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Using a systematic conservation planning approach to enhance the marine spatial planning process in Europe

The overall aim of this study was to test the usefulness of the Systematic Conservation Planning (SCP) software MARXAN, to underpin and enhance the Marine Spatial Planning process (MSP) in Europe. The idea stems from the EU-FP7 MESMA project (Monitoring & Evaluation of Spatially Managed Areas) in which tools were tested, a framework was developed and governance analyses were executed within nine case studies (<http://www.mesma.org/>). MARXAN is freely available and has been successfully used in more than 60 countries to support mainly terrestrial but also maritime spatial planning. Although MSP is relatively well established in Europe, and MARXAN is regarded as one of the most widely used decision support tools worldwide, its utilization in Europe is rather scanty. The core of this research is the use and evaluation of MARXAN within the marine spatial (and conservation) planning process in five European case studies: the Bay of Biscay (Spain), the Skagerrak (Norway), the Strait of Sicily (Italy), the Ionian Sea (Greece) and the Belgian part of the North Sea (Belgium). All case studies differ in scale, complexity, data availability and number of human uses, and each case study tackles a specific spatially-oriented research question. However, all cases focused on nature conservation and fisheries, which allowed us to perform cross-comparisons and to find an answer on how the different circumstances of each case study influence the use and usefulness of MARXAN. Or, in other words, can SCP in general, and more specifically MARXAN, help us to overcome some of the challenges related to the implementation of MSP at the local and regional levels?

Keywords: Marine spatial planning, systematic conservation, MARXAN, Europe