



European  
Commission

# The Ocean of Tomorrow Projects (2010–2013)

Joint Research Forces  
to Meet Challenges  
in Ocean Management

*Research and  
Innovation*

## DEVOTES:

DEvelopment Of innovative Tools for understanding marine biodiversity and assessing good Environmental Status

[www.devotes-project.eu](http://www.devotes-project.eu)

*The Marine Strategy Framework Directive (MSFD) requires EU Member States to take measures to achieve Good Environmental Status (GES) in the marine environment by 2020. DEVOTES is developing tools to understand and describe biodiversity, food-webs and seafloor integrity status at an European scale, including as many components of the ecosystem as possible, providing the scientific knowledge, upon which appropriate monitoring and management strategies under the new directive can be designed and made available for managers.*

There are five key objectives: (i) Improve our understanding of the impact of human activities and climate change on marine biodiversity; (ii) Test the relevant selected indicators and develop new, innovative ones to assess biodiversity; (iii) Develop, test and validate innovative integrative modelling and monitoring tools to improve our understanding of ecosystem and biodiversity changes, applying both traditional sampling and innovative data acquisition devices; (iv) Implement cost-effective indicators, monitoring and assessment strategies; and (v) Propose and disseminate strategies

and measures for ecosystems' adaptive management. During the first part of the project, we have: (i) analysed the legislation barriers preventing to achieve the GES (ii) collated and analysed information on most promising indicators, monitoring networks and modelling tools; (iii) deployed new devices for benthic metagenetic analyses (iv) participated in the Ocean Sampling Day; and (v) proposed a new operational definition of Good Environmental Status. The advantages of the resulting technologies, compared to those presently available, will be EU harmonised methodologies and

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internationally consistent application across regional seas. The exploitation plan includes the use of results of DEVOTES for scientific (i.e. understanding of biodiversity responses to pressures and climate change), technological (e.g. monitoring tools, software), commercial (i.e. potential uses of the findings), but also for societal (i.e. societal participation in marine conservation), and regulatory (i.e. new coherent management tools for the MSFD) purposes. DEVOTES is preparing new PhD researchers, as this new piece of legislation is challenging for marine scientists and managers requiring well-trained staff. DEVOTES has led 3 sessions in international conferences, 2 summer schools, more than 10 publications and scientists contributed with over 50 presentations in international conferences.

DEVOTES covers the 4 EU Regional Seas, with 8 case studies which focus primarily on biodiversity, which is one of the qualitative descriptors identified in the MSFD to characterize the Good Environmental Status. It also considers food-webs and seafloor integrity descriptors where they relate to the impacts of human activities and climatic influences on biodiversity. The project utilizes existing databases and new data from national networks. Innovative

### Partners:

Spain (Coordinator), United Kingdom, Turkey, Finland, Greece, Germany, Bulgaria, Italy, Belgium, Latvia, Portugal, Norway, The Netherlands, Saudi Arabia, Ukraine, Denmark, France

tools (e.g. remote sensing, ecological modelling, metagenetics), together with socio-economic approaches (cost-based assessment) and integrative tools are being used.

### DEVOTES European Added Value

Member States should assess the Good Environmental Status of their shared regional seas as part of the MSFD. The added value of DEVOTES primarily consists in a European concerted research effort to reach this goal. DEVOTES will provide integrative, harmonized and validated tools and indicators able to be used across EU. Non-EU countries (Ukraine, USA, Canada, and Saudi Arabia) are also involved, giving to the EU a lead role. DEVOTES is highly relevant to many EU policies: MSFD, Water Framework Directive, Habitats Directive, Maritime Spatial Planning, Integrated Coastal Zone Management, Integrated Maritime Policy, Common Fisheries Policy, and Biodiversity Strategy 2020.

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The aim of this brochure is to present the 31 projects that have been selected under “The Ocean of Tomorrow” initiative (2010-2013). “The Ocean of Tomorrow” calls fall within the activities launched under FP7 to implement the “European Strategy for Marine and Maritime Research” (COM (2008) 534) and to address marine sciences and technologies as a challenge that cuts across themes. “The Ocean of Tomorrow” aims to foster multidisciplinary approaches and cross-fertilisation between various scientific disciplines and economic sectors on key cross-cutting marine and maritime challenges. Research projects funded under these calls bring together scientists, technology providers, industrial partners (including SMEs) and end-users. “The Ocean of Tomorrow” also links to the “Horizon 2020” programme, which acknowledges the importance of cross-cutting approaches.

Project information



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