



A major upgrade of the global Mercator Océan ocean monitoring and forecasting system and corresponding product quality improvements

Eric Dombrowsky, Yann Drillet, Olivier Legalloudec, Jean Michel Lellouche, and Charly Regnier
Mercator-Océan, Ramonville, France (eric.dombrowsky@mercator-ocean.fr)

Mercator Océan (the French ocean forecast service provider) was setup in France about 10 years ago by all the French organizations holding stakes in ocean forecasting. It has since then constantly developed and is currently operating operational ocean forecasting systems based on state-of-the-art Ocean General Circulation Models (OGCM, we use the NEMO code) assimilating the observations of the Global Ocean Observing System (remote sensing + in situ). The mandate of Mercator Océan is to cover the global ocean at a resolution sufficient to both simulate the physics including the eddies (eddy resolving) and take the maximum benefit from the GOOS via data assimilation. To do so, Mercator Océan is strongly connected to the ocean modeling and data assimilation research communities, at French, European and international levels.

Mercator Océan is engaged in the Global Monitoring for Environment and Security (GMES) European initiative and is currently coordinating a European consortium (~60 partners) gathering all the European skills in ocean monitoring and forecasting to build the Marine forecast component of the GMES service. This is currently done in the MyOcean II EU funded project (project started in 2012). Within the MyOcean consortium, among other commitments, Mercator Océan is the operator of the global ocean forecasting system, and one of the providers of global ocean reanalysis products.

In this context (MyOcean V3 service), we have implemented a major upgrade of the systems operated at Mercator Océan, including improvements in the model configurations, in data assimilation and product elaboration and serving. This concerns especially the global eddy resolving system ($1/12^\circ$ global) which is operational providing daily service.

We focus our presentation on product quality, showing how these upgrades correspond to product improvements, and illustrating how the users are served with better quality products, thanks to this upgrade.