



[**CLICK TO KNOW MORE**](#)



EMODnet



European Marine
Observation and
Data Network

The European Marine Observation and Data Network (EMODnet):

A free and FAIR EC marine data service, supporting the Blue Economy

Kate Larkin, PhD: Head, EMODnet Secretariat

GWF 2024, Hydrospatial Infrastructure and Blue Economy Summit
15 May 2024



The European Marine Observation and Data Network (EMODnet) is financed by the European Union under Regulation (EU) 2021/1139 of the European Parliament and of the Council of 7 July 2021 establishing the European Maritime, Fisheries and Aquaculture Fund.

Contents



Why do we need EMODnet?



What is the EMODnet Offer?



What is EMODnet's added value for the Blue Economy?



What do maritime businesses/users say about EMODnet?



Why unlocking your data with EMODnet is a win-win opportunity!



EMODnet's digital services for the European Digital Twin Ocean (DTO) and the global ocean data ecosystem



EMODnet



European Marine
Observation and
Data Network



Visit emodnet.ec.europa.eu

The marine knowledge value chain: *From ocean observation to data services for users*

Remote sensing (satellites)

In situ (field/survey data)

Collected in/around water from surface to seafloor and sub-seafloor; very diverse infrastructure and parameters



One central map viewer

to visualise all EMODnet data



BATHYMETRY



HUMAN ACTIVITIES



PHYSICS



GEOLOGY



SEABED HABITATS



CHEMISTRY



BIOLOGY

1 OCEAN 1 EMODnet

One single portal

120
partners

One central metadata catalogue

to enhance data search and discovery

+100
use cases

Discover, visualise and
download marine data and products
across 7 thematics and hundreds of parameters



EMODNET.EC.EUROPA.EU

YOUR GATEWAY TO *IN SITU* MARINE DATA IN EUROPE AND BEYOND

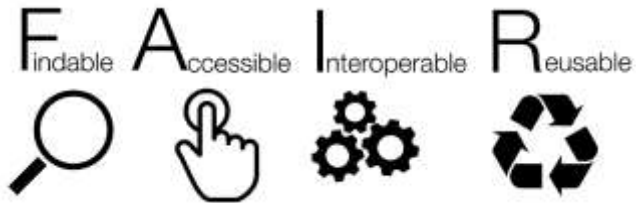


The European Marine Observation and Data Network (EMODnet) is financed by the European Union under Regulation (EU) 2020/1139 of the European Parliament and of the Council of 7 July 2020 establishing the European Maritime Fisheries and Aquaculture Fund.





EMODnet public service: Your solution for trusted FAIR marine environmental and human activities data



