

Intergovernmental Oceanographic Commission
Reports of Meetings of Experts and Equivalent Bodies



IODE Group of Experts on Marine Information Management (GEMIM)

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1. OPENING OF THE SESSION

The Chair of the Group, Mrs. Pauline Simpson, welcomed the participants to the Sixth Session of the IODE Group of Experts on Marine Information Management and thanked NOAA for their assistance in organizing the meeting.

Mrs. Simpson noted that this Session was being held just after the 1999 ASFA Advisory Board thereby enabling immediate sharing of information on that activity with GEMIM.

2. ADMINISTRATIVE ARRANGEMENTS

The Chair invited comments on the Provisional Agenda (Document IOC/IODE-MIM-VI/1 prov.) and Timetable (Document IOC/IODE-MIM-VI/1 Add. Prov.). **The Group adopted** the agenda and timetable.

The Group then designated Mr. Peter Pissierssens and Mr. Murari Tapaswi as rapporteurs for the Session.

3. REPORT ON INTERSESSIONAL ACTIVITIES 1996-1999

Reference was made to Document IOC/IODE-MIM-VI/6. The Group was informed on all activities and the status of implementation of the GEMIM-V action plan assigned to the group by its fifth session and by the IODE committee.

- ***Regional Information Networks (GEMIM, IODE)***

RESPONSIBILITY: IOC Secretariat

STATUS: ONGOING

Discussion on this topic is reported under Agenda Item 6.

- ***The further development of the IOC World Wide Web Server (GEMIM, IODE)***

RESPONSIBILITY: IOC

STATUS: ONGOING

As from July 1998 a part-time consultant has been hired charged with the updating of the IOC homepage. Responsibility for the content development and maintenance of 'departmental' sites for each programme has been allocated to the respective programme specialists. Overall administration and development of new sites has remained under the responsibility of Peter Pissierssens. **The Group expressed its appreciation** for the work carried out by Peter Pissierssens.

- ***Preparation of a directory of training opportunities (GEMIM)***

RESPONSIBILITY: IOC Secretariat

STATUS: NOT IMPLEMENTED.

The Group noted that IAMSLIC decided to assist in the implementation of this activity (coordinator: Mrs. Beth Avery). **The Group reiterated the need** for an information site on training opportunities related to marine information management to be developed, **and agreed**, after some discussion, that a **Web-based 'Clearing House' system** would be the most appropriate. IOC offered to develop the system and host it on its Web site. Training opportunity providers (commercial and non-commercial, formal or informal) will be able to submit information on relevant activities to a Web-based database. Marine Information Managers seeking training opportunities will be able to search the database and obtain further information from the providers. However, it was also agreed that some level of

assistance will be required in those cases where no information is available in the database. Mrs. Pauline Simpson and Mr. Ganeshan Rao will assist in obtaining information on the status of the IAMSLIC and other existing initiatives.

- ***Setting up of GEMIM listserv ioc-gemim (GEMIM)***
RESPONSIBILITY: IOC Secretariat
STATUS: IMPLEMENTED
Despite the fact that the 'listserv' has not been used very frequently, **the Group requested IOC** to maintain the service and provide instruction for its use.
- ***Assisting of the IOC Secretariat in the development of a full catalogue of IOC publications (GEMIM)***
RESPONSIBILITY: IOC Secretariat, M. Tapaswi
STATUS: BEING IMPLEMENTED
NOTES: as ASFA input is a recurrent IOC commitment it was decided to sub-contract Helen Wibley to carry out a complete revision of IOC publication records in ASFA. This exercise was started in 1997 and continued in 1998 and 1999. Currently 674 records have been revised and prepared. **The Group noted** the progress of this project with appreciation **and called on the IOC** to continue its efforts to produce a complete catalogue of IOC publications.
- ***Request publishers to ask their authors to define keywords using the ASFISIS Thesaurus (GEMIM)***
RESPONSIBILITY: P. Simpson
STATUS: ONGOING
Pauline Simpson reported that successful discussions had taken place with core publishers but further progress was awaiting completion of the revised ASFA Thesaurus. The Representative of FAO, Mr. Richard Pepe, informed the Group that the revised Thesaurus would be ready for use within a year. He further noted that the revision includes only one level (rather than 4 as in the previous edition). He also informed the Group that translation of the Thesaurus had been discussed during the 1999 ASFA Advisory Board. In this regard interest had been shown by some Partners to translate the Thesaurus into French and Spanish.
- ***Report on a Semantic network using the ASFIS Thesaurus as a key database in a semantic network (GEMIM)***
RESPONSIBILITY: C. Watts
STATUS: NOT IMPLEMENTED
The Group decided to close this item.
- ***ARIEL Document Delivery (GEMIM)***
RESPONSIBILITY: IOC Secretariat, IAMSLIC
STATUS: IMPLEMENTED
Discussions on this item are reported under Agenda Item 4.2
- ***Monitoring of developments in electronic copyright legislation and report to the Group at regular basis (GEMIM)***
RESPONSIBILITY: GEMIM
STATUS: ONGOING
The Group was informed of a variety of developments on this issue in Europe, Canada, Australia and others. However, it was recognized that no definite decisions have been taken and a great deal of lobbying by national library associations was taking place. The Group expressed its concern over the possible erosion of the 'fair dealing' principle applied by libraries around the world with regard to ILL. FAO reported that the organization was considering the need for a copyright lawyer, demonstrating the

importance of this issue. **The Group decided** to continue monitoring copyright issues.

- ***Loading of relevant UNEP-MEDU bibliographic & Mediterranean directory on the IOC WWW server (GEMIM)***
RESPONSIBILITY: IOC Secretariat, UNEP/MEDU
STATUS: NOT IMPLEMENTED
Although the databases were received by IOC in April 1997 no action had been taken as the data (especially the Directory) appeared to be outdated. Furthermore, as UNEP had its own Web site it was assumed that the IOC service would no longer be required. **The Group decided** to close this activity.
- ***Report on coordination of information exchange between ICSPRO agencies (GEMIM) and Meeting of UN Marine Information Managers (IODE)***
RESPONSIBILITY: IOC Secretariat, FAO, UNEP/MEDU
STATUS: NOT IMPLEMENTED
IOC reported that, due to lack of time and financial resources, it had not been possible to organize this meeting. It was noted that FAO, an ICSPRO member, was participating in the current Session of the Group. **The Group reiterated** the need to organize the co-ordination meeting.
- ***Definition of standard IOC Webpage structure for Member State IOC page (GEMIM)***
RESPONSIBILITY: IOC Secretariat, GEMIM
STATUS: NOT IMPLEMENTED
IOC reported that very few Member States had replied to the invitation to inform the IOC Secretariat of their 'national' Web site URL. Accordingly this item was not implemented. The Group recommended the drafting of a brief '**IOC Web page template**' for inclusion in Member States' Web sites which the IOC Secretariat will distribute to the Member States through an IOC Circular Letter.
- ***Installation of the CDS/ISIS WWW search interface on the IOC WWW server and loading of databases (GEMIM)***
RESPONSIBILITY: IOC Secretariat, E. De Smet
STATUS: IMPLEMENTED IN MODIFIED FORM
This item has been taken over by events: some preliminary tests at the IOC Secretariat within the framework of the GLODIR system (see Agenda Item 7.1) revealed that the use of WWWISIS for dynamic Web-based database serving would be rather complex and on-line entry and editing of records was (at that time) not an option. It is for this reason that another database engine (Filemaker Pro) was chosen. All IOC databases are now available on-line using this software.
- ***Development of the Global Directory of Marine Institutions and Scientists (GEMIM)***
RESPONSIBILITY: IOC Secretariat
STATUS: IMPLEMENTED AND ONGOING
Discussions on this item are reported under Agenda Item 7.1
- ***MIM Publication Series (GEMIM)***
RESPONSIBILITY: IOC Secretariat, GEMIM
STATUS: ONGOING
IOC reported with concern that no new issues had been submitted for publication to the IOC between 1995 and 1998. In fact, volumes 1, 2 and 3 were all published in 1994. In 1998, 1 additional volume has been submitted which is being published in 1999 and further issues are being envisaged. **The Group reiterated** the usefulness of the Series but called on the MIM community to provide input for further issues.

