GRAND

1. Project summary


GOOS Regional Alliances co-ordinate the efforts of states around the world to implement GOOS. They have different capacities, resources and level of activity, but all seek to establish a global sustained system of observations to predict the state of the marine environment, to fulfil their duties in international agreements and to gain practical benefits for a variety of end-users and for public good.

Europe (EuroGOOS, MedGOOS) has world leadership. EC RTD projects such as MAMA, PAPA and ARENA support international co-operation for GOOS. MFSTEP develops the modelling effort for the environmental prediction. MAMA, as well as MERSEA, participate in the initial phase of the Global Monitoring of Environment and Security, the European contribution to global monitoring systems.

GRAND brings together all the GOOS Regional Alliances (GRAs) and is supported by the major international organisations related to GOOS (IOC, JCOMM, I-GOOS). The partnership covers all the oceans on Earth to provide a forum, led by Europe, to harmonise the diverse regional systems within GOOS, while advancing the European contribution to the global system.

GRAND will facilitate the dissemination of best practice, technology transfer, development of international co-operation, establishment of observing systems in developing countries, application of results of EU projects to the broader international community active in the GRAs. This will help to strengthen the role of the EU on the international stage while contributing to the integration and strengthening of the European Research Area.

2. Objective(s) of the project and state of the art

Strategic objectives

- Disseminate European expertise and technology on ocean monitoring and forecasting.
- Support the participation of developing countries in the global ocean observing system (GOOS).
- Establish an effective dialogue among all the GOOS Regional Alliances and international programmes, for a coherent implementation of the global system.
- Promote the European contribution to the ocean and climate observing systems, as planned in the Global Monitoring for Environment and Security (GMES).
- Prepare a regional strategy for advancing the implementation of the regional monitoring and forecasting systems coherent with the global planning.
- Optimise the use of the best human resources in Europe, encouraging greater participation by women scientists.
- Encourage the young scientists and technologists to master innovative thinking and emerging technologies for sustained cost-effective ocean monitoring and forecasting.
- Contribute to the integration, strengthening and internationalisation of the European Research Area, fostering a pan-European approach.
- Uphold European competitiveness in ocean monitoring.
Global conventions and agreements, such as the UN Convention on the Law of the Sea, the International Convention for the Safety of Life at Sea, the Convention on Biodiversity, the UN Framework Convention on Climate Change and the Programme of Action for Sustainable Development require large scale operational monitoring and forecasting networks.

The European Union and the Member States signatories of the Conventions are expected to contribute to the system through firm commitment, and the goal is to build a sustained global infrastructure. The IOC-WMO-UNEP-ICSU programme for the Global Ocean Observing System, GOOS, has through the work of panels and committees produced design criteria and requirements for the establishment of a global system.

The main resources for GOOS today exist in national and regional systems that are justified by local or regional requirements. GOOS Regional Alliances (GRA) associated coastal states all over the world to implement the Global Ocean Observing System (GOOS) by co-ordinated contributions.

Europe (EuroGOOS, MedGOOS), has world leadership in the field. This leadership has been supported by the investment in marine research and technology of EC Framework Programmes 3, 4, 5, and is continuing in FP6. A strong European marine community has been created, and is now ready to contribute to the dissemination outside Europe.

EC RTD projects, such as MAMA, PAPA and ARENA are showing the way ahead for international co-operation. The Operational Ocean Forecasting Cluster, organised by the DG Research, has been adding value to leading edge scientific projects developing the scientific and technological knowledge base for ocean forecasting.

These projects, MERSEA, MFSSP, MFSTEP, EUROROSE, EDIOS, ODON, DIADEM, TOPAZ, MEDAR/MEDATLAS, just to mention some, are addressing a variety of scientific and technological issues identified by the EC Framework Programmes as strategic for the sustainable development. As a whole Europe is producing a major contribution to the world science underpinning ocean monitoring and forecasting.

The GMES Global Monitoring for the Environment and Security (GMES), is providing the strategic framework to develop a European autonomous operational capability for environmental monitoring, and the European contribution to the global system. MAMA and MERSEA are pilot projects of the initial phase of GMES.

The European leadership has been particularly manifest at the 3rd International EuroGOOS Conference and held in Athens in December 2002. Scientists and managers from all the GOOS Regional Alliances attended the conference, exchanging views and experiences.

The concept of GRAND has been developed at the 1st GOOS Regional Forum during the Athens Conference, on the initiative of the I-GOOS Chair, in a brainstorming meeting participated by representatives of all GOOS Regional Alliances. The success of MAMA in the Mediterranean proves that international co-operation for a global ocean observing system is possible, even in very complicated geo-political areas. GRAND extends the MAMA concept to all the world.

GRAND aims to take the lead by bringing together all the GOOS Regional Alliances to disseminate best practice, share knowledge, transfer technology, build capacity, learning from each other to implement effective and efficient observing and forecasting systems for public good and for a variety of end-users, capitalising on the European scientific, technological and organisational capability.

GRAND is planning to establish the greatly needed dialogue between the operational initiatives at regional level, organised into GOOS Regional Alliances and the international organisations, committees, panels, planning the for a global system to ensure a coherent development of a long-term sustained Global Ocean Observing System (GOOS), including its contribution to the Global Climate Observing System (GCOS).
Specific objectives of GRAND are to:

- Build consensus, trust and co-operation between partners to ensure a well co-ordinated effort and harmonisation toward the implementation of GOOS.
- Take stock of ongoing EC initiatives such as the:
  - MAMA GMES Pilot Project, networking marine institutions from all Mediterranean countries to assist the establishment of a basin wide ocean observing system;
  - EDIOS project and its initial meta-database on European sustained marine observations;
  - GMES assessments of a) institutional scientific and technological requirements, b) data exchange and constraints to the use of data, and c) socio-economic issues.
- Survey and evaluate the present capabilities and activities, for systematic observations of the marine environment and ecosystem in all GOOS Regional Alliances and participating countries.
- Establish a profitable dialogue with the major international organisations related to GOOS to assess what is available and what is needed at global level for the implementation of the global observing system.
- Work towards an effective two-way interface between regional/national scale efforts, GMES and the global activity of GOOS, by using the GRAND-Network of GOOS Regional Alliances and bodies responsible for the global planning of GOOS.
- Match the inventories of the regional capacities, assets and needs compiled within the GRAND WP-INFORMATION with the requirements from global system, and deliver to GRAND WP-STRATEGY.
- Evaluate the European capacity to fulfil regional GOOS requirements and identify gaps in the present monitoring systems and in the capability to measure, model and forecast the ecosystem.
- Plan the European contribution to the global ocean observing system and to the ocean component of the global climate observing system.
- Disseminate good practice, transfer of know-how and technology from European GOOS Regional Alliances, and between GOOS Regional Alliances through advanced training workshops
- Transfer technology, know-how and operational experience through the advanced training workshops at the major institutions implementing GOOS or developing science and technology for GOOS.
- Support developing countries to participate in the implementation of and get benefits from the global ocean observing system.
- Provide, at the end of the project, a strategic forward look for advancing implementation of the regional monitoring and forecasting network.

General objectives of GRAND addressed by the Advisory Board in WP-Strategy are to:

- Ensure that the effort of GRAND keeps focused on the priorities set out in this proposal.
- Provide guidance, inputs and feedback in the preparation of the GOOS Regional Strategy.