

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

(of UNESCO)

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**Ocean Data and Information Network for the
Central Indian Ocean region
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1. Goals and Objectives

The Ocean Data and Information Network for the Central Indian Ocean region (ODINCINDIO) was established with the following objectives:

1. Provide assistance in the development, operation and strengthening of National Oceanographic Data (and Information) Centres and to establish their networking in the region;
2. Provide training and education in marine data and information management, taking into account the requirements of operational oceanography); applying standard formats and methodologies as defined by the IODE;
3. Enhance national and regional awareness for Marine Data and Information Management;
4. Assist in the development and maintenance of national and regional marine data, metadata and information databases;
5. Assist in the development and dissemination of marine data and information products, catering to the needs of user communities at the national and regional levels, and responding to national and regional priorities;
6. Undertake the ODINCINDIO activities in close collaboration and networking with other relevant organizations, programmes and projects operating in the region.

ODINCINDIO project involves all IOCINDIO Member States including: Australia*, Bangladesh, France*, India, Indonesia, Iraq, Iran, Kuwait, Malaysia, Maldives, Myanmar, Oman, Pakistan, Qatar, Saudi Arabia, Sri Lanka, Thailand, UAE, and UK* (* these countries will participate in the project but will not require project funding). Total number of countries: 19; total financially supported countries: 16. Among the IOCINDIO Member States located around the Indian Ocean, Australia, India, Iran, Malaysia, Pakistan and Sri Lanka have already established their National Oceanographic Data Centers (NODC).

2. Summary of Activities in the period 2005-2006

The ODINCINDIO's accomplishments, since its establishment in the 18th session of IODE in April 2005 have been considerable. In line with the objectives of ODINCINDIO, these activities whether directly or indirectly were linked to the region's capacity building in terms of marine data and information management by providing training and education and assisting in the development, operation and strengthening of National Oceanographic Data (and Information) Centers and to establish their networking in the region. In this regard collaboration with the other relevant organizations, programmes and projects operating in the region was always an important consideration for ODINCINDIO activities.

Experts and scientists from ODINCINDIO/IOCINDIO region participated in several training courses or workshops in the period of 2005-2006. Three of these courses were specifically designed for the ODINCINDIO/IOCINDIO Member States and the others were held by IODE or were joint activities of IODE in collaboration with other organizations and a group of nominees from ODINCINDIO/IOCINDIO Member States could participate in these courses/workshops. All ODINCINDIO training activities were substantially supported by IODE secretariat and staff at IODE project office in Ostende, Belgium.

The above mentioned training courses or workshops are listed as follows:

- **ODINCINDIO Marine Data Management Training Course
Ostende, Belgium, 5-18 October 2005**
The first ODINCINDIO training course on marine data management which was held during a period of 14 days provided basic training for the participants from the National Oceanic Data Centers and other national organizations in the region from several ODINCINDIO Member States.
- **ODINCINDIO Marine Information Management Training Course
Ostende, Belgium, 12-25 February 2006**
Participants from the majority of the ODINCINDIO Member States, mainly librarians from the marine libraries in the region, benefited from a basic comprehensive 14 days course on marine information management.
- **ODINCINDIO Data Management Training Course
Ostende, Belgium, 8-18 May 2006**
The second basic training course on marine data management with participants from the majority of the ODINCINDIO Member states resulted in a considerable addition in the number of the oceanographic experts in the region trained in data management.
- **Marine Biodiversity Data Management Training Course
Ostende, Belgium, 6-11 March 2006**
Two trainees from ODINCINDIO Member States attended the above training course
- **Joint IODE/IOI Training Course on GIS and Remote Sensing Data
Ostende, Belgium, September 18-23 2006**
Four trainees from ODINCINDIO Member States attended the above training course.
- **Second Combined Modeling and Data Management Training Workshop
(Jamboree-II), Ostende, Belgium, 9-14 October 2006**
Two trainees from ODINCINDIO Member States participated in the above training workshop.

