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IODE Group of Experts on Marine Information Management (GEMIM)

Seventh Session

UNESCO, Paris, France

23 – 25 October 2002

Intergovernmental Oceanographic Commission

Reports of Meetings of Experts and Equivalent Bodies

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Abstract

The Seventh Session of the IODE Group of Experts on Marine Information Management (GEMIM) was held at UNESCO Headquarters, Paris, France between 23 and 25 October 2002. The Session noted the substantial progress that had been made since the Sixth Session, especially in the areas of OceanTeacher, OceanPortal and OceanExpert (formerly known as GLODIR). The Group also noted the successful implementation of ODIN networks in Africa, the Caribbean and South America. In order to improve representation of the MIM community in IODE, the Group called for the nomination of IODE National Co-ordinators for MIM. The Group adopted a comprehensive work plan focusing, *inter alia*, on (i) directory of training opportunities (internships); (ii) continued development of MIM modules for OceanTeacher; (iii) revision and further developing MIM categories in OceanPortal; (iv) review and further development of OceanExpert; (v) development of ODIN in additional regions; (vi) improving access to e-journals by developing countries; (vii) e-Print repository project; (viii) Z39.50 middleware project. For several of these actions, the Group called for close collaboration with IAMSLIC.

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1. OPENING OF THE SESSION

The Chair of the Group, Dr. Murari Tapaswi, welcomed the participants to the Seventh Session of the IODE Group of Experts on Marine Information Management and thanked IOC for their assistance in organizing the meeting.

The Group noted with regret that Mrs. Heather Cameron (Canada) had retired and had therefore ended her membership of GEMIM. The Group, on behalf of the Marine Information Management community, expressed its thanks to Mrs. Cameron for her valuable contribution to the Group.

2. ADMINISTRATIVE ARRANGEMENTS

The Chair invited comments on the Provisional Agenda. The Group adopted the Agenda ([Annex I](#)). The Group designated Mr. Peter Pissierssens as Rapporteur for the Session.

3. REPORT ON INTERSESSIONAL ACTIVITIES

The Chairman introduced this item using the document 'Overview of the Status of Implementation of the GEMIM Work Plan'. He noted the extensive list of actions that had been adopted by the Sixth Session but noted that despite the long list, most items of the work plan had been implemented during the intersessional period.

GEMIM-VI Action 1: Directory of Training Opportunities Clearing House:

Responsibility: P. Simpson; G. Rao.

Status: This was planned to be a directory of institutions that can provide internships for marine librarians to be developed jointly with IAMSLIC. Mrs. Pauline Simpson had already aired (IAMSLIC, October 2000 meeting) the concern and interest of IOC in collaborating with IAMSLIC on this aspect. Information is not systematically collated in the form of a directory. There is still a need for this information to be available but it may be that an IAMSLIC web page with relevant links is more suitable. The new website of IOC (OceanPortal) does provide links to some of the important issues in library and information management training.

(See <http://ioc.unesco.org/oceanportal/browse.php3?cat=577>).

The Group noted that the Terms of Reference defining the responsibilities of an institution that wishes to host an intern could help in identifying internship possibilities. Accordingly, the Group agreed on the following Terms of Reference:

Draft Terms of Reference for hosting interns:

If a library decides that it would like to host an intern, then it must recognize that certain responsibilities will ensue. The first consideration will be the type of intern: this can be a student in the process of learning information science, or a professional who decides to expand his/her skills and knowledge.

It must be recognized that the host library will need to spend time preparing the intern's project. The project must meet the intern's need to learn or expand his/her skills. Once the intern arrives, again the host library must recognize that sufficient time must be allocated for the intern.

The practical matters to consider:

- (i) *the intern must have language skills (of host) necessary to perform the project, or the host organization must provide for an interpreter;*
- (ii) *the host must be able to provide assistance in obtaining affordable housing for the intern and hospitality;*
- (iii) *the host may need to assist in identifying funding for the internship (including health insurance);*
- (iv) *the host must provide equipment for use by the intern for the duration of the project;*
- (v) *the host must provide office space for the intern;*
- (vi) *the host must allocate staff time for training of the intern during the internship.*

The internship duration should be about 3 months. This was recognized as a possible problem for staff coming from small institutions, as no replacement staff may be available during the internship.

GEMIM-VII Action 1: (i) canvass IAMSLIC and EURASLIC with the terms of reference for hosts. (ii) set up online database as part of IAMSLIC (and/or EURASLIC web site) where candidates can apply. Hosts should also investigate means to sponsor interns through national/international funding agencies.

GEMIM-VI Action 2: IOC Catalogue of Online Publications

Responsibility: IOC.

Status: An IOC Electronic library web page is now available. Full-text versions of more recent publications are available in electronic format at <http://ioc.unesco.org/iocpub>

GEMIM-VII Action 2: The Group recommended that retrospective digitisation of IOC documents be continued. Dr. Tapaswi mentioned that developing countries have problems downloading large documents. It was recommended that CD-ROM versions of the library be made available on demand as well.

GEMIM-VI Action 3: Request Publishers to ask Authors to Define Keywords using ASFIS Thesaurus:

Responsibility: P. Simpson.

Status: The Elsevier group journals (Elsevier, Pergamon and Academic Press) are now recommending authors to use the ASFIS Thesaurus for their publications in the field of marine sciences. Elsevier publishes a very large number of journals of interest to marine sciences. There are many other publishers as well that should be contacted.

GEMIM-VII Action 3: (i) Mrs. Simpson will contact marine science publishers. Need to indicate how the ASFIS Thesaurus is available. (FAO or CSA); (ii) Mrs. Goulala will contact research institutions that publish journals on marine science.

GEMIM-VI Action 4: Monitoring of Electronic Copyright Legislation in Relation to Electronic Document Delivery:

Responsibility: S. Goulala.

Status: Reference was made to the draft document prepared by Mrs. Sofia Goulala 'Report on Electronic Copyright Legislation'. GEMIM noted that copyright is increasingly a problem for libraries and thanked Mrs. Goulala for the substantial work carried out.

First aspect - copyright as related to inter-library loan: several publishers now specifically indicate that no copies can be made of electronic documents for ILL. The situation is still very complex. The Group recommended studying the specific rules of publishers in terms of ILL. In this regard reference was made to the RoMEO project. The objectives of RoMEO are: (i) understand stakeholder needs with

respect to the protection and use of intellectual property disclosed under the OAI protocol. This will include the IPR (Intellectual Property Rights) status of the metadata, as well as the documents themselves; (ii) using existing and developing standards, such as the Open Digital Rights Language, develop an interoperable set of metadata elements to describe the rights information relevant to “giveaway” literature; (iii) develop ways of incorporating the rights elements into the metadata of documents harvested by the OAI metadata harvesting protocol; (iv) create a demonstrator system and guidelines that illustrates how the elements may be disclosed by the author, and how they may appear to the end user; (v) establish a Rights Working Group to steer and advise the Project. The Project is implemented by the Department of Information Science, Loughborough University, United Kingdom. Prof. Charles Oppenheim is the Project Leader. More information on the RoMEO project can be obtained from the web site

<http://www.lboro.ac.uk/departments/is/disresearch/romeo/Romeo%20Home%20Text.htm>). A report is expected from that Project by the end of this year.

The Group restated that the ILL services are not for profit but for the benefit of international marine research. It should therefore be considered as “fair use”.

GEMIM-VII Action 4: (i) Mrs. Simpson will distribute the RoMEO report to GEMIM, as well as to IAMSLIC/EURASLIC and ODIN networks; (ii) Mrs. Goulala will finalize her document for publishing on the IODE web site (and OceanTeacher web site).

Second aspect – copyright as related to author rights: Mr. Goovaerts noted that the new copyright laws will make the owner’s right, in this case the authors, stronger. Institutions will have to give assistance to protect the rights of their members while dealing with the publishers. There is also a move towards institutional repositories that are open to the public. Some major publishers are already accepting that authors publish their articles in the journals and at the same time, in institutional repositories. See also [Agenda Item 8.2](#).

GEMIM-VI Action 5: Meeting of ICSPRO and other UN Agencies on Co-ordination of MIM Activities

Responsibility: IOC.

Status: It is not immediately clear for other agencies, what they could get out of participating in our GEMIM meetings. Possibly we can get input from other agencies on what they do in terms of marine information management and decide on the need and benefits of joint meetings at that time.

GEMIM-VII Action 5: IODE Secretariat to send letter to UN agencies to inquire about their MIM activities.

GEMIM-VI Action 6: Development of IOC Web page Template for Member States Web sites

Responsibility: IOC.

Status: A letter was sent by IOC to all Member States with the offer to provide a template but little response was received. More recently, IOC Circular Letter No. 2039 was sent out to inquire from Member States how they have advertised IODE. Some responses were received but still very few.

GEMIM-VII Action 6: The Group strongly recommends that data and information centres that are part of the IODE network include the IODE logo on their homepage.

GEMIM-VI Action 7: MIM Publications Series

Responsibility: All Group members.

Status: During last the few years nothing has been published in the MIM Publication Series.

The Group noted that MIM now has a number of electronic channels that can publish MIM-related material (IODÉ web site, OceanTeacher). The Group decided that the preferred means of publishing should be the IODE web site and OceanTeacher.

GEMIM-VI Action 8: IOC CD-ROM

Responsibility: IOC.

Status: Since the publications of IOC are now available over the web, there is no need for a CD-ROM with around 200 full-text documents. This item therefore is closed due to change in technology. The Group decided that CD-ROMs of parts of the IODE web presence, including the IOC publications database should be made available upon request. (See also [Action 2](#)).

GEMIM-VI Action 9: Support to IAMSLIC Conference Participants and Action 10. Support to EURASLIC Conference Participants

Responsibility: IOC.

Status: Support has been provided for participants of the IAMSLIC and EURASLIC conferences.

[GEMIM-VII Action 7](#): The Group strongly recommends that close collaboration between IAMSLIC and IOC continues, and calls for a continued financial allocation for IAMSLIC and its regional groups in the IODE budget. The Group noted the high appreciation of IAMSLIC and EURASLIC for the support provided by IOC/IODE.

GEMIM-VI Action 11: RECOSCIX-CEA Training Course

Responsibility: IOC.

Status: RECOSCIX-CEA activities are now part of ODINAFRICA-II (2001-2004) (See also [Action 19](#)). Two Training Courses have taken place: one in South Africa (2001) and one in Tunisia (2002).

