Polar marine data in existing data portals: Arctic (SAON) perspective

Peter L. Pulsifer
Chair, IASC-SAON Arctic Data Committee
Advancing SAON’s Roadmap for Arctic Observing and Data Systems

ROADS

Sandy Starkweather
Executive Director – US Arctic Observing Network (US AON)

Jan-Rene Larsen
Exec. Secretary - Sustaining Arctic Observing Networks (SAON)

Drafting Team:
Federated Search for Polar Regions

The goal of single-window metadata search has been common across polar science and research communities for decades. Given the diversity of nations, institutions, and scientific communities that collect data in the polar regions, that goal has so far largely eluded us. At the moment, there are more than 50 data catalogues of significant interest to polar researchers. This fragmentation makes it difficult for potential data users to find the most relevant data to address a particular question.

We believe that the time is ripe to re-examine the opportunities for developing a federated search tool to discover polar data. Federated search allows users to search multiple metadata catalogues simultaneously, while avoiding many of the technical challenges associated with duplicating and translating metadata records between different standards. These challenges include mismatches between vocabularies, and the difficulty in keeping translated metadata records up-to-date when the original record is amended.

The Polar Federated Data Search Working Group is investigating options for developing the tools that underpin federated search for our community, while building on global initiatives and existing tools like GEOS and the Arctic Data Explorer. The Working Group reports to the Arctic Data Committee (ADC), Standing Committee on Antarctic Data Management (SCADM), and Southern Ocean Observing System (SOOS). As well as exploring the available tools and platforms, the Working Group will seek funding and resources to develop federated search tools.

The Terms of Reference for the Polar Federated Search Working Group can be found here.

The objective of this activity is to develop recommendations on a common set of metadata elements relevant across Arctic sciences, to facilitate interoperability and sharing between Arctic data repositories and online portals. To start, this effort will focus on identifying Arctic data centres or initiatives that have established a metadata template/schema/profile etc...

Initially, a limited set of disciplines or focus areas will be identified to make the scope manageable. Wherever possible and practical, the effort will build on and/or contribute to other related initiatives.

ADC Task lead: Dr. Alexander Smirnov, Arctic Portal, Iceland

Members

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<thead>
<tr>
<th>Name</th>
<th>Institution</th>
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<tbody>
<tr>
<td><strong>Co-Chairs</strong></td>
<td></td>
</tr>
<tr>
<td>Alexander Smirnov</td>
<td>Arctic Portal, Iceland (Arctic Data Committee)</td>
</tr>
<tr>
<td>Pip Bricher</td>
<td>Southern Ocean Observing System</td>
</tr>
<tr>
<td>Taco de Bruin</td>
<td>NIOZ Royal Netherlands Institute for Sea Research, Netherlands (SCADM)</td>
</tr>
<tr>
<td><strong>Members</strong></td>
<td></td>
</tr>
<tr>
<td>Anton Van de Putte</td>
<td>Biodiversity.aq, Standing Committee on Antarctic Data Management</td>
</tr>
<tr>
<td>Brendan Billingsley</td>
<td>Billingsley Custom Software</td>
</tr>
<tr>
<td>Halldor Johansson</td>
<td>Arctic Portal</td>
</tr>
<tr>
<td>Marten Tacoma</td>
<td>NIOZ Royal Netherlands Institute for Sea Research</td>
</tr>
<tr>
<td>Peter Putiier</td>
<td>National Snow and Ice Data Centre, Arctic Data Committee</td>
</tr>
<tr>
<td>Stein Tronstad</td>
<td>Norwegian Polar Institute</td>
</tr>
<tr>
<td>Thomas Vandenbergh</td>
<td>Belgian Marine Data Centre</td>
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Sea Ice Index, Version 3

catalog.data.gov

data.amerigeoss.org

+1more

Updated Nov 18, 2018

Sea Ice Index provides a quick look at Arctic- and Antarctic-wide changes in sea ice. It is a source for consistent, up-to-date sea ice extent and concentration images, in PNG format, and data values, in ASCII text files, from November 1978 to the present. Sea Ice Index images also depict trends and anomalies in ice cover calculated using a 30-year reference period of 1981 through 2010. The images and data are produced in a consistent way that makes the Index time-series appropriate for use when looking at long-term trends in sea ice cover. Both monthly and daily products are available. However, monthly products are better to use for long-term trend analysis because errors in the daily product tend to be averaged out in the monthly product and because day-to-day variations are often the result of short-term weather.
Help map terminology resources
The Vocabularies and Semantics Working Group is running a survey to identify relevant terminology resources for the polar community. Please help by responding to the survey at https://tinyurl.com/PolarVocabs and circulate the survey to potential respondents.

