Nov. 2014: Pending Formation of the *Arctic Data Committee*,

1st Meeting of the IASC Data Standing Committee (IDSC) and SAON Committee on Data and Information Services (CDIS)

Report of the 1st Meeting of the Arctic Data Committee



Meeting Details

Meeting: 1st Meeting of the IASC Data Standing Committee (IDSC) and SAON Committee on Data and Information Services (CDIS)

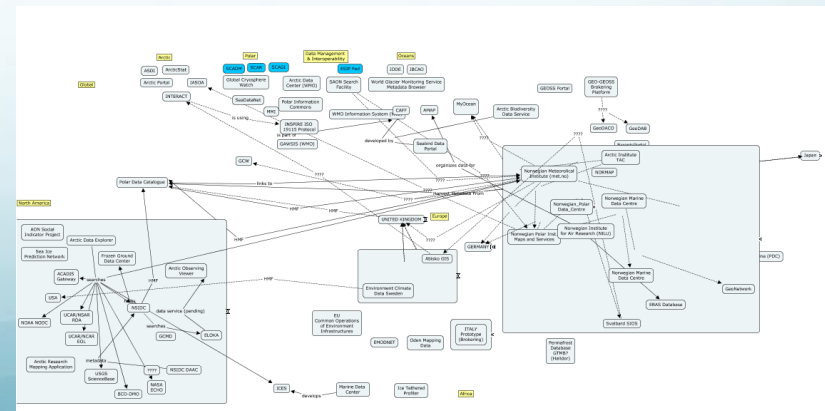
Time: 10 November 2014, 14:00 – 18:00; 11 November 08:30 – 13:00 (CET)

Location:

Mercure Hotel Potsdam City
Lange Brücke
14467 Potsdam
Germany
Room: Studio 1+2.

Confirmation of Key Priorities

- Documenting and Understanding the Arctic data management ecosystem
- Identifying common metadata elements
- Engaging in data citation and publication movement
- Promoting interoperability through action – “interoperability experiment”





International* Polar*Data* Forum*II*

Proposed for

Late October - early November 2015

Waterloo, Ontario, Canada

**We are currently seeking members for the International Advisory*
Committee and the Local Organizing Committee as well as opportunities*
for potential financial support for the Forum.***

For inquiries or expressions of interest, please contact us:

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Conclusion

- Significant advances made in international polar data management in recent years - rate of progress increasing
- DM recognized by the broader science and policy community
- Polar DM exists in a global context
- Many models and organizations to learn from and contribute to
- We need a strong working connection between SAON CON and ADC