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# REPORT OF THE INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION ON ITS ACTIVITIES (2003-2004)

## OUTLINE

**Source:** 157 EX/Decision 3.3.1, Article 3.2 of the Statutes of the Intergovernmental Oceanographic Commission.

**Background**: The Intergovernmental Oceanographic Commission (IOC) of UNESCO was established by the 11th session of the General Conference in 1960. The 24th session of the General Conference in 1987 granted IOC functional autonomy within UNESCO. The 30th session of the General Conference in 1999, approved a modification of the Statutes of the Commission that confirmed the functional autonomy of IOC and the requirement to report directly to the General Conference.

**Purpose**: The programme of IOC is implemented in accordance with the resources made available through the mechanisms contemplated in Article 10 of its Statutes, under the guidance provided by the resolutions of the IOC Assembly. The IOC Executive Council makes mid-term adjustments. In the United Nations IOC acts as the system-wide focal point for ocean science and ocean services.

Priorities for IOC as defined in the UNESCO Medium Term Strategy 2002-2007 are: (i) coordination of the major ocean science programmes for understanding the ocean's role in climate change and the carbon cycle, and assessment of man's impact on the oceans; (ii) to lead development and implementation of the Global Ocean Observing System (GOOS), as part of an Integrated Global Observing Strategy (IGOS) to improve forecasting of natural phenomena as well as management of coastal seas and their living resources; (iii) to build the capacity of developing countries, especially to manage and exchange the marine data and information needed for sustainable development; (iv) to support the African Process as a follow-up to the Pan-African Conference on Sustainable Integrated Coastal Management (PACSICOM), to the effect that IOC will concentrate in Africa a significant portion of its field activities, especially in the development of marine data and information networks and integrated coastal management; and (v) to improve ocean services to Member States through the new Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology.

**Decision required**: No decision is required on this document.

**Progress in relation to the approved Main Lines of Action (2003-2004)**

1. Through its Intergovernmental Oceanographic Commission (IOC), UNESCO continues to coordinate United Nations activities in ocean and coastal issues. The four sections within the Commission, namely the (i) Operational Observing Systems aimed at developing the Global Ocean Observing Systems (GOOS); (ii) Ocean Sciences; (iii) Ocean Services; and (iv) Capacity-Building, conducted a series of activities including workshops at both global and regional levels providing advice to Member States in the related fields. IOC is an active participant of the Group of Earth Observations (GEO) that recently developed a 10-year Implementation Plan for the Global Earth Observing Systems of Systems (GEOSS). GOOS has been recognized as an integral part of the GEOSS.

2. The Intergovernmental Oceanographic Commission held its 22nd Assembly in July 2003 and its 37th Executive Council in June 2004. Table I reports on main outcomes of IOC's activities to achieve the main results established in the Approved Programme and Budget for 2003 and 2004 [31 C/5 paras. 02251-02253 and 32 C/5 paras. 02151-02155, respectively].

**Table I: Selected outcomes of IOC activities in 2003-2004 in regard to the approved C/5.**

| **Main Lines of Action** | | **OUTCOMES** |
|---|---|---|
| **31 C/5** | **32 C/5** | |
| **Paragraph 02251**: Reducing scientific uncertainties about coastal and global ocean processes in the context of marine ecosystems | **Paragraph 02151**: Addressing scientific uncertainties for the management of marine environment and climate change | In 2003, The Global Carbon Project and the $CO_2$ Panel developed a joint pilot project, "The International Ocean Carbon Coordination Project", to coordinate ocean carbon observations. In 2004, UNESCO/IOC and SCOR hosted "The Ocean in a High $CO_2$ World", where it was reported that the ocean has taken up approximately 50% of the fossil-fuel $CO_2$ released to the atmosphere since pre-industrial times, and that this increase in oceanic $CO_2$ is acidifying the oceans; these findings attracted the attention of the world's news media, including the New York Times, Cable News Network (CNN), the Financial Times of London, and the British Broadcasting Company (BBC);<br><br>In 2003, IOC and the Government of Canada convened a Workshop on the Role of Indicators in Integrated Coastal Area Management in order to initiate the development of a protocol for the use of indicators in ICAM. In 2004, editorial work started for the development of a handbook on the application of indicators in ICAM.<br><br>The Symposium on Quantitative Ecosystem Indicators for Fisheries Management (Paris, 31 March-3 April 2004) was the culmination of the work carried out by the IOC-SCOR Joint Working Group 119 since 2001. The overall objective of this joint Working Group was to develop a theory to evaluate changes (states and processes) in marine ecosystems, from environmental, ecological and fisheries perspectives. |

