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Seabed substrate and sedimentation rate data from Europe's Seas, EMODnet Geology

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The European Union's (EU) Marine Strategy Framework Directive targets Good Environmental Status (GES) of the EU's marine waters by 2020. However, it has been acknowledged that poor access to data on the marine environment is a handicap to government decision-making, a barrier to scientific understanding and a break on the economy. The effective management of broad marine areas requires spatial datasets covering all European marine areas. As a consequence, the European Commission adopted the European Marine Observation and Data Network (EMODnet) in 2009 to combine dispersed marine data into publicly available datasets covering broad areas.

The EMODnet data infrastructure is being developed through a stepwise approach in three major phases. EMODnet is currently in the 2nd phase of development. The EMODnet Geology Project was initiated in EMODnet Phase I (2009-2013) through the ur-EMODnet-Geology project. During the current Phase II (2013-2016), EMODnet Geology will extend the work carried out during the preparatory phase to cover all European sea-basins (e.g. the Baltic Sea, the Barents Sea, the North Sea, the Iberian Coast, and the Mediterranean Sea within EU waters). The partners, mainly from the marine departments of the geological surveys of Europe (through the Geological Surveys of Europe – EuroGeoSurveys) have aimed to produce medium-resolution data products from the sea areas.

The EMODnet Geology Project has produced the first seabed substrate map for the European Seas, as well as data showing sedimentation rates at the seabed. These data are essential not only for geologists, but also for others interested in marine sediments such as marine managers and habitat mappers. A 1:250,000 GIS layer on seabed substrates has been delivered in the EMODnet Geology data portal, in addition to an updated 1:1 million scale map layer from the previous phase. The data were compiled and harmonised from several datasets, which were heterogeneous as the European sea areas have been mapped according to national standards. The project adopted a shared hierarchy of seabed substrate classes that is a modified presentation of the Folk triangle. A confidence assessment has been applied to identify the information that underpins the geological interpretations.

