

# International Polar Year 2007-2008 Data Policy

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## Introduction

The International Polar Year (IPY) 2007-2008, an intense, interdisciplinary, and internationally coordinated campaign of research and observations, will deepen understanding of polar processes and their global linkages. IPY knowledge and the observations upon which it is built must be effectively managed to ensure the greatest benefit in the future. IPY-generated data should be carefully and thoughtfully collected, used collaboratively, and adequately preserved. All IPY participants will respect and safeguard local and traditional knowledge and all related tangible and intangible cultural heritage of polar communities. IPY data will be multidisciplinary and disparate. This policy aims to provide a framework for these data to be handled in a consistent manner, and to strike a balance between the rights of investigators, the rights of indigenous peoples, and the need for widespread access through the free and unrestricted sharing and exchange of both data and metadata. The policy is compatible with the data principles of the sponsoring bodies, ICSU and WMO, and other relevant international agencies.

Since IPY 2007-2008 is a distributed programme, implemented through a number of self-managed IPY Projects, the principles enshrined in the Data Policy must be applied to data in each Project. In order to be considered as officially part of IPY, each Project must follow the IPY 2007-2008 Data Policy, including submission of metadata and data according to an agreed timetable, and must include an appropriately funded data management plan. In a similar fashion, in order to take part in an IPY 2007-2008 Project, participants must agree to submit information and data from their component of the project and comply with the IPY 2007-2008 Data Policy.

The IPY Data Policy and Management Subcommittee of the ICSU/WMO Joint Committee for the IPY is responsible for this Data Policy. Questions about the policy and its implementation should be directed to the Subcommittee ([datacommittee@googlegroups.com](mailto:datacommittee@googlegroups.com)).

## Objective

The purpose of the IPY data policy is to support the objectives of the IPY. The *Framework for the International Polar Year 2007-2008* produced by the ICSU IPY 2007-2008 Planning Group notes: "The overarching objective of IPY 2007-2008 data management is to ensure the security, accessibility and free exchange of relevant data that both support current research and leave a lasting legacy." (ICSU 2004a, p. 19). The IPY Data Policy provides initial guidance for meeting this data management objective. The Data Policy also supports the general objectives of IPY and explicitly provides a basis for the following objectives from the *Framework* (p. 10).

- IPY has an *interdisciplinary emphasis, with active inclusion of the social sciences*.
- IPY will *link researchers across different fields* to address questions and issues lying beyond the scope of individual disciplines.

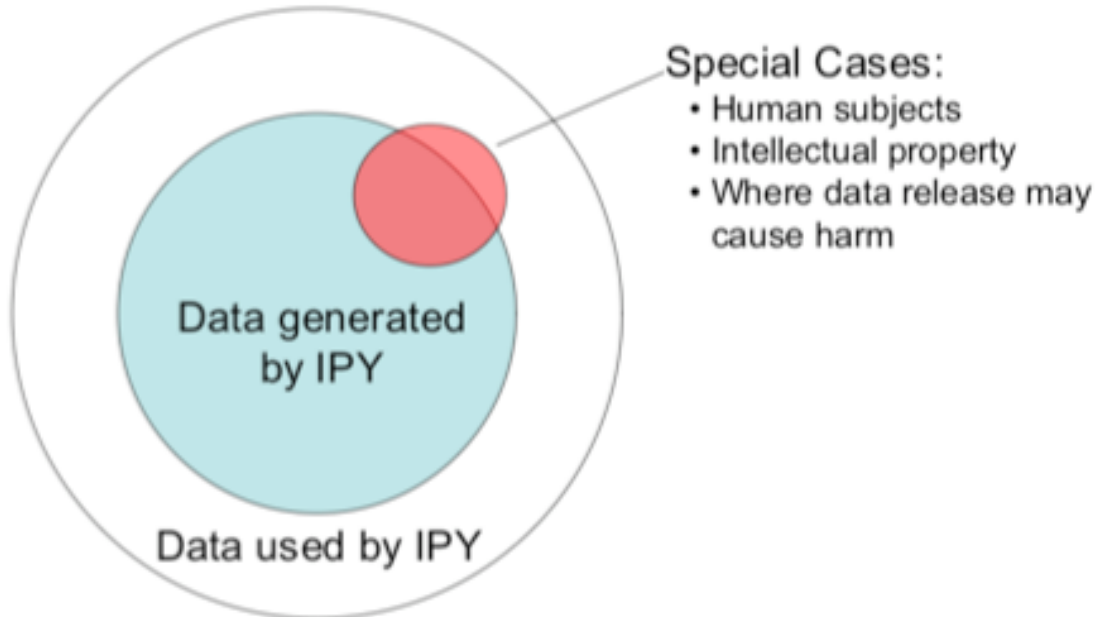
- IPY will strengthen *international coordination* of research and enhance international collaboration and cooperation
- IPY will *leave a legacy* of observing sites, facilities and networks, as well as individual data and data systems to support ongoing polar research and monitoring.