| Main Lines of Action | | OUTCOMES |
|---|---|---|
| **31 C/5** | **32 C/5** | |
| **Paragraph 02252**: To further develop, within the Global Ocean and Global Climate Observing Systems (GOOS and GCOS), the monitoring and forecasting capabilities needed for the management and sustainable development of the open and coastal ocean | **Paragraph 02152**: Developing the monitoring and forecasting capabilities needed for the management and sustainable development of the open and coastal ocean | The Argo project will provide the first ever global coverage of the temperature and salinity of the upper ocean, which is badly needed to improve numerical models and forecasts of the behaviour of the ocean, weather, and climate systems. The Argo project is to seed the ocean with 3,000 profiling floats that will all be operational by the end of 2005. At the end of December 2003 there were 1,000 Argo floats in the water. By September 2004 it reached 1,362 operating floats and by December 2004 there were 1,673 operating floats and 2,458 deployed floats.<br><br>Advice on GOOS development comes from two main design panels. The Coastal Ocean Observations Panel (COOP) deals with all aspects of coastal seas, and the Ocean Observations Panel for Climate (OOPC) deals with open ocean physical and biogeochemical processes. The Integrated Coastal GOOS Design Plan was published in June 2003 and the first draft of the Strategic Implementation Plan for the Coastal Module of the Global Ocean Observing System was completed in 2004. |
| **Paragraph 02253**: To further develop and strengthen the IODE (International Oceanographic Data and Information Exchange) system as a global mechanism to ensure open and full access to ocean data and management of relevant information for all | **Paragraph 02153**: Developing and strengthening a global mechanism to ensure full and open access to ocean data and information for all | During 2003 substantial amounts of historical oceanographic data have been digitized within the framework of the IODE ODIN projects (Ocean Data and Information Network) in Africa (ODINAFRICA) and in the Caribbean and South America regions (ODINCARSA). First steps were taken during the first semester of 2004 to create ODINCINDIO to network the oceanographic data centres of the IOCINDIO region (Central Indian Ocean). Flanders confirmed his support to the Phase III of ODINAFRICA with US $2.5 million for 2004-2007. The Ocean Data and Information Network for Latin America and the Caribbean continue to develop.<br><br>Within the framework of ODINAFRICA support to 20 partner institutions in Africa continued during 2003. Among numerous training activities, between 14 and 18 April 2003, a data-management training course was organized in Accra, Ghana. During 2004 IODE closed ODINAFRICA II and defined working plans for 2004-2007 in the framework of ODINAFRICA III.<br><br>The second session of the IOC Editorial Board for the International Bathymetric Chart of the East South Pacific took place in Lima in October 2003. The progress on the compilation of the bathymetric plotting sheets was achieved. The drafts of Sheets 5 and 6 printed by Chile were submitted to the Editorial Board and approved. Significant progress in data compilation was reached by Peru and Ecuador. In 2004, the Geological Geophysical Atlas of the Pacific Ocean (GAPA) was published, also a 3-D updated version of the General Bathymetric Chart of the Oceans on CD-ROM (GDA), and the 2-D Edition of the International Bathymetric Chart of the Arctic Ocean (IBCAO). The digital version of |

| Main Lines of Action | | OUTCOMES |
|---|---|---|
| **31 C/5** | **32 C/5** | |
| | | the International Bathymetric Chart of the Caribbean Sea and Gulf of Mexico was accomplished in INEGI. In accordance with Resolution EC-XXXVII.5 the first meeting of the Editorial Board for the International Bathymetric Chart of the Southern Ocean was organized and took place in the end of July 2004 in the Alfred Wegener Institute for Polar and Marine Research, in Bremerhaven, Germany. |
| | **Paragraph 02154**: Developing ocean governance issues, and increasing the effectiveness of the governing bodies of the Commission | The Global Forum on Oceans, Coasts, and Islands serves as a platform for cross-sectoral information-sharing and dialogue on issues affecting oceans, coasts and islands, with the common goal of attaining the sustainable development of these areas. The aim of the Forum is the improvement of global, regional and national policies related to oceans, coasts and islands. The Global Forum organized a high-level side event at the fifth meeting of the Informal Consultative Process on the Law of the Sea (ICP V) in New York, 7-11 June 2004. |
| | | Through partnerships with POGO and the Global Forum on Oceans, Coasts and Islands, IOC continued to work on the WSSD Type II Partnerships on Oceans. Through the Global Forum an initiative to analyse the national policies on Oceans funded by the Nippon Foundation started in 2004. Through POGO the capacity of developing countries to use remote sensing for the sustainable management of oceans was reinforced during 2004.<br><br>The management of IOC statutory meetings and business improved throughout 2004. Storage, access, production and distribution of IOC statutory meeting documents and information materials improved. Timely delivered documents in all working languages of IOC were available for statutory meetings. |
| | **Paragraph 02155**: Developing the capacity and effectiveness of Member States in marine scientific research, and in the management and sustainable development of the open and coastal ocean: | The section for Capacity-Building and TEMA was formally created and the recruitment process for the Head of Section achieved in 2004. A Draft Capacity-Building Strategy was developed and presented to the 37th Executive Council (23-29 June 2004). The Executive Council instructed the secretariat to prepare an Implementation Plan to be presented to the IOC 23rd Assembly in June 2005.<br><br>In 2004, seven travel and study grants were awarded in the spring session (April) of the IOC Grant Scheme. |