EMODnet Portal Web traffic

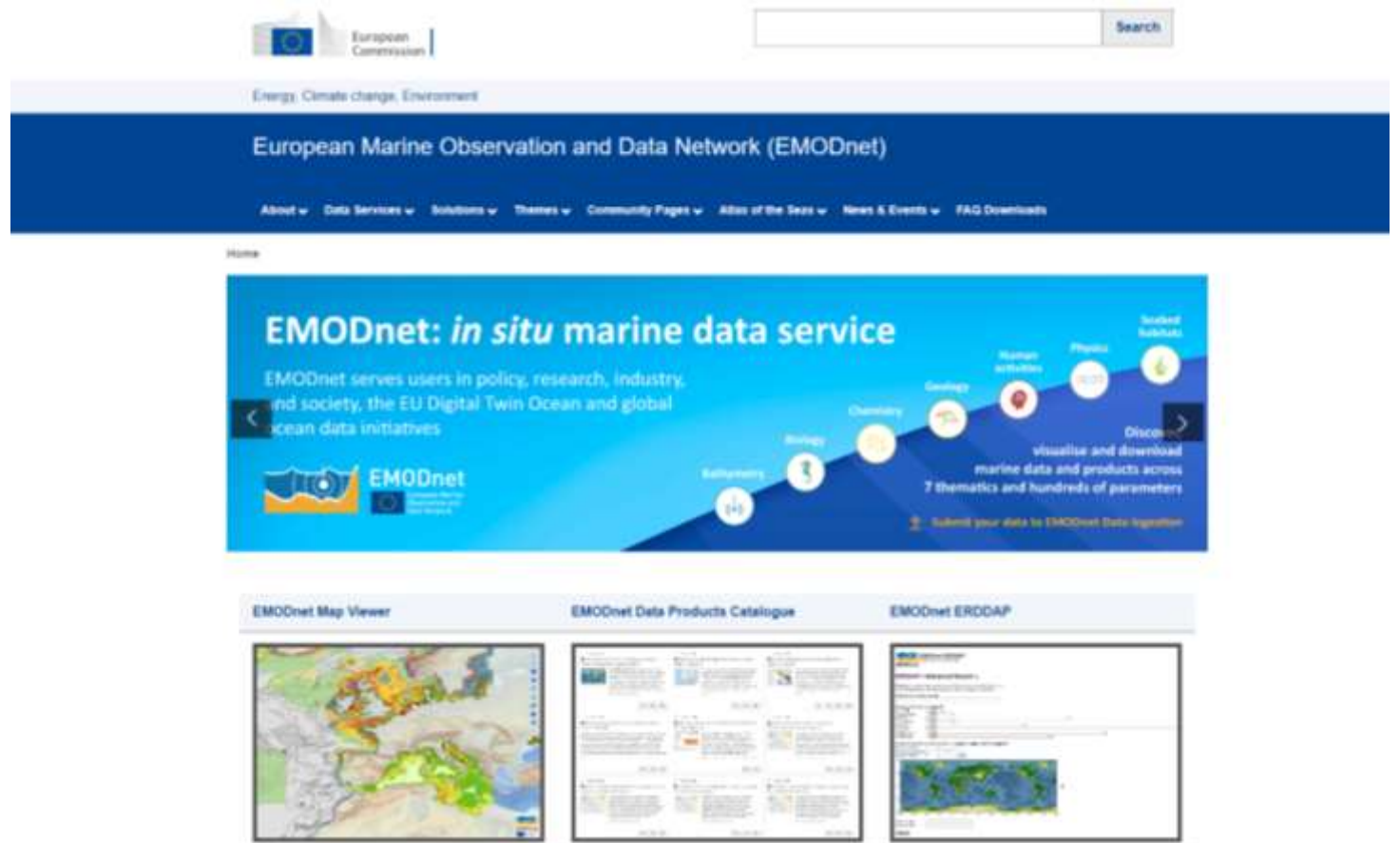


139,594 visitors*
203,725 sessions**
387,593 page views
15% of returning visitors

2023 metrics

*A session starts with the first event and ends 30 minutes after the last event (after the session is over).
**The number of unique visitors. Every visitor is counted once, even if they visit the website many times during the day.

Your gateway to *in situ* marine data, data products and services in Europe and beyond





