



## **Validation and verification framework for operational oceanography: The CMEMS Product Quality strategy**

Fabrice Hernandez (1), Angélique Melet (2), Isabel Garcia-Hermosa (2), and Marie Drévillon (2)

(1) IRD / LEGOS / Mercator Océan, Mercator Océan, Ramonville St Agne, France (fabrice.hernandez@mercator-ocean.fr),

(2) Mercator Océan, Ramonville St Agne, France

Operational oceanography has reached a mature stage. Settled in many countries, operational centres at the beginning were providing ocean products to few experts. During the past years, a wider community of users has been asking for global, regional, or coastal products, requesting different aspects of the « blue », « white » or « green » ocean processes aimed to feed a larger variety of interests, disciplines and level of expertise. In consequence, operational oceanography main goal is to provide timely and accurate information, including forecast and prediction about the marine environment. Validation and verification of ocean numerical simulations and observation-based estimations are becoming core activities in operational oceanography in order to anticipate user's needs and better quantify the level of confidence on all the variety of ocean products delivered.

The verification and validation framework is one of the cross-cutting backbone of the CMEMS, inherited from validation approached proposed and implemented since the EU FP5 and FP6 MERSEA and the FP7/H2020 My-Ocean projects, in parallel to international initiatives carried out in GODAE and GODAE OceanView programs. The CMEMS has a distributed European structure, and a distributed Product Quality Expertise among many national centres. In addition, the CMEMS has been growing, starting from physical ocean, to biogeochemical, sea ice and wave description. This presentation aims at describing the CMEMS Product Quality strategy and activities, the main priorities, and the forthcoming issues. In particular, questions addressed in the presentation include: how to offer comprehensive confidence level for all products, how to take into account users needs, and their variety of interests, how to structure and commonalize the validation framework among more than 15 production centres, and how to communicate to users.