- ***Undertake a study with regard to the development of ASFISIS into an integrated library management system (GEMIM)***
RESPONSIBILITY: H. Cameron, E. De Smet
STATUS: NOT IMPLEMENTED
The Group closed this item (See Agenda item 4.3).
- ***Development of a MIM strategy for the future (GEMIM)***
RESPONSIBILITY: IOC Secretariat, GEMIM
STATUS: Discussions on this issue are reported under Agenda Item 10.
- ***GEMIM Meeting (IODE)***
RESPONSIBILITY: IOC Secretariat
STATUS: IMPLEMENTED (GEMIM-VI)
- ***Production, Distribution & Updating of IOC CD-ROM (IODE, 1997-1999 (10,5,5))***
RESPONSIBILITY: IOC Secretariat
STATUS: NOT IMPLEMENTED
IOC reported that due to lack of resources this activity had not been implemented yet. However, it is planned to release the IOC Publications database in 1999 through the Internet (as 1 downloadable file) or on CD-ROM. Furthermore, a total of 173 documents are available in full-text (as PDF or Word documents). Unfortunately, due to lack of resources it has not been possible to continue the retroactive scanning exercise which was undertaken on a pilot-exercise basis in 1997 (and which resulted in the conversion of approx. 100 documents). Although all new documents as from 1998 were supposed to be formatted in Word97 and PDF format and loaded on the IOC WWW server, many documents are still not produced according to these standards and thus not loaded. However, thanks to new equipment delivered to the IOC publications unit in May 1999, it is expected that this situation will be rectified as from late 1999. It is hoped that all pending non-conform documents will be reformatted and loaded on the WWW server. **The Group recommended** the continuation of this activity and looked forward to the publishing of the CD-ROM in the year 2000 and full text being available on the IOC Web site.
- ***Support to IAMSLIC Conference participants (IODE 1996-1999 (6,10,5,5))***
RESPONSIBILITY: IOC Secretariat
STATUS: IMPLEMENTED
IOC reported that support has been provided in 1997 and 1998 to IAMSLIC participants from developing countries. **The Group expressed its appreciation** for the provided support and called on the IOC to continue this effort. In order to demonstrate the impact of this assistance **the Group requested** beneficiaries of IOC support for IAMSLIC participation to prepare a short document on the benefit they and their institution, country or region gained from it. These reports will be collated and presented to IODE-XVI by the IAMSLIC President. In this regard **IOC was requested** to insert this item in the Agenda of IODE-XVI.
- ***Support to EURASLIC Conference participants (IODE 1996-1999 (15/10,0,5/5,0))***
RESPONSIBILITY: IOC Secretariat
STATUS: IMPLEMENTED
IOC reported that support was provided for participants in the 1996 Conference. For the 1998 Conference no applications were received. The next EURASLIC meeting will be held in 2000. **The Group expressed** its appreciation for the provided support and **called on the IOC** to continue its effort.

- ***MEDI Pilot Project Technical Workshop*** (IODE 1997 (30/10))
 RESPONSIBILITY: IOC Secretariat
 STATUS: NOT IMPLEMENTED
 IOC reported that the MEDI/Blue Pages CD-ROM had been developed by the Australian Oceanographic Data Centre (see also Item 5.2). However, a technical workshop has not been organized due to lack of funds. The Group recommended to close this item as MEDI Pilot CD has been developed.

- ***TEMA training course RECOSCIX-CEA*** (IODE 1997 (20/20))
 RESPONSIBILITY: IOC Secretariat
 STATUS: NOT IMPLEMENTED
 IOC reported that due to the fact that RECOSCIX-CEA was started only in September 1998 no capacity building activities have been organized nor is funding available for such activities within the current ODINAFRICA-I project. Funds are being requested from France for this purpose for 1999/2000.

- ***TEMA IOCINCWIO (MIM/ASFA)*** (IODE 1998 (15/10))
 RESPONSIBILITY: IOC Secretariat
 STATUS: IMPLEMENTED
 IOC reported that support has been provided for participation of RECOSCIX-WIO and RECOSCIX-CEA coordinators in the ASFA Board. Furthermore the Workshop 'IOC-LUC-RECOSCIX-WIO Workshop on RECOSCIX-WIO in the year 2000 and beyond' was organized in Mombasa, Kenya between 12 and 16 April 1999. Discussions on RECOSCIX-WIO and RECOSCIX-CEA are reported under Agenda Items 6.1 and 6.2.

- ***TEMA development WWW sites*** (IODE 1997 (20/10))
 RESPONSIBILITY: IOC Secretariat
 STATUS: NOT IMPLEMENTED
 IOC reported that, as no requests had been received, this action had not been implemented. The Group decided to close this item.

- ***RECOSCIX-CEA development*** (IODE 1996-1999 (13,20,10,10))
 RESPONSIBILITY: IOC Secretariat
 STATUS: IMPLEMENTED
 Discussions on this issue are reported in Agenda Item 6.2

- ***RECOSCIX-CAR feasibility*** (IODE 1997-1999 (5,10,10))
 RESPONSIBILITY: IOC Secretariat
 STATUS: NOT IMPLEMENTED
 IOC reported that this item had not been implemented due to lack of time and funds. The Group recommended to maintain this item.

4. NEW TECHNOLOGIES AND MARINE INFORMATION MANAGEMENT (MIM)

4.1 GLOBAL DATABASE ACCESS OVER THE INTERNET: Z39.50

Mrs. Pauline Simpson introduced this item referring to Document IOC/IODE-MIM-VI/7, identifying Z39.50 as the future standard for querying distributed databases .

During the discussions Mrs. Suzie Davies, Librarian at the Great Barrier Reef Marine Park Authority (Australia), reported that the 'Horizon' system had been installed in her institution a year ago which included Z39.50 functionality. She pointed out that the Z39.50

technology had been challenging to her institution's IT team and had caused great concern about system security.

Mrs. Simpson, Head of Information Services at the National Oceanographic Library (United Kingdom), reported on her experience with Z39.50 developments within the framework of the UNIVERSE project, which allows simultaneous searching of up to 50 databases in Europe with various additional functionalities such as multilingual support, and de-duplication of query results. However, she noted that differences in database structures and use of different attribute sets between the partners sometimes caused inconsistent display. Adherence by Z39.50 partners to a common format is therefore of the utmost importance.

The Group noted that Z39.50-based searching might ultimately replace services provided by secondary information providers such as ASFA, as some Publishers have started installing Z-servers enabling downloading of bibliographic citations records of current journals. However, it was noted that products such as ASFA provided substantially more value-added services including indexing and coverage of grey literature for more targeted searching.

It was also noted that, at the international level, bandwidth problems on the Internet frequently caused time-outs of the queries. The Group concluded that, although Z39.50 will undoubtedly become the standard for distributed database querying, it was considered too early for most libraries to implement Z39.50. An action item related to Z39.50 was identified under Agenda Item 5.1.

4.2 DOCUMENT DELIVERY OVER THE INTERNET: ARIEL

Reference was made to Document IOC/IODE-MIM-VI/8. Mr. Ganeshan Rao, Mr. Mika Odido and Mr. Murari Tapaswi reported on their experience with ARIEL.

