Geophysical Research Abstracts
Vol. 13, EGU2011-2098, 2011
EGU General Assembly 2011

E-Infrastructures for the operational forecasts of the biogeochemical state of Mediterranean Sea: experiences from DORII and MyOcean projects

Stefano Salon (1), Giorgio Bolzon (1), Anna Teruzzi (1), Paolo Lazzari (1), Simone Campagna (2), and Federico Ficarelli (2)

(1) Istituto Nazionale di Oceanografia e di Geofisica Sperimentale - OGS, Sgonico (TS), Italy (ssalon@ogs.trieste.it / +39 040 2140266), (2) Cineca, Casalecchio di Reno (BO), Italy

In the wide framework of the efforts towards a pan-European infrastructure aimed at providing services for the operational oceanography communities, OGS has been contributing to two different EC-FP7 projects: DORII (http://www.dorii.eu/, finished in July 2010) and MyOcean (http://www.myocean.eu.org/, still ongoing). DORII was a project that gathered different expertises both from the ICT and scientific sectors, with the objective to deploy an e-infrastructure to integrate remote instrumentation operated by heterogeneous science communities, the oceanographic one being one of them. MyOcean is the main European initiative that supplies an operational service for the ocean monitoring and forecasting, offering products to different categories of users from a single access point.

OGS participated to DORII with the purpose of integrating within the Grid e-infrastructure the flow of information typical of the operational oceanography: from sensors measuring the sea to the visualization of a model output. The prototype, made available at the end of July 2010, was finalized in order to give users: 1) the possibility to interact with the MedArgo floats in the Mediterranean Sea, receiving detailed information on their technical status, trajectory and related archived data, and 2) an improved control of the complex procedure usually followed to launch a simulation of the coupled physical-biogeochemical OPATM-BFM model (starting from a set of pre-defined initial conditions) and to remotely visualize the 3D output fields.
The contribute of OGS to MyOcean during the preparatory operational phase denominated as V0, concluded in December 2010 with the official launch of the MyOcean web portal and the beginning of the fully integrated operational phase V1, consisted in the implementation of the autonomous procedure of pre-processing, run production and post-processing of the short-term forecasts for the biogeochemical state of the Mediterranean Sea using the OPATM-BFM model. The e-infrastructure, deployed with the technical support of CINECA, is now fully integrated within the MyOcean Information System and delivers the model forecasts (3D daily averages of chlorophyll and nutrients for the Mediterranean Sea) twice per week. During V1 we will also work on a procedure to assimilate the surface chlorophyll data measured from satellite into the model forecast. The data assimilation will be then deployed during the final phase V2 of MyOcean.

The main results achieved so far in the two projects and the experiences learnt with e-infrastructures for the operational biogeochemical forecasts in the Mediterranean Sea will be presented.