



Geo-Seas – building a unified e-infrastructure for marine geoscientific data infrastructure in Europe

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A significant barrier to marine geoscientific research in Europe is the lack of standardised marine geological and geophysical data and data products which could potentially facilitate multidisciplinary marine research extending across national and international boundaries. Although there are large volumes of geological and geophysical data available for the marine environment it is currently very difficult to use these datasets in an integrated way due to different nomenclatures, formats, scales and coordinate systems being used within different organisations as well as between countries. This makes the direct use of primary data very difficult and also hampers use of the data to produce integrated multidisciplinary data products and services.

Marine geological and geophysical data includes raw observational and analytical data acquired from seabed sediment samples, boreholes, geophysical surveys (seismic, gravity etc), multibeam and sidescan sonar surveys as well as derived data products such as seafloor maps. All of these data types are required in order to produce a complete interpretation of seafloor geology, an essential component of integrated multidisciplinary ocean science.

The overall objective of Geo-Seas, a EU Framework 7 funded project, is to build and deploy a unified e-infrastructure which will facilitate the sharing of harmonised marine geoscientific data within Europe. This will result in a major improvement for researchers, stake holders and policy makers wanting to identify, locate and access marine geological and geophysical data and data products held by national geological surveys and research institutes across Europe.

Geo-Seas is building on the work already done by the existing SeaDataNet project which currently provides a data management e-infrastructure for oceanographic data which allows users to locate and access federated oceanographic data sets. By adopting and adapting the SeaDataNet methodologies and technologies the Geo-Seas project will not only avoid unnecessary duplication of effort by reusing existing and proven technologies but will also facilitate multidisciplinary ocean science across Europe through the creation of a joint infrastructure for both marine geoscientific and oceanographic data.

This approach will also lead to the development of collaborative links with other European projects including EMODNET, Eurofleets and Genesi-DEC as well as extending to the wider marine geoscientific and oceanographic community including projects in the USA such as the Rolling Deck Repository (R2R) initiative and also organisations in both the USA and Australia.

The key outcome of the Geo-Seas project will be the provision of on-line access to discovery metadata as well the associated federated data sets via a dedicated Geo-Seas portal. This will allow the end users to locate, assess and access standardised geoscientific data from multiple sources which is also interoperable with other marine data types which will in turn facilitate the multidisciplinary use of geoscientific data in combination with other data types.