GEMIM-VI Action 12: Contact ARIEL Producer RLG to obtain special price for developing countries. (ILL Software)

Responsibility: IOC.

Status: IOC.

Since the Library and Information centres in ODINAFRICA were provided with the Digital Postman software, this was not required and therefore no contact was established. It had been decided to provide Digital Postman for the ODINAFRICA Member States and so this item was not followed up.

The Group noted that Mr. Jan Heckman had offered to study the compatibility between the commercial product Ariel and the freeware Prospero during the 2002 IAMSLIC conference. The Group noted that the functionality of Ariel and Prospero are very similar.

[GEMIM-VII Action 8](#): The Group decided to recommend Prospero as a freeware alternative to Ariel.

GEMIM-VI Action 13: Paper on Hardware/software Requirements for Marine LIC

Responsibility: M. Odido; M. Tapaswi.

Status: Completed. A broad based compilation was produced indicating hardware and software requirements for marine LICs. This was of immediate use for the purchase of hardware and software for LICs of ODINAFRICA.

[GEMIM-VII Action 9](#): M. Tapaswi will circulate the document to the GEMIM members. After revision the document may be included in OceanTeacher.

GEMIM-VI Action 14: Detailed ILMS Module Description

Responsibility: H. Cameron; J. Beattie.

Status: Completed by P. Simpson and M. Tapaswi. A detailed document was not prepared, so the broad based document on hardware and software requirements (See [Action 13](#)) that included a brief description of ILMS modules was used. This was then reviewed and rewritten at the First Session of the IODE Steering Group for Resource Kit (see Report on http://ioc.unesco.org/iode/files.php?action=viewfile&fid=107&fcid_id=26) and the outcome was used for short listing off the shelf ILMS software vendors.

GEMIM-VII Action 10: Mrs. Simpson will circulate the document to the GEMIM members. After revision, the document may be included in OceanTeacher.

GEMIM-VI Action 15: Identification of Off-the-shelf ILMS Software

Responsibility: All GEMIM members.

Status: Completed. Integrated Library Management software vendors were identified and two were selected for detailed review: Abekt and Inmagic. A turnkey solution was required rather than a system requiring an in-house design. Inmagic's (<http://www.inmagic.com>) ILMS was selected for use in ODINAFRICA. (See also [Agenda Item 6.1.3](#)).

GEMIM-VI Action 16: WinISIS ILMS

Responsibility: M. Tapaswi.

Status: Closed. An integrated WinISIS solution was not available and would need to be written. Since the Inmagic ILMS software was suitable for the needs of developing countries, the option was not pursued. (See also [Agenda Item 6.1.3](#)).

GEMIM-VI Action 17: Send Recommendations on MEDI to AODC

Responsibility: IOC.

Status: Completed. MEDI data fields were reviewed and suggestions submitted to AODC. See also relevant SG-MEDI reports.

(See http://ioc.unesco.org/iode/categories.php?category_no=25).

GEMIM-VII Action 11: The Group requested the SG-MEDI to ensure that MEDI could include bibliographic citations.

GEMIM-VI Action 18 : Continued Development of ODINAFRICA

Responsibility: IOC.

Status: Completed. The ODINAFRICA project proposal was designed by a consortium of 19 IOC Member States in Africa and submitted to the Government of Flanders within the framework of the UNESCO-Flanders co-operation agreement. The project was approved and implementation of the Project was started in 2001.

GEMIM-VI Action 19: Continued Development of RECOSCIX-CEA

Responsibility: IOC.

Status: Completed. RECOSCIX-CEA activities have been included in the ODINAFRICA project: See [Action 18](#).

GEMIM-VI Action 20: Revision of INSHORE Project Proposal

Responsibility: IOC.

Status: Closed. Dr Tapaswi reported that a revision of the INSHORE project proposal had been discussed with the authorities but that the revision had not been agreed upon. Accordingly, the proposal had been dropped.

GEMIM-VI Action 21: Further Development of GLODIR Software and User Interface

Responsibility: IOC.

GEMIM noted that GLODIR has been renamed to OceanExpert. Mr. Pissierssens informed the Group that the number of records in GLODIR had reached 13,000 by the year 2002. In early 2002 it was decided to re-engineer GLODIR. This decision had been taken as the technical solution on which GLODIR was based until then (Filemaker database served over the Internet with Lasso as middleware) had reached its limits with response times of up to 2 seconds. In addition, the mailing function of GLODIR (sending out e-mail to all or part of GLODIR addresses) caused crashes or serious slowdown of the server when the number of addressees exceeded 1,000. It was therefore decided to migrate GLODIR to a more robust and flexible solution. A contractor was hired to re-engineer GLODIR during the summer of 2002. We specified the following new features: (i) easy registration with 'forgot my password' function that e-mails the forgotten password; (ii) enable registered experts to send e-

mails to others in the same country and/or with the same research interest (“community subscribe” function to receive such mails and “community mail” function to send such mails); (iii) citation alert: to receive an e-mail alert when an expert with your research interest submits a citation. In addition, to respond to the request to also provide a ‘directory of research institutions’, the system now uses a ‘controlled’ institution list whereby new experts can choose from a list of institutions previously entered. The technology solution chosen is based on the open source MySQL database management system and PHP programming language. Last but not least, we decided to rename GLODIR to a more intuitive ‘OceanExpert’ and we registered the domain name www.oceanexpert.net. The new OceanExpert is brought into beta testing on 1 November 2002. It is expected that by the end of November 2002, the system will be fully functional, at which time it will be officially ‘launched’. (See also [Agenda Item 4.4](#)).

GEMIM-VI Action 22: Development of Promotional Material, Promotion of GLODIR

Responsibility: IOC.

Status: posters have been designed, printed and circulated.

[GEMIM-VII Action 12](#): The Group suggested presenting a paper during major marine science conferences or setting up an exhibit. It may be possible to team up with others to share an exhibit.

GEMIM-VI Action 23: Identification and Detailed Description of MIM Training Modules

Responsibility: P. Simpson.

Status: Completed. During the First session of the IODE Steering Group for Resource Kit, this item was discussed at length, based on the draft from Mrs. P. Simpson. The same was discussed and finalized as three training programmes. Two training courses were organized for participants from ODINAFRICA during the years 2001 and 2002. The modules seem to be useful, based on the feedback received from the participants of the training programme. The third training course is yet to take place, which will complete training in all aspects of Library and Information Management. In support of the training courses, MIM training modules were developed for OceanTeacher. Mrs Simpson reported that the MIM curriculum has been divided into three courses. The three together provide a solid basis for the skills required for management of marine library/information centres. The Group noted that the responsibility for developing material for the MIM curriculum was transferred to the Steering Group for OceanTeacher.

[GEMIM-VII Action 13](#): (i) Mrs. Simpson will circulate the module definitions to the GEMIM members (ii) the Group decided to review OceanTeacher and report to the Steering Group;

GEMIM-VI Action 24: Provision of Basic Library Training Material

Responsibility:

Status: This is part of OceanTeacher. The modules developed for the MIM training are available at: <http://ioc.unesco.org/oceanteacher/information/index.htm>. In addition, the UNESCO ‘Libraries for All’ (<http://worldlibraries.org/publications/lfa.shtml>) provides a basic training document, which we would not want to replicate.

GEMIM-VI Action 25: MIM Web site Development

Responsibility: IOC.

Status: A web page on the activities undertaken by GEMIM was added in the IODE web site after GEMIM-VI. This page was maintained after the launching of the new IODE web site in August 2002. (http://ioc.unesco.org/iod/categories.php?category_no=20) However, no additional information had been added.

The Group decided that there were two aspects to the issue of a web presence for MIM and GEMIM. The first aspect related to the web presence of the Group GEMIM. The Group stressed the need to better reflect in the IODE web site that GEMIM has been actively involved in the development and implementation of many IODE web-based services such as OceanPortal, OceanExpert, BeeBox, OceanTeacher, etc.

[GEMIM-VII Action 14 \(a\)](#): expand the GEMIM section to include links to products and services and projects developed by or with GEMIM.

The second aspect related to a '[marine information portal](#)', aggregating links to sources of marine information on the web with special emphasis on resources needed by marine librarians. This is in fact included in OceanPortal but needs enhancement with regard to marine information.

The Group was informed that IAMS LIC is interested in the development of a 'marine information portal' as well, and that co-operation with IODE/MIM's OceanPortal in this regard is welcomed. The input from IAMS LIC could consist of its members contributing content to the marine information-related categories in OceanPortal. IAMS LIC will be able to create its own 'view' with the IAMS LIC branding (but using the same underlying database hosted by IOC/IODE).

[GEMIM-VII Action 14 \(b\)](#): (i) The IOC Secretariat is to contact the IAMS LIC President and IAMS LIC exec to jointly review OceanPortal; (ii) recommend categories in OceanPortal. See also [Agenda Item 4.3](#).

4. GEMIM PRODUCTS AND SERVICES

4.1 CONTENT DETAILS FOR INFORMATION MANAGEMENT MODULE OF THE IODE RESOURCE KIT AND MIM TRAINING

This item was discussed under Agenda Item 3 ([GEMIM-VI Action 23](#)).

[GEMIM-VII Action 15 \(a\)](#): (i) the Group decided to review OceanTeacher and report to the Steering Group for OceanTeacher; (ii) Mrs. Simpson will circulate the module definitions to the GEMIM members.

The Group noted that communication between the ODINAFRICA librarians is more limited than between the data managers. It was remarked that the project had been able to contract Mr. Murray Brown as follow-up co-ordinator for data management, but that no such contractor was available for information management.

[GEMIM-VII Action 15 \(b\)](#): (i) the Group will draft a job description; (ii) Members of the Group will consult with IAMS LIC for the possible hiring of a marine information follow-up co-ordinator for ODINAFRICA.

4.2 INTEGRATED LIBRARY MANAGEMENT SYSTEM SOFTWARE

This was discussed under Agenda Item 3: [GEMIM-VI Action 13](#), [GEMIM-VI Action 14](#) and [GEMIM-VI Action 15](#).

[GEMIM-VII Action 16](#): The Group recommended a 'user survey' amongst the ODINAFRICA librarians to evaluate their experience with INMAGIC.

4.3 IOC GATEWAY TO ELECTRONIC OCEAN INFORMATION RESOURCES: OCEANPORTAL

The Group concluded that an extensive revision of the categories is required, as well as reviewing the relevance of the records to marine information. In this regard, the Group noted that it will be necessary to define the scope of the marine information sections of OceanPortal and to ensure that the description field indicates the relation of the linked web page to marine information. See also Agenda Item 3 ([GEMIM-VI Action 25](#)).

