



Field_ac: a research project on ocean modelling in coastal areas. The experience in the Catalan Sea.

Manel Grifoll (1), Elena Pallarès (1), Raimon Tolosana-Delgado (1), Juan Fernandez (2), Jaime Lopez (2), Cesar Mosso (1), Fernando Hermosilla (2), Manuel Espino (1), and Agustín Sanchez-Arcilla (1)

(1) LIM/UPC, Barcelona, Spain (manel.grifoll@upc.edu), (2) SIMO, Barcelona, Spain

The EU founded Field_ac project has investigated during the last three years methods and strategies for improving operational services in coastal areas. The objective has been to generate added value for shelf and regional scale predictions from GMES Marine Core Services. In this sense the experience in the Catalan Sea site has allowed to combine high-resolution numerical modeling tools nested into regional GMES services, data from intensive field campaigns or local observational networks and remote sensing products. Multi-scale coupled models have been implemented to evaluate different temporal and spatial scales of the dominant physical processes related with waves, currents, continental/river discharges or sediment transport. In this sense the experience of the Field_ac project in the Catalan Sea has permit to “connect” GMES marine core service results to the coastal (local) anthropogenic forcing (e.g. causes of morphodynamic evolution and ecosystem degradation) and will support a knowledge-based assessment of decisions in the coastal zone. This will contribute to the implementation of EU directives (e.g., the Water Framework Directive for water quality at beaches near harbour entrances or the Risk or Flood Directives for waves and sea-level at beach/river-mouth scales).