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**PROPOSAL: A STRATEGY TOWARDS AN OCEAN DATA AND INFORMATION NETWORK
FOR LATIN AMERICA AND THE CARIBBEAN: ODINLAC**

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INTRODUCTION

The advancement of science is unthinkable without continuous and efficient exchange of data and information. There is no point in developing scientific programmes and in undertaking scientific research activities unless the research findings can be communicated to the scientific community, and, of even more importance, in an adequate form to policy makers and the general public. This was clearly stated during UNCED and is fully applicable to the LAC (Latin America and the Caribbean) region.

The whole region periodically experiences the severe damage caused by the effects of El Niño, la Niña and hurricanes. Furthermore, the concentration of the population in the coastal zone, and the related industrial and economic activities, has resulted in serious impacts on coastal and marine resources. There is a strong demand for improved mechanisms for integrated management of the coastal zone and its natural resources.

The sovereignty of coastal states over a 200-mile zone of their coastal waters has resulted from the UN Law of the Sea deliberations. However, most coastal countries in the region neither possess sufficient data and information on this area and its resources, nor has access to data and information systems to process and make this data and information accessible in an adequate form.

In this context of course should be kept in mind that the countries of the region have different characteristics, needs and requirements. It may therefore be of advantage to define subgroups of countries (South America (Atlantic, Pacific), Central America and the Caribbean), and develop dedicated approaches for each of these sub regions.

1. IOC AND CAPACITY BUILDING

The keyword in IOC's support to developing countries is capacity building. For the LAC region this has implied several regional training courses on marine data and information management over the past decade (Colombia, Argentina, Rio Grande). The proposed strategy is based on the experiences from these courses, above all on the recommendations of the training course held in Rio Grande in 1999 (report available to the Meeting).

2. PARTNERSHIPS

The prime role of IOC is not of a donor but rather of a 'facilitator'. The linkage between bilateral projects, which concentrate on national infrastructure and human capacity building, and those IOC programmes, which are region-oriented and concentrate on joint policy definition and human capacity building with a regional perspective, makes these efforts mutually reinforcing. As the oceans do not respect national borders, research and policy definition in a regional framework is essential to manage the oceans and coastal areas. A specific case in this context is the Global Ocean Observing System (GOOS) Programme and its several national and regional components in the region. For data and information, this points at the necessity of a regional approach based upon strong national focal points, and aiming at serving the national and regional needs and requirements.

3. SERVING THE DECISION-MAKING PROCESS

The various marine scientific and monitoring programmes in the region generate substantial amounts of data. In order to be able to support decision-making, accessibility to this data and information needs to be ensured in an adequate form to decision makers at all levels. This requires capacity to collect, quality control, archive, analyse, repackage/reformat and disseminate the data and information at international, regional, national and local levels. This end-to-end model is quite different from the model that has been used traditionally in the ocean science community, which was meant to serve users within that same science community.

Information related to the ocean and the coastal zone, is needed by governmental authorities, industry, science, and by the general public. Services and products that respond to such requirements may be implemented on a purely national basis, but – in view of the regional character of the phenomena or problems - frequently there will be a need for a regional approach. Always it is advisable to combine the provision of products with the provision of expertise in the form of a service supporting the actual product. This is well known from the atmospheric community where the World Weather Watch and its subsidiary programmes constitute the infrastructure supporting weather forecasting and climate services all around the world. An intermediary regional function is often required – covering the specific needs of regional programmes aimed at regional phenomena - and consequently, one might talk of three levels of the production line: the global, the regional, and the local or national.

In order to serve the needs of marine and coastal decision-making, this leads to the concept of an integrated structure for data and information, which could be based upon the existing system of WDC's (global level), RNODC's (regional level), NODC's (national level) and the scientific community in the various countries (local level).

4. PRIMARY NEEDS

Much data and information on the marine and coastal environment of the region has been collected and in principle should be available, either inside or outside the region. However there is no adequate overview on these data holdings: a metadata system is needed to present this overview both at the national and the regional level. For the IOCARIBE region, an initiative has been taken during the last IOCARIBE meeting (April 1998, Costa Rica) for a regional GODAR project. In other countries of the region, initiatives for national projects for historical data are in progress (Chile) or are being initiated (Colombia, Uruguay).

Much of the current data archives are not well documented, are in various different often non-standard formats or even still in manuscript form. This forms a barrier to application of this data. A specific effort is needed to assess and document the quality of the marine and coastal data holdings in the various countries.

This does not imply the implementation of centralised archives: experience has learnt that these are difficult to manage. It is much better to leave the data with the originators, as long as good management – also on the long-term - can be ensured. In order to implement this concept, procedures and guidelines for 'good' data and information management need to be developed and promoted in the region. Institutions holding marine and coastal data and information need to make commitments on proper management including long-term archival.

Currently the marine and coastal data and information communities operate quite separately. Some exchange and standardisation takes place in joint regional programmes. However in order to improve the quality of the products and services provided, a common base needs to be established. This also implies the need to bring the information and the data community closer together.

5. OBJECTIVES OF THE STRATEGY

The proposed strategy has the following main objectives:

- provide assistance in the development and operation of National and Regional Oceanographic Data (and/or Information) Centres and establish their networking;
- provide training opportunities in marine and coastal data and information management applying standard formats and methodologies, including 'good data and information management', such as proposed by IODE;
- assist in the development and maintenance of national, and regional marine and coastal metadata, information and data holding databases;
- assist in the development and dissemination of marine and coastal data and information products responding to the needs of a wide variety of user groups using national and regional networks;

These could be realised through:

- Dedicated Websites and discussion groups on Internet
- CD-ROM's with dedicated information
- Training opportunities and dedicated workshops
- Specific projects aimed various data and information aspects, such as: archival systems, historical data, quality control
- Regular regional meetings of the data and information community, such as already is the case in Europe (Marine Data Management group of ICES, MAST Data Committee)

6. IMPLEMENTATION, FIRST STEPS

As a first step, it is important to obtain a better insight in the needs and requirements with respect to marine and coastal data and information in the region.

The latest IOC mission to the Member States of the LAC region was about 15 years ago, and therefore an update of the information is urgently required. It is recommended that this updating be realised either through another series of missions, or – perhaps more effective – through a small number of regional workshops. Such regional workshops would have the additional advantage of enabling a direct interaction, communication and exchange between the participants from the region. This could form the start of a more regular, periodical meeting of marine and coastal data managers from the region, similar to the yearly meetings of the ICES Marine Data Management group.

Moreover it is recommended that IOC appoint an IOC/IODE coordinator for marine data and information activities in the LAC region. This coordinator could perhaps be based at the IOCARIBE Secretariat in Cartagena, Colombia. His task would be to support and guide the activities in marine data and information management in the region, establishing contacts with similar experiences in other parts of the world.

Based upon the results of this first assessment of needs and requirements, a work plan with a detailed set of work packages can be developed on subjects such as training and awareness, data / information exchange and communication, common procedures and guidelines, and recuperation of historical data.

It is proposed that the implementation of the steps indicated above be started and completed within a period of six months following the meeting of IODE XVI. This is realistic in view of the positive response to this strategy that already has been received from the LAC region, indicating that high priority is being given to this issue. An informal network of interested individuals who could assist in this implementation has already been established. In this way, a detailed work plan could be ready for consideration and approval during the next IOC Assembly, planned for summer 2001.

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