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Geo-Seas: delivering harmonised marine geoscience data on a European scale

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A large amount of both raw and interpreted marine geoscience data is held by an array of European organisations but its discovery and re-use can be very difficult. The data is stored in a variety of different formats and a range of different nomenclatures, scales and co-ordinate systems are used at the organisational, national and international level. This lack of standardisation hinders the user's ability to locate and access these datasets or to use them in an integrated way.

The Geo-Seas project, an EU funded Framework 7 initiative, has addressed these barriers to the re-use of marine geological and geophysical data through the development of an on-line data discovery and access service (http://www.geo-seas.eu). It allows the end user to identify, evaluate and download a range of standardised marine geoscience data sets from 26 federated data centres across 17 European maritime countries. The dedicated portal, which currently provides access to more than 100,000 datasets, has been developed by adopting and adapting the existing technologies, standards and methodologies developed by the SeaDataNet project for the management and delivery of oceanographic data.

Through the re-use of this pre-existing architecture including the associated common standards and vocabularies a joint infrastructure for both marine geoscientific and oceanographic data has been created which supports the development of multidisciplinary ocean science. The Geo-Seas project has also brought together and incorporated the metadata services developed by previous EU-funded projects such as EUSeaSed and SEISCAN. The formats of this legacy metadata have not only been used as the basis for developing the Geo-Seas metadatabase but it has also lead to these pre-existing metadata catalogues being upgraded to current international standards.

The Geo-Seas initiative has lead to a major improvement in the availability of standardised marine geoscientific data throughout Europe allowing end users better access to marine geoscience data and interpretations for a range of applications. The delivery of these harmonised raw and interpreted data is also contributing to the development of a more multidisciplinary approach to marine research through increased interoperability with data types from other domains within the marine environment.

This approach is also leading to the development of collaborative links with other European projects and initiatives as well as with the wider marine geoscientific and oceanographic communities including projects and organisations in both the USA and Australia.