



JERICO: Towards a Joint European Research Infrastructure network for Coastal Observatories

Coastal observatories dotted along Europe's coastlines deliver a wealth of information on the state of the seas. JERICO enables them to compare notes and jointly boost the impact of their work. The project strives to integrate existing infrastructures and to spearhead the definition of best practices for the design, implementation and maintenance of observing systems and the dissemination of data. It has also initiated research to advance the state of the art, and invited the international scientific community to access key infrastructures.

Coastal monitoring close up

A wide variety of scientific disciplines rely on data collected by coastal observatories, which is also a vital source of information for many decision- and policy-making processes. With streams of new monitoring stations going live on or near Europe's shores in recent years, details of the evolution of physical and biological parameters are increasingly abundant. However, coastal monitoring initiatives are usually set up by countries or regions acting in isolation, often as part of projects for which the funding will eventually run out — and their monitoring targets, technical set-up, operational practices and dissemination strategies can differ significantly.

JERICO aims to take their combined effort to the next level. It is committed to delivering the building blocks from which a future pan-European network of coastal observatories can be shaped: convergent practices, common standards and a shared vision of the technical and operational future of coastal monitoring in Europe. The emergence of such a network will also facilitate interactions with and contributions to related initiatives, such as the pan-European Infrastructure for Ocean and Marine Data Management (SeaDataNet) and the European Global Ocean Observing System (EuroGOOS).

How to watch the shores

As part of its drive towards an alignment of practices, JERICO will encourage coastal observatories to cover a shared list of priority parameters, which in addition to the standard temperature and salinity will include acidity (pH), turbidity, chlorophyll-a, dissolved oxygen (O₂) and partial pressure of carbon dioxide (pCO₂). These parameters tie in with environmental monitoring needs as well as with the Water Framework Directive and the Marine Strategy Framework Directive. Further effort will focus on nutrients, contaminants, and the identification of plankton species.

The project will also provide a platform for the identification and dissemination of best practice, the definition of quality standards, optimisation of the use of existing infrastructures and promotion of interoperability. This comprehensive approach is geared to the delivery of a consistent, cost-effective observational set-up, a strategic infrastructure based on an end-to-end concept of coastal monitoring that covers all steps leading from data acquisition to data dissemination.

Opening up new vistas

In addition to these harmonisation efforts, the project will assess the scope for technological upgrades and innovation, notably in view of a wider adoption of automatic measurement systems. Manual water sampling followed by laboratory analysis has remained the norm in coastal monitoring since the 1970s. For many parameters, this time-consuming process has now been rendered obsolete by the advent of autonomous measurement systems, which have already been adopted by many European institutions.

JERICO will also explore the potential of emerging technologies, including biochemical applications, to refine the technical set-up of observatories. The partners are notably planning to develop innovative sensors and systems to enhance interoperability, as well as new software optimising the exploitation of mobile systems.

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Coordinator:	Patrick Farcy, patrick.farcy@ifremer.fr
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