

IOC PRESENTATION

INTERNATIONAL POLAR YEAR OPEN MEETING,

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What is the Intergovernmental Oceanographic Commission (IOC)

The IOC was formed in 1960 as a spin-off from the IGY 1957-58. Its main purpose is “*to promote international cooperation and to coordinate programmes in research, services and capacity building in order to learn more about the nature and resources of the ocean and coastal areas, and to apply that knowledge for the improvement of management, sustainable development, the protection of the marine environment, and the decision-making processes of its Member States*”. It differs from ICSU’s Scientific Committees on Oceanic and Antarctic Research (SCOR and SCAR) in being an intergovernmental body with a responsibility for focusing on scientific applications useful for its members (the 128 Member States). The IOC develops global programmes, like the Global Ocean Observing System (GOOS), but also focuses on particular regions where developing countries need assistance to build their capacity to carry out oceanographic research and applications in support of sustainable development. In addition, the IOC focuses on assisting coastal nations to apply science in their coastal seas, through such programmes as the Integrated Coastal Area Management programme (ICAM), and coastal GOOS, and helps countries to manage and exchange ocean data through setting up National Ocean Data Centres (NODCs) and Ocean Data and Information Networks (ODINs) through its International Ocean Data and Information Exchange programme (IODE). IOC facilitates research on the ocean’s role in climate change through co-sponsorship of the International Global Carbon Project, the IOC-SCOR Ocean CO₂ Project, the Global Ecosystems Dynamics programme (GLOBEC), the Large Marine Ecosystems programme (LME) and the World Climate Research Programme (WCRP). The IOC also co-sponsors JCOMM, with WMO (see separate paper on JCOMM).

A key element of IOC’s promotion of ocean science and applications was its leadership of the 1998 International Year of the Ocean, which helped to raise awareness of the importance of the oceans globally. IOC also played a prominent role in promoting the ocean during the World Summit on Sustainable Development (Johannesberg, summer 2002). IOC is the lead UN agency for ocean science, and is charged by the Implementation Plan of the World Summit on Sustainable Development with the primary responsibility for aiding all countries to develop their capacities in ocean science and applications.

In the past IOC had a Regional Committee for the Southern Ocean. This was disbanded in June 2000 because new programmes including GOOS and JCOMM had effectively taken over responsibility for ocean observing programmes in all oceans. Nevertheless, the need remains to coordinate ocean research effectively in the Southern Ocean, and this is now managed through a new body, the SCAR/SCOR/IOC Coordinating Group in Inter-disciplinary Southern Ocean Science (ISOS). IOC also

co-sponsors work on the Arctic through the activities of JCOMM, including those dealing with sea-ice.

IOC is also one of the IGOS Partners, along with ICSU, WMO, the space agencies and others, through which it has been a leader in developing: the Ocean Theme; the ocean carbon component of the Integrated Global Carbon Theme; and the Coastal Theme. It is currently working with others on developing a Cryosphere Theme. These various themes harmonise global efforts in particular thematic areas.

What is the Significance of the IPY for the IOC?

The IOC carries the responsibility in the oceans for: (i) internationally coordinated observations and analysis (including those in polar regions); (ii) addressing scientific uncertainties (especially where this will contribute to improving scientific applications for coastal peoples); (iii) laying the foundation for longer-term commitments; (iv) building on and enhancing existing programmes and initiatives including enabling technology, for sustainable development; (v) training new marine scientists; and (vi) engaging the media and the public. As these are also interests of the IPY, the IPY should inevitably assist IOC in meeting these responsibilities especially in polar seas where current IOC efforts are weaker than is desirable.

Specifically, the IPY offers the potential to engage polar social scientists and ocean scientists in dialogue through the ICAM programme about the most appropriate techniques for managing polar coastal environments (onshore and offshore) given modern capabilities in ocean measurement, and to deliver the appropriate training.

