

Application of European funded technology for sustainable management of European coasts

H. Niesing (1), Irene Lucius (2) and Stéphane Lombardo (1)

(1) RIKZ, National Institute for Coastal and Marine Management
PO Box 20907, 2500 EX The Hague, the Netherlands

(2) EUCC, PO Box 11232, 2301 EE Leiden, the Netherlands

E-mail: h.niesing@rikz.rws.minvenw.nl

SUMMARY:

This abstract aims to describe the usage of recent developed technology in a prototype stage towards operational usage. Two projects are central in this paper, namely CoastBase, a fifth framework DG INFSO funded project and EUROSION a service contract commissioned by DG ENV. Within CoastBase the technology development and demonstration is the main point of gravity and limited resources available for the final contents. On the contrary, technology development within EUROSION is absent, but the project will produce a vast amount of information for policy makers, managers and various other stakeholders involved in coastal erosion.

COASTBASE:

CoastBase is an internet accessible, open system architecture for integrated, distributed coastal and marine information search and access in Europe. The prototype is developed for two fields of application: European environmental indicator assessment for the coastal and marine environment and integrated coastal zone management. At present, CoastBase provides access to four data sources in different countries. The metadata of another 100 key on-line information sources (such as legal and policy documents, reports) related to ICZM were uploaded into the CoastBase repository. Both data and information sources are sufficient to demonstrate the functionalities and potential of the system, but not yet enough to satisfy users in “real life” situations. However, the potential of developing CoastBase into an operation system and standard decision support system for ICZM is high. The European project EUROSION, for example, has decided to apply and modify the system for the needs of integrated coastal erosion management.

EUROSION:

The EUROSION project aims at providing the European Commission with a package of recommendations for policy-making and information management practices to address coastal erosion in the enlarged European Union, based on a thorough assessment of knowledge gained from past experiences, as well as the current status and trends of European coasts. To reach these objectives, the project takes stock of the outstanding amount of knowledge accumulated over the last decades at the European, national and local levels, and proposes an innovative assessment methodology combining GIS data and field investigations on: (i) physical processes, (ii) existing policy instruments, (iii) technical and engineering practices, (iv) social and economical profiles, (v) public perception and communication between stakeholders, and (vi) information availability and accessibility. The implementation of EUROSION has been awarded to a consortium led by the Dutch Institute for Coastal and Marine Management (RIKZ).

TECHNOLOGY SUPPORTING SUSTAINABLE MANAGEMENT:

During the initial stage of EUROSION the inception report was drafted and a user analysis executed. The approached persons expressed the clear wish that all information and knowledge generated through EUROSION should be transparent accessible. This included the EU level information, the existing national legislations, existing field experiences and relevant links. If information has limited access an abstract with the relevant co-ordinates should be generated.

CoastBase uses European standards for indexing and cataloguing information, has multilingual facilities and is using a standard environmental vocabulary (GEMET). CoastBase has been developed as a demonstrator proving the technological functionality and parts of the technology is being reused (e.g. www.waterbase.nl), however EUROSION offers the possibility to exploit the technological results in an operational manner.

The embedding of EUROSION generated information through a system allowing the information to stay where it belongs, while assuring access to the European public will be the main challenge.

FUNCTIONALITY:

From a functional point of view, the system is divided into three parts:

Firstly, a virtual catalogue module, providing means for a distributed search through coastal and marine data catalogues in Europe. Secondly, an access and manipulation module that provides tools to download and manipulate geographical information. Thirdly, the feed-back module, facilitating feedback to the information source, commenting on downloaded products and the uploading of aggregated products into the CoastBase repository. As part of the feed-back module, an update module was developed, allowing insertion and updating of meta data records stored centrally on the CoastBase server. As not all functionality will be used within EUROSION a list with requirements has been made. The ministry of Transport, Public Works and Water Management in The Netherlands has provided extra funds to customize CoastBase to the specific needs within EUROSION.

CONCLUSIONS:

The merging of a contents oriented project EUROSION with an information architecture allowing dissemination and European wide access is a challenge to offer the coastal community and citizens with some visible results at the European level.

Applied European research and development is important, but making developed technologies progressing from the demonstration stage towards an operational service requires efforts, a clear demand and solid institutional embedding. The main components are present here, now the challenge is up to technology to make it work.