



## Web-based visualisation of ocean data in MyOcean

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The MyOcean project integrates ocean observation, forecast and analysis data from all around Europe, encompassing 61 partners from 29 countries and producing 237 real-time and delayed-mode data products. The MyOcean View Service, which has recently gone live, provides visual access to (nearly) all of the gridded data products (ocean forecast/analysis and some satellite products). Users search for data products using an online catalogue and can then explore them on an interactive map interface, which is backed by an OGC Web Map Service.

Although the operational View Service only currently encompasses gridded data, we have developed an experimental system for visualizing in-situ observations, also based on a Web Map Service implementation that interfaces with Oceanotron, a backend database of in situ observations. This system is intended to form part of future versions of the MyOcean View Service.

In this presentation we shall discuss some of the challenges we faced in developing and deploying this system, including:

- Performance: we have developed techniques for fast visualisation of both gridded and point data, such that each can be used in the backend of a WMS (web map server) system. The aim is to provide data visualisation which is quick enough to be used interactively (e.g. on a website) even with very large underlying datasets. By using highly optimised data reading strategies, a plot of gridded data can be extracted from potentially extremely large files, at a speed which is fast enough to allow for interactive data exploration.
- The user interface: It is challenging to design an interface that strikes an appropriate balance between flexibility and ease of use.
- Use of standards: The WMS standard is not sufficiently rich to fulfil requirements of MyOcean users for data visualization, and so we have implemented some extensions. The system relies on data being well-formatted in NetCDF files that are compliant with the Climate and Forecast conventions.
- Data intercomparison: It is our intent that we will develop a single user interface which will allow both gridded and non-gridded data to be brought together, to allow for fast and simple intercomparison of model and observation data - an area which is challenging at present in oceanography.

A live demonstration of the View Service will be given in the Real Use of Standards and Technologies session (ESSI-2.12).