[GEMIM-VII Action 17](#): The Group decided a full review of OceanPortal including (i) define scope; (ii) re-define categories; (iii) re-categorize content and re-describe descriptions; (iv) irrelevant content; (v) add new content. It was decided to invite IAMS LIC to undertake these actions jointly.

4.4 OTHER PRODUCTS ON IOC'S WEBSITE (INCLUDING OCEANEXPERT)

The IOC Secretariat explained that GLODIR has been re-engineered and has been renamed OceanExpert. The new software is now in beta testing. More information on the re-engineering activity is provided under Agenda Item 3 ([GEMIM Action 21](#)).

The Group requested to make sure that editors receive an e-mail notification when new records have been added that fall under their responsibility.

The Group requested to include an 'export' function for administrators/editor enabling listing of individual records for a given institution.

It was noted that OceanExpert still contains marine, freshwater and brackish water experts. The option was mentioned to split the end user interface into marine or freshwater/brackish. However, it was felt that this is not a priority for GEMIM.

[GEMIM-VII Action 18](#): (i) the Group will review and evaluate the new system; (ii) the Group will, in co-operation with IAMS LIC and EURAS LIC, promote OceanExpert; (iii) the Group will, in co-operation with IAMS LIC and EURAS LIC, recruit institutional, national and/or regional editors.

4.5 MIM PUBLICATION SERIES

Discussed under Agenda Item 3 ([GEMIM-VI Action 7](#)).

5. PROGRESS AND FURTHER NEEDS IN THE NETWORK DEVELOPMENT (ODINAFRICA, OTHER REGIONS)

Mr. Peter Pissierssens provided a brief overview of the status of the ODIN networks in Africa (ODINAFRICA) South America and the Caribbean (ODINCARSA).

5.1 ODINAFRICA

As mentioned under Agenda Item 3 ([GEMIM-VI Action 18](#)), the ODINAFRICA (Ocean Data and Information Network for Africa) project had been approved for funding by the Flanders Government and implementation had commenced in January 2001. The project has a budget of over US\$ 3 million and will terminate in 2004. Twenty IOC Member States in Africa participated in the project and nearly all had already established NODCs or DNAs, as well as information centres. The project organized two training courses in marine data management and two courses in marine information management. A third, a final cycle of courses, was planned for 2003. The project is managed by a group of twenty national co-ordinators (one from each country), as well as two regional co-ordinators (one for Eastern and South Africa: Mr. Mika Odido, and one for Western and North Africa: Mr. Sekou Cisse). ODINFARICA provides support for equipment, training and operational support (including Internet access). In accordance with the UNESCO-Flanders agreement, an independent review of the project was made recently. Overall, this review was very positive. However, it did pinpoint some weaknesses in implementation due to administrative delays at UNESCO and also called for the provision of broadband Internet access for the participating institutions.

5.2 ODINCARSA

With regard to ODINCARSA (Ocean Data and Information Network for the Caribbean and South America regions), Mr. Pissierssens informed the Group that the ODINCARSA project was started by the First Planning Workshop in 2001 (Guayaquil, Ecuador, 24-26 October 2001) where the first work plan was drafted. This work plan has subsequently been approved by the IOC Executive Council's Thirty-fifth Session (June 2002). Two events have been organized so far: the First ODINCARSA Training Course in Marine Data Management (Guayaquil, Ecuador, 20-31 May 2002) and the First ODINCARSA Training Course in Marine Information Management (Mazatlan, Mexico, 29 September – 4 October 2002). A total of 15 IOC Member States collaborated in ODINCARSA at this moment.

With regard to the Marine Information Management Training Course, Mr. Pissierssens informed the Group that only three marine librarians participated in this event. The other participants were data managers. This was due to the fact that the institutions that had decided to join ODINCARSA were often part of the military and were data management oriented. The training course had therefore recommended an extensive national survey to locate marine information management resources in the ODINCARSA countries. In addition, the data managers that participated in the course had clearly stated that they had not been aware of the extensive expertise and knowledge required by today's LICs. The course also recognized that there existed a substantial difference between the island and mainland countries. Due to the small size of the island state institutions, the island state participants recommended nominating a Regional Co-ordinator for the Caribbean region. Accordingly, they elected Mrs. Donna Spencer for this position.

Mr. Pissierssens noted that the language distribution in the ODINCARSA was such that equal attention needed to be given to English and Spanish speaking countries, and that this had led to the provision of simultaneous interpretation for the MIM training course.

Mrs. Beattie mentioned that the NOAA regional library in Miami has a Spanish-speaking staff member (Mrs. Maria Bello) who could assist GEMIM and ODINCARSA.

It was concluded that the first priority of ODINCARSA in 2003 would be to identify all existing marine libraries and information centres, and assess their resources. Based upon the results of this assessment, (a) detailed project proposal(s) would be developed for submission to donors.

[GEMIM-VII Action 19](#): Mrs. Beattie will investigate possible donors for ODINCARSA (networking in information management).

5.3 OTHER REGIONS

With regard to the Asia/Pacific regions, the Group noted the benefit of a survey of available resources in those regions. The Group recommended inquiring from Japan, China, the IGBP Project based in Thailand, the World Fish Centre in Malaysia (ex-ICLARM), PIMRIS, PIALA.

[GEMIM-VII Action 20 \(a\)](#): survey of marine libraries and information centres in IOCINDIO and WESTPAC regions and the Southern Pacific.

Mrs. Goulala called for attention to the Mediterranean region. Mr. Pissierssens referred to the MAMA project and suggested recommending a more comprehensive marine information programme within MAMA.

[GEMIM-VII Action 20 \(b\)](#): It was recommended to discuss with the MAMA Group the possibility to include a more extensive information management programme with emphasis on resource sharing. Possibly this could be discussed during the MAMA meeting planned for December 2002 in Athens.

6. CO-OPERATION BETWEEN DATA AND INFORMATION COMMUNITIES

6.1 WITH IODE

Reference was made to the IODE-XVI Action Sheet.

6.1.1 IODE-XVI/3 Para. 221

‘The Committee tasked the GEMIM with the documenting of experience within the IODE community in managing and archiving pollution data and in increasing the visibility in the community of this expertise. The collected information should be posted on the IODE web site’.

Dr. Murari Tapaswi informed the Group about his work on this item. He had prepared a compilation of some information collected from the NODC web sites. In addition, contact was made with some data centres. The Group reviewed the document prepared by Dr. Tapaswi.

It was noted that some data centres do not use ‘pollution data’ as a keyword. A user would need to use specific terms such as “eutrophication”, “mercury”, “heavy metals”. A general user would therefore not be able to find ‘pollution data’. Although many of the data centres do archive data that are related to pollution, many do not describe them as ‘pollution data’. The different data centres describe the term ‘pollution data’ differently.

Canada is an example where pollution data are given a strong identity through the ‘National Contaminants Information System’.

After an extensive search of the NODC databases within the IODE community, it is recommended that the IODE community recognizes the importance of the information centres to enhance access to pollution data. GEMIM recommended that data centres give attention to the development of interfaces that enable searching based on standardized terms such as those used in the ASFIS/ASFA Thesaurus and that the data centres should collaborate with the marine information centres to develop such interfaces.

It was noted that information centres already provide integrated services to users linked to textual information (publications, reports), metadata and datasets. GEMIM recommended that data centres collaborate actively with the development of such services and that these be promoted more actively by the data centres.

GEMIM-VII Action 21: finalize document and add searching results for GCMD (<http://gcmd.gsfc.nasa.gov/>).

6.1.2 IODE-XVI/3 Para. 237

“The Committee called on the Member States to increase the participation of national information management experts in the IODE/MIM programme, regretting the poor response of the Member States to the invitation to nominate candidate experts for the GEMIM, and to include in the list, when appropriate, members from data centres with an information component.”

The Group noted that representation at IODE Committee Meetings has remained mainly with the data managers. In many cases, information managers are not consulted with regard to Committee meetings.

The GEMIM recalled that the IODE stands for ‘International Oceanographic Data AND Information Exchange’. In order to achieve a better balance between data and information at the sessions of the Committee, the Group felt that it would be appropriate for Member States to establish

IODE National Co-ordinators for Marine Information Management and National Co-ordinators for Marine Data Management. The IODE National Co-ordinator for Marine Information Management should be a marine library and information professional, preferably associated or closely working with the national oceanographic data centre. Invitations for the Session of the Committee should then be addressed to both IODE National Co-ordinators.

The Group adopted Recommendation MIM-VII.1. [See also Agenda Item 9.1]

6.1.3 IODE-XVI/3 Para. 278

“Accordingly, the Committee tasked the IODE Group of Experts on Technical Aspects of Data Exchange and the IODE Group of Experts on Marine Information Management to develop a comprehensive inventory of (i) data and information products; and (ii) data and information management software and related tools. The Committee further decided that these inventories should be disseminated through the IODE web site and should be included in the IODE Resource Kit.”

The Group noted that little progress had been made on this item with regard to marine information management.

Data and Information Products

With regard to marine information products, it was noted that these exist in the form of OceanTeacher (MIM module), OceanExpert and OceanPortal and their contents. This subject is also related to the aggregated portal described under Agenda Item 4.3.

Data and Information Management Software, and Related Tools

Categories to be considered: personal bibliographic software (reference managers); electronic document delivery; library management systems.

- **ILMS:** ABEKT, INMAGIC, KOHA, Alice, Aleph, SIRSI, Voyager, Galaxy, GEAC Advance, Brocade, OLIB, Horizon, Cadomel, Cairns, Libsys (More also on <http://www.biblio-tech.com/>).
- **LMS:** WinISIS, WebISIS.
- **Personal Bibliographic Software:** EndNote, ProCite, Reference Manager, RefManager.
- **Electronic Document Delivery:** Ariel, Prospero, Digital Postman.

[GEMIM-VII Action 22](#): P. Simpson and J. Beattie will circulate the list to the IAMSLIC membership (through the IAMSLIC exec) for input. The list will be included in the MIM module of the OceanTeacher/ResourceKit.

6.1.4 IODE-XVI/3 Para. 359

“The Committee further decided to continue with the current portal system (static html pages) and enrich the Portal as much as possible, while tasking the GETADE and GEMIM with (i) defining the content and technical specifications of the OceanPortal; (ii) identifying possible technical solutions to implement such a portal.”

