Geophysical Research Abstracts
Vol. 16, EGU2014-14182, 2014
EGU General Assembly 2014

Development of innovative tools for understanding marine biodiversity and assessing good environmental status, within the European Marine Strategy Framework Directive

Angel Borja and María C. Uyarra
AZTI-Tecnalia, Marine Research Division, Pasaia, Spain (aborja@azti.es)

Marine natural resources and ecosystem services constitute the natural capital that supports economies, societies and individual well-being. Good governance requires a quantification of the interactions and trade-offs among ecosystem services and understanding of how biodiversity underpins ecosystem functions and services across time, scales and sectors. Marine biodiversity is a key descriptor for the assessment within the Marine Strategy Framework Directive (MSFD), approved in 2008, which comprises a total of 11 descriptors. However, the relationships between pressures from human activities and climatic influences and their effects on marine biological diversity are still only partially understood. Hence, these relationships need to be better understood in order to fully achieve a good environmental status (GEnS), as required by the MSFD.
This contribution is based upon the FP7 EU project DEVOTES (DEVelopment Of innovative Tools for understanding marine biodiversity and assessing good Environmental Status), which focus on developing innovative conceptual frameworks, methods and coherent, shared protocols to provide consistent datasets and knowledge at different scales, within four regional seas (Black Sea, Mediterranean, Atlantic and Baltic Sea). This project is developing innovative approaches to valuate biodiversity and ecosystem services and to develop public goods and sustainable economic activities from them. The research will benefit sea users and stakeholders, and will contribute to assess and monitor the environmental status of marine waters.
The main objectives are:
(i) to improve our understanding of the impact of human activities and variations associated to climate on marine biodiversity,
(ii) to test indicators (referred in the Commission Decision on GEnS) and develop new ones for assessment at several ecological levels (species, habitat, ecosystems) and for the characterization and status classification of the marine waters,
(iii) to develop, test and validate, on the basis of observations, innovative integrative modelling tools in order to further strengthen our understanding of ecosystem and biodiversity changes in space and time. The resultant models are being developed for implementation as operational tools for managers, decision takers and policy makers.
The project is contributing
(i) to enable the adaptive development of management (ecosystem-based management approach) strategies and management measures as a result of their implementation taking into account the role of industry and relevant stakeholders,
(ii) to provide economic assessment of the consequences of management practices,
(iii) to identify the barriers (socio-economic and legislative) that prevent the GES to be achieved (e.g. eutrophication),
(iv) to provide a set of policy options for the relevant authorities. In addition the project should propose and demonstrate the utility of innovative monitoring systems capable of providing data on a range of parameters, efficiently and effectively, that may be used as indicators of good environmental status.
This contribution presents a summary of most of these aspects.