IMOS Data Policy

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Integrated Marine Observing System
Australian Ocean Data Network

Acknowledgement

This policy was developed using related data policies from other organisations, largely the Australian Antarctic Program Data Policy, 2010, and the updated version, 2015, https://www1.data.antarctica.gov.au/aadc/about/data_policy.cfm. This policy was developed in conjunction with the AODN Data Policy (2015). As IMOS requires participants in IMOS to lodge data to the AODN large parts of the AODN policy are directly related and many aspects of the two policies are naturally similar. However, there are contractual constraints on IMOS Facilities that are described here.

Contents

The IMOS Data Policy

IMOS is a distributed set of equipment and data-information services which collectively contribute to meeting the needs of marine and climate research in Australia. The observing system provides data from the open ocean onto the continental shelf and into the coast, measuring physical, chemical and biological variables. IMOS was planned through extensive consultation with the Australian marine research community through Nodes, including a bluewater open ocean node and five regional nodes around the country. The IMOS Office coordinates the deployment of a wide range of observing equipment and assembles the data through 10 Facilities. The data are made available to researchers through the Australian Ocean Data Network (AODN) located at the University of Tasmania. The IMOS infrastructure also contributes to Australia's role in international programs of ocean observing.

Australian Ocean Data Network

AODN staff coordinate the handling of data and organise its storage, accessibility, discoverability and means of visualisation. The AODN will host, manage and archive data produced by the other IMOS facilities. AODN staff will

- provide the standards, protocols and systems to integrate the data and related information into a number of conformal frameworks, and provide the tools to access and utilise the data
- provide, for some kinds of data, data products as web services and web features for processing, integration and visualisation of data.
- where possible, integrate data from sources outside IMOS into IMOS data products, and to export IMOS data to international programs
- document facility workflows to identify all components in the data delivery chain
- produce regular Facility reports detailing IMOS data assets.

AODN Responsibilities – for IMOS data

AODN staff will ensure that:

- A wide range of IMOS scientific data is managed for the long-term and made available in an easily accessible form,
- Metadata records are managed for all IMOS scientific research data and are made available for public searching in an effective form,
- Australian sourced data are included in international data systems,
- Current best practice is maintained in relation to its repository management functions and related systems,
- Confidentiality of data is maintained during embargo periods,
- The usage of custodian's data and the custodian's right to be cited as the source of published data is monitored,
- Information is provided to scientists on the resources that are available to support their work and advice is available on the design of data collection programs and effective data management strategies through assistance with developing Data Management Plans.

All IMOS data submitted will be made public. The IMOS services, data and products submitted to the AODN can be accessed online through the AODN Portal.

IMOS Facility Staff Data Management Responsibilities

IMOS Facility Staff will ensure that they:

- Comply with all aspects of the IMOS Data Policy,
- Contact AODN staff to discuss data issues preferably before submission of a Data Management Plan,
- Inform the AODN staff of any changes in personnel associated with data delivery,
- Submit data (raw, processed and ancillary), derived products and associated metadata in an acceptable form to the AODN within the timelines set for data submission,
- Make provision for the management of any physical samples in an appropriately catalogued collection,
- Provide updated information on progress against tasks in the Data Management Plan in annual Progress Reports, and
- Adopt the IMOS data use acknowledgement requirements in peer reviewed publications.

Facility Data Management plans

All IMOS Facilities or sub-Facilities must complete a Data Management Plan in consultation with AODN staff as the first milestone in their implementation plan. Progress in implementing this plan will be assessed annually. This will form a component of the annual progress reporting obligations that are associated with all IMOS Facilities.

Data

"Data" comprise almost any scientific observation or measurement, either raw or processed in any format, either electronic or paper. IMOS has the capability to manage a broad range of scientific data types. Data in this context could include-

- Raw or unprocessed observations,
- Processed data that have been derived from raw observations through any form of analysis or calibration, e.g. bathymetric data that have been corrected to take account of instrument noise and effect of salinity and temperature on measuring sensors, or processed and analysed satellite imagery,
- Derived products that present a summary or specific view into a particular dataset,
- Modelled data products resulting from algorithms applied to raw, processed or derived products,
- Ancillary data that are considered to add value or a context to other related and managed data, e.g. digital images or video recordings of sites where data have been collected, field notebooks that contain information about specific data capture activities.

It is required that data is delivered in an acceptable format from the following list:

- NetCDF format, using the specification, which includes details of Quality Control flags
- CSV
- TIFF (or GeoTIFF)

- AVI
- PostGres
- PDF
- Doc(x)

It is expected that wherever possible, except for imagery, netCDF will be used.

If a data format is not on the accepted format list then IMOS will still try to accommodate it but it will require some interaction with AODN staff prior to submission to the workflow.

Sample management

The AODN will host, manage and archive primarily digital data and has no facilities of its own for the storage of physical samples (e.g. rock samples, biological specimens, etc).
Memorandums of Understanding (MOUs) will be established with operating institutions or national museums in order to host IMOS samples.

Filenames

It is expected that Facilities will use file names which follow the IMOS file naming convention

Licensing

All IMOS data is public and freely available in the AODN Portal; the data (through bundled metadata) will carry a Creative Commons license. This license will stipulate how the data can be used.

Citation

IMOS has a default template for citation requiring acknowledgement of IMOS, and if relevant, to credit other partners.

Metadata

The AODN staff create metadata records for IMOS Facilities describing captured data. All IMOS metadata records are made public. Much of this metadata is developed automatically where Facilities are creating data using netCDF. Registration of metadata is the only mechanism IMOS has for maintaining a complete inventory of the data captured as part of the IMOS program. Metadata records can be periodically updated as data are processed, analysed and published.

Metadata is the primary mechanism for documenting data and in relevant cases, the instruments, sensors and procedures involved in data collection. Metadata standards support unlimited links to other documents, particularly in the form of web pages. This enables the fundamental metadata parameters (who, when, where, what) to be augmented with detailed descriptions and parameters that the custodian considers necessary for other scientists to make effective use of their data.

Metadata needs to meet the requirements of the ISO 19115 Marine Community Profile 2.0.

AODN staff can assist IMOS Facilities with metadata creation and advice on the granularity at which records should be created for different classes of data. It is the responsibility of the Facility (or sub-Facility) leader to ensure that these records are sufficient to describe the entirety of the data captured in his/her project and that these records are accurate.

Further information and guidelines

The AODN will publish further information and guidelines that will assist the community to participate in the AODN. These will be made available via the AODN Portal User Guide – Contributing Data Section.

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