Although a wide variety of web site directories and search engines exist, many of these do not provide sufficient detail or subject specificity. In addition, the level of ‘noise’ (i.e.; number of query responses that are not relevant) is high. It was therefore decided by the IODE Committee during its

Sixteenth Session (October/November 2000) to develop an 'OceanPortal' that will focus on 'ocean research and services' web sites: OceanPortal is therefore a high-level directory of Ocean Data and Information-related web sites.

Its objective is to help scientists and other ocean experts in locating ocean data and information. Anyone can submit a new URL, suggest modification of an existing link or report a broken link. A chief editor (Dr. Murray Brown) is responsible for verifying and validating submissions. The web sites are subject categorized in 15 main categories (Topical Sites/Education; Data Catalogues; Online Data Servers; IODE/World Data Centres; Ocean Libraries; Publications/Communications; Expertise; Research Vessels; Tools and References; Projects/Agencies/Institutes; Meeting/Event Calendars; Associations/NGOs; Protected Areas/Aquariums; Abstracts/Bibliographies; Commercial Equipment/Services), and a total of 184 sub-categories.

OceanPortal is available through the URL <http://www.oceanportal.org>. On 1 September 2002, OceanPortal described more than 3,200 sites. We receive about 30-50 new submissions per month.

Whereas OceanPortal was initially conceived as a web directory only, we quickly realized that we could considerably increase the usefulness of the service if we could also provide a specialized search service that would be able to search the registered web sites. We therefore implemented a WebCrawler/indexer (Taxis' Webinator) that visits all registered sites and indexes their content (html, word, pdf, php) down to level 3 (root and down to 2 levels below) once a month. The crawler/indexer thus visits and indexes over 550,000 documents.

The Group recommended revision of the categorization under [Agenda Item 4.3](#).

6.1.5 IODE-XVI/3 Para. 372

"The Committee recommended that the IODE Groups of Experts (GETADE and GEMIM) be involved in the XML Consortium."

The development of a marineXML is being undertaken by the IOC/DE Study Group on Marine XML. The aim of the MarineXML project is to demonstrate that eXtensible Mark-Up Language (XML) technology can be used to develop a framework that improves the interoperability of data for the marine community and specifically in support of marine observing systems. XML was developed by the World Wide Web Consortium (W3C) to improve data transfer over the Internet. With the advent of XML, the global oceanographic community has available, an opportunity to create a truly universal marine data standard. Unlike earlier standardisation initiatives, XML can support existing data formats and information systems while providing maximum benefits when included in the development of new systems. Thus, existing investments in instruments, computing systems and staff training are protected, and all users are able to benefit substantially from the standardisation and interoperability of data that resides in such a framework.

IODE's initiatives in, and involvement with the development of marineXML include:

(i) MarineXML Consortium initiative: During the year 2000, Mr. Ben Searle, former IODE Chairman, established the MarineXML Consortium that would work on the development of a marineXML standard. A few partners were identified to start up the Consortium and some funds were contributed. In January 2002, the Secretariat of this Consortium was transferred to the IODE Secretariat, together with the balance of funds; (ii) Proposal submitted to EC: MarineXML: a pre-standardisation development for marine data interoperability using XML: co-ordinated by the UK company H.R. Wallingford, a proposal was successfully submitted to the European Commission for funding; (iii) Co-operation between IOC and ICES on the development of a marine XML: IOC and ICES created the - IOC Study Group on the Development of Marine Data Exchange Systems - using XML (SGXML) . It met for its first Session in April 2002.

The GEMIM noted the progress with regard to marine XML but regretted that no marine information management experts were currently involved nor had they been invited to participate in the two activities in which IOC is involved. The Group recommended that the GEMIM Chair be invited to participate (or designate a relevant expert from the marine information management community) in the proceedings of the two activities.

6.2 CO-OPERATION WITH IAMSLIC, EURASLIC AND RELATED MARINE LIBRARY ASSOCIATIONS

GEMIM acknowledged the importance of IAMSLIC as a communication channel and Partner for international projects.

Specific areas of co-operation with IAMSLIC have been described under other Agenda Items:

- [3. GEMIM-VI Action 1: Directory of Training Opportunities Clearing House](#)
- [3. GEMIM-VI Action 4: Monitoring of Electronic Copyright Legislation in Relation to Electronic Document Delivery](#)
- [3. GEMIM-VI Action 9: Support to IAMSLIC Conference Participants](#)
- [3. GEMIM-VI Action 25: MIM Web site Development](#)
- [4.1 CONTENT DETAILS FOR INFORMATION MANAGEMENT MODULE OF THE IODE RESOURCE KIT AND MIM TRAINING](#)
- [4.3 IOC GATEWAY TO ELECTRONIC OCEAN INFORMATION RESOURCES: OCEANPORTAL](#)
- [4.4 OTHER PRODUCTS ON IOC'S WEBSITE \(INCLUDING OCEANEXPERT\)](#)
- [6.1.3 IODE-XVI/3 Para. 278](#)
- [8.3 Z39.50 AND DISTRIBUTED LIBRARIES](#)

Polar Library colloquies and ASLI were seen as potential, additional, and useful partners for collaboration.

6.3 CO-OPERATION WITH ASFA

The Group noted with appreciation the support provided by the IOC/IODE to participants from developing countries in ASFA Board meetings and called on IOC to continue its support.

The Group recommended that the IOC investigate co-operation with the ASFA Board to include data references (dataset citation with link to dataset) in the ASFA database. (Possibly this could result in a GCMD metadata subset sub-divided by ASFA subject category).

[GEMIM-VII Action 23](#): GEMIM members will consult with ASFA Partners and prepare a proposal on "The acquisition of dataset citations for inclusion in ASFA (probably) using automated methodology" for discussion at the 2003 ASFA Board Meeting.

6.4 CO-OPERATION WITH SCIENCE PROGRAMMES

The Group noted the increase in electronic publishing on the Web. Examples were given of documents published by projects that proved to be extremely difficult to find. The Group expressed its concern about the archival of e-publications for science projects beyond the end date of the projects. It was noted that many projects do not have a set practise for the archival of their publications nor do they give due attention to marine information management in their data and information management plan.

GEMIM-VII Action 24: The Group recommended that measures be taken to ensure that project documents be archived permanently by a designated library/information centre that commits itself to be a permanent archive.

7. MIM SUBJECT CATEGORIZATION

The Chair introduced this item. He recalled that the requirement for a categorization scheme originated in the co-operation agreement between IOC and EurOcean, as well as in the re-engineering of OceanExpert, where it was felt a more solid categorization scheme would be beneficial.

He informed the Group that he had prepared a table that compared ASFA, OLR and GCMD. The Group was pleased to note that the GCMD keywords are continuously revised by a specialized committee but regretted that some ocean-related 'terms' and 'variables' were dispersed in other 'categories; and 'topics'.

The Group agreed on a draft categorization scheme as shown below.

Top-level Category Classes:

- General aspects.
- Law, policy, economics and social sciences.
- Marine Biology.
- Marine Ecology.
- Marine Fisheries.
- Chemical Oceanography.
- Physical Oceanography.
- Marine Meteorology.
- Marine Geology and Geophysics.
- Ocean Resources (non-living).
- Applied Oceanography.
- Ocean Data and Information.

GEMIM-VII Action 25: The Group agreed to discuss further details on the scheme by e-mail and complete the scheme by December 2002.

8. DEVELOPMENTS IN THE TECHNOLOGY AREAS OF ACTION FOR MIM

8.1 ACCESS TO E-JOURNALS

Mr. Marc Goovaerts introduced this item. He mentioned that through negotiation with some publishers (e.g.; within the framework of ODINAFRICA), it is possible to obtain special reduced rates for developing countries. In addition, he referred to special projects that focus on free provision of e-journals to developing countries. Reference was made to the web page maintained by the Yale University Library on <http://www.library.yale.edu/~llicense/develop.shtml> that includes a substantial list of links to Developing Nations Initiatives.

GEMIM-VII Action 26: ODINAFRICA and ODINCARSA co-ordinators should contact publishers to identify conditions to obtain e-journals.

8.2 E-PRINT REPOSITORIES

Mr. Marc Goovaerts introduced this item. In the academic world, a network is being developed to assure open access to scientific literature. It is based on a repository-harvester model, sustained by the OAI protocol (<http://www.openarchives.org>). Institutions create their repositories to collect electronic documents (articles, theses, working papers, educational material...). Through a standard protocol (OAI, based on XML and http), a harvester assembles the distributed metadata, so it becomes available on one or more centralized search engines. Different open source software packages are becoming available. Major universities and institutions in North America and Europe have already started with institutional repositories. The first harvester search engines are already available. This development of e-print repositories has an important influence on scientific communication: major science publishers accept the posting of articles on institutional repositories. The e-print movement has, as its major goal, open access to electronic scientific publications.

With regard to preservation, the Group noted that currently there are a few formats being used, one being PDF, but that SGML or XML should be preferred. Currently, there is no standard 'preservation' format, so it is difficult to decide in which format to store documents. Conversion of documents into character-based formats is a big challenge.

More information on the setting up of an institutional e-print archive is available on <http://www.ariadne.ac.uk/issue31/eprint-archives/>.

GEMIM-VII Action 27: Establish a cross-search service for marine science using freeware.

8.3 Z39.50 AND DISTRIBUTED LIBRARIES

The Mrs. Simpson introduced this item. Z39.50 is an accepted international protocol for searching distributed resources. It was noted that IAMS LIC has now established a network of libraries using Z39.50 and this has proved successful. The Group expressed its strong appreciation for IAMS LIC's Z39.50 Distributed Library (<http://library.csumb.edu/cyamus/ill/search.php>). It was also noted that the data community is now acknowledging the standardization of Z39.50 protocols and this was brought to their attention by the marine information managers.

The Group regretted that the software selected for the ODINAFRICA Project (INMAGIC) is not Z39.50 compliant but was informed that a technical solution will be developed to serve the ODINAFRICA database through Z39.50 application. The Group was informed that INMAGIC is waiting for an XML-based distributed library protocol that will replace Z39.50.

GEMIM-VII Action 28: (i) the Group recommended identifying the resources required for developing custommade Z39.50 middleware for non-Z39.50 compliant library catalogue databases. These would be of specific interest to developing countries; (ii) the Group recommended strongly promoting the IAMS LIC Z39.50 project as an excellent example of resource networking and resource sharing for the benefit of the marine science community.

8.4 SEMANTIC NETWORKS/WEB

This item was introduced by Mrs. Pauline Simpson. It was recalled that this item had been discussed a few times during previous sessions of GEMIM.

