

## **Towards a strategy for the MedGOOS**

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### *- Aim of MedGOOS*

Members of the MedGOOS will co-operate to establish a concerted approach to the following goals: contributing to international planning and implementation of GOOS and promoting it at national, regional and global level; identifying regional priorities for operational oceanography, promoting the development of the scientific, technology and computer systems for operational oceanography, finding means to ensure the most effective use of existing technologies related to operational oceanography and marine meteorology, assessing the economic and social benefits from operational oceanography.

### *- What is MedGOOS?*

MedGOOS is an informal association founded in 1997 under the auspices of the IOC. The MedGOOS member agencies seek to promote Mediterranean co-operation and participation in the Global Ocean Observing System (GOOS). MedGOOS will be built with full recognition of already existing national and basin scale systems in operational oceanography and international initiatives of UN agencies in the Mediterranean. MedGOOS will ensure the upgrading of national systems to the same level of expertise and infra-structure so that each member benefits and contributes equally to the MedGOOS.

MedGOOS will foster collaboration between agencies responsible for tourism, maritime transport, environmental management, coastal defences and flood prevention, search and rescue, fisheries, harbours, offshore oil and gas, research, and marine technology.

The members of the MedGOOS are listed in the Appendix.

### *- Why MedGOOS?*

MedGOOS will produce benefits in many sectors of industry, environmental management, and services such as public health. The socio-economic thrust of MedGOOS will centre on providing the base for the present and the future demands of the Mediterranean countries to sustainably utilise and share the resources of this Sea according to UNCLOS. MedGOOS will thus be built with the prospect of supporting economies and improving standards of living in all countries by providing the basis for enhanced marine services.

The proper management of the marine environment is essential for fisheries, transportation, coastal recreation and other marine-related industries that contribute a

large part of the total GNP for the Mediterranean countries, estimated to be over 1600 bn US\$.

It is necessary to join forces given the specificity of the Mediterranean. The narrow continental shelf along most of its perimeter necessitates a good knowledge of the basin scale processes which impact on the coastal processes. From this point of view observations in isolation do not provide the appropriate means to understand coastal phenomena. The MedGOOS Members recognise the necessity to integrate observations at scales from global down to regional and local to forecast the state of the coastal seas.

#### *- How to implement the MedGOOS*

The basis for the implementation of MedGOOS envisages five main actions:

##### **(i) raising of awareness**

An important target for MedGOOS is the creation of national awareness. The MedGOOS will organise workshops and conferences to ensure that the activities planned through MedGOOS are designed directly to meet economic, social, and environmental needs of all the Mediterranean countries. This awareness campaign is essential and should promote the linkages to UNCLOS and UNCED 92 follow-ups, stress on the technology transfer aspect, as well as build co-operation and capacity building elements appropriate to the Mediterranean. The linkage to the EU, to UNEP-MAP and CIESM, and the role of MedGOOS for stability in the Mediterranean, and for linking South to North are to be stressed.

The awareness process should be based on concrete actions and reach the full spectrum of players and beneficiaries. Demonstration pilot projects with participation of MedGOOS member institutions from the South can aid the general consensus in favour of MedGOOS by providing a convincing success application as an example of the benefits and usefulness of MedGOOS.

##### **(ii) broadening of the Association**

The design of a regional observing system based on local coastal systems is best achieved through a long-term association or partnership between agencies covering the whole Mediterranean perimeter. After two years 15 Mediterranean Institutions, located in 13 Countries and covering well over 80% of the Mediterranean coast, have signed a Memorandum of Understanding to establish an informal Association for the implementation of the GOOS in the Mediterranean Basin. The target is to extend the Association to other Members of the region. Opening the participation in MedGOOS projects to non-member Institutions will support the enlargement of the Association.

##### **(iii) identification of needs**

The first MedGOOS workshop in Rabat, Morocco in 1999 already assesses the needs of the Mediterranean Countries in terms of GOOS. This process will be continued by specific surveys addressing the national requirements in terms of human expertise, technological capability, infrastructures needed for operational oceanography. This will provide material for the capacity building activity in order to prepare for the next step of MedGOOS, when the system will enter the pre-operational phase.

**(iv) capacity building**

The GOOS requires that standard observations be obtained equally from all parts of the world ocean, and that all states can benefit equally from the services and products generated by GOOS.

