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EarthServer2 : Marine Science Data Service – Experiences using OGC services to enable and improve data analytics and visualisation

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The H2020 funded project EarthServer2 is working to create a federated data service that provides access to more than 1 Petabyte of earth science data across multiple scientific domains. The Marine Science Data Service makes up a part of this wider federation. Data from the European Space Agency funded Ocean Colour Climate Change Initiative project as well as Sentinel 3 OLCI data are made available through the service.

The Marine Science Data Service utilises a combination of Open Geospatial Consortium standard interfaces; Web Map Service (WMS), Web Coverage Service (WCS). We also make use of the emerging standard Web Coverage Processing Service (WCPS), which allows ad-hoc queries to be sent to the data service with only the result being sent back to the user. This allows quick access to information from a dataset that is far too big to be transferred. The different OGC interfaces provide mechanisms tailored to users which can be exploited through a web browser or programatically, allowing the same data to be used for outreach/teaching and for core research by being integrated into existing workflows. We will present the web tools and programming libraries that have been created to make exploitation of data through standard services

As well as a showcase of the tools available for the new standard interface of WCPS, we will show the powerful combination of coupled WMS and WCS through the web based GIS portal developed as part of the project by Plymouth Marine Laboratory. The portal allows visualisation and analysis of many hundreds of Terabytes of satellite and model data. The aim of the portal is to make access and use of these very large datasets as quick and easy as possible, with as little actual data transfer to the user as possible.

The presentation will also include (if possible) a live demo of the service.