Group Summary
The Vocabularies and Semantics Working Group brings together people who are interested in semantics and vocabularies relevant to the polar regions. Originally established as a joint effort between the Arctic Data Committee and the Arctic Data Sub Team of the Interagency Arctic Research Policy Committee, the group is open to all individuals and organizations with an interest in this topic.

Group activities include:

- Promote awareness of existing vocabularies and semantics initiatives to increase effectiveness and reduce or eliminate redundancy
- Coordinate vocabularies and semantics development activities across the polar information community
- Enable and organize regular communication within the community
- Help members of the community connect to useful and interoperable vocabularies
- Inform the polar community about broader activities (e.g. ESIP, RDA), and act as ambassadors from the polar community to other initiatives

Status
The group is now active with regular virtual meetings using Zoom. As a general rule, the group meets for virtual meetings every 3rd Tuesday of the month at 17:00 UTC, i.e. 11:00 MDT and 19:00 CEST (during Daylight Savings time, one hour later else). Send an email to polarsemantics (at) gmail.com if you want to be involved and aren't yet on the polarsemantics email list.

Meeting Minutes:
- 2019
  - 2019-11-26 (Planned - postponed due to Third Polar Data Forum)
  - 2019-10-15 (Minutes pending approval)
  - 2019-09-17
  - 2019-08-20
  - No meeting in July
Environment Ontology

Ontology of environmental features and habitats

Envo is a community ontology for the concise, controlled description of environments.

Envo can be cited as:


Or for latest developments:


Products
Partnerships
The programme “International Oceanographic Data and Information Exchange” (IODE) of the “Intergovernmental Oceanographic Commission” (IOC) of UNESCO was established in 1961. Its purpose is to enhance marine research, exploitation and development, by facilitating the exchange of oceanographic data and information between participating Member States, and by meeting the needs of users for data and information products.

Latest News


The report of the 6th Session of the IODE Steering Group for the International Quality Controlled Ocean Database (IODE–IQuOD) is now available.
SEADATA CLOUD (2016 - 2020)

Access to marine data is of vital importance for marine research and a key issue for various studies, from the climate change prediction to off shore engineering.

The marine observing system is highly fragmented: in the countries bordering the European seas of the partnership, more than 600 scientific data collecting laboratories from governmental organisations and private industry have been identified. They collect data by using various sensors on board of research vessels, submarines, fixed and drifting platforms, airplanes and satellites, to measure physical, geophysical, geological, biological and chemical parameters, biological species etc. The collected data are neither easily accessible, nor standardized. They are not always validated and their security and availability have to be insured in the future.

Therefore SeaDataNet is a standardized infrastructure for managing the large and diverse data sets collected by the oceanographic fleets and the automatic observation systems. The SeaDataNet infrastructure network and enhance the currently existing infrastructures, which are the national oceanographic data centres or data focal points of 34 countries, active in data collection. The networking of these professional data centres, in a unique virtual data management system provide integrated data sets of standardized quality and line. As a research infrastructure, SeaDataNet, contributor to build...
The Launch of a Canadian Integrated Ocean Observing System

Ocean observation is important to understanding how our oceans are changing and predicting how our coasts and fisheries are affected by those changes. Increasing the availability and sharing of ocean data and the resulting scientific knowledge ensures Canadians can safely navigate through our coastal waters, maintain our coastal economy, and build resilient coastal infrastructure.

On 7 March 2019, Fisheries and Oceans Canada announced an investment of $1.5 million per year to support the Canadian Integrated Ocean Observing System (CIOOS). An additional $2 million over four years will be provided by the Marine Environmental Observation, Prediction and Response Network (MEOPAR).