The Group noted the establishment of the W3C Semantic Web Initiative (<http://www.w3.org/2001/sw/>).

"The goal of the Semantic Web is to develop enabling standards and technologies designed to help machines understand more information on the Web so that they can support richer discovery, data integration, navigation, and automation of tasks. With the Semantic Web we not only receive

more exact results when searching for information but also know when we can integrate information from different sources, know what information to compare, and can provide all kinds of automated services in different domains from future home and digital libraries to electronic business and health services [Berners-Lee 2001]." [source: W3C Semantic Web Activity, Marja-Riitta Koivunen and Eric Miller, <http://www.3.org/2001/12/semweb-fin/w3csw>).

The same paper states that "with the Semantic Web we can associate semantically rich, descriptive information with any resource". For instance, by adding metadata about document creation, we can search for documents that have metadata specifying Eric Miller as a 'writer'. With a bit more metadata we can also search only documents under the category 'research papers'. In Semantic Web, we not only provide URIs for documents as we have done in the past, but to people, concepts and relationships.

GEMIM-VII Action 29: Mrs. Janice Beattie will investigate the possibility to identify a colleague at the NOAA Library to monitor the progress of the W3C Semantic Web Initiative.

8.5 DIGITAL VIDEO AND IMAGE ARCHIVING

Mrs. Janice Beattie introduced this item. She noted that marine libraries/information centres were now increasingly being requested by data centres and researchers to deal with the management of digital video material as a new data format. The library/information centre's experience in the creation of metadata is especially relevant in this regard. She noted that software now exists for editing and metadata creation for digital video material that enables describing the entire video, as well as the individual frame.

On a related subject, it was noted that libraries are now also involved in the creation and maintenance of image libraries.

The Group concluded that digital imagery including moving images are an increasingly important data format and called on Member States to take the requirements for these activities into consideration within the framework of data and information centre resource allocation.

GEMIM-VII Action 30: OceanTeacher should include a chapter on the development of digital image libraries. Mrs. Janice Beattie will contribute the content for this chapter.

8.6 DYNAMIC CONTENT MANAGEMENT SYSTEM: BEEBOX

Mr. Pissierssens introduced this item. In order to report on these activities, as well as to share experience, the IODE programme developed a web site as early as 1995. However, it was found that static web sites and the technology available to maintain such sites did not really allow for a 'community' approach to web publishing. In addition, users had to visit the site regularly to find out what was new. It was felt that a management system was required that should respond to the following requirements: (i) all community members should be able to submit content; (ii) we should be able to have several editors; (iii) we should have an easy-to-use tree structure; (iv) we should be able to combine text, links to documents, links to web sites and start discussions; (v) we should be able to inform users about new content; (vi) the technology solution should be low-cost and flexible. The IOC/IODE Secretariat undertook a survey of available solutions during 2001 and found that the technology was mostly very complex and/or expensive (commercial product prices ranged from US\$30,000 to US\$200,000). The IOC/IODE Secretariat therefore started searching for open-source solutions that if not fully responding to our requirements, would be affordable and could be further developed in-house. Such a product was found and a first version of the new IODE web site was launched in June 200. In order to further develop the software to the above-mentioned requirements, a software developer was hired at the Secretariat, Mr. Benjamin Sims, to further develop and fine-tune the solution. This resulted in BeeBox.

BeeBox is defined as an open source application for the development of Community portals. Its architecture allows multiple authors to submit content. The system further allows multiple administrators who can validate submitted content prior to publication (see below). The system uses easy WYSIWYG (What You See Is What You Get) interfaces for content input. The dynamic content management system used by BeeBox enables visitors to easily see what is new in the site as the homepage lists new items added in the different categories. Content is organized in the site by 'categories' defined by editors and administrators. Under a category, sub-categories can be defined. Content within a category or sub-category is then either textual content, reference to e-documents, reference to web sites, reference to discussion for a category, or reference to an activity (calendar item). In addition, registered users receive e-mail alerts on newly added (and validated) content.

BeeBox is based upon open source technology including MySQL and PHP. As such, IOC can offer the solution free of charge. BeeBox is currently being used for various IOC and IOC/IODE web sites, all hosted in Paris. IOC/IODE will continue to further develop the solution and will provide support to other 'clients'.

The Group congratulated IOC on the development of this software. They stressed the usefulness that the software is free for developing countries.

[GEMIM-VII Action 31](#): Add BeeBox in the software list of OceanTeacher (MIM).

9. PREPARATION OF MIM ACTION PLAN FOR THE NEXT INTERSESSIONAL PERIOD

The Group adopted Recommendation MIM-VII-2 which includes actions to be taken in the next intersessional period with identified priorities and responsibilities.

The Group tasked the Chair and the Secretariat to monitor the progress of implementation of the Action Plan in consultation with the Group members, and to report the proceedings of this Session and its Action Plan to the next Session of the IODE Committee in March 2002.

10. ELECTION OF THE GE-MIM CHAIRPERSON

Mr. Pissierssens informed the meeting of the IOC procedure for the election of a Chair of subsidiary bodies and invited the Group to provide names of candidates. **The Group unanimously decided to re-elect** Dr. Murari Tapswi as Chair of the Group and Dr. Tapaswi accepted the re-election.

11. DATES AND PLACE OF THE NEXT SESSION

The Group recommended that the next Session of the Group should be held in 2004. The Group considered possible venues as Belgium (venue of the 2004 ASFA Board) or Australia (venue of the 2004 IAMSLIC Conference) or Greece.

12. OTHER BUSINESS

No other business.

13. ADOPTION OF THE SUMMARY REPORT

The Group adopted the draft summary report of its Seventh Session. **The Group instructed** the Secretariat and the Group's Chair to carry out the necessary editing and corrections when processing the final version.

14. CLOSURE

The Chair thanked the Members of the Group for their active participation in this Session and for re-electing him as Chair.

The Chair closed the meeting on Friday, 25 October 2002 at 19h00.

ANNEX I

AGENDA

- 1. OPENING OF THE MEETING**
- 2. ADMINISTRATIVE ARRANGEMENTS**
- 3. REPORT ON THE INTERSESSIONAL ACTIVITIES**
- 4. GEMIM PRODUCTS AND SERVICES**
 - 4.1 CONTENT DETAILS FOR INFORMATION MANAGEMENT MODULE OF THE IODE RESOURCE KIT AND MIM TRAINING
 - 4.2 INTEGRATED LIBRARY MANAGEMENT SYSTEM SOFTWARE
 - 4.3 IOC GATEWAY TO ELECTRONIC OCEAN INFORMATION RESOURCES: OCEANPORTAL
 - 4.4 OTHER PRODUCTS ON IOC'S WEBSITE (INCLUDING OCEANEXPERT)
 - 4.5 MIM PUBLICATION SERIES
- 5. PROGRESS AND FURTHER NEEDS IN THE NETWORK DEVELOPMENT (ODINAFRICA, OTHER REGIONS)**
 - 5.1 ODINAFRICA
 - 5.2 ODINCARSA
 - 5.3 OTHER REGIONS
- 6. CO-OPERATION BETWEEN DATA AND INFORMATION COMMUNITIES**
 - 6.1 WITH IODE
 - 6.2 CO-OPERATION WITH IAMS LIC AND EURAS LIC AND RELATED MARINE LIBRARY ASSOCIATIONS
 - 6.3 CO-OPERATION WITH ASFA
 - 6.4 CO-OPERATION WITH SCIENCE PROGRAMMES
- 7. MIM SUBJECT CATEGORIZATION**
- 8. DEVELOPMENTS IN THE TECHNOLOGY AREAS OF ACTION FOR MIM**
 - 8.1 ACCESS TO E-JOURNALS
 - 8.2 E-PRINT REPOSITORIES
 - 8.3 Z39.50 AND DISTRIBUTED LIBRARIES
 - 8.4 SEMANTIC NETWORKS/WEB
 - 8.5 DIGITAL VIDEO AND IMAGE ARCHIVING
 - 8.6 DYNAMIC CONTENT MANAGEMENT SYSTEMS: BEEBOX
- 9. PREPARATION OF MIM ACTION PLAN FOR THE NEXT INTERSESSIONAL PERIOD**
- 10. ELECTION OF THE GE-MIM CHAIRPERSON**
- 11. DATES AND PLACE OF THE NEXT SESSION**
- 12. OTHER BUSINESS**
- 13. ADOPTION OF THE SUMMARY REPORT**
- 14. CLOSURE**

ANNEX II

RECOMMENDATIONS

Recommendation MIM-VII.1 : NOMINATION OF IODE NATIONAL CO-ORDINATORS

Recommendation MIM-VII.2: ACTION PLAN OF THE GROUP FOR 2003-2004

Recommendation MIM-VII.1

NOMINATION OF IODE NATIONAL CO-ORDINATORS

The IODE Group of Experts on Marine Information Management,

Noting the expertise present in the IODE Data and Information Management communities,

Stressing the need for integrated data and information services and products to respond to the complex needs of the marine science community,

Noting with concern the lack of representation of marine information management expertise in the sessions of the IODE Committee,

Recommends the nomination of IODE National Co-ordinators for Information Management and IODE National Co-ordinators for Data Management, replacing the existing IODE National Co-ordinators,

Calls on Member States to ensure the participation on both IODE National Co-ordinators in sessions of the IODE Committee.

Recommendation MIM-VII.2

ACTION PLAN OF THE GROUP FOR 2003-2004

The IODE Group of Experts on Marine Information Management,

Having reviewed its completed and on-going activities,

Being aware of the resource constraints (staff and funding) under which IOC and its IODE are operating,

Stressing the importance of Marine Information Management (MIM) as an important activity of IODE towards improving access to marine information,

Adopts a plan of action for the intersessional period 2003-2004, as given in the Annex to this Recommendation.