The IPY also offers the potential to rescue large amounts of inaccessible analog ocean data and to store it in digital form for ease of retrievability, application, and exchange between neighbouring nations, through the IOC's GODAR (Global Ocean Data Archaeology and Rescue) programme. The IPY could also help to improve the way data is managed for the wider social benefit through the creation of an Ocean Data and Information Network (ODIN) of National Ocean Data Centres across both the Arctic and the Southern Ocean regions, along the lines of the ODIN recently created by the IOC for Africa and the one being created in the Caribbean and South America. These involve funding equipment for data centres, training individuals in data management, ensuring Internet access, and providing follow up and maintenance.

The IPY also offers an opportunity to considerably enhance the Global Ocean Observing System (GOOS), which is led by the IOC along with ICSU, WMO and UNEP. GOOS in turn provides the ocean component of GCOS (Global Climate Observing System), and is being implemented by national agencies working under the coordination of JCOMM. The measurements made and products achieved are designed to benefit coastal communities, including those in polar regions, whose interests would be well served by such an expansion. Development of the programme implies not simply more observing system elements, but more training in their use, and more development of products and services meeting local needs. One principal outcome will be improved understanding of the ocean's role in the climate system, and improved forecasts for the benefit of local communities, as called for by the UN Framework Convention on Climate Change.

The potential significant contribution of the IPY to the activities of JCOMM have already been mentioned in the separate paper on JCOMM.

How may the IOC Contribute to Achieving the Goals of the IPY?

The IOC is the world forum in which the significant interactions take place that require agreement between neighbouring countries in the areas of ocean and coastal science and applications. The IOC governing bodies of representatives of Member States decide on major policy issues affecting the ways in which science is carried out collaboratively within the overall framework of the Law of the Sea. The IOC advises the United Nations on these matters and obtains its agreement where appropriate. In this context, for example, the IOC has recently finalised an international ocean data policy regulating data exchange. The IOC also provides the international coordinating mechanisms for exchange of data through the Argo programme, for example, to help to ensure that there is no impedance to the scientists' wish to deploy Argo floats or other ocean data acquisition systems. In addition IOC's membership of the IGOS Partnership provides a mechanism for influencing other agencies' decisions on ocean matters. Through these various roles the IOC can effectively promote both national and international involvement in and commitments to IPY objectives, especially in activities considered to be parts of IOC programmes.

Of particular significance in the Southern Ocean is the important role that navies play, especially in South America, in the collection of oceanographic and marine meteorological data. IOC offers a forum in which these interests can come together to explore ways in which they can support the goals of the IPY.

In addition the IOC can bring the activities of its programmes, such as GOOS, ICAM and IODE, to bear on IPY issues. That means engaging the international communities of scientists involved in those programmes, and their own very considerable national resources, and getting them to focus on helping to achieve IPY goals. The IODE programmes GODAR and ODIN, with their emphasis on building the capacity of coastal states to manage the data collected during IPY activities, to merge those data with previous (and as yet inaccessible) data collections, and to encourage the exchange of data between neighbouring states, are likely to be especially significant. Many IPY marine programmes will need the effective data management that IODE can provide. The ICAM programme of generating dialogue between social and natural scientists over coastal management issues could also aid IPY in achieving its goals.

The GOOS and GCOS programmes co-sponsored by IOC further offer the opportunity for the IPY to be connected to the goals of the UNFCCC. Connections to governments through their representatives in the governing bodies of the IOC and the UNFCCC will help to heighten awareness in government of the importance of polar regions in general and the IPY in particular.

The IOC can also bring to bear on the management of the IPY its considerable and very positive experience of management of the International Year of the Ocean (1998), from which many useful lessons can be learned.

The IOC would like to be directly involved with ICSU and WMO, and others as appropriate, in the management of the IPY, where IOC strengths and experience are

likely to play a key role in ensuring success. IOC's many programme scientists are potentially available to help to vet proposals and to design an attractive and exciting science programme that has important social benefits.