



Ocean Data Interoperability Platform: integrating regional marine data systems to support global ocean research

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A significant proportion of the data required for large-scale and multidisciplinary ocean research is made available through regional and/or global marine data systems. These dedicated data infrastructures have been developed in response to specific requirements from a designated community and/or funding agency. This inevitably leads to incompatibilities between the various data systems and acts a barrier to sharing of marine data across them, and with the wider user community.

The Ocean Data Interoperability Platform (ODIP) aims to address these inconsistencies and promote sharing of marine data by supporting development of a common global framework for marine data management. However, creation of such an infrastructure is a major undertaking, and one that needs to be achieved in part by establishing different levels of interoperability across existing regional and global marine data systems and services.

ODIP workshops have acted as the catalyst for dialogue among selected regional and global marine data infrastructures. Partners from Europe, the USA, Australia and Canada, along with representatives from several relevant international initiatives such as IOC-IODE, POGO and GEOSS have identified the commonalities and differences between existing marine data systems, and are now working towards the development of five prototype interoperability solutions that bridge the gaps between them.

Each of the prototype development tasks is addressing different aspects of marine data stewardship, covering both physical and biological oceanography. The topics addressed include common standards and services for data discovery and access, a harmonised system for cruise summary reporting, marine profiles for sensor web enablement of marine observing systems, and common services for cloud-based virtual research environments for the marine domain.

These prototype interoperability solutions underpin the development of a common global approach to the management of marine data which can be promoted to the more widely across the marine domain and beyond. ODIP is a community led initiative that is currently focussed on regional activities in Europe, the USA, Australia and Canada but aims to expand this framework to include other regional marine data infrastructures. It has variously been supported by funding from the European Commission's FP7 and H2020 funding frameworks, the National Science Foundation (NSF) in the USA, and the Australian Government.