



ARCTIC DATA COMMITTEE



ESTABLISHING AN ARCTIC DATA NETWORK THROUGH INTERNATIONAL COLLABORATION

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Chair, IASC-SAON Arctic Data Committee

Research Scientist, National Snow and Ice Data Center, University of
Colorado

SAON Board Meeting
10 June 2015
Virtual Presentation



Overview of Developments

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

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

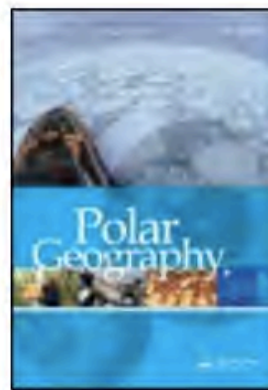
Sustaining Arctic Observing Network (SAON)

SAON Data Management Workshop Report

Developing a Strategic Approach

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

Mark Parsons (USA) and
Gillian Lichota (Canada)



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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(ELOKA), National Snow and Ice Data Center, University of
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International Forum on

Polar Data Activities in Global Data Systems Communiqué

River, AK

quaculture,
Hobart,

Data Science Journal, Volume 13, 30 October 2014

TOWARDS AN INTERNATIONAL POLAR DATA COORDINATION NETWORK

P L Pulsifer¹, L Yarmey¹, Ø Godøy², J Friddell³, M Parsons⁴, W F Vincent⁵, T de Bruin⁶,
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¹⁰University of Texas at El Paso, El Paso,

¹¹1, T6G 2J8, Canada

*of documents reporting on meetings of
are identified. These include the need
engage stakeholders. Network theory is
vectors to improve understanding of the
ination Network, we propose a model
ough improving connectivity between*

ual Polar Year, Interoperability, Data

to moving Arctic observing initiatives
serving system advancing a common

ons Arising From ata Forum⁷

pan)

scientists, and research coordinators) share their
res for enhancing and sustaining core data services

ww.ipy.org) there are still unresolved deficiencies
ur ability to discover and reuse existing and new
national and international research programs is
ly available for reuse and verification purposes.
data managers. Achieving these goals require
gies to support data repositories, and a change
ideas and interpretations that have traditionally
factor the costs of managing and publishing data
n research/observing system plans.

ctic Science Committee (IASC), the two lead non-
nberking on long-term science planning activities
Arctic Research Planning). Both organizations are
—not only that the development of robust polar
visibility in IASC- and SCAR-sponsored science
countries are encouraged to promote the funding
tribute to the
the



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 DM Actions

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

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Formation of the Arctic Data Committee, Nov. 2014

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.

General Working Model

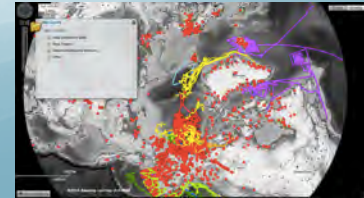
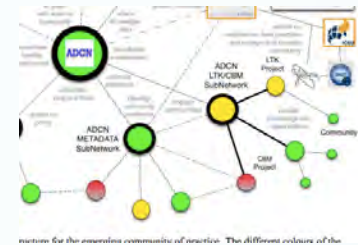
- Tangible deliverables over a short time frame
- Deliverables contribute to addressing strategic priorities over the short, medium and long term
- Nominated national representatives, but open to all “interested and engaged” participants
- Use existing capacity while working to generate new resources
- Work collaboratively... but recognize individual contribution

Confirmation of Key Priorities (WPs)