Mr. Ganeshan Rao, Coordinator of the Pacific Islands Marine Resources Information System (Fiji), reported that the PIMRIS experiment with ARIEL was the result of the GEMIM-III Session in 1993 which, in collaboration with IAMSLIC resulted in a pilot experiment with ARIEL version 1.1. He reported that the installation of ARIEL (receiving station only) in PIMRIS had been quite a challenge due to the need of a dedicated IP address (version 1.1. did not allow transmission of ARIEL files using e-mail) which was not easily available. Nevertheless the experiment proved successful with documents being received from Hawaii, from the Scripps Institution of Oceanography (University of California, USA), and from the Research Libraries Group (RLG, USA) – the ARIEL developers-. He further pointed out that the only disadvantage of ARIEL was the need to maintain the PC powered up overnight due to the time difference between Fiji and his document providers (this is no longer an issue with version 2.1 or 2.2 if the e-mail option is used).

Mr. Odido, RECOSCIX-WIO Coordinator, reported on RECOSCIX-WIO's experience with ARIEL (version 2.1). As RECOSCIX-WIO uses a commercial Internet Service Provider, a dedicated IP address cannot be provided. Accordingly, ARIEL has been used with the e-mail option. RECOSCIX-WIO now uses ARIEL operationally and received 70 documents in 2 months from 3 document providers using this technology. He reported that using ARIEL, RECOSCIX-WIO had received documents on the same day as the request.

Mr. Tapaswi, Librarian at the National Institute of Oceanography (India), reported that, although a trial copy of ARIEL could be used successfully within his institution, it had not been possible to send or receive documents outside. The reasons for this problem were unclear. NIO had now ordered a full version of the software. If the problem persisted then RLG would be contacted.

In conclusion, the experience with ARIEL was very positive and the technology is sufficiently stable and mature for day-to-day use in libraries. Nevertheless there is a need to train staff to use the software. The RECOSCIX-WIO Coordinator reported that this had not been a problem at the RECOSCIX-WIO RDC.

A major problem was recognized in the cost of ARIEL: the full send-and-receive version costs approximately US\$ 800 which is prohibitively expensive for most libraries in developing countries (who need the software most). Although IAMSLIC has been able to get a discounted price of approx. US\$ 600, the **Group requested IOC** to contact RLG in order to obtain a special price for developing countries.

4.3 INFORMATION TECHNOLOGY IN LIBRARIES

Reference was made to Document IOC/IODE-MIM-VI/9. Mr. Peter Pissierssens, Programme Specialist at the IOC of UNESCO, introduced this item by giving an overview of the DOS CDS/ISIS, WINISIS and Bibli/o. He emphasized that, whereas user-friendliness had been a problem with the DOS version of CDS/ISIS which has a steep learning curve, WINISIS is very user-friendly and enables quick setting up of a database. The manual of WINISIS was also a major improvement to the CDS/ISIS version.

With regard to Bibli/o he explained that this application had been developed together with ASFAMaker, prepared for the ASFA Board following the 1998 recommendation to develop a Windows-based input software for ASFA Input Centres for the replacement of ASFISIS-3. He highlighted that both applications had been developed in a matter of days, demonstrating the ease with which Filemaker applications can be developed thanks to the substantial built-in functionality and easy-to-use script-based programming. He further highlighted the built-in options allowing the use of Filemaker applications in local area networks (providing extensive multi-user security features) as well as on an Intranet or the Internet through Filemaker's Web Companion and Claris Homepage 'Filemaker Connection Assistant'.

The Group commented positively on Bibli/o making a few suggestions to improve the user interface: (i) sub-divide the input worksheet in multiple sheets, possibly separating the bibliographic citation, keywords and abstract(s); (ii) enable more occurrences for the repeatable fields.

The Group pointed out that CDS/ISIS, WINISIS and Bibli/o only provided catalogue management system. **The Group agreed** that a more comprehensive suite of applications (Integrated Library Management System – ILMs) was required for the efficient management of a library which should be available as a full suite for capacity building in developing countries. **The Group identified** the following modules as essential:

- Catalogue management module
- OPAC module
- Circulation management module
- Serials management module

and identified the following modules as being of secondary importance:

- ILL module
- Acquisitions module

It was further pointed out that the OPAC module should be Web-based.

The Group was informed that some multi-module but stand alone applications had been developed for CDS/ISIS. In this regard the 'LAMP' application, developed for the National Library of Pakistan in cooperation with the Netherlands was mentioned. Mr Tapaswi reported that his Library had also developed specific CDS/ISIS applications for serials and circulation.

Mr. Peter Pissierssens informed the Group that such modules could also be developed with Filemaker-Bibli/o.

It was stressed that the use of an international bibliographic standard database structure such as MARC or CCF would be essential to allow easy exchange of records between libraries which would be of special importance to national or regional networks such as RECOSCIX. **The Group decided** to recommend the MARC standard. However, it was recognized that the full MARC structure would be too extensive for most libraries, and recommended the identification of a minimum set of mandatory fields, but that all fields would need to be available if required.

Extensive discussions followed on the appropriateness for the Group or the IOC to develop software applications, taking into consideration that commercial applications existed, as well as the considerable need for user support, maintenance and upgrade. The Group expressed concern over the financial implications and long-term commitment which would be required from IOC/MIM.

The Group decided on the identification of a set of hardware and software requirements for the setting up of a marine information library/information centre:

1. At least 2 personal computers (Pentium processor, 64 MB RAM);
2. Flatbed scanner (preferably with SCSI interface card for improved speed);
3. Modem and Internet access;
4. Laser Printer
5. Access to Telephone, Fax
6. Access to Photocopier
7. Integrated Library Management system
8. Electronic Document Transmission software (e.g. ARIEL)
9. Office application suite

The Group agreed that a more detailed paper will be developed for publication in the MIM Publication Series. (Action: Mika Odido and Murari Tapaswi).

The Group further decided on the following actions:

1. Detailing of the ILMS module descriptions/specifications (Action: Heather Cameron and Janice Beattie);
2. Identification of off-the-shelf ILMS containing at least the above-mentioned modules and adhering to the MARC standard. Realistically a ceiling price of under US\$ 1,000 would be appropriate but this price might exclude all recommended specifications. (Action: all Members of the Group);
3. Investigate whether CDS/ISIS library modules will/can be converted to WINISIS, and whether it is envisaged to incorporate such modules into an ILMS.

5. COOPERATION BETWEEN THE IODE DATA AND INFORMATION COMMUNITIES

5.1 REPORT ON IODE-XV AND LOOKING FORWARD TO IODE-XVI

Reference was made to Document IOC/IODE-MIM-VI/6. The Group identified the following issues in which IODE's data and information communities should collaborate:

- development of a standard bibliographic citation for data sets (Action: to be coordinated by Suzie Davies);
- investigation of the use of Z39.50 for searching both 'bibliographic' and 'data' inventories (Action: to be coordinated by Pauline Simpson).

The Group also discussed the rapid development of geographically oriented searching services which are perceived as closer to the scientists' needs. Reference was made to discussions during the 1999 ASFA Advisory Board where geo-referenced searching was also considered as a possible future path for ASFA.

5.2 MARINE ENVIRONMENTAL DATA INFORMATION REFERRAL SYSTEM (MEDI)

Reference was made to Document IOC/IODE-MIM-VI/10. Most Members of the Group had installed the MEDI Pilot Project software, which had been mailed to the Group prior to the Session.