The capacity building aspects are of utmost importance for the development of MedGOOS. These activities must include:

*(a) human resources*

Specialised courses aimed at technicians and scientists, with an emphasis on on-job training, will be promoted by the MedGOOS. In the first phase the training will focus on specific requirements of operational oceanography including the maintenance of monitoring equipment, data quality checking, management and exchange, the application of mathematical modelling techniques with data assimilation, etc. The exchange of personnel will strengthen the co-operation.

*(b) establishment of the institutional framework*

The Member agencies will work towards the establishment of National GOOS Committees that will eventually set up the National 'Wet' offices to upgrade or initiate the local network of MedGOOS.

Co-operation with existing initiatives for the monitoring and forecast of the coastal waters at local, regional and international levels will be ensured. MedGOOS will also seek the cooperation with the network of Co-Ordinators of national monitoring systems established by MEDPOL.

MedGOOS will provide the scientific and technological basis for the application of international conventions (such as the Barcellona Convention for the Protection of the Mediterranean Sea and its protocols coming into force in 1999), as well as for the agreements for the Mediterranean Free Trade Zone to be established within the framework of the Euro-Mediterranean process promoted by the EU.

*(c) setting up of the network*

The MedGOOS will establish a co-ordinated operational ocean forecasting system on a regional scale and with national components. Capacity building requirements in relation to the implementation of the network consist of a range of initiatives in technology, infrastructure development, connections with global data systems, and communication tools.

*(d) developing tools, means and methods*

The MEDGOOS will promote the development of low cost efficient operational instrumentation, observing systems and data acquisition systems that best fit the Mediterranean environment. It will moreover be necessary to develop common communications infrastructures and adequate computer systems for operational oceanography. Common Mediterranean operational data procedures and services, including data quality control and data management will be ensured.

**(v) joint pre-operational projects**

Ongoing initiatives such as MFSPP, MEDAR/MEDATLAS and MedGLOSS already constitute the basis for joint projects in operational oceanography between Mediterranean countries. The Mediterranean Forecasting System Pilot Project – MFSPP is halfway through phase 1 with funding by the EC MAST III programme. The goal of the MFSPP is to explore, model and quantify the potential predictability of the ecosystem fluctuations at the level of primary production in the Mediterranean Sea at time scales, from weeks to months. MFSPP is already developing the science plan for the MedGOOS.

The next phase of the MedGOOS research initiatives will be designed to demonstrate the benefits of the ocean observing system by application to test cases. The main focus will be on the relevance of the system to integrated coastal zone management and to implementing measures expounded by the various protocols and conventions binding to the countries in the region. The participation to these projects will be open to institutes from all the Mediterranean countries and will concomitantly build the basis of the network for the future operational phase.

**(vi) funding**

The specificity of the region opens the way to a mix of possible sources of funding at national, European and international levels. On the other hand the majority of partners require economic assistance and an enhanced technical know-how; thus the limited national resources will not be sufficient especially in the initial stages.

The main international funding mechanism for implementation of the decisions of UNCED and Agenda 21 is the Global Environment Facility, a joint program of the World Bank, UNEP and UNDP. This provides assistance to developing countries. In 1994 the

GEF decided to concentrate its actions in 4 main areas, of which international waters is one. The Mediterranean GEF is already supporting UNEP-MAP activities. MedGOOS will maintain contacts with the appropriate committees and advisory groups in GEF, so as to provide assistance in the design of projects.

**(vii) Costs**

A rough estimate of the early costs for the implementation of the MedGOOS and the identification of resourcing, are further issues to be faced in the strategy.

**Acronyms**

GOOS            Global Ocean Observing System

EuroGOOS	GOOS for Europe
MedGOOS	GOOS for the Mediterranean
CIESM	Commission International pur l'Exploration Scientifique de la Mer Mediterranee
EU	European Union
GEF	Global Environment Facility
IOC	Intergovernmental Oceanographic Commission
MAP	Mediterranean Action Map
MAST	Marine Science and Technology Programme
MEDAR	Mediterranean Data Archaeology Rescue Project
MEDPOL	Mediterranean Pollution Programme
MFSP	Mediterranean Forecasting System Pilot Project
MFTZ	Mediterranean Free Trade Zone
UNCED	United Nations Conference on Environment and Development
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme