The EMODnet Geology project: Discover Europe's seabed geology

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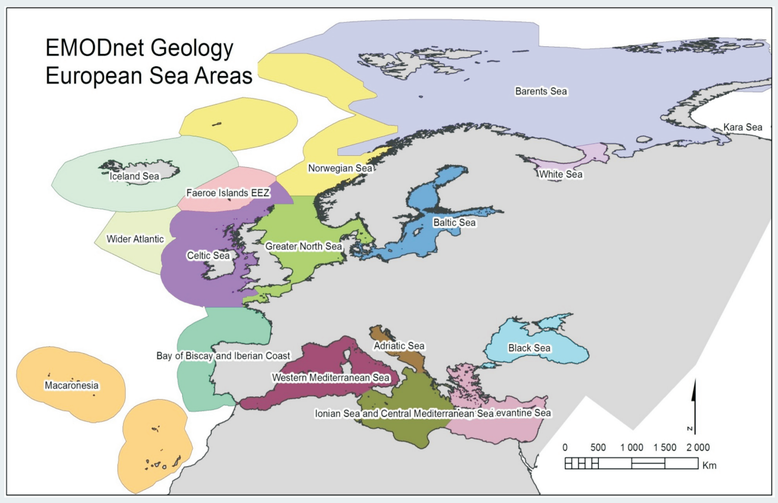
The EMODnet - Geology Project

The **European Marine Observation and Data Network** (http://www.emodnet.eu) is financed by the European Union, currently under Regulation (EU) No 508/2014 of the European Parliament and of the Council of 15 May 2014 on the European Maritime and Fisheries Fund. It consists of more than 160 organisations assembling marine data, products and metadata to make these fragmented resources more accessible to public and private users, relying on quality-assured, standardised and harmonised marine data which are interoperable and free of restrictions on use. EMODnet is currently in its third development phase with the target to be fully deployed by 2020 and it's main scope, as part of the Integrated Maritime Policy Action Plan, is to support "Marine Knowledge 2020".

The **EMODnet Geology** thematic lot, initiated as a pilot project in 2009 (ur-EMODnet), is now running it's third phase (2017-2019), coordinated by GTK, with the participation of 34 partners and 5 subcontractors from 31 countries. It has succeded in providing full coverage of all European regional seas: Adriatic Sea, Aegean and Levantine Sea, Baltic Sea, Barents Sea, Bay of Biscay and Iberian Coast, Black Sea, Celtic Sea, Faeroe Islands EEZ, Greater North Sea, Iceland Sea, Ionian and Central Mediterranean Sea, Macaronesia, Norwegian Sea, Western Mediterranean Sea, White Sea and the Wider Atlantic, while the target of the current phase is to consolidate the existing data products with higher resolution (scale 1:100 000 or finer) and more contents.

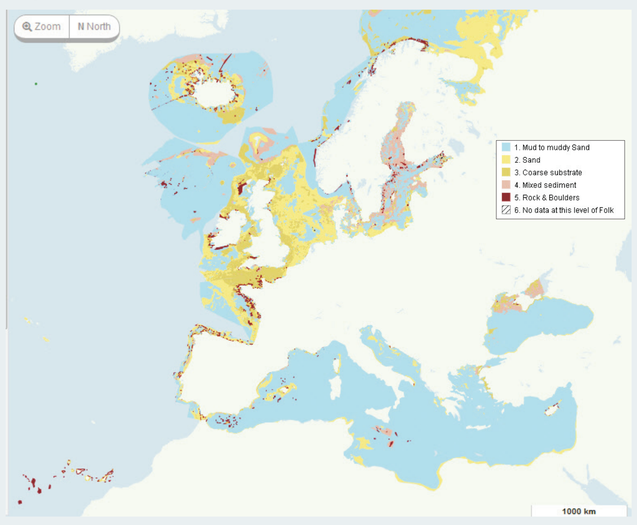


The geology data compiled in the frame of the project, along with deliverables of the preparatory phase and phase II, will during this phase of EMODnet Geology be available through the portal:

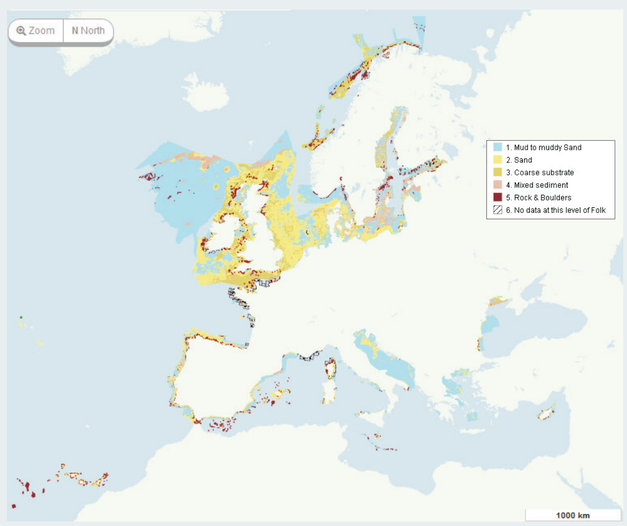
http://www.emodnet-geology.eu

- Sea-bed substrate (sediment layer at the sea floor & sediment accumulation rate) **(WP3)**
- Sea-floor geology - lithology (bedrock geology beneath the surficial sediment : Quaternary deposits and pre-Quaternary) **(WP4)**
- Geomporphological features of the sea-floor **(WP4)**
- Coastal behavior (migration, resilience and vulnerability) **(WP5)**
- Geological events and probabilities (e.g. submarine landslides, volcanic centres, earthquakes) **(WP6)**
- Mineral occurences (e.g. oil and gas, aggregates, metallic minerals) **(WP7)**

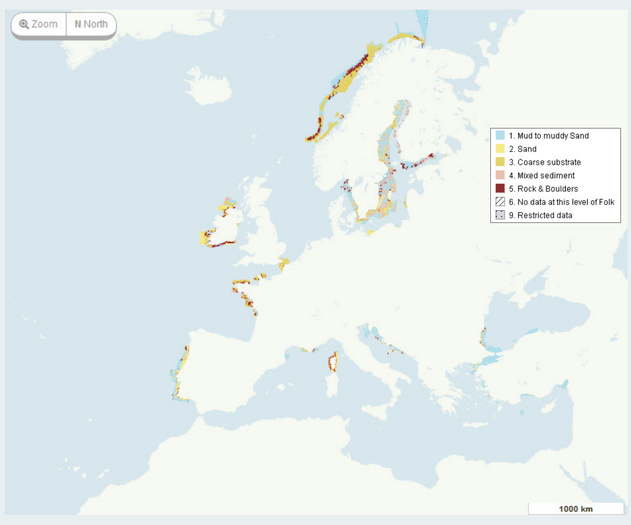
Representative Datasets



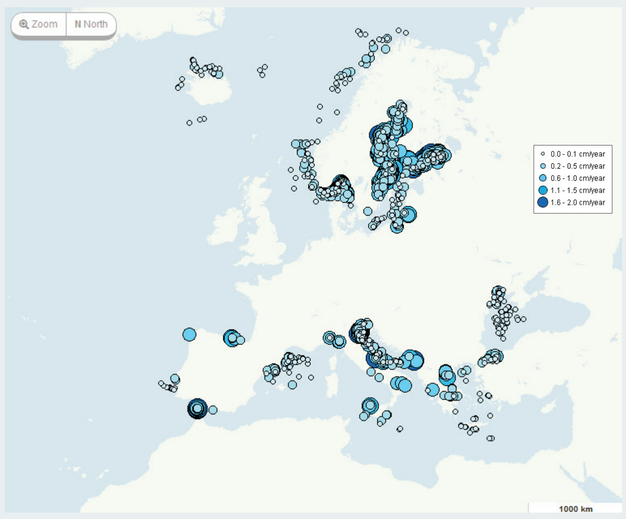
WP3: Seabed substrate 1:1M (Folk 5-class)



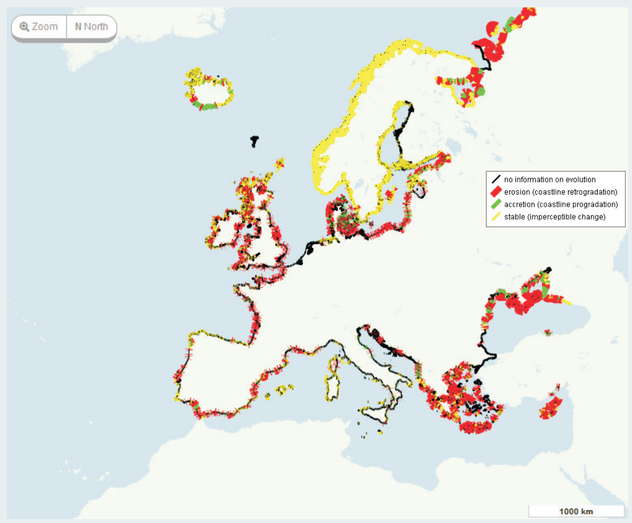
WP3: Seabed substrate 1:250K (Folk 5-class)



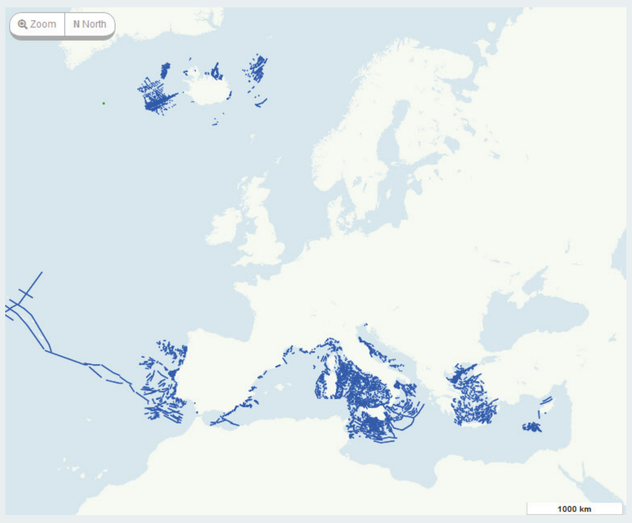
WP3: Seabed substrate 1:100K (Folk 5-class)



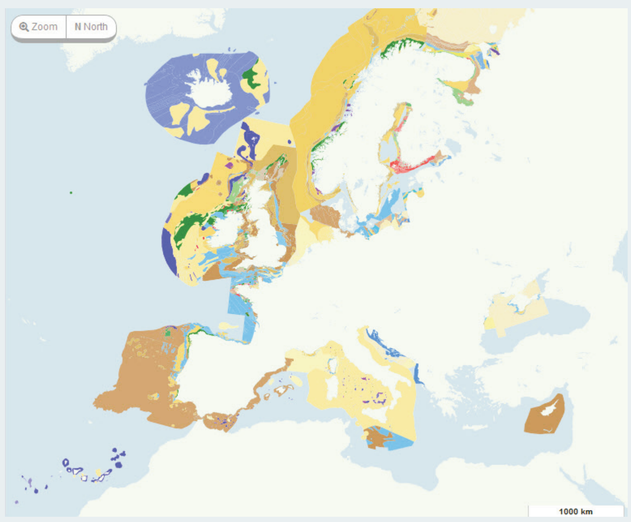
WP3: Sediment accumulation rate (cm/yr)



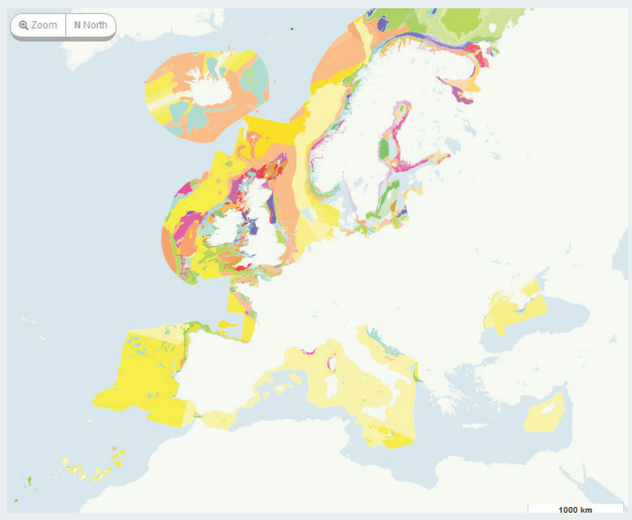
WP5: Coastal migration



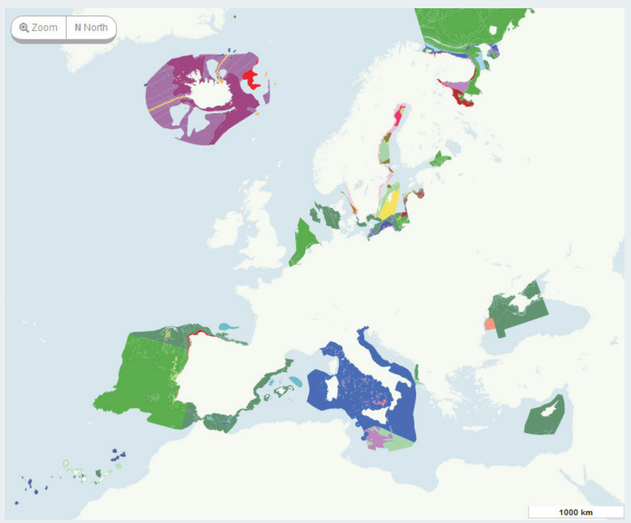
WP6: Tectonic lines



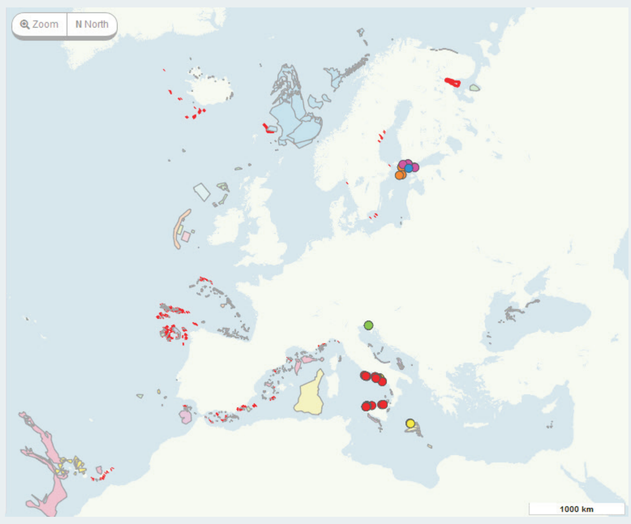
WP4: Sea-floor (bedrock) - lithology (INSPIRE vocabulary)



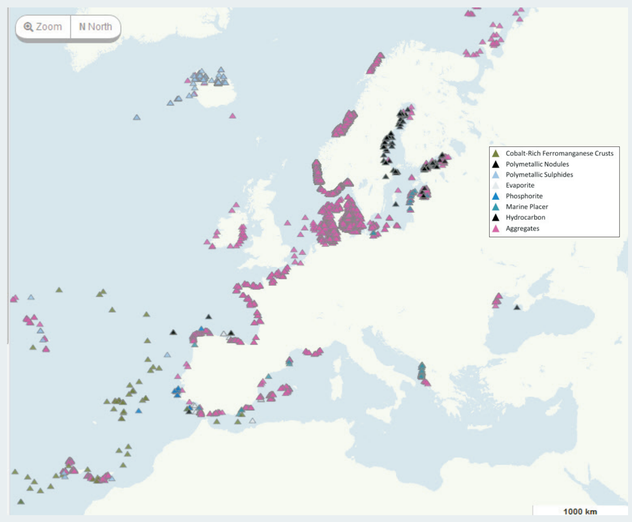
WP4: Sea-floor (bedrock) - age (INSPIRE vocabulary)



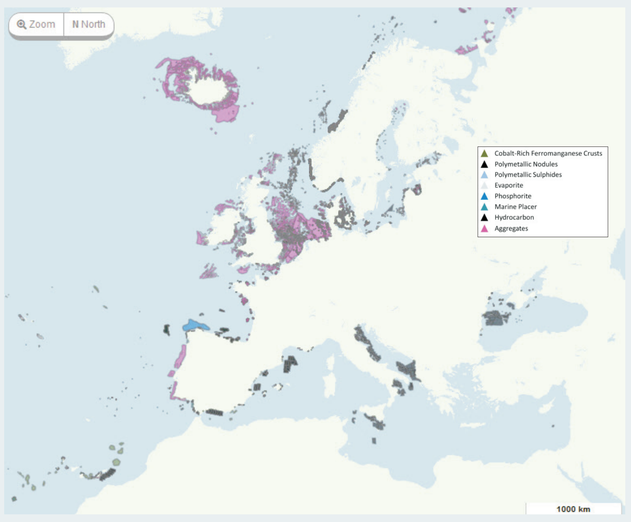
WP4: Sea-floor (bedrock) - event environment (INSPIRE vocab.)



WP6: Landslides 1:250K (points, lines, polygons)



WP7: Offshore mineral occurrences (points)

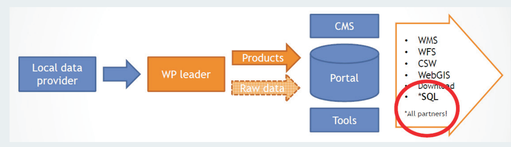


WP7: Offshore mineral occurrences (polygons)

Data services (WP9)

EMODnet focuses on providing **harmonised interpreted map information** rather than the underlying data used to create the interpreted geological outputs. However, the web delivery mechanism also aims at providing access to data catalogues of information held by each partner.

Through the EMODnet Geology portal a range of **services** and functionalities **for viewing and downloading** geology data and products is available:



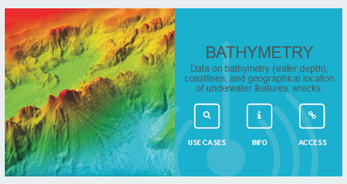
- EMODnet Geology is an ongoing dynamic project, where existing datasets are continously updated and completed with new data.
- To ensure sustainability these datasets are also available through the European Geological Data Infrastructure (EGDI - www.europe-geology.eu), which serves as the means of distributing the network's (EMODnet) products.
- Moreover, the EMODnet Data Ingestion initiative (www.emodnet-ingestion.eu) has been developed, reaching out to potential data providers from the public and private sector.

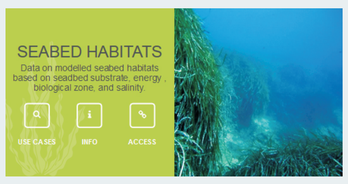
Project Partners

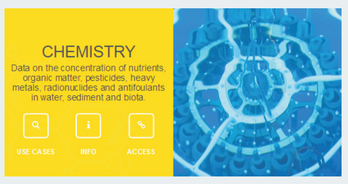
1. Geologian Tutkimuskeskus (GTK) - Geological Survey of Finland - Lead
2. Natural Environment Research Council - British Geological Survey (NERC-BGS)
3. Geological Survey of Sweden (SGU)
4. Geological Survey of Norway (NGU)
5. Geological Survey of Denmark and Greenland (GEUS)
6. Jarðfeingi - Faroese Geological Survey
7. Iceland GeoSurvey (ISOR)
8. Geological Survey of Estonia (EGT)
9. Latvian Environment, Geology and Meteorology Centre (LEGMC)
10. Lithuanian Geological Survey (LGT)
11. Polish Geological Survey - National Research Institute (PGI-NRI)
12. Geological Survey of the Netherlands (TNO)
13. Royal Belgian Institute of Natural Sciences (RBINS)
14. Bureau de Recherces Géologiques et Minieres (BRGM, France)
15. French Research Institute for Exploration of the Sea (IFREMER)
16. Geological Survey of Ireland (GSI)
17. Instituto Geológico y Minero de España (IGME)
18. Instituto Português do Mer e da Atmosfera (IPMA)
19. Servizio Geologico d'Italia - Instituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA)
20. Geological Survey of Slovenia (GeoZS)
21. Croatian Geological Survey (HGI)
22. Geological Survey of Montenegro (GSM)
23. Geological Survey of Albania - Shërbimi Gjeologjik Shqiptar (GSA)
24. Institute of Geology and Mineral Exploration (IGME, Greece)
25. Hellenic Centre for Marine Research (HCMR, Greece)
26. Institute of Oceanology - Bulgarian Academy of Sciences (IO-BAS)
27. National Research and Development Institute for Marine Geology and Geoecology (GeoEcoMar, Romania)
28. Geological Survey of Cyprus (GSC)
29. Continental Shelf Department at the Office of the Prime Minister (Malta)
30. Centre for Environment, Fisheries and Aquaculture Science (CEFAS, United Kingdom)
31. University of Sussex (United Kingdom)
32. Dipartimento Scienze Della Terra Università La Sapienza (UNIROMA, Italy)
33. Department of Geology, University of Tartu (UNITARTU, Estonia)
34. Foundation for Research and Technology Hellas - Institute of Computer Science (FORTH-ICS, Greece)

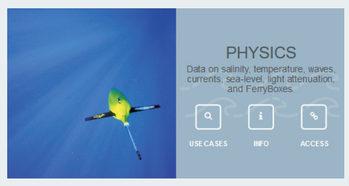
subcontractors

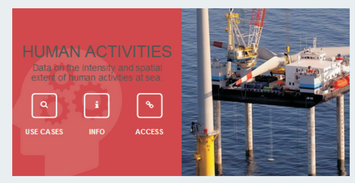
35. Prichornomorske State Regional Enterprise (Ukraine)
36. Dokuz Eylul University (IMST, Turkey)
37. A.P.Karpinsky Russian Geological Research Institute - Federal State Budgetary Enterprise (VSEGEI)
38. Federal Institute for Geosciences and Natural Resources (BGR, Germany)
39. EMCOL Research Centre, Istanbul Technical University (ITU, EMCOL, Turkey)











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Current Contract: EASME/EMFF/2016/1.3.1.2/SI2.750862-Lot 1 Geology