## Progress in relation to the UNESCO Medium-Term Strategy (2002-2007)

3. Table II reports on the main outcomes of IOC's activities to achieve the main results established in the Medium-Term Strategy (31 C/4). It includes outcomes of 2002-2003-2004, to facilitate a mid-term assessment of IOC's achievements against document 31 C/4.

**Table II: Main outcomes of IOC activities in regard to document 31 C/4.**

| RESULT (31 C/4, para. 96) | OUTCOMES |
|---|---|
| *IOC will coordinate the major ocean science programmes for understanding the ocean's role in climate change and the carbon cycle, and will assess man's impact on the oceans.* | Following the recommendation from the World Summit on Sustainable Development (WSSD) the General Assembly of the United Nations decided [A/57/141 para. 45] to establish by 2004 a regular process under the United Nations for the global reporting and assessment of the state of the marine environment (GMA), including socio-economic aspects, both current and foreseeable, building on existing regional assessments. Accepting the invitation contained in UNEP G.C 21/13, IOC has worked in close collaboration with UNEP on this issue, being an active contributor to the workshops in Reykjavik (12-14 September 2001), and Bremen (18-20 March 2002), to the Group of Experts convened in New York (23-26 March 2004), and the GMA International Workshop, held in conjunction with the Informal Consultative Process on the Oceans and the Law of the Sea in New York (7-11 June 2004).<br><br>IOC's programmes on Harmful Algal Blooms (HAB), Coral Reefs, Integrated Coastal Area Management (ICAM) and Oceans and Climate continue to provide up-to-date scientific knowledge for sustainable management of oceans and coasts. |
| *It will continue to lead development and implementation of the Global Ocean Observing System (GOOS), as part of an Integrated Global Observing Strategy (IGOS) to improve forecasting of natural phenomena as well as management of coastal seas and their living resources.* | The implementing of the Global Ocean Observing System (GOOS) and its related pilot projects and regional components advanced as planned preparing the stage for a full scale demonstration project, the Global Ocean Data Assimilation Experiment (GODAE) conducted between 2003-2005. GODAE will test the concept of operational oceanography and its applications.<br><br>In addition to the agreements enabling EuroGOOS (North Atlantic/North Sea), NEAR-GOOS (North-East Asia) and BOOS (Baltic), institutions from eleven countries (Australia, France, India, Islamic Republic of Iran, Kenya, Madagascar, Mauritius, Mozambique, South Africa, Sri Lanka, and United States) signed up for a new regional GOOS organization in the Indian Ocean (IOGOOS) in 2004; six countries surrounding the Black Sea (Bulgaria, Georgia, Romania, Russia, Turkey and Ukraine) signed up a MoU/Protocol for the establishment of the Black-Sea GOOS and five countries established a Southeast Pacific GOOS (Chile, Colombia, Peru, Ecuador, United States). By the end of 2004 the number of operational devices delivering oceanographic information in real-time in the context of the Programme Argos reached 2,458 buoys (established goal: 3,000 buoys deployed by the end of 2005). |
| *It will build the capacity of developing countries, especially to manage and exchange the marine data and information needed for sustainable development.* | Twenty Member States in Africa (Benin, Cameroon, Comoros, Côte d'Ivoire, Gabon, Ghana, Guinea, Kenya, Madagascar, Mauritania, Mauritius, Morocco, Mozambique, Nigeria, Senegal, Seychelles, South Africa, United Republic of Tanzania, Togo and Tunisia) have developed an Ocean Data and Information Network for Africa (ODINAFRICA). ODINAFRICA aims at addressing data and information requirements identified by the Member States. Most participating countries have formally established IOC/IODE Data |