The above training/workshops provided basic or specialized training for the staff of the National Oceanographic Data/Information Centers in the ODINCINDIO Member States. For the countries in the region who were less involved in IOC activities or do not have established Ocean Data/Information Centers, the trainings provided the opportunity to make these countries more familiar with the IOC and also facilitated the establishment of NODC/NMIC in those countries and so far two countries in the region have announced the beginning of the procedure of the establishment of their national data / information centers.

During the Fourth Session of IOCINDIO, 8 - 10 December 2005 in Colombo, Sri Lanka the Coordinator of ODINCINDIO presented the report of the development and activities of the project. The Regional Committee stressed the importance to increase the level of financial support for the ODINCINDIO project to be able to achieve the planned objectives in the expected period. The Regional Committee expressed its satisfaction with the ODINCINDIO Project and highlighted the major role it can play in the advancement of oceanography in the region, as well

as providing data exchange mechanism in the context of the ICG/IOTWS and IOGOOS. The Regional Committee urged all the Member States of the region to play an active and supportive role with regards to ODINCINDIO in order to establish a reliable working network building on the successful example of the ODINAFRICA and ODINCARSA projects. The Regional committee also stressed that adequate resources should be identified for the implementation of ODINCINDIO.

Collaboration with regional organizations and other IOC programmes or projects has been a priority of ODINCINDIO project. In this regard collaboration with IOGOOS has had a particular position since IOGOOS contributed in the establishment of ODINCINDIO and accepted ODINCINDIO as the capacity building tool for data and information management. During the Fourth Meeting of IOGOOS, 10–12 October 2006, Zanzibar, Tanzania, the coordinator of ODINCINDIO presented the progress made and achievements of ODINCINDIO. The meeting welcomed the successful achievements of ODINCINDIO and highly supported the close collaboration of IOGOOS, IOCINDIO and IODE on this project. The IOGOOS committee proposed a joint IOGOOS-ODINCINDIO work plan for the period of 2007-2008. The work plan included three basic training courses and also three specific training workshops related to the regional research projects of IOGOOS.

The valuable achievements of ODINCINDIO during 2005-2006 (the first two years of its establishment) the strong support of the IOCINDIO Member States and regional organizations, and the current IOC policy in conduction of capacity building activities through the regional projects, all indicate the substantial role of ODINCINDIO in the future capacity building activities of IOC in the Indian Ocean region. In this regard it is very important that during the next 2 years some of the basic objectives of the Project in particular the establishment of National Oceanic Data/Information in all the ODINCINDIO Member States and their networking be implemented.

3. Proposed Work Plan.

1. Provide assistance in the development, operation and strengthening of National Oceanographic Data (and Information) Centres and to establish their networking in the region;

The focus of ODINCINDIO is to encourage IOC members states from IOCINDIO to established NODCs and to collaborate with other NODCs in the region and beyond in oceanographic data and information exchange. The NODCs should be well equipped and staffed in order to be able to develop products and services that will satisfy the needs of the users. Each member state should designate an ODINCINDIO National Coordinators, and National IODE contacts for data management and information management. Mailing lists should be established for each of these groups to facilitate exchange of experiences and sharing of information.

2. Provide training and education in marine data and information management (taking into account the requirements of operational oceanography); applying standard formats and methodologies as defined by the IODE;

Basic data and information management training will be provided to newly established NODCs to equip their staff with the necessary skills. Advanced training as well as training on special skills for products development will be organized in collaboration with other programmes and organizations.

Internships and exchange programmes are another means for developing capacity in the NODCs and exposing the staff to methodologies and technologies in use in other NODCs.

3. Assist in the development and maintenance of national and regional marine data, metadata and information databases;

The development of national and regional directories, catalogues and databases will provide useful reference materials for management of the marine and coastal areas of the region. The following in particular should be considered addressed:

- data catalogues indicating the data sets which organisations or individual own, their quantity/quality and how it can be accessed;
- directories of marine professionals as part of OceanExpert;
- library catalogues; and
- Repositories of marine related publications from the region.

