

A Spatial Data Infrastructure for the Mediterranean to support implementation of the Marine Strategy Framework Directive

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The Marine Strategy Framework Directive (MSFD), adopted in 2008, aims to protect the marine environment through an Ecosystem Approach (EA). The MSFD requires Member States to develop and implement cost effective measures to achieve or maintain “Good Environmental Status” (GENS) based on 11 diverse environmental descriptors representing the most important environmental concerns. Due to geographic variability, appropriate targets for the descriptors are specific to bio-geographic marine regions and the variety between descriptors means that their assessment requires multi-disciplinary knowledge. Aiming to contribute to the definition of GENS, and to analyze the possible use of the GENS concept at other downloading scales, a working group under the KnowSeas project (www.knowseas.com) focused its activity on the Mediterranean. Using the well known DPSIR (Driver-Pressures-State-Impact-Response) framework, causal links between social Drivers and Pressures were linked to ecological States and aspects of human Impacts (Welfare), for specific issues. Data management is a particular problem in multidisciplinary studies where data come from diverse sources, in diverse formats and from several disciplines. Ability to apply the DPSIR framework to support informed decision based on the EA depended on the amount of information available; its quality and currency. The preliminary steps to support reliable multi-disciplinary analysis were data collection, management and insurance of interoperability. The working group defined, developed and implemented a Spatial Data Infrastructure that holds environmental and socio-economic data required to support an EA. This work reports the implementation of the Spatial Data Infrastructure (SDI) and demonstrates that this “multi-disciplinary” SDI can provide strong support for implementation of the MSFD, the EA and marine spatial planning and can assist policymakers in decision making.