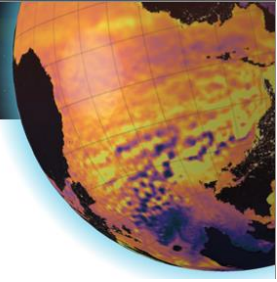


Copernicus Marine Service Evolution Strategy

The Copernicus Marine Service provides operational, regular, and systematic reference information on the physical (blue ocean), biogeochemical (green ocean) and sea ice (white ocean) state for the global ocean and European regional seas. The service is unique in the world for its coverage and comprehensiveness; its balance between state-of-the-art science and operational commitments; and the consistency of its portfolio in which satellite and in situ observations, and 3D model simulations are proposed in coherence to describe, monitor, and forecast the ocean state. This capacity encompasses the description of the current situation (analysis), the prediction of the situation ten days ahead (forecast), and the provision of consistent retrospective data records (reprocessing of in situ and satellite observations and reanalyses). More than sixty thousand expert downstream services and users are connected to the service. The Copernicus Marine Service responds to public and private user needs and supports policies related to all marine and maritime sectors: maritime safety, coastal environment monitoring, trade and marine navigation, fishery, aquaculture, marine renewable energy, marine conservation and biodiversity, ocean health, climate and climate adaptation, recreation, education, science, and innovation. Copernicus Marine Services are delivered by means of state-of-the-art user-oriented, scientific, and technical methodologies, which induces openness to newly developing ideas and associated capabilities. Apart from guaranteeing service continuity, the Copernicus Marine Service must continuously evolve, to better satisfy existing user needs, to meet new ones and to consider improved methodologies. This presentation will give an overview of the global strategy implemented for the Evolution of the Copernicus Marine Service, starting from user needs and the analysis of scientific and technical gaps, to the definition of R&D priority themes and finally, their implementation using different streams of activities having different time horizons (short, mid and long term), actors/players and objectives. In particular, a focus will be given on mid-term R&D projects selected through open calls with the aim of improving the service on targeted topics within two to three years. As an example, the latest series of projects focused on advanced data assimilation methodologies (incl. ensemble-based, multi-grid), coastal zone monitoring (incl. river-ocean interface, wave modelling, multiresolution coastal ocean color products), calibration of forecasts, AI-based forecasts, improved and new EO-based products (incl. particulate and dissolved organic carbon, phytoplankton functional types, sargassum algae, ocean mass and sea level).



Stephanie Guinehut, Angeliqne Melet, Pierre-Yves Le Traon (Mercator Ocean International, Toulouse, France; sguinehut@mercator-ocean.fr)