The Antarctic Master Directory, sharing Antarctic (meta)data from multiple disciplines

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Summary. The Scientific Committee on Antarctic Research (SCAR, www.scar.org) is an inter-disciplinary committee of the International Council for Science (ICSU). SCAR is charged with initiating, developing and coordinating high quality international scientific research in the Antarctic region (including the Southern Ocean), and on the role of the Antarctic region in the Earth system. SCAR promotes free and unrestricted access to Antarctic data and information by promoting open and accessible archiving practices. SCAR aims to be a portal to data repositories of Antarctic scientific data and information. SCAR's Standing Committee on Antarctic Data Management (SCADM) facilitates co-operation between scientists and nations with regard to scientific data, and advises on the development of the Antarctic Data Directory System. Here we provide an overview of some of the SCAR data sharing platforms an products. The most important of which is the Antarctic Master Directory (AMD, the largest collection of Antarctic data set description in the world, holding over 7700 dataset descriptions from 25 countries.

Keywords. SCAR, SCADM, GCMD, Antarctic Master Directory.

1. Introduction

The Scientific Committee on Antarctic Research (SCAR, www.scar.org) is an inter-disciplinary committee of the International Council for Science (ICSU). SCAR is charged with initiating, developing and coordinating high quality international scientific research in the Antarctic region (including the Southern Ocean), and on the role of the Antarctic region in the Earth system. SCAR promotes free and unrestricted access to Antarctic data and information by promoting open and accessible archiving practices. SCAR aims to be a portal to data repositories of Antarctic scientific data and information. SCAR's Standing Committee on Antarctic Data Management (SCADM) facilitates co-operation between scientists and nations with regard to scientific data, and advises on the development of the Antarctic Data Directory System.

Data and information are valuable and irreplaceable resources. Proper management of data and information is not an "add-on" or an additional task; it is a fundamental aspect of modern science.

In the pursuit of various scientific objectives, it is often necessary to use data and information collected by scientists from many countries. SCAR recognizes the critical and essential importance of the stewardship of data and information within national and international programmes and its accessibility to all.

SCAR has adopted a Data and Information Management Strategy (DIMS), developed by the SCAR Standing Committee on Antarctic Data Management (SCADM), to ensure that the scientific user community has adequate access to data and information.

2. SCADM

The Scientific Committee on Antarctic Research (SCAR) and the Council of Managers of National Antarctic Programmes (COMNAP) established the Joint Committee on Antarctic Data Management

(JCADM) in 1997 to manage Antarctic data. In December 2008 the formal linkage with COMNAP ceased and JCADM became SC-ADM from January 2009.

SC-ADM helps facilitate co-operation between scientists and nations with regard to scientific data. It advises on the development of the Antarctic Data Directory System and plays a major role in the International Polar Year data system (IPYDIS).

Members of SC-ADM are usually managers of the National Antarctic Data Centres or a relevant national contact.

3. SCAR Data Policy

In accordance with the Twelfth WMO Congress, Resolution 40 (Cg-XII, 1995); the Thirteenth WMO Congress, Resolution 25 (Cg XIII, 1999); the ICSU 1996 General Assembly Resolution; the ICSU Assessment on Scientific Data and Information (ICSU 2004b); Article III-1c from the Antarctic Treaty; the Intergovernmental Oceanographic Commission Data Exchange Policy and in order to maximize the benefit of data gathered under the auspices of SCAR Projects, the SCAR Executive Committee (EXCOM) requires that SCAR data, including operational data delivered in real time, are made available fully, freely, openly, and on the shortest feasible timescale.

The only exceptions to this policy of full, free, and open access are:

- where human subjects are involved, confidentiality must be protected;
- where data release may cause harm, and where specific aspects of the data

may need to be kept protected (for example, locations of nests of endangered birds).

ICSU defines "Full and open access" as equitable, non-discriminatory access to all data preferably free of cost, but some reasonable cost-recovery is acceptable. WMO Resolution 40 uses the terms "Free and unrestricted" and defines them as non- discriminatory and without charge. "Without charge", in the context of this resolution means at no more than the cost of reproduction

and delivery without charge for the data and products themselves.

Metadata are essential to the discovery, access, and effective use of data. All SCAR data should be accompanied by a full set of metadata that completely documents and describe the data. In accordance with the ISO standard Reference Model for an Open Archival Information System (OAIS) (CCSDS 2002), complete metadata may be defined as all the information necessary for data to be independently understood by users and to ensure proper stewardship of the data. Regardless of any data access restrictions or delays in delivery of the data itself, all SCAR Projects should promptly provide basic descriptive metadata of collected data to the Antarctic Master Directory (AMD) system.

4. The Antarctic Master directory

The Antarctic Master Directory is the largest collection of Antarctic data set description in the world, holding over 7700 dataset descriptions from 25 countries. It is hosted by the Global Change Master Directory (GCMD) of the CEOS-IDN network to minimise duplication of resources and metadata.

In addition to the AMD portal, the GCMD has an IPY portal which highlights data that have been collected over the International Polar Year.

5. Other data Products

Besides the AMD SCAR has a number of other data products that includes a host of mapping resources, access to biological data (biodiversity. Aq, SO-CPR, SO-diet), environmental data (READER) and seismic data (SDLS).