

A fine scale spatial infrastructure for implementing networks of Marine Protected Areas: The AMAre Geoportal

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Marine Protected Areas (MPAs) are vital for the conservation of the Mediterranean Sea, since they protect biodiversity and regulate human activities. However, many species and habitats in MPAs are still exposed to a variety of stressors. In most MPAs human activities are not spatially managed with the consequence that they can determine cumulative effects that are, very often, not quantitatively assessed.

AMAre (Actions for Marine Protected Areas) is an Interreg MED Programme project with the aim to develop shared methodologies and geospatial tools for multiple stressors assessment, coordinated environmental monitoring, multi-criteria analyses and stakeholders' engagements. Transnational cooperation and regulations, development of coordinated best practices, data access to share information and concrete stakeholder and users' involvement are the expected results. The final aim is to scale up strategies and recommendations at transnational level adopting an ecosystem-based approach considering the goals of the Marine Strategy Framework Directive (MSFD) across MPAs.

To store, manage and share data for the monitoring and management of MPAs is fundamental to design a spatial database. Our aim was to implement a geodatabase, a common infrastructure across the MPAs included in the project, starting from the INSPIRE Directive Data Specification and framed on the AMAre needs. The geodatabase represents a critical tool also for networking the protected areas, homogenizing and standardizing data and indicators useful for monitoring changes in biodiversity and the services it provides in replicated areas. The AMAre Geoportal publishes the geodatabases in a unique web application. The data are stored in a ORACLE database and published through ArcGIS server and the Content Management System MOKA. The application is an HTML5 app and provides several functions, from visualisation to advanced querying, printing and downloading. The portal organizes and integrates the principal themes available for MPAs, from biodiversity and monitoring to environmental variables series, hydrology, hydrography, geology and administration issues.

The final aim is:

- create a common space for improving the knowledge within each MPA;
- sharing data in a common language among MPAs;
- develop a user friendly web platform with GIS functions accessible by different stakeholders;
- provide a useful tool supporting MPA managers and decision makers.



Figure 1: Overview of the AMAre Geoportal (<https://amare.interreg-med.eu/toolbox/geoportal>).

The AMAre Geoportal informs about data availability in each MPAs in the Mediterranean Basin and it is proposed as a common infrastructure for formalise and sharing information across MPAs.