Mrs. Davies reported the comments of Mr. Ben Searle, Chairman IODE and Head of the Australian Oceanographic Data Centre (AODC), who developed the Blue Pages and MEDI Pilot Project software. He requested the GEMIM to evaluate the software in terms of the field structure compliance with MIM standards. Accordingly the Group evaluated the Field Structure recommended for the final version of MEDI as documented in the above-mentioned document.

The Group commended AODC with its hard work and excellent product which constitutes a giant leap in the development of a user-friendly metadata input system. The Group recommended the initial modifications, marked in large characters and italicized, in the Tables shown below.

Table 4: Data Table: DATASET

Field	Description
DATASET_ID	Unique identifier
ORGANISATION_CODE	Select from ORGANISATION Table
DATASET_NAME	Full name of dataset
SOUTH_BOUNDING_COORD	Coordinate of Southernmost limit of coverage, expressed in latitude (range +90 to -90)
NORTH_BOUNDING_COORD	Coordinate of Northernmost limit of coverage, expressed in latitude (range +90 to -90)
EAST_BOUNDING_COORD	Coordinate of Easternmost limit of coverage, expressed in longitude (range +180 to -180)
WEST_BOUNDING_COORD	Coordinate of Westernmost limit of coverage, expressed in longitude (range +180 to -180)
AREA <i>rename to 'Sea Area'</i>	select form AREA in Supporting Tables
COUNTRY	select from COUNTRY in Supporting Tables

THEME <i>rename to 'Subject Descriptors'</i>	select from THEME in Supporting Tables
NEW: DESCRIPTION	FREE TEXT DESCRIPTION OF DATA SET
BEGINNING_DATE	Date observations started
ENDING_DATE	Date observations ended
PROJECT	Name of the project program or experiment
PARAMETERS	select from PARAMETER in Supporting Tables
INSTRUMENTS	The equipment used in sampling and analysis
ABSTRACT	A summary of the key features of the dataset
STORAGE-MEDIUM	Type of medium on which the dataset is stored
AVAILABILITY	Any restrictions that apply to release of data
COMPLETED-BY	Name of person entering the metadata
ENTRY_DATE	Date when the metadata was first entered
COLLATED-BY	Select from ORGANISATION Table
MODIFY-DATE	Date when the metadata was last modified
NEW: CITATION	Bibliographic Citation to define how this dataset should be cited in published papers.

NOTE: it may be appropriate to add a 'history' table to record all modifications to the data descriptions including 'when was it modified', 'by whom was it modified', 'what was modified'

NOTE: the taxonomic descriptor field and habitat field were present in the Blue Pages but were omitted in the recommended structure

Table 5: Data Table: ORGANISATION

Field	Description
ORGANISATION_CODE	Unique identifier for each institution
ORGANISATION_NAME	Full name of institution/organisation
POST_BOX	Postbox address
LOCATION	Street address
AREA <i>rename to 'City'</i>	Town or city
REGION	State, county or province
POSTCODE	Postcode or equivalent
COUNTRY	Country
PHONE	Phone number of institution
FAX	Fax number of institution
NEW: EMAIL	<i>To be consistent with Table 4 it may be better to include an institutional e-mail address (or e-mail address head of institution) which will also avoid difficulties if the contact moves</i>
FTP	FTP address of institution
URL	URL of institution
DESCRIPTION	Description of institution including services. etc.
ENTRY-DATE	Date when the information was entered
NEW: MODIFY-DATE	<i>Add modify date to be consistent with Table 4</i>

Table 6: Table: CONTACTS

Field	Description
DATASET_ID	Dataset number
TITLE	Title of the contact, e.g. Dr.
FIRST_NAME	Contact person's first name or initial
NEW: MIDDLE_NAME	<i>Compliance with GLODIR</i>
SURNAME	Contact person's last name
POSITION	Position within the institution
DEPARTMENT	Name of the department within the Institution
ORGANISATION_CODE	Select from ORGANISATION Table
PHONE	Phone number of the contact
FAX	Fax number of the contact
EMAIL	Email of the contact
NEW: URL	<i>URL of the individual</i>
ENTRY-DATE	Date when the information was entered
NEW: MODIFY- DATE	<i>Add modify date to be consistent with Table 4 and Table 5</i>

The Group further recommended :

- For the AREA KEYWORDS: consider the use of the ASFIS Geographic Authority List. However, this is not of crucial importance as the geographic location is clearly defined by the longitude and latitude.
- For the THEME KEYWORDS: consider the use of the GLODIR subject categories code list (version 3/1999), which is based on the ASFA Subject Codes (list added in Annex 2 of Document IOC/IODE-MIM-VI/13).

The Group suggests that an amended structure display in line with the above suggestions be prepared comparable to Annex A of the MEDI Document IOC/IODE-MIM-VI/10 for the Group's consideration (possibly by correspondence).

The Group also stressed the need to include a 'DOCUMENTS' Table to list documents that were prepared using this data set. **The Group will provide** AODC with guidelines for bibliographic citations (Action: Pauline Simpson).

The Group (through IOC and the GEMIM Chair) will provide AODC with a standard bibliographic citation format for datasets.

5.3 ODINAFRICA: TOWARDS AN INTEGRATED APPROACH TO DATA AND INFORMATION MANAGEMENT

Mr. Mika Odido introduced this item providing an overview of the ODINAFRICA-I project which had been initiated in 1998 and will terminate on 31/12/2000, as well as of the project proposal for ODINAFRICA-II which will be submitted to the Government of Flanders in 1999. He summarized the objectives of the ODINAFRICA-I project as follows:

- In the IOCINCWIO region: to continue the RECOSCIX-WIO network services and products developed since 1989;

- In the IOCINCWIO region: to develop an Ocean Data and Information Network in Eastern Africa;
- In the IOCEA region: to develop the RECOSCIX-CEA network providing information services and developing information products.

The Group was informed that ODINAFRICA support included equipment, support for Internet access, support for internships, support for operational expenses as well as annual workshops and training courses. The project's support was aimed at addressing national priorities within a regional context enabling sharing of resources and experience.

Mr. Odido pointed out that the progress of the data component of ODINAFRICA was proving to be faster than of the information component which was attributed to a higher level of computer proficiency amongst data managers (who were mostly scientists) than amongst information managers (mostly librarians). He therefore suggested that data managers should work closer together with information managers.

The Group expressed its appreciation for the progress made by the ODINAFRICA-I project and looked forward to the continued funding of ODINAFRICA by Flanders through the ODINAFRICA-II project.

6. IODE-MIM ACTIVITIES RELATED TO MEETING THE NEEDS OF DEVELOPING COUNTRIES

6.1 RECOSCIX-WIO: 10TH ANNIVERSARY AND LOOKING FORWARD

This item was introduced by Mr. Mika Odido. He gave a brief overview of the activities of the RECOSCIX-WIO project which include:

- Query Handling service: this service has been replaced by the provision of the ASFA CD-ROM to RECOSCIX-WIO cooperating institutions;
- Document Delivery service: documents are procured through a network of over 30 cooperating libraries around the world;
- Current information service: contents tables of journals to which the RECOSCIX-WIO Regional Dispatch Centre is subscribing are distributed in the region;
- WIODIR: the Western Indian Ocean Directory of Marine (and Freshwater) Professionals contributes to the GLODIR;
- WIOLIB: regional library catalogue database, composed of merged institutional library holdings catalogues of cooperating institutions;
- MASDEA: marine species database for the IOCINCWIO region;
- WINDOW: Western Indian Ocean Waters, the RECOSCIX-WIO newsletter (prepared by the RECOSCIX-WIO RDC and printed/distributed by IOC);
- WIOBASE: CD-ROM product including RECOSCIX-WIO's information and data products.