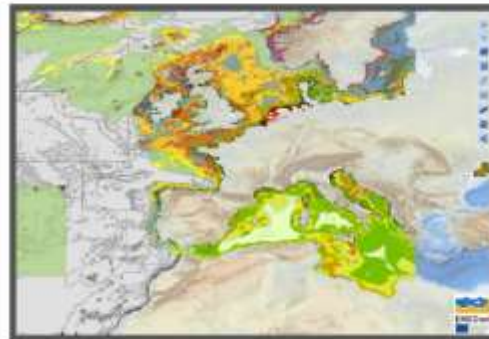
Visit emodnet.ec.europa.eu



Data Services directly accessible from EMODnet landing page

EMODnet:
One map viewer – subset and download – webservice

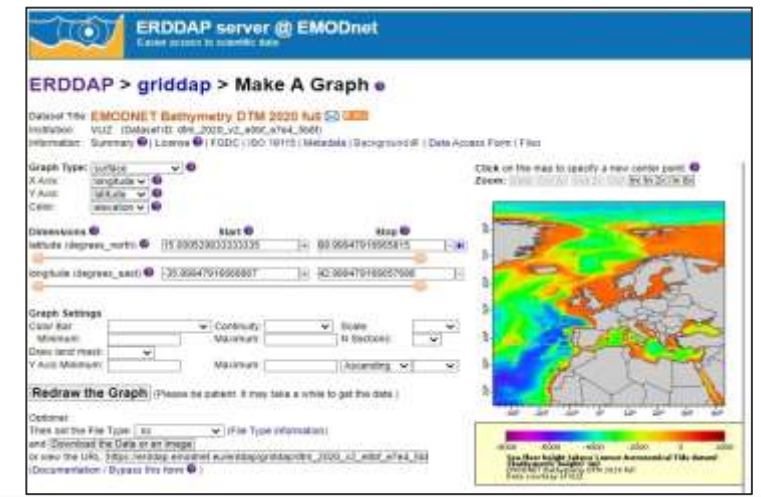
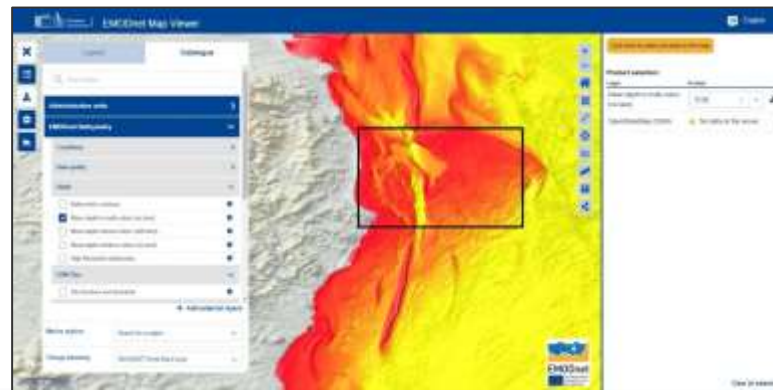
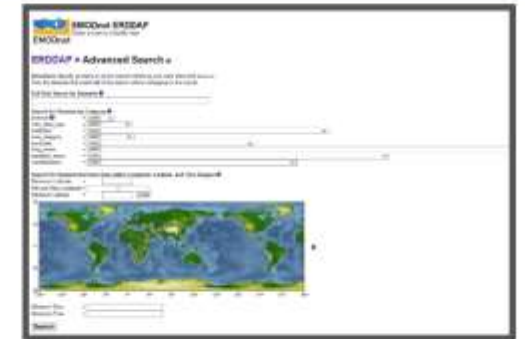
EMODnet Map Viewer



EMODnet Data Products Catalogue



EMODnet ERDDAP





Digital Terrain Model (Bathymetry)

The advanced EMODnet DTM offers **many benefits** to users:

- resolution increased to $1/16 * 1/16$ arc minutes (circa 115*115m);
- circa 12.3 billion data points
- powerful 3D visualisation functionality;
- faster representation of the complexity of the map;
- expanded coverage: European seas, European part of the Arctic Ocean and Barents Sea, Caribbean Sea;
- inclusion of Satellite Derived Bathymetry data products, in particular for coastal stretches of Spain and Greece.
- EMODnet Bathymetry world base layer (harmonization of EMODnet Bathymetry EU map with global GEBCO chart)

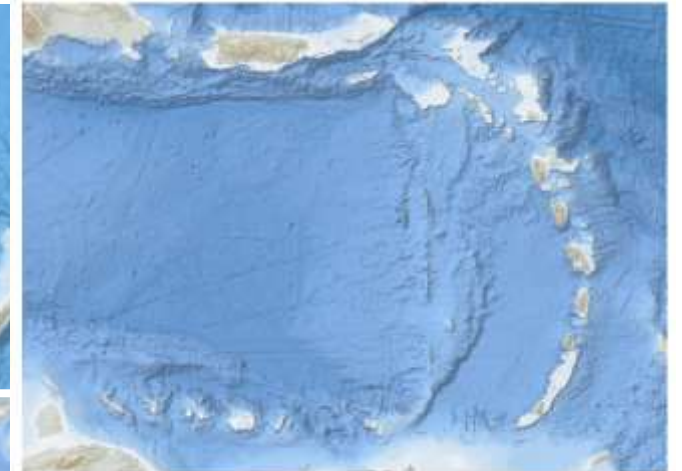
Flagship EMODnet data products

EMODnet DTM Canary Islands



Part of the new 2022 Digital Terrain Model for European

EMODnet DTM Caribbean Sea



Caribbean 2022



EMODnet Bathymetry world base layer



Visit emodnet.ec.europa.eu



Flagship EMODnet data products

Digital Terrain Model (Bathymetry): Gridded tiles for tailored downloads.