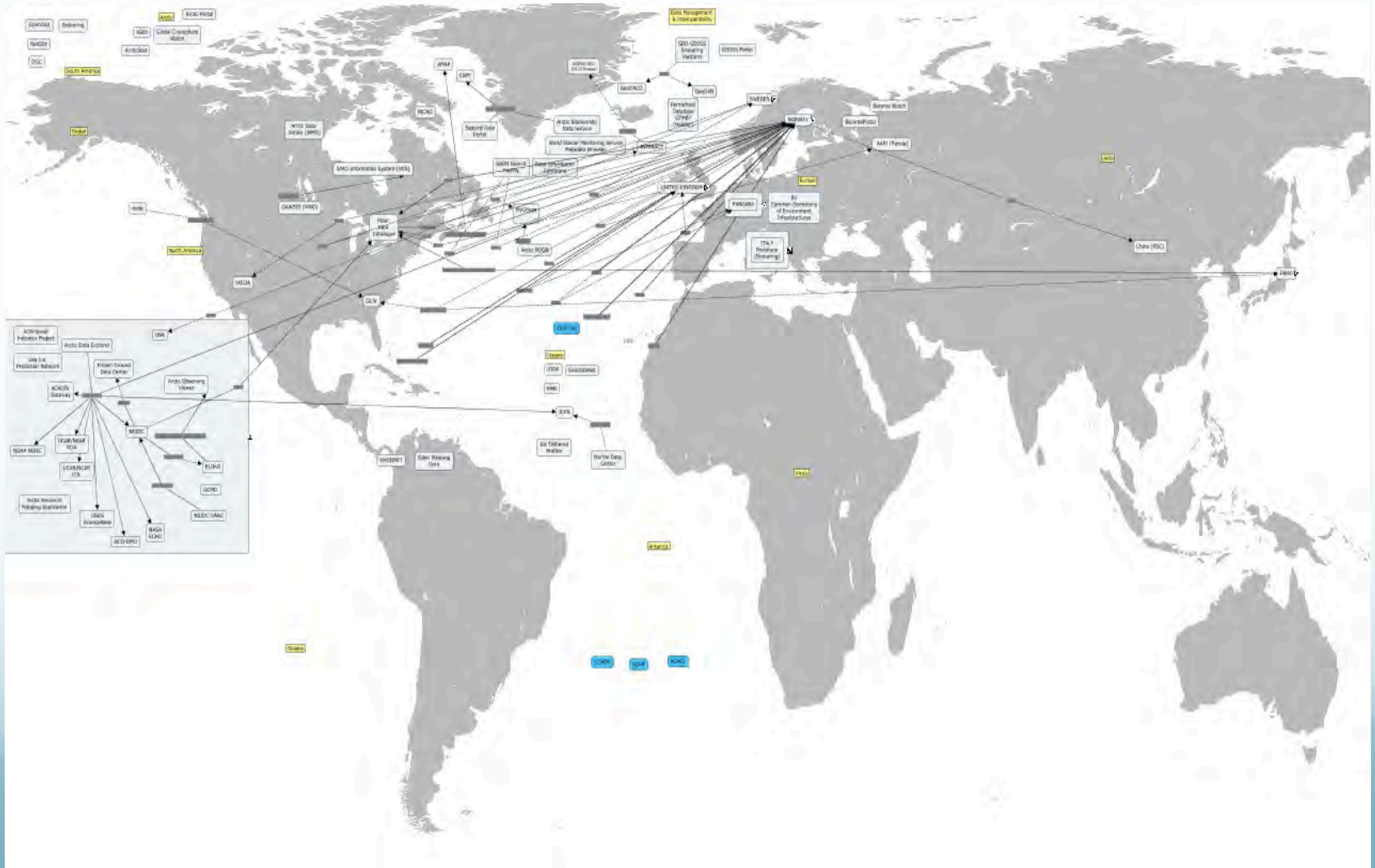
1. Documenting and understanding the Arctic data management ecosystem
2. Identifying and promoting common metadata elements
3. Engaging in data citation and publication movement
4. Promoting interoperability through action – interoperability experiment

Documenting and understanding the Arctic data management ecosystem

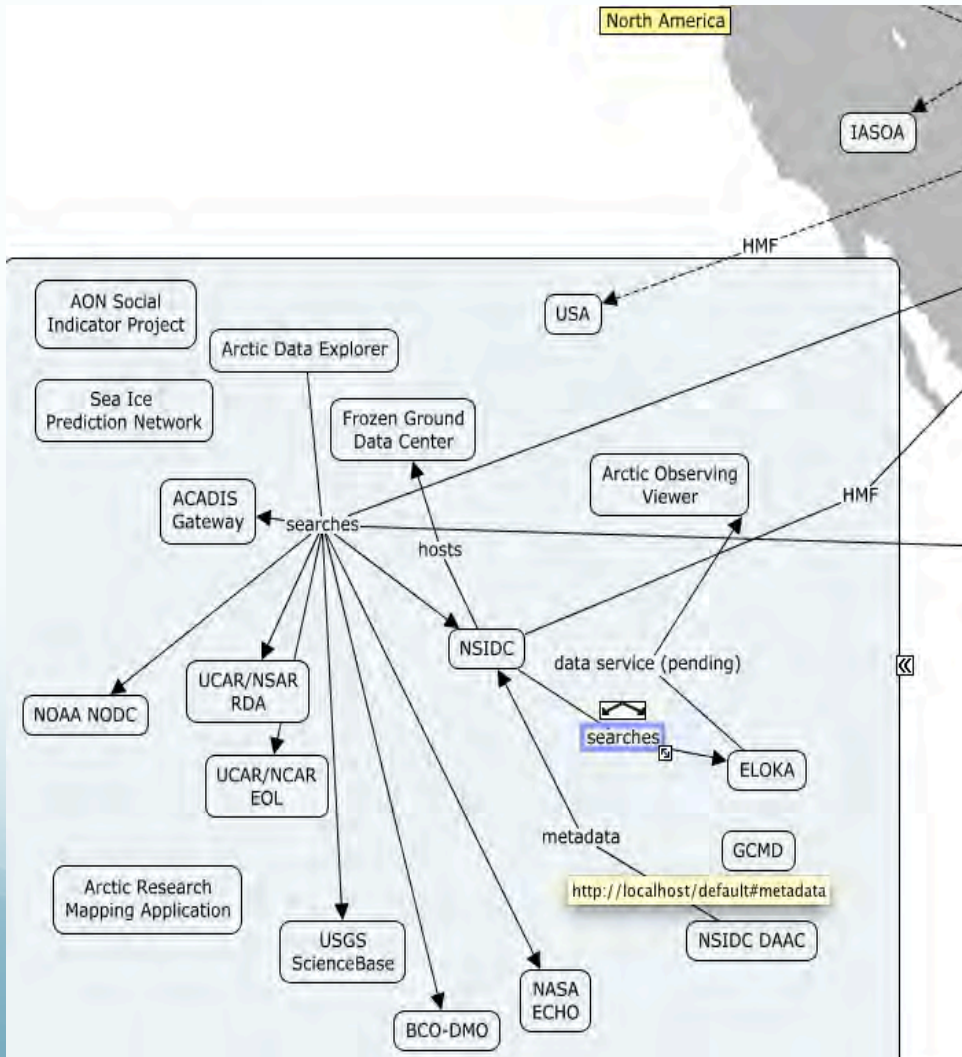
- Foundational Work Package
- Goal of understanding system elements, relationships and structure
- Network/concept map & geographic map
- Visual product... built on “linked data” database
- Initially using manual methods to build database – over time this can be complemented by (semi-)automatic methods