Annex to Recommendation MIM-VII.2

MIM ACTION PLAN FOR 2003-2004

Action	Agenda Item	ACTION	Date due	Cost	Responsibility
1	3	GEMIM-VI. Action 1: Directory of Training Opportunities Clearing House: <ul style="list-style-type: none"> - canvass IAMS LIC & EURAS LIC with the terms of reference for hosts. - set up online 'database' as part of IAMS LIC (and/or EURAS LIC web site) where candidates can apply. Hosts should also investigate means to sponsor interns through national/international funding agencies 	Dec. '02 ASAP		J.Beattie J.Beattie
2	3	GEMIM-VI Action 2: IOC Catalogue of Online Publications : Retrospective digitisation of IOC documents	Cont.	To be identified	IOC
3	3	GEMIM-VI Action 3: Request Publishers to ask Authors to Define Keywords using ASFIS Thesaurus : <ul style="list-style-type: none"> - contact marine science publishers. Need to indicate how the ASFIS Thesaurus is available - contact research institutions that publish journals on marine science 	Dec. '02 Mar. '03		P. Simpson S. Goulala
4	3	GEMIM-VI Action 4: Monitoring of Electronic Copyright Legislation in Relation to Electronic Document Delivery: <ul style="list-style-type: none"> - distribute the RoMEO report to GEMIM & to IAMS LIC/EURAS LIC & ODIN networks - finalize document for publishing on the IODE web site 	Mar. '03 Oct. '03		P.Simpson S. Goulala
5	3	GEMIM-VI Action 5: Meeting of ICSPRO & other UN Agencies on Co-ordination of MIM Activities: IODE Secretariat to send letter to UN agencies to inquire about their MIM activities	Jan. '03		IODE Secretariat
6	3	GEMIM-VI Action 6: Development of IOC Web page Template for Member States Web sites: data & information centres that are part of the IODE network include the IODE logo on their homepage	Mar. '03		IODE NCs
7	3	GEMIM-VI Action 9: Support to IAMS LIC/EURAS LIC Conference Participants: continued financial allocation by IOC/IODE	On-going	US\$ 10,000/yr	IOC
8	3	GEMIM-VI Action 12: ILL Software: recommend Prospero as a freeware alternative to Ariel	Nov. '02		P. Simpson
9	3	GEMIM-VI Action 13: Paper on Hardware/software Requirements for Marine LIC: circulate the document to the GEMIM members.	Mar. '03		M. Tapaswi

		After revision the document may be included in OceanTeacher			
10	3	GEMIM-VI Action 14: Detailed ILMS Module Description: circulate the document to the GEMIM members. After revision the document may be included in OceanTeacher	Mar. '03		P. Simpson
11	3	GEMIM-VI Action 17: Send Recommendations on MEDI to AODC: SG-MEDI to ensure that MEDI could include bibliographic citations.	ASAP		P. Simpson to G. Reed
12	3	GEMIM-VI Action 22: Development of Promotional Material, Promotion of OceanExpert: presenting a paper during major marine science conferences or have an exhibit. It may be possible to team up with others to share an exhibit	As appropriate	Travel	As appropriate
13	3	GEMIM-VI Action 23: Identification and Detailed Description of MIM Training Modules: - review OceanTeacher & report to OceanTeacher Steering Group - circulate module definitions to GEMIM members	Dec. '02 Apr. '03		P. Simpson Members
14	3	GEMIM-VI Action 25: MIM web site Development: - expand the GEMIM section to include links to products & services and projects developed by or with GEMIM - contact IAMS LIC President & IAMS LIC exec to jointly review OceanPortal. - recommend categories in OceanPortal (see also Action 17)	Jan. '03 Dec. '02 Jan. '03		Chair + members IOC M. Goovaerts + members
15	4.1	Content Details for MIM Module of OceanTeacher/Follow-up Co-ordinator ODINAFRICA: - See Action 13 - draft job description for ODINAFRICA MIM follow-up co-ordinator - consult with IAMS LIC for the possible hiring of a marine information follow-up co-ordinator for ODINAFRICA	Dec. '02 Jan. '03		J. Beattie (L. Pikula) J. Beattie (L. Pikula)
16	4.2	Integrated Library Management System Software: 'user survey' amongst the ODINAFRICA librarians to evaluate their experience with INMAGIC	Next TC 2003	-	M. Tapaswi (L. Pikula)
17	4.3	IOC Gateway to Electronic Ocean Information Resources: OceanPortal: (i) define scope; (ii) re-define categories; (iii) re-categorize content & re-describe descriptions; (iv) remove irrelevant content; (v) add new content	(i) & (ii): Jan. '03 (iii) Jun. '03 (iv) Jul. '03 (v) > Jun. '03	\$10,000	(i),(ii),(iii): M. Goovaerts (iv),(v): Contractor
18	4.4	OceanExpert:			

		<ul style="list-style-type: none"> - review & evaluate the new system - in co-operation with IAMSLIC & EURASLIC, promote OceanExpert - in co-operation with IAMSLIC & EURASLIC, recruit editors 	Feb. '03 Cont. Mar. '03	- -	S. Davies & members S. Davies
19	5	ODINCARSA: investigate possible donors for ODINCARSA (networking in information management).	Aug. '03		J. Beattie
20	5	ODIN Other Regions: <ul style="list-style-type: none"> - survey of marine libraries & information centres in IOCINDIO & WESTPAC regions & Southern Pacific - discuss with the MAMA Group the possibility to include a more extensive information management programme with emphasis on resource sharing 	Sep. '03 Dec. '02	- -	IOC/ S. Davies S. Goulala
21	6.1	IODE-XVI para. 221 (Marine Pollution): <i>the documenting of experience within the IODE community in managing and archiving pollution data and in increasing the visibility in the community of this expertise. The collected information should be posted on the IODE web site</i> : finalize document & add searching results for GCMD	Feb. '03		M. Tapaswi & members
22		IODE-XVI para. 278 : <i>the Committee tasked the IODE Group of Experts on Technical Aspects of Data Exchange and the IODE Group of Experts on Marine Information Management to develop a comprehensive inventory of (i) data and information products; and (ii) data and information management software and related tools. The Committee further decided that these inventories should be disseminated through the IODE web site and should be included in the IODE Resource Kit: circulate the (software) list to the IAMSLIC membership (through the IAMSLIC exec) for input. The list will be included in the MIM module of the OceanTeacher/ResourceKit.</i>	Jan. '03		P. Simpson; J. Beattie
23	6.3	Co-operation with ASFA: consult with ASFA Partners & prepare a proposal on "The acquisition of data set citations for inclusion in ASFA (probably) using automated methodology" for discussion at the 2003 ASFA Board Meeting	Nov. '02		J. Beattie
24	6.4	Co-operation with Science Programmes: take measures to ensure that project documents be archived permanently by a designated library/information centre that commits itself to be a permanent archive	Cont.		IODE/Science programmes
25	7	MIM Subject Categorization The Group agreed to discuss further details on the scheme by email & complete the scheme by December 2002.	Dec. '02		Group

26	8.1	Access to E-Journals: ODINAFRICA & ODINCARSA co-ordinators should contact Publishers to identify conditions to obtain e-journals	Cont.		M. Goovaerts
27	8.2	e-Print repositories: Cross-search Service for Marine Science: establish a search engine that will search archives of marine libraries	Cont.		IAMSLIC/ P. Simpson
28	8.3	z39.50 and Distributed Libraries: <ul style="list-style-type: none"> - identify the resources required for developing custom made Z39.50 middleware for non-Z39.50 compliant library catalogue databases. These would be of specific interest to developing countries - strongly promote the IAMSLIC Z39.50 project as an excellent example of resource networking & resource sharing for the benefit of the marine science community. 	Jul . '03 Cont		IOC Members
29	8.4	Semantic Networks/web: investigate the possibility to identify a colleague at the NOAA Library to monitor the progress of the W3C Semantic Web Initiative	Dec. '03		J. Beattie/ M.Goovaerts
30	8.5	Digital Video Archiving: include a chapter in OceanTeacher on the development of digital image libraries.	Apr. '03		J. Beattie
31	8.6	Dynamic Content Management Systems: BeeBox: add BeeBox in the software list of OceanTeacher (MIM)	Jan. '03		IOC
32	11	GEMIM-VIII	2004	20,000	IOC
		BUDGET 2003/2004		40,000	

ANNEX III

LIST OF PARTICIPANTS

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ANNEX IV

LIST OF DOCUMENTS

Document Code	Title	Agenda Item
IOC/IODE/GE-MIM-VII/1	Provisional Agenda and Timetable	1-15
IOC/IODE/GE-MIM-VII/2	List of Documents	This document
IOC/IODE/GE-MIM-VII/3	List of Participants	1
IOC/IODE/GE-MIM-VII/4	Report on the Intersessional Activities	3
IOC/IODE/GE-MIM-VII/5	Action Sheet IODE-XVI	6.1
IOC/IODE/GE-MIM-VII/6	Pollution Data on NODC Sites	6.1
IOC/IODE/GE-MIM-VII/7	Report: Electronic Copyright Legislation	3
IOC/IODE/GE-MIM-VII/8	MIM Subject Categorisation	7
IOC/IODE/GE-MIM-VII/9	W3C Semantic Web Activity	8.3
IOC/IODE/GE-MIM-VII/10	MIM-VII Proposed Action Plan	9

ANNEX V

LIST OF ACRONYMS

Note: (commercial) product names are not included in this list

ASFA	Aquatic Sciences and Fisheries Abstracts
ASFIS	Aquatic Sciences and Fisheries Information System
ASLI	Atmospheric Science Librarians International
CSA	Cambridge Scientific Abstracts
EURASLIC	European Aquatic Science Libraries and Information Centres
FAO	Food and Agriculture Organization (UN)
GCMD	Global Change Master Directory (NASA, USA)
GLDIR	Global Directory of Marine (and Freshwater) Professionals (renamed to OceanExpert as from 2002) (IODE)
http	HyperText Transfer Protocol
IAMSLIC	International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC)
ICES	International Council for the Exploration of the Sea
ICLARM	International Center for Living Aquatic Resources Management (renamed to WorldFish Center in 2002)
IOC	Intergovernmental Oceanographic Commission of UNESCO (UN)
IODE	International Oceanographic Data and Information Exchange (IOC)
ILL	Inter Library Loan
ILMS	Integrated Library Management System
LIC	Library and Information Centre
MEDI	Marine Environmental Data Information Catalogue (IODE)
MAMA	Mediterranean network to Assess and upgrade the Monitoring and forecasting Activity in the region
MIM	Marine Information Management
NOAA	National Oceanic and Atmospheric Administration (USA)
NODC	National Oceanographic Data Centre (IODE)
OAI	Open Archives Initiative
ODIN	Ocean Data and Information Network
ODINAFRICA	Ocean Data and Information Network for Africa
ODINCARSA	Ocean Data and Information Network for the Caribbean and South America
PDF	Portable Document Format (Adobe)
PIALA	Pacific Islands Association of Libraries and Archives
PIMRIS	Pacific Islands Marine Resources Information System
RECOSCIX-CEA	Regional Cooperation in Scientific Information Exchange in the Central Eastern Atlantic region (IODE)
RoMEO	Rights METadata for Open archiving
SGML	Standard Generalized Markup Language
URI	Uniform Resource Identifiers (URIs, aka URLs)
WESTPAC	IOC Sub-Commission for the Western Pacific (IOC)
XML	Extensible Markup Language
Z39.50	ANSI/NISO (ISO 23950) information retrieval protocol standard

