

Knowledge and spatial management tools for the environmental sciences

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Abstract

Under the MedSudMed Project the broad range of research topics needs to be facilitated through the use of appropriate data-management tools. This is achieved by using best practices to promote the synthesis of knowledge amongst the diverse participants in the region.

The use of GIS in fisheries management has developed significantly in the past decade. The technology is being applied as a decision support tool in a broad range of issues related to marine ecosystems, natural phenomena and fisheries.

Structured approaches to knowledge management within corporate environments are a more recent development. These approaches are rapidly maturing into frameworks that facilitate the synthesis of knowledge across “loosely coupled” entities. Such frameworks are particularly useful in building national and regional cooperation and support frameworks, bridging technology with the traditional approaches of personal networking and focal points.

The MedSudMed Project would benefit from an approach to these issues that is as independent as possible of specific technical platforms and can be applied to a broad range of similar projects.

To facilitate the broader deployment of information amongst the participants, the proposed development will focus on coherent datasets and access to information using standard widely available tools. The solution would provide an Internet-based infrastructure for sharing and transacting knowledge, information and data with particular focus on GIS and scientific datasets.

In particular the project will address:

- The data structures for the project based on a hierarchical approach to the ecosystem components
- Meta-data dictionary for facilitating use and understanding of data sets
- Standard data specifications and adaptive gridding of abstracted data sets
- Basic processing tool for abstracted datasets.

The knowledge management infrastructure will include the following key building blocks:

- A spatially enabled information portal
- Federated search facilities

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- Taxonomy, classification and indexing of information sources
- Document/information management systems
- Collaborative application environments and/or workspaces
- Simultaneous collaboration.

During the present expert consultation the general approach outlined above will be illustrated in further detail through the use of example scenarios developed by the Malta Centre for Fisheries Sciences.