Building the “Map”



Complex System



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³Canadian Cryospheric Information Network, University of Waterloo, 200 University Ave. W., Waterloo, ON, N2L 3G1, Canada

⁴Research Data Alliance, Rensselaer Polytechnic Institute, Troy, NY 12180, USA

⁵CEN: Centre d'Etudes Nordiques, Laval University, Quebec City, G1V 0A6, Canada

⁶NIOZ Royal Netherlands Institute for Sea Research, Texel, The Netherlands

⁷Institute of Alpine and Arctic Research, University of Colorado, Boulder, CO 80309-0450, USA

⁸Nuna Technologies, PO Box 1483, Homer, AK 99603, USA

⁹Geomatics and Cartographic Research Centre, Carleton University, 1125 Colonel By Dr., Ottawa, ON, K1S 5B6, Canada

¹⁰Inuit Quajisarvingat, Suite 1101, 75 Albert St., Ottawa, Ontario, K1P 5E7, Canada

¹¹Biology and the Environmental Science and Engineering Program, University of Texas at El Paso, El Paso, TX 79968, USA

¹²University of Alberta Libraries, University of Alberta, Edmonton, Alberta, T6G 2J8, Canada

ABSTRACT

Data management is integral to sound polar science. Through analysis of documents reporting on meetings of the Arctic data management community, a set of priorities and strategies are identified. These include the need to improve data sharing, make use of existing resources, and better engage stakeholders. Network theory is applied to a preliminary inventory of polar and global data management actors to improve understanding of the emerging community of practice. Under the name the Arctic Data Coordination Network, we propose a model network that can support the community in achieving their goals through improving connectivity between existing actors.

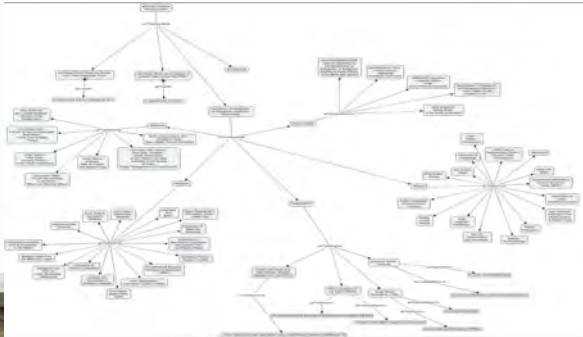
Keywords: Data management, Network, Arctic, Antarctic, International Polar Year, Interoperability, Data sharing

1 INTRODUCTION

Well defined, efficient, and sustainable data management is a prerequisite to moving Arctic observing initiatives from a loose collection of individual projects and missions to a unified observing system advancing a common

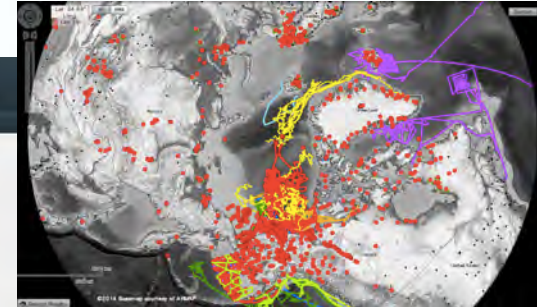
Developing Partnerships with Countries & Communities of Practice

