



Changing the paradigm for marine data production, dissemination and validation with Collaborative Platforms. The GlobColour webservice, a prime example which leads to the integration of CWE technologies to build-up virtual research centres.

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The GlobColour webservice provides a rich dataset of marine bio-geochemical information for research and education purposes. We report on recent evolutions to improve the functionalities of the service to access EO and in-situ data and check information quality. In addition, a new concept, the Collaborative Platform, support the processing of bespoke information for remote users.

At the root of the service is an integrated and automated production chain, processing not only EO satellite data but also in-situ measurements from bio-Argo floats. This production chain provides daily updated bio-geochemical data and performs automated data analysis (merging of sensors, temporal and spatial binning).

The GlobColour webservice has been recently upgraded to provide improved navigation and selection capabilities. These evolutions were necessary as the catalogue of EO products has been significantly increased, with many new parameters, new spatial resolution (1 km over Europe in addition to 4 km global products) and projections (rectangular grid in addition to sinus grid).

The validation and quality control of the information is essential to demonstrate the fitness-for-purpose of the service. Match-ups between in-situ measurements and EO data are a key element to establish the validity of the information. The standard approach is to perform these match-ups off-line using a database of in-situ measurements, and report the results in a validation document. Two innovations are introduced which greatly increase the value for the user:

- An interactive navigation tool allows a detailed analysis the results of the match-ups, with temporal and geographical selection capabilities. Background information for each match-up can be easily retrieved, both for in-situ (measurement identification) and for satellite data (context retrieval, providing information such as cloud coverage and spatial variability). This allows users to get a better insight into the validity of the retrieved data for their particular applications.
- Match-ups using real-time EO data and data collected from bio-Argo floats are processed automatically on-the-fly.
- This is possible because quality control of the bio-Argo float data is also automated. A dedicated interface has been set-up to monitor the whole fleet of Bio-Argo floats, and access detailed information from each acquired profile.

Finally, a Collaborative Platform has been developed to support R&D activities in parallel to the standard production chain, enabling users to work remotely within a dedicated production environment in order to develop new algorithms and methods. The Collaborative Platform is based on a Collaborative Working Environment, a secured IT environment mixing hardware and software elements. It provides access to raw data, to processing and storage facilities, to specific applicative software (e.g. visualisation and post-processing tools). In addition, collaborative tools to exchange data, information and ideas between participants (through forums, web-conferencing...) contribute to create a "Virtual Research Centre" preparing future evolutions of the service.

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