## Data Definition

IPY data are those data generated during the IPY timeframe (March 2007 - March 2009) by the specific projects endorsed by the ICSU/WMO Joint Committee as IPY projects. This policy applies specifically to those data. It should be recognized, however, that IPY researchers will use IPY-related data from outside sources, such as from existing operational data streams and historical sources. Where appropriate, this data policy data should apply to those IPY-related data as well.

A subset of data both generated and used by IPY need special policy and access considerations, because they are legitimately restricted in some way. Access to these data may be restricted because they are about human subjects, because there may be intellectual property issues, or because there is a situation where release of the data may cause harm to the public or environment (e.g., the location of nesting sites for an endangered species).

Figure 1 conceptually illustrates these different classes of data and provides a reference for the policy and subsequent data management strategy.



**Figure 1.** Graphical definition of “IPY data” (inner blue circle), “IPY-related data” (outer circle), and special cases.

## Data Availability and Exchange

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 the IPY, the IPY Joint Committee requires that IPY 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 local and traditional knowledge is concerned, rights of the knowledge holders shall not be compromised
- where data release may cause harm, specific aspects of the data may need to be kept protected (for example, locations of nests of endangered birds or locations of sacred sites).

ICSU (2004b) 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 IPY data must be accompanied by a full set of metadata that completely document 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 IPY projects must promptly provide basic descriptive metadata of collected data in an internationally recognized, standard format to an appropriate catalog or registry.

## Data Preservation

Recognizing that the true value of scientific data is often realized long after they have been collected, and to ensure the lasting legacy of IPY, it is essential to ensure long-term preservation and sustained access to IPY data. All IPY data must be archived in their simplest, useful form and be accompanied by a complete metadata description. An IPY Data and Information Service (IPYDIS) should help projects identify appropriate long-term archives and data centers, but it is the responsibility of individual IPY projects to make arrangements with long-term archives to ensure the preservation of their data. It must be recognized that data preservation and access should not be afterthoughts and need to be considered while data collection plans are developed.

The IPYDIS should work with the relevant operational centers, data centers, and other organizations to ensure the preservation of relevant IPY related data not explicitly produced by IPY projects.

## Data Acknowledgment

To recognize the valuable role of data providers (and scientists who collect or prepare data) and to facilitate repeatability of IPY experiments in keeping with the scientific method, users of IPY data must formally acknowledge data authors (contributors) and sources. Where possible, this acknowledgment should take the form of a formal citation, such as when citing a book or journal article. Journals should require the formal citation of data used in articles they publish. Where formal citation is not possible, such as with some medical and social science data, ethical policies for data collection and data use are encouraged, building upon existing models such as Article 8(j) of the 1992 Convention on Biological Diversity.

## Publications

An important legacy of IPY will be the publications documenting the planning, results, and achievements of IPY. To help preserve and understand this legacy and to help meet the education, outreach, and communication objectives of IPY, authors of publications related to IPY are encouraged to submit bibliographic information to the IPY Publications Database managed by the Arctic Institute of North America, the American Geological Institute, and the Scott Polar Research Institute.

## References

The Antarctic Treaty. 1959. Available at <http://www.ats.aq/>

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