Arctic Fisheries Science



Integrative Projects

Arctic Observing



<http://www.arcticobservingviewer.org/>

Regional Initiatives

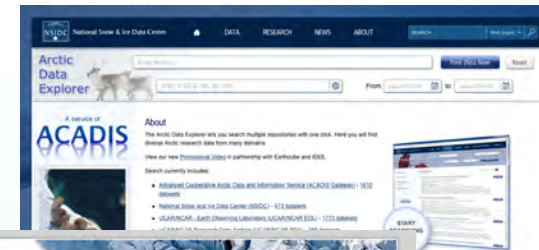
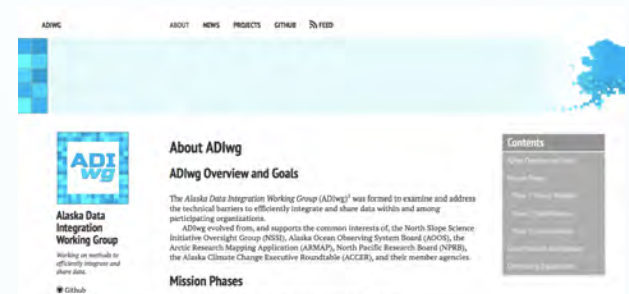
Atlas of Community-Based Monitoring & Traditional Knowledge in a Changing Arctic



TK & CBM

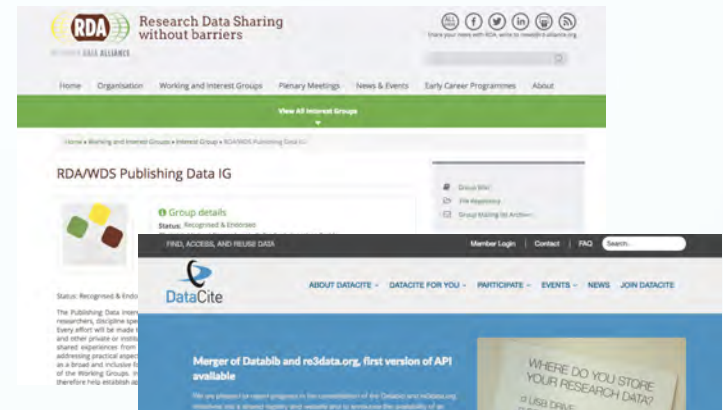
Identifying common metadata elements

- Important need identified by the broader polar and global science and data management communities
- Many existing projects
- ADC working to identify existing consensus as a starting point for international specification
- Led by: Julie Friddell, Canada



Engaging in Data Citation and Publication Movement

- Data citation and publication movement rapidly advancing
- ADC research revealed many existing resources available
- Summary document for polar research under development (June 2015)
- Led by: Alex Tate, UK



Next Steps

- Complete first iteration of preliminary Work Packages
- Simple interoperability experiment for AOS 2016 – partnership with SAON CON
- Continue establishing partnerships (i.e. SCADM, APECS, EU-PolarNet, RDA, ESIP etc.)
- Develop a more detailed governance model...

**Engage the Polar Science and Data
Management Communities!**

Polar Data Forum II:

Search this site

International Collaboration for Advancing Polar Data Access and Preservation

27-29 October 2015

University of Waterloo, Waterloo, Ontario, Canada

[Home](#) [Programme](#) [Abstracts](#) [Registration](#) [Venue](#) [Practical Information](#) [Organizing Committees](#) [Supporters](#) [Contact](#)

Welcome to the Polar Data Forum II website!

Scope of the Forum

<http://www.polar-data-forum.org/>

Governments, scientists, and society are increasingly recognizing the importance of data and proper data management. The polar science community has been a leader in international, interdisciplinary data management with a history beginning with the International Polar Year (IPY) programs starting in 1881-1884. Advances in open, networked, and ubiquitous digital technologies come at the same time as unprecedented changes in the polar regions. Together, these shifts present an urgent opportunity for the polar science community, Arctic residents, and other stakeholders to establish a clear global vision, strategy, and action plan to ensure effective stewardship of and access to valuable Arctic and Antarctic data resources.



Arctic Sea Ice minimum, September 2013 (NASA)



SAON
SUSTAINING ARCTIC
OBSERVING NETWORKS



Related documents

- [First Circular](#) and [Summary](#) –posted 22 April 2015

Important dates

- Registration and Abstract Systems

The Second Polar Data Forum (PDF II) will be held October 27 - 29, 2015 in Waterloo, Ontario, Canada to build on successes