In this Series, entitled

Reports of Meetings of Experts and Equivalent Bodies, which was initiated in 1984 and which is published in English only, unless otherwise specified, the reports of the following meetings have already been issued:

1. Third Meeting of the Central Editorial Board for the Geological/Geophysical Atlases of the Atlantic and Pacific Oceans
2. Fourth Meeting of the Central Editorial Board for the Geological/Geophysical Atlases of the Atlantic and Pacific Oceans S. Fourth Session of the Joint IOC-WMO-CPPS Working Group on the Investigations of 'El Niño' (**Also printed in Spanish**)
4. First Session of the IOC-FAO Guiding Group of Experts on the Programme of Ocean Science in Relation to Living Resources
5. First Session of the IOC-UN(OETB) Guiding Group of Experts on the Programme of Ocean Science in Relation to Non-Living Resources
6. First Session of the Editorial Board for the International Bathymetric Chart of the Mediterranean and Overlay Sheets
7. First Session of the Joint CCOP(SOPAC)-IOC Working Group on South Pacific Tectonics and Resources
8. First Session of the IODE Group of Experts on Marine Information Management
9. Tenth Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies in East Asian Tectonics and Resources
10. Sixth Session of the IOC-UNEP Group of Experts on Methods, Standards and Intercalibration
11. First Session of the IOC Consultative Group on Ocean Mapping (**Also printed in French and Spanish**)
12. Joint 100-WMO Meeting for Implementation of IGOSS XBT Ships-of-Opportunity Programmes
13. Second Session of the Joint CCOP/SOPAC-IOC Working Group on South Pacific Tectonics and Resources
14. Third Session of the Group of Experts on Format Development
15. Eleventh Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies of South-East Asian Tectonics and Resources
16. Second Session of the IOC Editorial Board for the International Bathymetric Chart of the Mediterranean and Overlay Sheets
17. Seventh Session of the IOC-UNEP Group of Experts on Methods, Standards and Intercalibration
18. Second Session of the IOC Group of Experts on Effects of Pollutants
19. Primera Reunión del Comité Editorial de la COI para la Carta Batimétrica Internacional del Mar Caribe y Parte del Océano Pacífico frente a Centroamérica (**Spanish only**)
20. Third Session of the Joint CCOP/SOPAC-IOC Working Group on South Pacific Tectonics and Resources
21. Twelfth Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies of South-East Asian Tectonics and Resources
22. Second Session of the IODE Group of Experts on Marine Information Management
23. First Session of the IOC Group of Experts on Marine Geology and Geophysics in the Western Pacific
24. Second Session of the IOC-UN(OETB) Guiding Group of Experts on the Programme of Ocean Science in Relation to Non-Living Resources (**Also printed in French and Spanish**)
25. Third Session of the IOC Group of Experts on Effects of Pollutants
26. Eighth Session of the IOC-UNEP Group of Experts on Methods, Standards and Intercalibration
27. Eleventh Session of the Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of the Oceans (**Also printed in French**)
28. Second Session of the IOC-FAO Guiding Group of Experts on the Programme of Ocean Science in Relation to Living Resources
29. First Session of the IOC-IAEA-UNEP Group of Experts on Standards and Reference Materials
30. First Session of the IOCARIBE Group of Experts on Recruitment in Tropical Coastal Demersal Communities (**Also printed in Spanish**)
31. Second IOC-WMO Meeting for Implementation of IGOSS XBT Ship-of-Opportunity Programmes
32. Thirteenth Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies of East Asia Tectonics and Resources
33. Second Session of the IOC Task Team on the Global Sea-Level Observing System
34. Third Session of the IOC Editorial Board for the International Bathymetric Chart of the Mediterranean and Overlay Sheets
35. Fourth Session of the IOC-UNEP-IMO Group of Experts on Effects of Pollutants
36. First Consultative Meeting on RNODCs and Climate Data Services
37. Second Joint IOC-WMO Meeting of Experts on IGOSS-IODE Data Flow
38. Fourth Session of the Joint CCOP/SOPAC-IOC Working Group on South Pacific Tectonics and Resources
39. Fourth Session of the IODE Group of Experts on Technical Aspects of Data Exchange
40. Fourteenth Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies of East Asian Tectonics and Resources
41. Third Session of the IOC Consultative Group on Ocean Mapping
42. Sixth Session of the Joint IOC-WMO-CCPS Working Group on the Investigations of 'El Niño' (**Also printed in Spanish**)
43. First Session of the IOC Editorial Board for the International Bathymetric Chart of the Western Indian Ocean
44. Third Session of the IOC-UN(OALOS) Guiding Group of Experts on the Programme of Ocean Science in Relation to Non-Living Resources
45. Ninth Session of the IOC-UNEP Group of Experts on Methods, Standards and Intercalibration
46. Second Session of the IOC Editorial Board for the International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico
47. First Session of the IOC Editorial Board for the International Bathymetric Chart of the Western Indian Ocean
48. Twelfth Session of the Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of the Oceans
49. Fifteenth Session of the Joint CCOP-IOC Working Group on Post-IDOE Studies of East Asian Tectonics and Resources
50. Third Joint IOC-WMO Meeting for Implementation of IGOSS XBT Ship-of-Opportunity Programmes
51. First Session of the IOC Group of Experts on the Global Sea-Level Observing System
52. Fourth Session of the IOC Editorial Board for the International Bathymetric Chart of the Mediterranean
53. First Session of the IOC Editorial Board for the International Chart of the Central Eastern Atlantic (**Also printed in French**)
54. Third Session of the IOC Editorial Board for the International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico (**Also printed in Spanish**)
55. Fifth Session of the IOC-UNEP-IMO Group of Experts on Effects of Pollutants
56. Second Session of the IOC Editorial Board for the International Bathymetric Chart of the Western Indian Ocean
57. First Meeting of the IOC *ad hoc* Group of Experts on Ocean Mapping in the WESTPAC Area
58. Fourth Session of the IOC Consultative Group on Ocean Mapping

59. Second Session of the IOC-WMO/IGOSS Group of Experts on Operations and Technical Applications
60. Second Session of the IOC Group of Experts on the Global Sea-Level Observing System
61. UNEP-IOC-WMO Meeting of Experts on Long-Term Global Monitoring System of Coastal and Near-Shore Phenomena Related to Climate Change
62. Third Session of the IOC-FAO Group of Experts on the Programme of Ocean Science in Relation to Living Resources
63. Second Session of the IOC-IAEA-UNEP Group of Experts on Standards and Reference Materials
64. Joint Meeting of the Group of Experts on Pollutants and the Group of Experts on Methods, Standards and Inter-calibration
65. First Meeting of the Working Group on Oceanographic Co-operation in the ROPME Sea Area
66. Fifth Session of the Editorial Board for the International Bathymetric and its Geological/Geophysical Series
67. Thirteenth Session of the IOC-IHO Joint Guiding Committee for the General Bathymetric Chart of the Oceans **(Also printed in French)**
68. International Meeting of Scientific and Technical Experts on Climate Change and Oceans
69. UNEP-IOC-WMO-IUCN Meeting of Experts on a Long-Term Global Monitoring System
70. Fourth Joint IOC-WMO Meeting for Implementation of IGOSS XBT Ship-of-Opportunity Programmes
71. ROPME-IOC Meeting of the Steering Committee on Oceanographic Co-operation in the ROPME Sea Area
72. Seventh Session of the Joint IOC-WMO-CPPS Working Group on the Investigations of 'El Niño' **(Spanish only)**
73. Fourth Session of the IOC Editorial Board for the International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico **(Also printed in Spanish)**
74. UNEP-IOC-ASPEI Global Task Team on the Implications of Climate Change on Coral Reefs
75. Third Session of the IODE Group of Experts on Marine Information Management
76. Fifth Session of the IODE Group of Experts on Technical Aspects of Data Exchange
77. ROPME-IOC Meeting of the Steering Committee for the Integrated Project Plan for the Coastal and Marine Environment of the ROPME Sea Area
78. Third Session of the IOC Group of Experts on the Global Sea-level Observing System
79. Third Session of the IOC-IAEA-UNEP Group of Experts on Standards and Reference Materials
80. Fourteenth Session of the Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of the Oceans
81. Fifth Joint IOG-WMO Meeting for Implementation of IGOSS XBT Ship-of-Opportunity Programmes
82. Second Meeting of the UNEP-IOC-ASPEI Global Task Team on the Implications of climate Change on Coral Reefs
83. Seventh Session of the JSC Ocean Observing System Development Panel
84. Fourth Session of the IODE Group of Experts on Marine Information Management
85. Sixth Session of the IOC Editorial Board for the International Bathymetric chart of the Mediterranean and its Geological/Geophysical Series
86. Fourth Session of the Joint IOC-JGOFS Panel on Carbon Dioxide
87. First Session of the IOC Editorial Board for the International Bathymetric Chart of the Western Pacific
88. Eighth Session of the JSC Ocean Observing System Development Panel
89. Ninth Session of the JSC Ocean Observing System Development Panel
90. Sixth Session of the IODE Group of Experts on Technical Aspects of Data Exchange
91. First Session of the IOC-FAO Group of Experts on OSLR for the IOCINCWIO Region
92. Fifth Session of the Joint IOC-JGOFS CO₂ Advisory Panel Meeting
93. Tenth Session of the JSC Ocean Observing System Development Panel
94. First Session of the Joint CMM-IGOSS-IODE Sub-group on Ocean Satellites and Remote Sensing
95. Third Session of the IOC Editorial Board for the International Chart of the Western Indian Ocean
96. Fourth Session of the IOC Group of Experts on the Global Sea Level Observing System
97. Joint Meeting of GEMSI and GEEP Core Groups
98. First Session of the Joint Scientific and Technical Committee for Global Ocean Observing System
99. Second International Meeting of Scientific and Technical Experts on Climate Change and the Oceans
100. First Meeting of the Officers of the Editorial Board for the International Bathymetric Chart of the Western Pacific
101. Fifth Session of the IOC Editorial Board for the International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico
102. Second Session of the Joint Scientific and Technical Committee for Global Ocean Observing System
103. Fifteenth Session of the Joint IOC-IHO Committee for the General Bathymetric Chart of the Oceans
104. Fifth Session of the IOC Consultative Group on Ocean Mapping
105. Fifth Session of the IODE Group of Experts on Marine Information Management
106. IOC-NOAA *Ad hoc* Consultation on Marine Biodiversity
107. Sixth Joint IOC-WMO Meeting for Implementation of IGOSS XBT Ship-of-Opportunity Programmes
108. Third Session of the Health of the Oceans (HOTO) Panel of the Joint Scientific and Technical Committee for GLOSS
109. Second Session of the Strategy Subcommittee (SSC) of the IOC-WMO-UNEP Intergovernmental Committee for the Global Ocean Observing System
110. Third Session of the Joint Scientific and Technical Committee for Global Ocean Observing System
111. First Session of the Joint GCOS-GOOS-WCRP Ocean Observations Panel for Climate
112. Sixth Session of the Joint IOC-JGOFS CO₂ Advisory Panel Meeting
113. First Meeting of the IOC/WESTPAC Co-ordinating Committee for the North-East Asian Regional - Global Ocean Observing System (NEAR-GOOS)
114. Eighth Session of the Joint IOC-WMO-CPPS Working Group on the Investigations of "El Niño" **(Spanish only)**
115. Second Session of the IOC Editorial Board of the International Bathymetric Chart of the Central Eastern Atlantic **(Also printed in French)**
116. Tenth Session of the Officers Committee for the Joint IOC-IHO General Bathymetric Chart of the Oceans (GEBCO), USA, 1996
117. IOC Group of Experts on the Global Sea Level Observing System (GLOSS), Fifth Session, USA, 1997
118. Joint Scientific Technical Committee for Global Ocean Observing System (J-GOOS), Fourth Session, USA, 1997
119. First Session of the Joint 100-WMO IGOSS Ship-of-Opportunity Programme Implementation Panel, South Africa, 1997
120. Report of Ocean Climate Time-Series Workshop, Joint GCOS-GOOS-WCRP Ocean Observations Panel for Climate, USA, 1997