These catalogues, directories and data bases developed at national level should be merged to create regional products.

The development of data archives at national level is important. Some of the countries may need to access data collected within their waters, but available in data centres outside the region. Some institutions in the region have data in analogue format (charts and notes) which need to be digitized and made available in electronic format in the national oceanographic data and information centres. ODINCINDIO should provide support and assistance in achieving this.

4. Assist in the development and dissemination of marine data and information products, catering to the needs of user communities at the national and regional levels, and responding to national and regional priorities;

It will also be important to identify the priority needs of the stakeholders in marine and coastal management field in each of the member states. The NODCs should be able to develop and disseminate data and information products that address these requirements in order to be relevant to the communities.

Specialized skills will be required in areas such as modeling, remote sensing and GIS as applied to marine and coastal management.

The internet provides a convenient media for dissemination of information on the products and services that are available in the NODCs, as well accessing the products/services. Each of the NODCs should therefore strive to have a web presence.

5. Undertake the ODINCINDIO activities in close collaboration and networking with other relevant organizations, programmes and projects operating in the region.

The NODCs are meant to serve the data/information management needs of other programmes. ODINCINDIO has continued to work closely with the Indian Ocean GOOS programme (IOGOOS). The fourth session of IOGOOS, meeting in Zanzibar, Tanzania from 08-13 October 2006 identified the following areas to focus on in the intersessional period: (i) provision of easy access to small datasets, targeting specific activities, (ii) Down scaling of models to make available products and model results that can be used for management of environment and resources, and (iii) ocean re-analysis and relation to phenomena such as coral bleaching, and industries such as fisheries, (iv) development of climate change simulations and scenarios. Three streams were identified under ocean data management: (i) establishment and strengthening of existing NODCs through provision of basic training, (ii) development of data management and capacity building activities aligned with IOGOOS projects, particularly those outlined above. These would include Remote Sensing and GIS applications, modeling and sea level data analysis.

6. Publisize the availability of marine data and information services/products (Enhance national and regional awareness for Marine Data and Information Management);

This will be done through publication of brochures, posters as well as through websites of the respective NODCs and their parent institutions.

	2007				2008				2009			
	RP	EB exp	EB req	TOTAL	RP	EB exp	EB req	TOTAL	RP	EB exp	EB req	TOTAL
1. Provide assistance in the development, operation and strengthening of National Oceanographic Data (and Information) Centres and to establish their networking in the region;												
Provision of hardware and software			15,000				15,000					
Coordination costs (including travel)	5,000				5,000				5,000			
2. Provide training and education in marine data and information management (taking into account the requirements of operational oceanography); applying standard formats and methodologies as defined by the IODE;												
Basic data management training course						35,000						
Basic information management training course						35,000						
Participation in SeaDataNet and ASCABADOS												
Advanced Data Management training course												
Participation in DBCP data management course		12,000										
Internships and attachements												
3. Assist in the development and maintenance of national and regional marine data, metadata and information databases;												
Development of data catalogues			32,000				32,000				32,000	
Development of directory of experts			32,000				32,000				32,000	
Development of electronic repository												
Development of marine biodiversity databases												
4. Assist in the development and dissemination of marine data and information products, catering to the needs of user communities at the national and regional levels, and responding to national and regional priorities;												
Training course on data management and modeling		12,000				12,000				12,000		
Training on application of GIS/Remote sensing to ICAM		12,000				12,000				12,000		
Sea level data management training course		12,000				12,000				12,000		
National workshops on data/information requirements for ICAM			48,000				48,000				48,000	
5. Publisize the availability of marine data and information services/products (Enhance national and regional awareness for Marine Data and Information												

Management);											
Publication of brochures and posters			32,000				32,000				32,000
Development of NODC websites		35,000								35,000	