



Validation and intercomparison of ocean surface circulation analyses and forecasts

Operational systems provide daily surface velocity field that reproduce as closely as possible the state of the ocean, a field that lays at the base of a many diverse applications such as routing or search and rescue. With the emergence of Ensemble or Neural Network forecasting systems, there's a growing need to assess different systems' improvement in reproducing ocean dynamic processes covering a range of spatio-temporal scales with respect to commonly used metrics. Here we present an initiative for putting in place a multi-metric validation platform for the comparison of ocean currents from a range of operational systems. This comparison is based on different type of diagnostics covering Eulerian, Lagrangian and process-oriented aspects. This includes among others class 4 ocean currents, Lagrangian dispersion and eddy representation. This set of tools is developed and deployed on the European Digital Twin platform and showcased for a number of Copernicus marine products. In the long term, this work aims to provide a framework wherein new products at different stage of readiness level could be benchmarked.

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