The Group was informed of the discussions held during the 'IOC-LUC-KMFRI Workshop on RECOSCIX-WIO in the Year 2000 and beyond' (IOC Workshop Report No. 156) which took place in Mombasa, Kenya, 12-16 April 1999. Mr. Odido highlighted that, in order to ensure RECOSCIX-WIO addressed the needs of its main user community i.e. the scientists, the workshop had invited both librarians and scientists. This had proven a most successful and useful initiative. The main recommendations of the workshop were:

- The next phase of RECOSCIX-WIO should strongly address sustainability of RECOSCIX-WIO beyond donor funding;

- Attention should be given to the needs of Freshwater scientists and it was suggested to develop a RECOSCIX-WIO freshwater component;
- The rapid changes of technology since the beginning of RECOSCIX-WIO in 1989 necessitated replacement of the now outdated 386-model PCs;
- There is a need to continue training with preference to local training or distance learning training, avoiding disruption of the short-staffed libraries in the region;
- A dedicated RECOSCIX-WIO Web site should be developed providing on-line services (Web-based submission of document requests, on-line access to catalogues);
- Document delivery should make use of electronic document transmissions technology such as ARIEL;
- The publication of WINDOW as RECOSCIX-WIO main public awareness tool should be continued;
- In order to strengthen and increase collaboration and commitment of the Cooperating Institutions (Cis), formal agreements should be made between RECOSCIX-WIO and the Cooperating Institutions. These should include detailed workplans and budgets;
- The Cooperating Institutions should complete the development of their institutional holding catalogues as a contribution to WIOLIB;
- Cooperating Institutions should regularly send institutional publications to the RDC for inclusion in ASFA;

Mr. Odido called the attention of the Group to the recommendation made by the Workshop with regard to the library catalogues structure. The Workshop had pointed out that structures such as ASFISIS-3 were too extensive for day-to-day use. Instead the Group recommended a more concise structure of 18 fields including: Title; Original Title; Author(s); Corporate Author(s); Conference Information; Source (collation/imprint); Series; Publication Year; Language of Text; Language of Abstract; Publication Type; Environment(s); Abstract; Descriptors; Subject Categories; Geographic Descriptors; Input Center No; Accession Number; Author affiliation, ISBN/ISSN and Report No. were considered as optional fields.

The Group noted with appreciation the long lasting development of RECOSCIX-WIO and the continued commitment of the cooperating institutions to continue the network. However, the Group called attention to sustainability of the network after termination of funding. The Group was informed that as far as document delivery was concerned the project had noted an increase of requests for document already available within the region (requested during the past 10 years). This reduced the cost of document delivery substantially, resulting in an annual 'baseline' funding requirement of approximately US\$ 30,000.

The Group called on the Flemish Government and other donors to provide support to RECOSCIX-WIO as a model of collaboration in information exchange in developing countries.

6.2 OTHER RECOSCIX NETWORKS: TODAY AND TOMORROW

6.2.1 RECOSCIX-CEA

Reference was made to Document IOC/IODE-MIM-VI/11. The item was introduced by Mr. Yacouba Sankare, RECOSCIX-CEA Coordinator. He explained that due to lack of funds, the RECOSCIX-CEA project which was proposed and requested by the IOCEA region during several IOCEA meetings had been started in 1993. However, due to insufficient funds the project could only be implemented as from 1998 with funds provided by the Government of Flanders through the IOC.

He reported that since August 1998 the project set up the Regional Dispatch Centre at the 'Centre de Recherches Océanologiques (CRO)' in Abidjan, Côte d'Ivoire. The CRO provided local staff (Regional Coordinator, Scientific Manager, Computer Operation Support, Librarian, Second Librarian, Secretary and Photocopier Operator), office space and utilities. The RDC will have access to the well-equipped library of CRO with 3000 books, 900 periodicals (15 current subscriptions) and the ASFA database. The project has identified 16 cooperating institutions in 15 countries (Angola, Ghana, Guinea, Guinea-Bissau, Mauritania, Nigeria, Senegal, Morocco, Togo, Cameroon, Côte d'Ivoire, Benin, Congo, Cape Verde and Gabon). Mr Sankare noted that 9 countries are Francophone, 3 are Anglophone and 3 are Lusophone. However, it is expected that the Lusophone countries will cooperate using the English language. The Group was informed that the project will provide services and develop products such as document delivery (the institutions will receive a free subscription to ASFA – see below), CEADIR (regional directory of marine scientists), catalogues, newsletter, and provide training.

Mr. Richard Pepe, Fishery Information Officer and Editor-in-Chief of ASFA (FAO), informed the Group that the ASFA Board had decided to implement a project to provide the ASFA CD-ROM free of charge to 41 LIFDC (Low-income Food Deficient Countries) in Africa for a period of (at least) two years. FAO and IOC jointly prepared a list of 23 possibly benefiting countries based on the RECOSCIX-CEA, RECOSCIX-WIO and ODINAFRICA cooperating countries. The 7 IOCINCWIO institutions already receiving ASFA from the IOC or other sources were not included in the list so as not to affect the existing customer base. All identified institutions had been sent a letter of invitation to participate in the project, as well as a questionnaire. So far, 11 institutions replied. The Group was also informed that ASFA's Publisher CSA had agreed to provide free access to ASFA over the Internet to developing countries (through CSA's ASFA-IDS (Internet Database Service)). The ASFA UN Partners have been requested to define a list of developing countries (on the basis of existing definitions of developing countries). Requests for such access were agreed to be channeled through the ASFA Secretariat at FAO.

6.2.2 Project Proposal: INSHORE (Information Sharing within the Oceanic Regions)

Reference was made to Document IOC/IODE-MIM-VI/12. This item was introduced by Mr. Murari Tapaswi, Librarian at the National Institute of Oceanography (India). He recalled that several attempts had been made by him to initiate a RECOSCIX-type regional information exchange network for the IOCINDIO region. Unfortunately there appears to be little cohesion and willingness for such collaboration in the region for various reasons. INSHORE wishes to re-launch the network idea.

Mr Tapaswi informed the Group that his institution had developed a comprehensive bibliographic database (INDOCEAN) comprising over 18,000 records covering the Indian Ocean region (both IOCINDIO and IOCINCWIO regions). He proposed to produce a CD-ROM containing the database. Countries in the region will be invited to contribute records to the database. In return they will receive 'credits' with which they can purchase a copy of the CD-ROM which will be priced at about US\$ 1,000. It was noted that all documents referred to in the database are available at NIO.

Extensive discussions ensued with regard to possible overlapping between the INDOCEAN database and ASFA and WIOBASE, the uncertainty whether other countries in the region would be willing to pay for the product and the price of the product. The Group suggested to set up an 'e-commerce' site which would provide free access to the database but through which users could order documents. This would create revenue for the NIO library and, if successful, could raise interest in other countries of the region to participate in the project by providing records for the database which could then be ordered from the new Partners.

A revised proposal would be submitted to the NIO management for their consideration, including the Group's suggestion. Discussion on the specific problems in the IOCINDIO region highlighted the sociological, political and geographic factors that need to be considered when proposing the implementation of a regional information network.

7. DEVELOPMENT OF THE MIM SERVICES/PRODUCTS PROGRAMME

7.1 GLODIR AND RELATED DIRECTORIES

Reference was made to Document IOC/IODE-MIM-VI/13, Document IOC/IODE-MIM-VI/14 and Document IOC/IODE-MIM-VI/15. Mr. Peter Pissierssens gave a demonstration of the on-line GLODIR Web site as well as of the off-line input and query module. He informed the Group that the Directory now counted close to 6,000 entries and it was expected that the mark of 10,000 would be reached before the end of the year. He explained that efforts were now being made to increase the number of national and regional input partners in an effort to improve completeness and input quality. He further explained that some codes had been added to the ASFA Subject Categories list, used for the controlled activities descriptor, following comments from users.

