

Powering the European Marine Data Ecosystem

For a digital and green future

EMODnet OPEN CONFERENCE 2023



Session 1: EMODnet: a unified public marine data service

EMODnet Geology

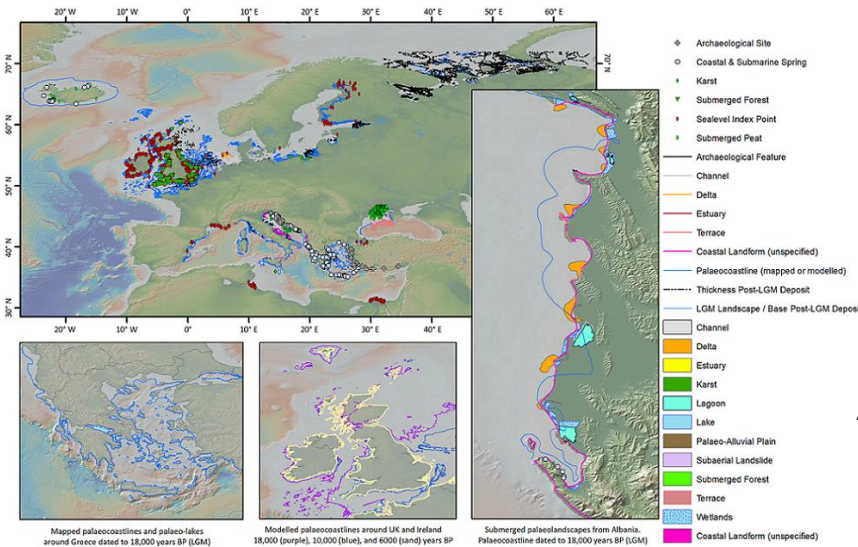
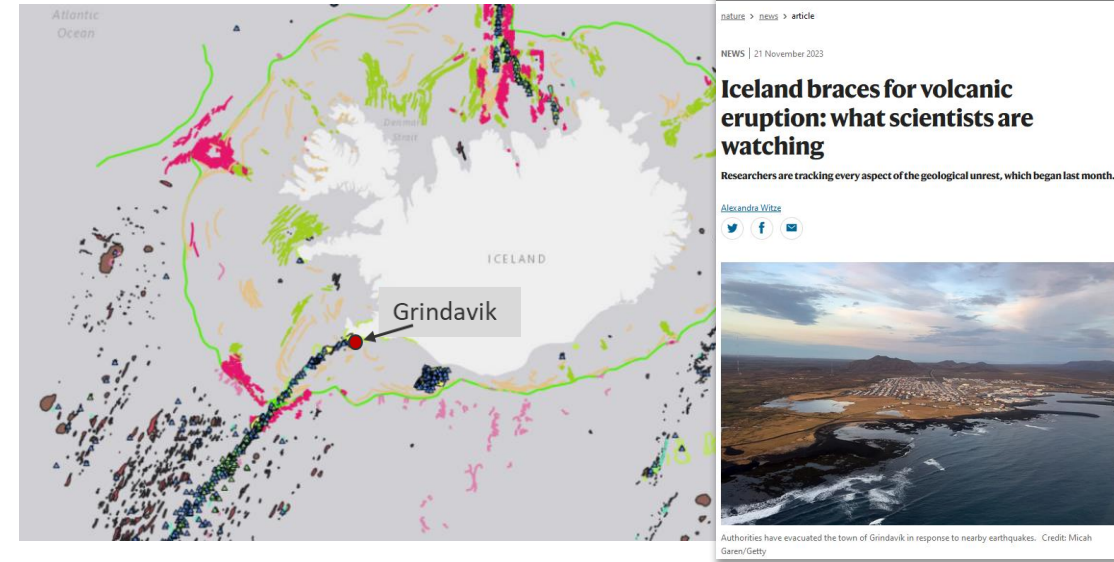
Henry Vallius
Geological Survey of Finland (GTK)
EMODnet Geology Coordinator

EMODnet Geology

Our latest offer

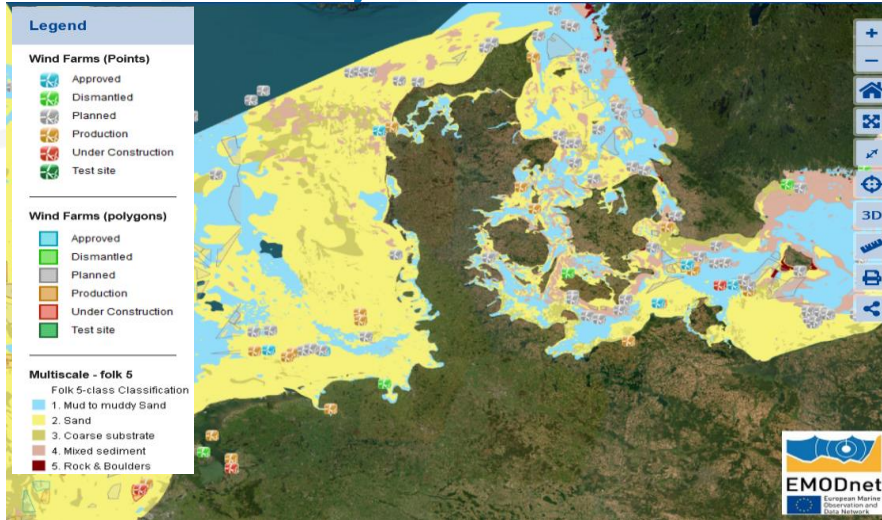
- We offer you a view to the geology of the seafloor
 - Submarine volcanoes and geomorphology, showing you here the number of volcanoes and volcanic ridges, as well as different geomorphological features such as iceberg plough marks, slide scars, terminal moraines, and the shelf break around Iceland.

“Drain the Oceans”

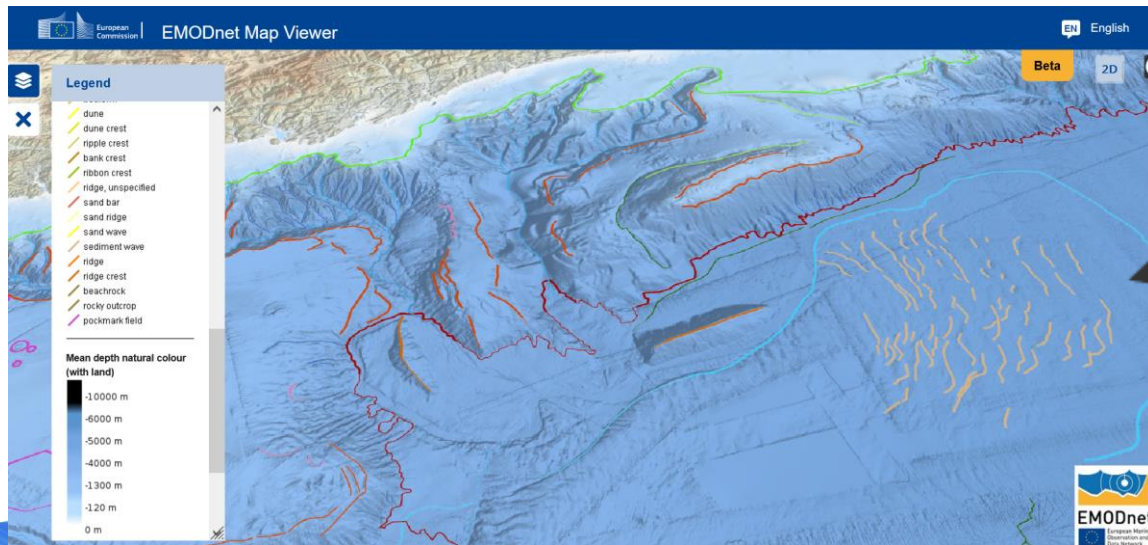


- The *Submerged Landscapes* maps uncover something **unique** in showing such geological features that are not commonly known, such as:
 - submerged forests,
 - lagoons, lakes, and estuaries
 - submerged freshwater springs
 - terraces, wetlands, and paleocoastlines, etc.

At the end of the last glaciation, mean sea level was more than 100 meters lower than today, exposing large areas of seafloor as dry land.



- EMODnet Geology data is used by **off-shore renewable energy industry** for siting and micro-siting of windfarms and related infrastructures. Stakeholder statement:
 - “EMODnet data products play important roles providing initial background information concerning physiography, environmental constraints, and human activities.” Energinet, Denmark
- Here showing *seabed substrates* with *wind farms* (EMODnet Human Activities)



- EMODnet Portal centralization has provided added value to the user when it's now easier to combine data from the different thematic EMODnet projects on a single portal.
 - Here is a screenshot with *geomorphology* and *bathymetry* in the Bay of Biscay showing canyons (middle of picture) and sand waves at 4500 meters depth (right)

EMODnet Geology

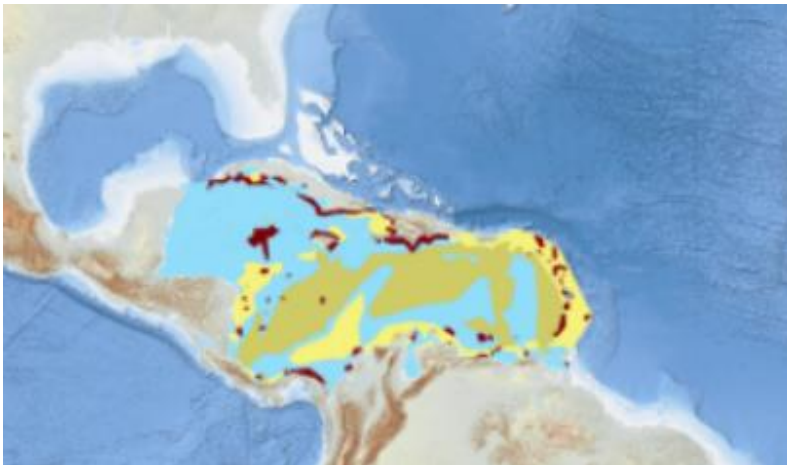
Future evolution: content and services

- We are working on a new dataset with **geotechnical data** to be added to the portal, this because planning of wind farms is one of the main reasons why users visit the portal, and they are especially interested in geotechnical data.
- Several partners have reported that they collect geotechnical data, and we are now consulting companies on which kind of data and in which format should be included in our new database.



FF-CPT (Free-Fall Cone Penetrometer)

Partnerships



Seabed substrate of the Caribbean Sea

- EMODnet Geology has in 2021 – 2023 expanded its **partnership** to the **Caribbean Sea**, where a network of local geological surveys have agreed to participate in the project.

“Discover Europe’s seabed geology”