121. IOC/WESTPAC Co-ordinating Committee for the North-East Asian Regional Global Ocean Observing System (NEAR-GOOS), Second Session, Thailand, 1997
122. First Session of the IOC-IUCN-NOAA *Ad hoc* Consultative Meeting on Large Marine Ecosystems (LME), France, 1997
123. Second Session of the Joint GCOS-GOOS-WCRP Ocean Observations Panel for Climate (OOPC), South Africa, 1997
124. Sixth Session of the IOC Editorial Board for the International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico, Colombia, 1996 (**also printed in Spanish**)
125. Seventh Session of the IODE Group of Experts on Technical Aspects of Data Exchange, Ireland, 1997
126. IOC-WMO-UNEP-ICSU Coastal Panel of the Global Ocean Observing System (GOOS), First Session, France, 1997
127. Second Session of the IOC-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LME), France, 1998
128. Sixth Session of the IOC Consultative Group on Ocean Mapping (CGOM), Monaco, 1997
129. Sixth Session of the Tropical Atmosphere - Ocean Array (TAO) Implementation Panel, United Kingdom, 1997
130. First Session of the IOC-WMO-UNEP-ICSU Steering Committee of the Global Ocean Observing System (GOOS), France, 1998
131. Fourth Session of the Health of the Oceans (HOTO) Panel of the Global Ocean Observing System (GOOS), Singapore, 1997
132. Sixteenth Session of the Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of the Oceans (GEBCO), United Kingdom, 1997
133. First Session of the IOC-WMO-UNEP-ICSU-FAO Living Marine Resources Panel of the Global Ocean Observing System (GOOS), France, 1998
134. Fourth Session of the IOC Editorial Board for the International Bathymetric Chart of the Western Indian Ocean (IOC/EB-IBCWIO-IW3), South Africa, 1997
135. Third Session of the Joint GCOS-GOOS-WCRP Ocean Observations Panel for Climate (OOPC), France, 1998
136. Seventh Session of the Joint IOC-JGOFS C02 Advisory Panel Meeting, Germany, 1997
137. Implementation of Global Ocean Observations for GOOS/GCOS, First Session, Australia, 1998
138. Implementation of Global Ocean Observations for GOOS/GCOS, Second Session, France, 1998
139. Second Session of the IOC-WMO-UNEP-ICSU Coastal Panel of the Global Ocean Observing System (GOOS), Brazil, 1998
140. Third Session of IOC/WESTPAC Co-ordinating Committee for the North-East Asian Regional - Global Ocean Observing System (NEAR-GOOS), China, 1998
141. Ninth Session of the Joint IOC-WMO-CPPS Working Group on the Investigations of 'El Niño', Ecuador, 1998 (**Spanish only**)
142. Seventh Session of the IOC Editorial Board for the International Bathymetric Chart of the Mediterranean and its Geological/Geophysical Series, Croatia, 1998
143. Seventh Session of the Tropical Atmosphere-Ocean Array (TAO) Implementation Panel, Abidjan, Côte d'Ivoire, 1998
144. Sixth Session of the IODE Group of Experts on Marine Information Management (GEMIM), USA, 1999
145. Second Session of the IOC-WMO-UNEP-ICSU Steering Committee of the Global Ocean Observing System (GOOS), China, 1999
146. Third Session of the IOC-WMO-UNEP-ICSU Coastal Panel of the Global Ocean Observing System (GOOS), Ghana, 1999
147. Fourth Session of the GCOS-GOOS-WCRP Ocean Observations Panel for Climate (OOPC); Fourth Session of the WCRP CLIVAR Upper Ocean Panel (UOP); Special Joint Session of OOPC and UOP, USA, 1999
148. Second Session of the IOC-WMO-UNEP-ICSU-FAO Living Marine Resources Panel of the Global Ocean Observing System (GOOS), France, 1999
149. Eighth Session of the Joint IOC-JGOFS CO2 Advisory Panel Meeting, Japan, 1999
150. Fourth Session of the IOC/WESTPAC Co-ordinating Committee for the North-East Asian Regional – Global Ocean Observing System (NEAR-GOOS), Japan, 1999
151. Seventh Session of the IOC Consultative Group on Ocean Mapping (CGOM), Monaco, 1999
152. Sixth Session of the IOC Group of Experts on the Global Sea level Observing System (GLOSS), France, 1999
153. Seventeenth Session of the Joint IOC-IHO Guiding Committee for the General Bathymetric Chart of the Oceans (GEBCO), Canada, 1999
154. Comité Editorial de la COI para la Carta Batimétrica Internacional del Mar Caribe y el Golfo de Mexico (IBCCA), Septima Reunión, Mexico, 1998
IOC Editorial Board for the International Bathymetric Chart of the Caribbean Sea and the Gulf of Mexico (IBCCA), Seventh Session, Mexico, 1998
155. Initial Global Ocean Observing System (GOOS) Commitments Meeting, IOC-WMO-UNEP-ICSU/Impl-III/3, France, 1999
156. First Session of the *ad hoc* Advisory Group for IOCARIBE-GOOS, Venezuela, 1999 (**also printed in Spanish and French**)
157. Fourth Session of the IOC-WMO-UNEP-ICSU Coastal Panel of the Global Ocean Observing System (GOOS), China, 1999
158. Eighth Session of the IOC Editorial Board for the International Bathymetric Chart of the Mediterranean and its Geological/Geophysical Series, Russian Federation, 1999
159. Third Session of the IOC-WMO-UNEP-ICSU-FAO Living Marine Resources Panel of the Global Ocean Observing System (GOOS), Chile, 1999
160. Fourth Session of the IOC-WMO-UNEP-ICSU-FAO Living Marine Resources Panel of the Global Ocean Observing System (GOOS). Hawaii, 2000
161. Eighth Session of the IODE Group of Experts on Technical Aspects of Data Exchange, USA, 2000
162. Third Session of the IOC-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LME), France, 2000
163. Fifth Session of the IOC-WMO-UNEP-ICSU Coastal Panel of the Global Ocean Observing System (GOOS), Poland, 2000
164. Third Session of the IOC-WMO-UNEP-ICSU Steering Committee of the Global Ocean Observing System (GOOS), France, 2000
165. Second Session of the *ad hoc* Advisory Group for IOCARIBE-GOOS, Cuba, 2000 (**also printed in Spanish and French**)
166. First Session of the Coastal Ocean Observations Panel, Costa Rica, 2000
167. First GOOS Users' Forum, 2000
168. Seventh Session of the Group of Experts on the Global Sea Level Observing System, Honolulu, 2001
169. First Session of the Advisory Body of Experts on the Law of the Sea (ABE-LOS), France, 2001 (**also printed in French**)
170. Fourth Session of the IOC-WMO-UNEP-ICSU Steering Committee of the Global Ocean Observing System, Chile, 2001
171. First Session of the IOC-SCOR Ocean CO₂ Advisory Panel, France, 2000
172. *Cancelled*
173. Third Session of the *ad hoc* Advisory Group for IOCARIBE-GOOS, USA, 2001 (**also printed in Spanish and French**)
174. Second Session of the Coastal Ocean Observations Panel and GOOS Users' Forum, Italy, 2001
175. Second Session of the Black Sea GOOS Workshop, Georgia, 2001
176. Fifth Session of the IOC/WESTPAC Co-ordinating Committee for the North-East Asian Regional – Global Ocean Observing System (NEAR-GOOS), Republic of Korea, 2000

177. Second Session of the Advisory Body of Experts on the Law of the Sea (IOC/ABE-LOS), Morocco, 2002 (**also printed in French**)
178. Third Session of the Coastal Ocean Observations Panel and GOOS Users' Forum, Vietnam, 2002
179. Fourth Session of the IOC-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs), France, 2002
180. Second Session of the IOC-SCOR Ocean CO₂ Advisory Panel, Honolulu, Hawaii, U.S.A, 2002 (**electronic copy only**)
181. IOC Workshop on the Establishment of SEAGOOS in the Wider Southeast Asian Region, Seoul, Republic of Korea, 2001 (SEAGOOS preparatory workshop) (**electronic copy only**)
182. Third Session of the GOOS Users's Forum and Coastal Ocean Observations Panel, Vietnam, 2002
183. Fourth Session of the IOC-IUCN-NOAA Consultative Meeting on Large Marine Ecosystems (LMEs), France, 2002
184. Seventh Session of the IODE Group of Experts on Marine Information Management (GEMIM), France, 2002 (**electronic copy only**)