Pan-European, high-resolution Bathymetry at your fingertips!



Visit emodnet.ec.europa.eu

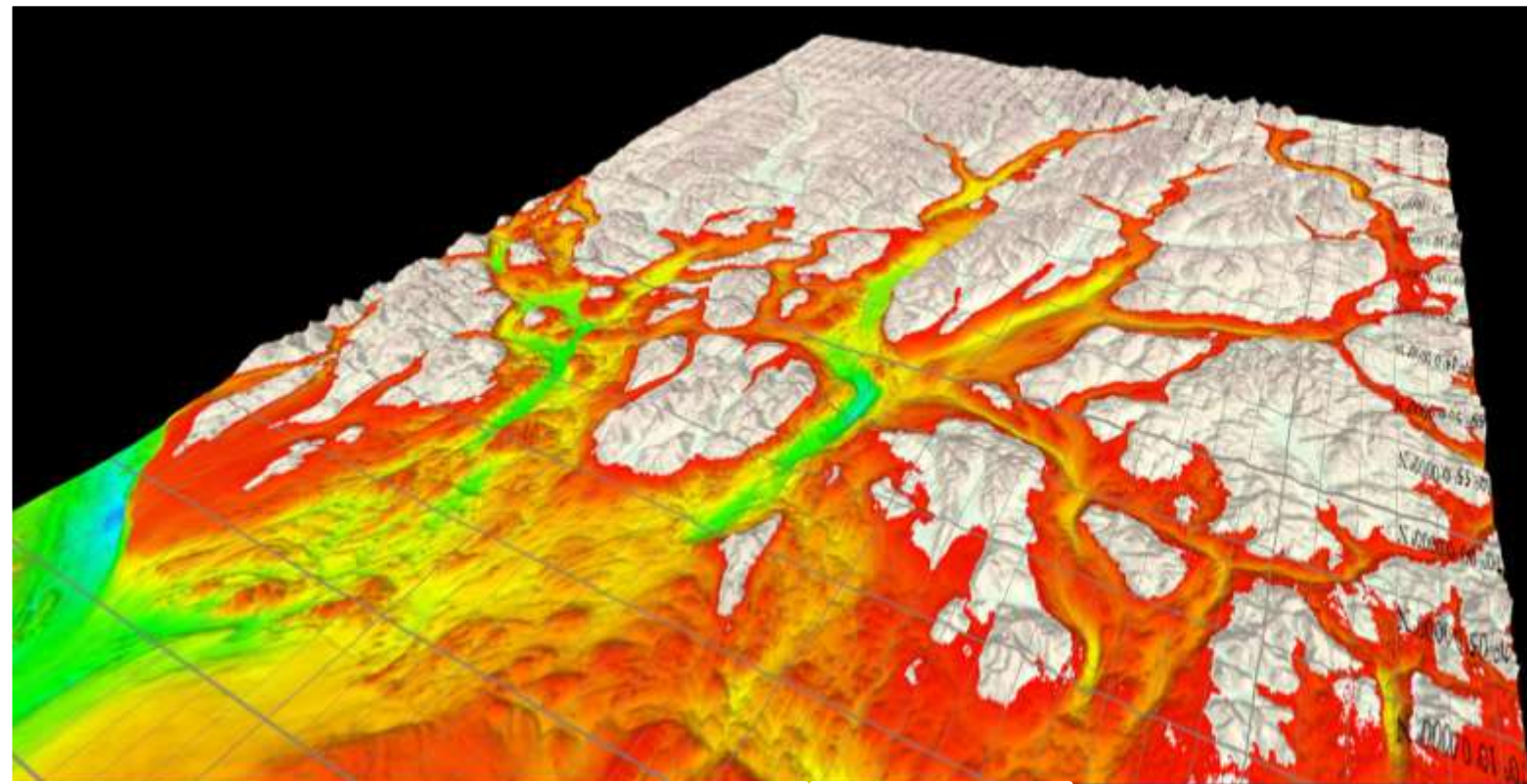


Digital Terrain Model (Bathymetry)

EMODnet's global impact: EMODnet is a recognized European data provider of FAIR high resolution Bathymetry data to the Nippon Foundation-GEBCO Seabed 2030 Project. MoU EMODnet - Seabed 2030 signed in 2019.