| RESULT (31 C/4, para. 96) | OUTCOMES |
|---|---|
| | Centres. Close collaboration is in place with GOOS-Africa and IOGOOS. In addition an "African OceanPortal" was developed to create awareness for the importance of ocean and coastal area research and management among the general public, media, education sector and private sector (as part of the cross-cutting theme "The contribution of information and communication technologies to the development of education, science and culture and the construction of the knowledge society" and more particularly the "UNESCO Knowledge Portal" project). A similar network for Latin America and the Caribbean (ODINCARSA) started in 2002 and developed fully during 2003-2004, with the participation of Argentina, Bahamas, Barbados, Brazil, Belize, Chile, Colombia, Cuba, Dominica, Ecuador, Jamaica, Mexico, Nicaragua, Panama, Peru, Saint Lucia and Trinidad and Tobago. |
| *Intensify support to the African Process as a follow-up to the Pan-African Conference on Sustainable Integrated Coastal Management (PACSICOM), to the effect that IOC will concentrate in Africa a significant portion of its field activities, especially in the development of marine data and information networks and integrated coastal management.* | As stated above, ODINAFRICA aims at addressing data and information requirements identified by Member States in Africa. With the support of Flanders UNESCO/IOC has maintained, from 2002, and will continue until 2007 to implement ODINAFRICA.<br><br>The African Process (AP) for the Development and Protection of the Marine and Coastal Environment in sub-Saharan Africa (PACSICOM) was implemented through a GEF Medium-Size Project, covering 11 African countries, supported financially and technically by IOC, and other partners. The AP received high political support and was integrated in the Coastal Management Sub-theme of NEPAD's Environment Initiative. The Partnership Conference of the African Process, held in Johannesburg during WSSD (September 2002) endorsed a portfolio of regional coastal management projects, which will contribute to the operationalization of the NEPAD Environment Component. As a follow-up to PACSICOM and the African Process, IOC led the development of a project proposal on climate change adaptation in coastal zones and shoreline change management through ICAM in West Africa. This project was endorsed by the NEPAD Partnership Conference on Environment and accepted and funded by the Global Environmental Fund (GEF). |
| *Furthermore, IOC will improve ocean services to Member States through the new Joint WMO/IOC Technical Commission for Oceanography and Marine Meteorology.* | GOOS implementation will depend to a fair extent on the success of the newly created Joint IOC-WMO Technical Commission for Oceanography and Marine Meteorology (JCOMM), which held its first intergovernmental meeting in Akureyri, Iceland (19-29 June 2001) (125 delegates from 42 countries participated). The 22nd IOC Assembly approved in July 2003 a Memorandum of Understanding between WMO and IOC on JCOMM. The JCOMM Management Committee as well as several JCOMM working groups met during 2002, 2003 and 2004, to deal with ships of opportunity, drifting buoys, capacity-building and other elements of JCOMM. The JCOMM Operations Centre in the Toulouse satellite communication link (France) was re-enforced and continued to provide an effective service in supporting the quasi-real-time dissemination of Ocean data from surface buoys and Argo floats (2,000 m depth to the surface). |

**Progress in relation to the last report (1999-2000)**

4. In the outlook of the IOC report on its activities (1999-2000) to the General Conference it was stated that: “the long-term challenge for IOC is to define a global framework in which the development of GOOS as a single, permanent, global, public-oriented service, can be achieved, with the active contribution of different segments of the society, including the private sector (…). Achieving this new vision will require the development, negotiation and adoption of international norms and agreements, especially in the area of data and information exchange and sharing”.

5. IOC is making progress in this direction, implementing coordinated operational programmes like Argos and setting standards for data on information exchange. The 22nd IOC Assembly (24 June-4 July 2003) through Resolution IOC/XXII-6 approved the new IOC Oceanographic Data Exchange Policy, which declares that “The timely, free and unrestricted international exchange of oceanographic data is essential for the efficient acquisition, integration and use of ocean observations gathered by the countries of the world for a wide variety of purposes including the prediction of weather and climate, the operational forecasting of the marine environment, the preservation of life, the mitigation of human-induced changes in the marine and coastal environment, as well as for the advancement of scientific understanding that makes this possible”. This is a key achievement of IOC’s Member States, providing international agreed frameworks for efficient oceanographic data exchange procedures in the framework of the Global Ocean Observing System (GOOS).

**Outlook**

6. In its previous report to the General Conference (33 C/REP/9), IOC declared that “An area of activity of IOC that today is Strategic and Exclusive is the coming to age of Operational Oceanography”. IOC is not new to this type of activity having started some of these services more than 30 years ago. The Global Sea-Level Observing System (GLOSS), the Integrated Global Ocean Services System (IGOSS) and the International Tsunami Warning System, are examples of permanent Ocean services developed by IOC that with adequate funding will continue to provide a valuable service to the society. The Intergovernmental Oceanographic Commission of UNESCO is prepared to help Member States, but to make it possible it needs the express support of the 33rd session of the General Conference of UNESCO.