The Global Ocean Observing System for the Mediterranean (MedGOOS)

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The MedGOOS is an informal association founded in Malta in 1997[1] under the auspices of the UNESCO/Intergovernmental Oceanographic Commission (IOC) to provide a concerted approach to the planning and implementation of the Global Ocean Observing System (GOOS)[9] in the Mediterranean. The MedGOOS aims to facilitate the development of an operational forecasting system at a regional to coastal scale to the benefit of a wide group of users in the region. In these initial stages, the MedGOOS is in the process of identifying the regional priorities for operational ocean forecasting and marine meteorology, assessing the related economic and social implications, and guiding and assisting the riparian states to the harmonious implementation of the Mediterranean ocean observing and forecasting system built on existing elements and based on principles of co-development, co-ownership and sharing of benefits. The MedGOOS will ensure the upgrading of national systems to the same level of expertise and infra-structure and will stimulate the necessary pre-operational R&D to ensure that GOOS is fully effective when it is eventually established, hopefully in ten to twenty years time.

The MedGOOS Association currently consists of sixteen marine agencies and institutions from thirteen countries from the EU, Associated States, Mediterranean Partner Countries, and other Countries of the basin. The MedGOOS Association was formally established on the 12th of March, 1999 in Rome at a special session during the 2nd EuroGOOS Conference. Since then further institutions have joined and now cover most of the riparian countries including Morocco, Spain, France, Italy, Malta, Slovenia, Bosnia Herzegovina, Croatia, Greece, Turkey, Cyprus, Israel and Egypt. The regional dimension of the Association is an enabling asset to the future projection of MedGOOS into long term commitments at governmental level.

This commitment was endorsed, in November 1999, in a preparatory Workshop in Rabat, Morocco, by over 30 national Institutions, interagency and intergovernmental organisations from almost all the European and Mediterranean countries. This was a first-time highlight of MedGOOS with a major event in a North African country. The Workshop provided a forum to establish the MedGOOS strategy and obtain consensus at a regional level. The Workshop also helped to broaden the participation in MedGOOS to all Mediterranean countries as well as to bring together scientists and representatives of the institutions involved in operational oceanography in the Mediterranean to define priorities, and plan the way forward with integration of efforts and appropriate measures in favour of technology transfer, cooperation and capacity building elements to bring capacities in different countries at comparable levels. The Workshop also focussed on raising the level of awareness in the region on the benefits of implementing MedGOOS, and on the linkages to the UNCLOS and the UNCED '92 follow-ups in the Mediterranean.

Two important ongoing EU-funded RTD projects for the Mediterranean region are already preparing the implementation of MedGOOS. These are the Mediterranean Data Archaeology and Rescue of Temperature, Salinity and Bio-chemical Parameters (MEDAR/MEDATLAS)[2] and the Mediterranean Forecasting System Pilot Project (MFSPP)[3]. Both projects involve the participation of some of the Maghreb and Southeastern Mediterranean countries and thus offer a first important approach to an enhanced research cooperation in marine science between North and South. MFSPP aims to demonstrate the feasibility of a Mediterranean operational system for predictions of physical and biochemical parameters in the whole basin and coastal/shelf areas, and for the time scales of weeks to months. Forecasts will be made by a nowcasting/ forecasting modelling system and based on data from a network of automated monitoring stations (including

satellites) that will be eventually established. MFSPP will also develop interfaces to user communities for dissemination of forecast results. MFSPP is thus providing the science base for MedGOOS.

The scientific and technological base achieved in Europe [4,5,6,7,8], the enlargement process in the European Union, and the Mediterranean policy of the Union, are all favourable conditions for a concerted basin-wide integrated effort to establish a strong, common research infrastructure for the implementation of the Ocean Observing System in the Mediterranean basin. On this basis MedGOOS is launching a concerted action by means of a project funded by the Vth Framework programme of the EU. The project, entitled MAMA[10] - Mediterranean network to Access and upgrade the Monitoring and forecasting Activity in the region, aims to enhance and upgrade the research infrastructure needed to provide the knowledge for long-term, viable management strategies for the protection of the Mediterranean ecosystem, within the framework of the GOOS and with a focus on the needs for the sustainable use of coastal areas. More specifically the proposal aims to:

1. Build the first network of all the Mediterranean countries for ocean monitoring and forecasting, broadening the existing network;
2. evaluate the present infrastructures, technology and programmes to monitor the state and forecast the trends of the Mediterranean coastal environment, identifying the gaps in the monitoring systems in the region and in the capability to measure, model and forecast the ecosystem, taking stock of current RTD experiences and of the EuroGOOS and MedGOOS organisations;
3. build capacities for expertise in the setting up and running of observing platforms, in managing data, and in modelling and forecasting the ecosystem;
4. pilot implementation of a 'virtual data and information centre' through an internet network for inter-agency exchange of data and information;
5. design the initial observing and forecasting system, inter-comparing experiences, and standardising practices, towards the co-ordinated upgrading of the observing and forecasting capabilities in all Mediterranean countries;
6. raise awareness on the benefits of ocean forecasting at local, regional and global scales, by using the MedGOOS network, organising national and regional meetings involving stakeholders;
7. disseminate MedGOOS results by using a demonstration tool for coastal applications, the experience of the pilot internet network (as in 4), user-friendly interfaces, the networking strength and capacity building achievements.

The principal novelty of the project consists in:

1. establishing the first network of all the Mediterranean countries for ocean monitoring and forecasting, broadening the existing network of national institutions already established by MedGOOS partners, supported by the experiences of EuroGOOS and MedGOOS, ensuring a strong, long-term, thematic co-operation of Institutions in the EU, Associated States and Mediterranean Partner Countries;
2. setting up the logistics for the future ocean and coastal monitoring, modelling and forecasting operational system of the Mediterranean;
3. integrating the knowledge base derived by national and EU RTD projects, the EuroGOOS task team for the Mediterranean and the Working Groups on science and technology, other international programmes such as UNEP – MAP to design the initial near real time observing and forecasting system in the whole basin;

4. providing the framework for a full geographical coverage of observations in the basin and the large transnational pooling of scientific and technological resources, for underpinning the research needed to design the initial forecasting system and to downscale the forecasting skill to the coastal zone;
5. producing a web-based demonstration application of the benefits of ocean observations and forecasting, informing on the protection from coastal erosion and guiding on the Integrated Coastal Zone Management in general.

Expected long term results are to:

1. strengthen the co-operation of all the Mediterranean countries towards the development of the Mediterranean operational forecasting system operating at basin and local (regional to coastal) scales;
2. upgrade the technical and scientific skills, and quantity of human resources;
3. enhance the basin wide monitoring and forecasting capabilities for the management of the coastal and shelf area, based on the successful experience of the EU project MFSPP - Mediterranean Forecasting System Pilot Project;
4. establish the platform for the Mediterranean operational interagency exchange, merging data and information, to produce added value oceanographic information, and the delivery of user-oriented products in an operational and interactive mode;
5. maximise the use of products and exploit opportunities deriving from operational ocean forecasting, by marine and environmental authorities, policy makers, and stakeholders in general.

The priorities of the project are:

1. Network Institutions in all the Mediterranean countries;
2. Define the present capabilities;
3. Raise awareness;
4. Capacity building of technical and scientific capabilities;
5. Pilot exercise to network existing monitoring systems;
6. Design of the initial observing system basin- wide;
7. Design the initial forecasting system downscaled to the coastal area;
8. Disseminate products and results, creating a Mediterranean virtual data and information centre .

The MAMA Kick-off meeting will be held between 11 and 12 March 2002 at the IOC premises in Paris.

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