He explained that, as a new development, an extra field will be added enabling entering the activities description in an individual's native language.

He then invited the Group to comment on the on-line and off-line interface with a view to improve the service. **The Group made the following suggestions:**

- Include the 'search' button at the top of the query page (currently only located at the bottom of the page);
- Remove the gender field;
- Do not convert the surname into upper case (some surnames include lower case);
- When a new record is entered send a confirmation E-mail to the new entry;
- Add the delete function in the 'administrator' section;
- Make the job type field repeatable, possibly using tick boxes;
- Investigate an easier way to select the ASFA codes, possibly by means of the two-box method (left side picklist, right side selected items);
- Consider including a 'Top 10' of the countries with the highest number of entries on the home page;
- Consider making the interface multilingual (English, French, Spanish) including translation of the picklists;
- Make a detailed analysis of the logged queries in order to identify whether the current 4-digit ASFA code list is used for searches and to what level.

There was some discussion on the quality of the records: how can the user verify that an individual included in the Directory has the claimed expertise. In this regard the option of linking the Directory to the ASFA database (returning year and title of publications for the individual) was mentioned. However, this raised some concern as this might result in confusing results for non-scientist professionals (e.g. Administrators, Policy Makers,...).

All Group members requested a copy of the GLODIR off-line input module. The Group identified GLODIR as another important flagship of the MIM Programme.

The Group was informed about the difficulties in identifying an input centre for the United States. Despite high-level contacts at NOAA (1997, 1998), extensive canvassing on

the IAMSILIC listserv and extensive discussions with NAML, a coordinated input arrangement had not yet been made for the United States. Recently NAML had reiterated its interest and was sent the input module and related documents. NOAA Charleston had also offered to collaborate. Mrs. Linda Pikula of NOAA had sent a message to all NOAA Librarians requesting them to advertise the Directory. Mrs. Janice Beattie offered to investigate further and try to unblock the situation.

Mrs. Heather Cameron, Manager of Library Policy and Services, Fisheries and Oceans Canada, offered to investigate the possibility to coordinate the input for Canada. Mr Rao offered to coordinate the input for the South Pacific (he also requested the paper input forms). Mrs. Davies offered to investigate ways to improve coverage for Australia.

With regard to European input the Group was informed that the Southampton Oceanography Centre (United Kingdom) had been sub-contracted by IOC to develop input on several European countries which would result in at least an additional 5,000 records by the end of 1999.

The Indian experience in obtaining and entering data on the off-line module and its subsequent merger with the directory on the IOC Web server was presented by Murari Tapaswi. He reiterated the suggestions for modifications to the off-line module. He reported problem in obtaining input from the scientists and explained that a lot of persuasion and reminding had been necessary.

The Group strongly invited IOC Member States to identify National Coordinators for GLODIR input.

The Group recommended enhanced publicity and awareness activities related to GLODIR including submission of short info messages to scientific journals (this has already been done for the 'WOCE Newsletter' and 'Ocean Science News'). Group Members offered to contact journals. IOC will contact CSA requesting inclusion of a reference to GLODIR in the 'ASFA-IDS'. **The Group further recommended** to exploit or produce posters, leaflets and other promotional material and to ensure presence of GLODIR at selected scientific exhibitions, conference and other events involving the marine community.

7.2 MIM TRAINING PROGRAMME

The Group was informed that since 1999 some information management lectures had been included in IODE data management courses. However, reaction to this initiative by the participants (data managers) had been mixed.

The Group agreed that information management lectures should indeed be part of data management training courses but recognized that the topics included should have clear relevance to the scientist. In this regard the Group recommended a profile including at least:

- Inter-dependency of data, information and research;
- Information tools and products such as ASFA, Bibliographic software, MEDI, etc.;
- Publishing and Promoting your data.

The Group also pointed out that scientists should be convinced that the WWW is not the ultimate information source. Librarians should guide and train users to useful and reliable Web-based information sources.

With regard to information management training courses and workshops, the Group discussed recommendations for 'modules' at length and decided on the following basic

curriculum which would be produced in toolkit format on CD-ROM and the IOC/MIM Web site:

- How to raise the profile of the library: library user training;
- Information Technology in the Library: essential hardware and software;
- Information Technology in the Library: the Integrated Library Management System;
- Users Services and Information Resources (on-line and off-line), including advanced service such as SDI;
- User Services: ILL and Document acquisition;
- Collection management: where to get and how to get;
- Marketing methods.

It was recognized that trainees may come from different backgrounds: sometimes they may be scientists who take responsibility for the library, sometimes they may be qualified librarians with little knowledge about marine science. It was agreed that a modular approach from which the trainees could select the modules of relevance to them would be the appropriate way to proceed.

The Group was informed of existing training tools such as a basic library training guide developed by PIMRIS (which required some updating and would be submitted for the toolkit and MIM Publication Series). Mrs. Heather Cameron and Mrs. Janice Beattie offered to expand the description of the modules.

7.3 MIM PUBLICATION SERIES

This item was covered under Agenda Items 3 and 4.3

7.4 MIM ON THE WEB

This item was introduced by Mr. Peter Pissierssens, who provided a demonstration of the IODE and IODE/MIM Web site. He noted that the site provided extensive information on the structure of IODE and MIM, including GEMIM, but it had not been possible to develop the tools and services section which would attract a more substantial number of users. In this regard it was emphasized that the site should aim at the entire marine information community rather than only IODE contacts.

Mr Pissierssens pointed out that, although he had been able to lay the foundation for the MIM site (as for the IOC and IODE sites) he could no longer assure further development and maintenance and called on the Group to share responsibility for the site.

The Group decided that responsibility for the further development and maintenance would henceforth be the responsibility of the GEMIM Chair. IOC offered to provide the software and technical expertise to enable remote administration of the site.

With regard to site content **the Group suggested** some topics such as 'experience sharing' which would include reports on experience with marine information management technology, as well as status reports on the GEMIM action lines. This will require dynamic contributions from all Group Members. The Group noted that the MIM and IAMSLIC sites covered closely related or overlapping subject areas. Although there was some discussion on this issue the Group agreed that lack of staff at IAMSLIC had resulted in minimal development of the site. Furthermore it was deemed important that the MIM Programme maintains and further develops its identity through its Web site. It was decided that a demonstration would be prepared for the upcoming IAMSLIC Conference in Woods Hole,

USA (if possible) and this could be the basis for a more complementary development of the IAMSILIC and MIM sites.

8. ASFIS/ASFA - STATUS AND FURTHER DEVELOPMENT

Mr. Richard Pepe gave an overview of the proceedings of the 1999 ASFA Advisory Board which took place in Silver Spring, MS, USA and was hosted by NOAA between 25 and 28 May 1999. He identified ASFA as one of the fundamental tool for aquatic scientists. He further informed the Group that a new Publishing Agreement had been signed with ASFA's Publisher Cambridge Scientific Abstracts (CSA) for a 4-year period. He noted that FAO had received offers from other publishers to take over the role as ASFA Publisher but reported that the partnership was fully satisfied with the agreement concluded with CSA. He highlighted the agreement which resulted in increased royalties and entitlements for the Partners. Mr Pepe recalled his statement on the provision of free ASFA CD-ROMs to LIFDCs (Low Income Food Deficiency Countries) in Africa, as detailed under Agenda Item 6.2.1.

9. INTERACTION WITH UN AND OTHER ORGANIZATIONS

9.1 MIM AND IAMSILIC

This item was introduced by the IAMSILIC President, Mrs. Pauline Simpson. She highlighted the close collaboration between the MIM Programme and IAMSILIC, referring to collaborative projects such as the ARIEL project, the IAMSILIC Directory of Aquatic and Marine Libraries and Information Centres (IDALIC), and cooperation of IAMSILIC members in GLODIR. She also expressed IAMSILIC's appreciation for the support provided by IOC for librarians from developing countries to enable them to participate in IAMSILIC's annual conferences.

The Group expressed its appreciation for the IAMSILIC-MIM cooperation and strongly recommended to continue and expand cooperative activities. The Group called on IOC to continue its support to IAMSILIC.

9.2 MIM AND EURASILIC

This item was introduced by the EURASILIC President, Mrs. Sofia Goulala, Head of Library, Documentation and Information Service at the National Centre for Marine Research (Greece). She highlighted the cooperation between IOC, NCMR (National Centre for Marine Research, Athens, Greece) and EURASILIC with regard to the EURASILIC Directory of Aquatic and Marine Libraries and Information Centres and EUDIR, the European component of GLODIR. She noted the joint effort between EURASILIC and IOC to update the EURASILIC Directory which now contains 527 records. On EUDIR she reported that she had requested EURASILIC members to submit records to EUDIR. Ms Goulala is also coordinating Greek input to GLODIR. The first 100 Greek records have already been submitted to IOC. She pointed out that Greece developed two versions of the Greek Directory: one in English (for GLODIR) and one in Greek (for local use).

The Group commended Mrs. Goulala and EURASILIC for the results achieved with regard to the EURASILIC and EUDIR/GLODIR Directories and **called** on EURASILIC to continue its active cooperation with IOC. **The Group recommended** to add a note or link on the GLODIR Web site to non-english versions of the Directory.

9.3 MIM AND ICSPRO

This issue was discussed under Agenda Item 3.

10. MIM PROGRAMME AND ACTION PLAN FOR THE NEXT INTERSESSIONAL PERIOD

The Group first considered the Core Objective of the MIM Programme and re-defined it as : '*to Improve the capacity to access Marine Information*'.

Considerable discussion followed on the 'major lines of action' which should be addressed or continued to be addressed during the next intersessional period. The Group recommended the following:

1. CAPACITY BUILDING: development of information centres and/or regional information networks building on the RECOSCIX model;
 - Support for RECOSCIX-WIO, RECOSCIX-CEA and others as requested by the IOC Member States.
2. CAPACITY BUILDING: development of training tools and products
 - MIM Toolkit (CD-ROM and WWW)
 - Manuals and Guides (including MIM Publication Series)
3. CAPACITY BUILDING: support for skills training and education
 - Training Courses and Workshops
 - Pool of Experts
 - Mentoring
 - Individual training or study grants
4. PRODUCTS AND SERVICES: development of information products and services
 - GLODIR, IDALIC and other Directories, IOC Publications catalogue, IOC e-Library (including full-text), Ocean Acronyms, etc.
 - Cooperative projects for the development of integrated data and information products

The Group strongly called for continued cooperation between the IODE Data and Information Management communities to ensure exchange of experience and skills, citing MEDI as a first example of such cooperation. **The Group adopted Recommendation MIM-VI.1**

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

The Group requested the Chair and the Technical Secretary to monitor the implementation of the Action Plan in consultation with Group members.

11. ELECTION OF THE GEMIM CHAIR

The Technical Secretary informed the meeting of the IOC procedure for the election of a Chair of subsidiary bodies and invited the Group to give the names of candidates. **The Group unanimously elected** Mr. Murari Tapaswi as Chair of the Group.

The Group expressed its high appreciation and gratitude to Mrs. Pauline Simpson for her longstanding (1992-1999) and excellent work as Chair of the IODE Group of Experts on Marine Information Management, without which the MIM Programme would not have developed as successfully.

12. DATE AND PLACE OF THE NEXT SESSION

The Group suggested that the next Session of the Group be scheduled in 2001 or 2002 depending on the progress of the Action Plan implementation and preferably in conjunction with the ASFA Board.

13. OTHER BUSINESS

No other business.

14. ADOPTION OF THE SUMMARY REPORT

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

15. CLOSURE OF THE MEETING

The Chair expressed the Group's appreciation to the local organizers for their assistance and hospitality. She referred especially to Ms Janice Beattie and Ms Linda Warden of NOAA.

The Chair closed the meeting on Thursday 3 June 1999 at 13:00 hrs.

ANNEX I

AGENDA

- 1. OPENING OF THE MEETING**
- 2. ADMINISTRATIVE ARRANGEMENTS**
- 3. REPORT ON INTERSESSIONAL ACTIVITIES 1992-1999**
 - 3.1 Report on the status of implementation of the GEMIM-V Action Plan assigned to the group by its fifth session and by the IODE committee
- 4. NEW TECHNOLOGIES AND MIM**
 - 4.1 Global database access over the Internet: Z39.50
 - 4.2 Document Delivery over the Internet: ARIEL
 - 4.3 Information Technology in Libraries
- 5. COOPERATION BETWEEN THE IODE DATA AND INFORMATION COMMUNITIES**
 - 5.1 Report on IODE-XV and looking forward to IODE-XVI
 - 5.2 MEDI
 - 5.3 ODINAFRICA: towards and integrated approach to data and information management
- 6. IODE-MIM ACTIVITIES RELATED TO MEETING THE NEEDS OF DEVELOPING COUNTRIES**
 - 6.1 RECOSCIX-WIO: 10th anniversary and looking forward
 - 6.2 Other RECOSCIX networks: today and tomorrow
- 7. DEVELOPMENT OF THE MIM SERVICES/PRODUCTS PROGRAMME**
 - 7.1 GLODIR and related directories
 - 7.2 MIM Training Programme
 - 7.3 MIM Publication Series
 - 7.4 MIM on the Web
- 8. ASFIS/ASFA - STATUS AND FURTHER DEVELOPMENT**
- 9. INTERACTION WITH UN AND OTHER ORGANIZATIONS**
 - 9.1 MIM and IAMSLIC
 - 9.2 MIM and EURASLIC
 - 9.3 MIM and ICSPRO
- 10. PREPARATION OF THE MIM ACTION PLAN FOR THE NEXT INTERSESSIONAL PERIOD**
- 11. ELECTION OF THE GEMIM CHAIRPERSON**
- 12. DATE AND PLACE OF THE NEXT SESSION**
- 13. OTHER BUSINESS**
- 14. ADOPTION OF THE SUMMARY REPORT**
- 15. CLOSURE OF THE MEETING**

ANNEX II

RECOMMENDATIONS

Recommendation MIM-VI.1 COOPERATION BETWEEN THE IODE DATA AND INFORMATION COMMUNITY

Recommendation MIM-VI.2 ACTION PLAN FOR THE GROUP FOR 1999-2002

Recommendation MIM-VI.1

COOPERATION BETWEEN THE IODE DATA AND INFORMATION COMMUNITY

The IODE Group of Experts on Marine Information Management,

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

Further noting the need for technological expertise in Data and Information Management,

Recognizing the results achieved by the joint development of the MEDI Pilot Project,

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

Recommends continued and expanded cooperation and exchange of experience and skills between the IODE Data and Information communities through collaborative projects,

Further Recommends the inclusion of information management components in data management training activities, and of data management components in information management training activities.

Recommendation MIM-VI.2

ACTION PLAN OF THE GROUP FOR 1999-2002

The IODE Group of Experts on Marine Information Management,

Having reviewed its completed and ongoing activities,

Being aware of the resource constraints under which IOC is operating,

Highlighting the importance of MIM as an important programme to improve the capacity of marine professionals to access Marine Information,

Adopts a plan of action for the intersessional period 1999-2002 as given in the Annex to this Recommendation.

Annex to Recommendation MIM-VI.2**MIM ACTION PLAN FOR 1999-2002**

Agenda item	ACTION	Date due	Cost	Responsibility
3.1	Directory of training opportunities Clearing House	10/99	-	Hosting: IOC IAMSILIC coordination: P.Simpson, G. Rao
3.1	IOC catalogues of publications	Cont.	Staff time	IOC
3.1	Request publishers to ask authors to define keywords using ASFA Thesaurus (rev.)	Ongoing	-	P. Simpson H. Cameron
3.1	Monitoring of electronic copyright legislation	Ongoing	-	All Group members Coord: S.Goulala
3.1	Meeting of ICSPRO and other UN agencies on coordination of Marine Information Management activities	2000	\$ 2000 (IOC rep)	IOC
3.1	Development 'IOC Web site template' for Member States Web sites and mailing to Member States as IOC Circular Letter	6/99	-	IOC
3.1/7.3	MIM Publication Series	Ongoing	-	All Group Members
3.1	IOC CD-ROM	2/2000	\$ 5000	IOC
3.1/9.1	Support to IAMSILIC Conference participants	annual	\$6000/yr	IOC
3.1/9.2	Support to EURASILIC Conference participants	2000, 2002	\$5000/session	IOC+ donors
3.1/6.2	RECOSCIX-CEA Training Course	1999	\$40,000	IOC + donor
6.2	RECOSCIX-CAR feasibility study	2000	\$ 10,000	IOC + donor
4.2	Contact ARIEL producer RLG to obtain special price for developing countries	8/99	-	IOC
4.3	Paper on hardware/software requirements for marine information library/information centre	10/99	-	M.Odido M.Tapaswi
4.3	Detailed ILMS module description	1/2000	-	H. Cameron, J.Beattie
4.3	Identification of off-the-shelf ILMS software	1/2000	-	All Members Coord: H.Cameron, J.Beattie
4.3	Investigation CDS/ISIS, WINISIS	1999	-	M.Tapaswi
5.1	Standard bibliographic citation for data sets	12/99	-	S.Davies
5.1	Investigate use of Z39.50 for searching both bibliographic and data inventories	6/2000	-	P.Simpson
5.2	Send recommendations on structure MEDI to AODC	6/99	-	IOC
5.2	Send guidelines for bibliographic citations for published papers to AODC	6/99	-	P.Simpson
5.2	Send guidelines for bibliographic citations for datasets to AODC	10/99	-	S.Davies
5.3	Continued development ODINAFRICA	Cont.	As per ODINAFRICA document	IOC +donors

6.1	Continued development of RECOSCIX-WIO	Cont.	As per IOC Workshop Report 156	IOC + donors
6.2	Continued development of RECOSCIX-CEA	Cont.	Approx. US\$ 50K/year	IOC and donors
6.2.2	Revision of INSHORE project proposal	2000	-	M. Tapaswi
7.1	Further development of GLODIR software and user interfaces	Cont.	\$2000/yr	IOC
7.1	Development of GLODIR input by national coordinators and/or identification of national ccoordinators	Cont.	\$10000/yr	CA: H. Cameron AU: S. Davies S.Pac: G. Rao Member States Sub-contractors
7.1	Development of promotional material; promotion of GLODIR	Cont.	\$ 3000/yr	IOC and All Members
7.2	Identification and detailed terms of reference of MIM Training Modules	6/2000	-	H. Cameron J. Beattie
7.2	Provision of basic library training manual	6/2000	-	G. Rao
7.4	MIM Website development	Cont.	\$ 500	Chair Content: assisted by All Members

ANNEX III

LIST OF PARTICIPANTS**Members of the GEMIM****Mrs. Pauline SIMPSON (Chair and President IAMSLIC)**

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ANNEX IV

LIST OF DOCUMENTS ¹

Code	Agenda item	Title
IODE-MIM-VI/1 prov	2	Provisional Agenda
IODE-MIM-VI/1 prov	2	Provisional Timetable
IODE-MIM-VI/2	3	Annotated Provisional Agenda
IODE-MIM-VI/3	14	Summary Report (to be prepared during the Session)
IODE-MIM-VI/4	2	Provisional List of Documents (this document)
IODE-MIM-VI/5	2	List of Participants
IODE-MIM-VI/6	3.1	Report on the status of implementation of the GEMIM-V Action Plan assigned to the Group by its Fifth Session and by the IODE Committee
IODE-MIM-VI/7	4.1	Global database access over the Internet: Z39.50
IODE-MIM-VI/8	4.2	Document delivery over the Internet: ARIEL
IODE-MIM-VI/9	4.3	Information Technology in Libraries: the Bibl i/o software as an alternative to CDS/ISIS for the development of low-cost library catalogues
IOC/IODE-XV/3	5.1	IOC Committee on International Oceanographic Data and Information Exchange, Fifteenth Session, Athens, Greece, 23-31 January 1996
IODE-MIM-VI/10	5.2	The MEDI Pilot Project: Status Report
--	5.3	Project Proposal: Ocean Data and Information Network for Africa - Second Phase (ODINAFRICA-II)
IOC Workshop Report	6.1	RECOSCIX-WIO in the year 2000 and beyond
IODE-MIM-VI/11	6.2	RECOSCIX-CEA Status Report (summary in English, Document in French)
IODE-MIM-VI/12	6.2	INSHORE: INformation SHaring within the Oceanic REgions
IODE-MIM-VI/13	7.1	GLODIR Status Report
IODE-MIM-VI/14	7.1	GLODIR : An Indian Experience
IODE-MIM-VI/15	7.1	Eudir Status Report
IODE-MIM-VI/16	9.1	MIM and IAMSLIC
IODE-MIM-VI/17	9.2	MIM and EURASLIC

¹ This list is for reference only. No stocks of these documents are maintained, except for the Summary Report. Some of the working documents may be available from the IODE Website <http://ioc.unesco.org/iode> under the MIM section.

INFORMATION AND OTHER REFERENCE DOCUMENTS

Code	Title
IODE-MIM-VI/Inf.1	Local information
IOC/IODE-XV/8	Future of the MEDI Referral System
IOC/IODE-MIM-I/3	Summary Report of the IODE Group of Experts on Marine Information Management, First Session (Rome, 19-23 November 1984)
IOC/IODE-MIM-II/3	Summary Report of the IODE Group of Experts on Marine Information Management, Second Session (Moscow, 8-9 December 1986)
IOC/IODE-MIM-III/3	Summary Report of the IODE Group of Experts on Marine Information Management, Third Session (Wormley, United Kingdom, 27-30 April 1992)
IOC/IODE-MIM-IV/3	Summary Report of the IODE Group of Experts on Marine Information Management, Fourth Session (Washington DC, USA, 6-9 October 1993)
IOC/IODE-MIM-V/3	Summary Report of the IODE Group of Experts on Marine Information Management, Fifth Session (Athens, Greece, 17-19 January 1996)
IOC Manuals and Guides No. 30 Vol. 1	Report on Diagnostic Procedures and a Definition of Minimum Requirements for Providing Information Services on a National and/or Regional Level
IOC Manuals and Guides No. 30 Vol. 2	Information Networking: The Development of National or Regional Scientific Information Exchange
IOC Manuals and Guides No. 30 Vol. 3	Standard Directory Structure for Organizations, Individuals and Their Research Interests
IOC Manuals and Guides No. 30 Vol. 4	Standard Library Directory Record Structure

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IOC/IODE-MIM-VI/3
Paris, 23 July 1999
English only