

# DEFINITION AND OPERATING VERIFICATION OF INSTRUMENTS AND PROCEDURES FOR THE MANAGEMENT AND THE SUSTAINABLE DEVELOPMENT OF THE MEDITERRANEAN BEACHES

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## Abstract

BEACHMED-e RFO "Strategic management of beach protection measures for the sustainable development of the Mediterranean coastal areas", financed by INTERREGIII-C-Sud European Program, faces several themes related to coastal management, overall related to coastal erosion defence. An entire Component of the Operation is dedicated to the feasibility study of a European "Observatory System" for the Defence of Mediterranean Coast, presented as a useful tool foretold by several administrations involved and with competences on coastal management. They expressed a diffused awareness of the need to monitor erosion in all its aspects, as a territorially based phenomenon on a continental scale and having a structural nature.

*Keywords : Erosion, Beach, Coastal Management, Monitoring, Shoreline Evolution.*

One of the main lines of activities of the Beachmed-e Operation responds to the need to create a European Observatory for the Defence of the Mediterranean Coast in order to survey the morphological changes (erosion, shoreline evolution, etc.). The study for this proposal includes the census of the infrastructures involved in the monitoring and defence of the Mediterranean beaches, the description of methods and control systems for each region and the assessment of these systems. The motivation comes from the interpretation of a diffuse awareness, within scientific and administration bodies, about the need of a systematic survey and monitoring of coastal erosion phenomena at a continental Mediterranean basin scale [1, 2]. The idea is to create a network with already existing structures, to promote the creation of new structures were needed and to provide services to them. In order to maintain its indispensable flexibility and overall applicability, then, the feasibility study must not just concern "an observatory" but "an Observatory System" which must find its basic foundations in current, potential or existing organisational assets.

The Observatory should be an opportunity both for administration bodies, already having or not having dedicated structures, and for scientific community all around the Mediterranean basin, in order to optimise data acquisition/purchase, elaboration processes, techniques and outputs, exchange of best practises. The system should allow registering and observing the phenomenon of coastal erosion, analysing the morphological changes in a quantitative way, predicting crisis in wide areas in medium or long term, informing about work, initiatives and opportunities in the field of coastal defence, offering advices in environmental, technical and juridical matter concerning dredging and nourishment work in the Mediterranean sea. Additionally, a structured IT system would be carried on for the management and collection of data, modelling and simulation of dynamic processes in large Coastal Zone, helped by a geographic information system (GIS) that would be able to distribute statistical and cartographical data of the Coastal Zone.

To build up a first nucleus of organisations which already hold some experience in coastal defence represents a primary importance goal, especially if these structures are already integrated within existing administrative structures or have anyway some authority in terms of defending coastlines.

In fact, the strategy of giving preference to or highlighting those administrative situations which are directly connected to the management of coastal defences, is to be encouraged. In this way the link between the "Observatory System" and planning activities can be favoured if not guaranteed (for obvious structural reasons).

The work method proposed for the development of the sub-project therefore focuses - thanks to the required technical/scientific contributions - on existing structures and those that may potentially be developed within Public Administrations, specialised in local planning and managing initiatives for coastal defence. These are the main planned activities:

1. CURRENT STATUS: census and analysis of the structures which carry out coastal monitoring activities, especially in terms of erosion or climatic phenomena, through direct contacts and questionnaires.
2. NEEDS: Exploratory analysis of information needs for structures to

defend coastlines.

3. METHODOLOGY: proposal of an observatory system for an organisational and operative point of view (type of organisation, activities to be carried out, costs, etc.).

4. RESOURCES: Exploratory cost analysis (in monetary and organisational terms) currently incurred to monitor coasts, potential costs incurred for operations - not necessarily public - interested in supporting monitoring activities

The study of feasibility is already started in the 2005 and will be ended within June 2008. The first issues are already published on the web site [www.beachmed.it](http://www.beachmed.it) in the OBJECTIVES REPORT (measure 4.1) and the future developments will be dealt in the pages of OBSEMED I sub-project [3].

## References

- 1 - European Commission, "Living with coastal erosion in Europe - Sediment and space for sustainability" - results from the EUROSION study. Luxembourg: Office for Official Publications of the European Communities, 2004 - pp 36-37, ISBN 92-894-7496-3.
- 2 - European Environment Agency, "The changing faces of Europe's coastal areas" - Luxembourg: Office for Official Publications of the European Communities, EEA report n° 6/2006, p 86, ISBN 92-9167-842-2.
- 3 - The "BEACHMED-e" official web site: [www.beachmed.it](http://www.beachmed.it)