Geophysical Research Abstracts
Vol. 18, EGU2016-10078, 2016
EGU General Assembly 2016

Ocean Data Interoperability Platform (ODIP): developing a common framework for marine data management on a global scale

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The increasingly ocean basin level approach to marine research has led to a corresponding rise in the demand for large quantities of high quality interoperable data. This requirement for easily discoverable and readily available marine data is currently being addressed by initiatives such as SeaDataNet in Europe, Rolling Deck to Repository (R2R) in the USA and the Australian Ocean Data Network (AODN) with each having implemented an e-infrastructure to facilitate the discovery and re-use of standardised multidisciplinary marine datasets available from a network of distributed repositories, data centres etc. within their own region. However, these regional data systems have been developed in response to the specific requirements of their users and in line with the priorities of the funding agency. They have also been created independently of the marine data infrastructures in other regions often using different standards, data formats, technologies etc. that make integration of marine data from these regional systems for the purposes of basin level research difficult.

Marine research at the ocean basin level requires a common global framework for marine data management which is based on existing regional marine data systems but provides an integrated solution for delivering interoperable marine data to the user. The Ocean Data Interoperability Platform (ODIP/ODIP II) project brings together those responsible for the management of the selected marine data systems and other relevant technical experts with the objective of developing interoperability across the regional e-infrastructures. The commonalities and incompatibilities between the individual data infrastructures are identified and then used as the foundation for the specification of prototype interoperability solutions which demonstrate the feasibility of sharing marine data across the regional systems and also with relevant larger global data services such as GEO, COPERNICUS, IODE, POGO etc.

The potential impact for the individual regional data infrastructures of implementing these prototype interoperability solutions is also being evaluated to determine both the technical and financial implications of their integration within existing systems. These impact assessments form part of the strategy to encourage wider adoption of the ODIP solutions and approach beyond the current scope of the project which is focussed on regional marine data systems in Europe, Australia, the USA and, more recently, Canada.