INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION  
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6.3.1.4 IODE and the SCAR/COMNAP Joint Committee on Antarctic Data  
Management: 

Opportunities for a successful and beneficial collaboration 

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"Scientific observations and results from Antarctica shall be exchanged and made freely available." (Antarctic Treaty, section III.1.c)

The conduct of science in Antarctica is the corner stone of the Antarctic Treaty System. Antarctic science is interdisciplinary in character, multinational in execution, and globally relevant. The scientific issues being addressed are increasingly large and complex, including environmental protection and monitoring under the Protocol on Environmental Protection to the Antarctic Treaty ("Madrid Protocol"). These issues require a high degree of cooperation between scientists and the ability to access and work with data from a wide range of scientific disciplines. The Antarctic Treaty therefore calls on parties to "exchange and make freely available scientific observations and results from Antarctica".

Data and information are the primary assets derived from Antarctic research, and so must be carefully managed. In order to coordinate Antarctic data management, 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.

Members of JCADM are the managers of the National Antarctic Data Centres, or a relevant national contact if an NADC has not yet been nominated. Currently 26 nations are involved in JCADM: Argentina, Australia, Belgium, Canada, Chile, Estonia, Finland, France, Germany, India, Italy, Japan, Korea, Netherlands, New Zealand, Norway, Peru, Poland, Russia, Spain, Sweden, Switzerland, Ukraine, United Kingdom, and United States. Several other nations will join JCADM in the course of 2005.

JCADM is responsible for the network of National Antarctic Data Centres and the Antarctic Master Directory (AMD). The Antarctic Master Directory (AMD) is the online,
searchable and freely accessible data base of Antarctic data set descriptions. Data sets range from a few (but unique!) observations at a particular time and place to millions of observations over many years and large areas. The AMD contains over 3000 data set descriptions and is the largest directory of Antarctic data set descriptions. It is a resource for scientists to advertise the data they have collected and to search for data they may need.

The AMD is hosted by the Global Change Master Directory (GCMD). Scientists can enter data set descriptions into the AMD either through their National Antarctic Data Centre or directly through the GCMD (see fig.1). GCMD has produced a series of data entry tools.

![Dataflow to and from the Antarctic Master Directory (AMD).](image)

National Antarctic Data Centres are ‘region-based’ whereas oceanographic, atmospheric, geological, etc. data centres are ‘discipline-based’. JCADM is aware that these discipline based data centres may hold many Antarctic or Southern Ocean data sets, not known to JCADM, nor described in the AMD. JCADM is therefore actively seeking collaboration with these discipline based data centres and with its peer organisations like IODE.

Considering the collaboration with IODE and the oceanographic data management community, two steps in that direction were taken. At a national level, NADCs have started to contact their oceanographic counterparts to establish a complete national inventory of Southern Ocean data sets. At a meeting in Bremen, July 2004, the JCADM Executive agreed with Dr. Lesley Rickards, Chair IODE, and Dr. Colin Summerhayes, Executive Director SCAR, to expand the AMD and include relevant entries from the MEDI and EDMED data bases into the AMD.
Technically this can be done through a technique called ‘distributive searching’. The AMD is actually a view on a subset (with Antarctic and Southern Ocean data set descriptions) of the GCMD data base. This view can be expanded to include similar subsets in other data bases like MEDI and EDMED. The AMD uses the DIF format to describe the data sets. The DIF format is also used in the MEDI data base and the EDMED format is based on the DIF format. The only problem to be solved concerns the differences in the lists of keywords and valids used in the various systems.

This new collaboration between IODE and JCADM promises to be very successful. It gains even more importance in the light of the upcoming International Polar Year 2007/2008, which will boost the observational activities in the polar oceans.