

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Eighteenth Session of the IOC Committee on International Oceanographic Data and Information
Exchange (IODE-XVIII)
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**Group of Experts – Biological and chemical data management
and exchange practices (GE-BICH)**
(Dr Edward Vanden Berghe)

Introduction

Two important events had a direct influence on the establishment of the Group of Experts on Biological and Chemical Data Management and Exchange Practices. The first was the International Workshop on Oceanographic Biological and Chemical Data Management held in Hamburg, Germany in May 1996. The overall goal of the workshop was to improve the quantity and quality of chemical and biological data available to the scientific community; some thirty papers were presented on issues of biological and chemical data management. The second event was the Sixteenth Session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE) held in Lisbon, Portugal, 31 October - 8 November 2000, where the Committee adopted Recommendation IODE-XVI.4 establishing a Group of Experts on Biological and Chemical Data Management and Exchange Practices to develop standards for biological and chemical oceanographic data.

Objectives

The objectives of the group are defined by the Terms of Reference of the Group, as adopted by IODE-XVI, and slightly modified during the first and second sessions of the GE (modifications are in italics):

- documenting the systems and taxonomic databases *and inventories* currently in use in various data centres;
- documenting the advantages and disadvantages of different methods and practices of compiling, managing and archiving biological and chemical data;

- developing standards and recommended practices for the management and exchange of biological and chemical data, including practices for operational biological data;
- encouraging data centres to compile inventories of past and present biological and chemical data holdings;
- encouraging data holders to contribute data to data centres for the creation of regional and global integrated oceanographic *databases incorporating physical, chemical and biological data.*

GE-BICH has so far concentrated on biological data and more particularly on taxonomy/nomenclatures. This can be justified as taxonomy represents vocabulary, and thus comes as a natural first step when setting up data systems. The group will seek additional expertise in chemical data management as required.

Past Activities

Two meetings of the expert group were held, the second one during the past intersessional period of the IODE, hosted by the BODC, Liverpool, from 22-24 March 2004. The Session was attended by, in addition to its regular members, by representatives from FAO, GBIF, ICES and ITIS as well as by the IODE Chair. The group decided to change its acronym to GE-BICH and recommended a slight revision of its Terms of Reference. The Group adopted a detailed work plan that will focus on (i) OceanTeacher modules on biological data management; (ii) raising awareness for the socio-economic importance of data management; (iii) closer collaboration with OBIS, GBIF, ITIS, FAO; (iv) hosting of the URMO web site by the IODE Project Office; (v) collation of guidelines on data quality assurance and quality control for biological data; (vi) pilot projects related to test different systems of distributed querying based on XML (DiGIR and BioCASE) with XML schemas other than Darwin Core and ABCD (using metadata and distributed taxonomic name lists as data types); and (vii) implement survey, requesting information about systems, databases and inventories currently in use in various data centres.

On behalf of IODE, GE-BICH organized the ‘Ocean Biodiversity Informatics (OBI)’ conference, in Hamburg, from 29/11 to 1/12/2004. Other organizations involved were ICES, Census of Marine Life/OBIS, International Association for Biological Oceanography, Taxonomic Databases Working Group, World Data Center Oceanography-A, the German Hydrographic Office and the Flemish Marine Institute. The conference was sponsored by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the European Union (both through the MarBEF network and directly in support for conference participants), and the WDC Oceanography-A (support for participants). Local organizer was the German Hydrographic Office; conference secretariat and web site was done at VLIZ. There were 169 participants, from 37 countries. There were 37 oral and 33 poster presentations. Two open discussion rounds were organized. During these discussions, the conclusions of the ‘Colour of Ocean’ conference in Brussels, 25-27/11/2002 were revisited, and a number of

actions proposed. Another major point of discussion was data policy issues, and the advantages of free and open sharing of biodiversity data. In this discussion, the rewards for the data collector/custodian were discussed, and possible mechanisms to stimulate scientists to make their data available. The discussion resulted in the formulation of a conference statement, which has, in the mean time, been adopted on several other forums. The full text of the OBI Conference Statement can be found on <http://www.vliz.be/obi/statement.php>.

Proposed Activities

The GE wants to facilitate collaboration/interaction between IODE and the Ocean Biogeographic Information System, OBIS. Co-organising the OBI conference was a first concrete action. Several other actions are planned, *i.a.* contributing to ODIMeX.

The GE will be looking for close collaboration with the WG MDM of ICES. There will be GE representative on MDM meetings, and vice versa. Information on the MDM guidelines will be passed to OceanTeacher, and published on the IODE web page.

During the second meeting of the GE, the great potential of emerging technologies was recognised, and identified the need for pilot projects to test the different systems of distributed querying based on XML (DiGIR and BioCAsE), with XML schemas other than Darwin Core and ABCD. Two types of data were identified as suitable for a pilot project: (1) metadata and (2) distributed taxonomic name list. Objectives of the pilot projects are

- gain experience with two systems: (i) DiGIR and (ii) BioCAsE
- pilot for XML

Metadata standards that will be considered are EDMED and ISO 19115. The system for distributed species list will draw on several sources of taxonomic names, and will include ITIS, ERMS and URMO.

A second pilot project identified concerns URMO. The UNESCO/IOC Register of Marine Organisms should continue its web presence but should better reflect its full coverage. The Group recommended that the URMO web site should in future be hosted by the IODE project Office in Oostende, Belgium. Objectives are to

- make URMO available as database through web-based interface, hosted by the IODE Project Office
- link URMO and ITIS, add TSN field to URMO

Work Plan, Timing & Budget

No meeting of the GE will be held in 2005; the third meeting will be held in Oostende, in May 2006.

Two pilot projects were identified, as outlined above. Funding is requested from IODE to support these pilot projects. Each of the two pilot projects will need 4,500 US\$.

Sources of Funding

No external sources of funding are available. Funding for the pilot projects and the 2006 meeting is requested from IODE

Requested Actions from the Committee

- Approve the revised terms of reference
- Approve funding of the pilot projects