Flagship EMODnet data products

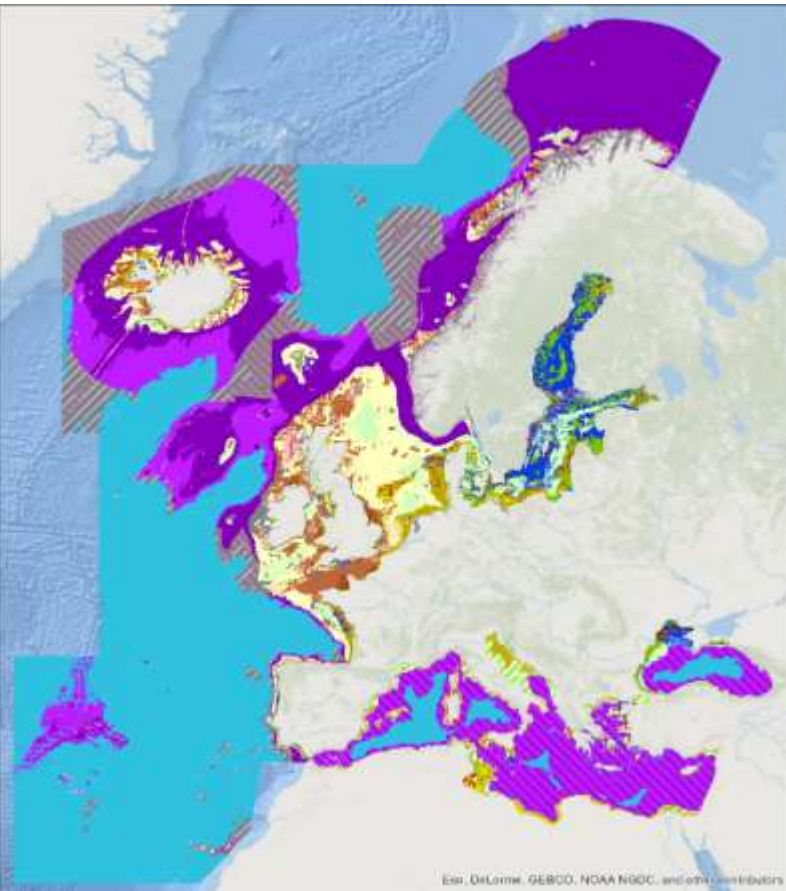
EMODnet Digital Terrain Model, showing region 69-71N region of Tromsø - Skjervøy islands, Norway



THE NIPPON FOUNDATION-GEBCO
**SEABED
2030**

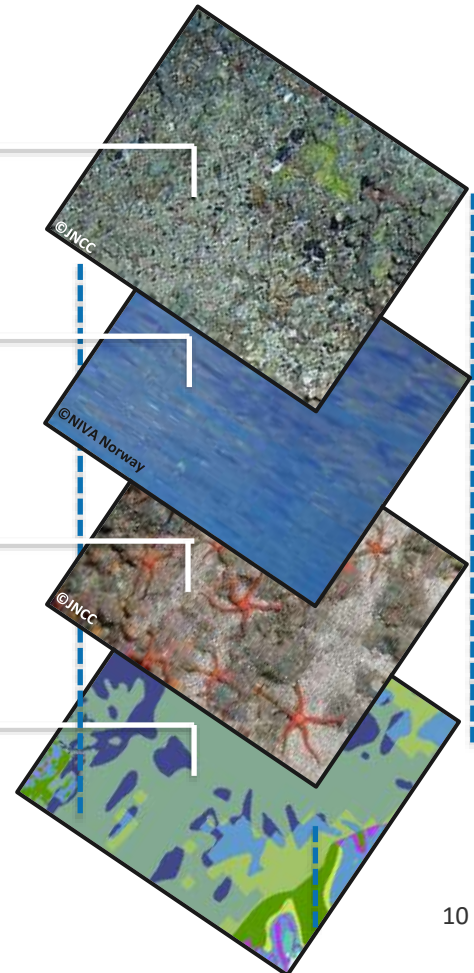
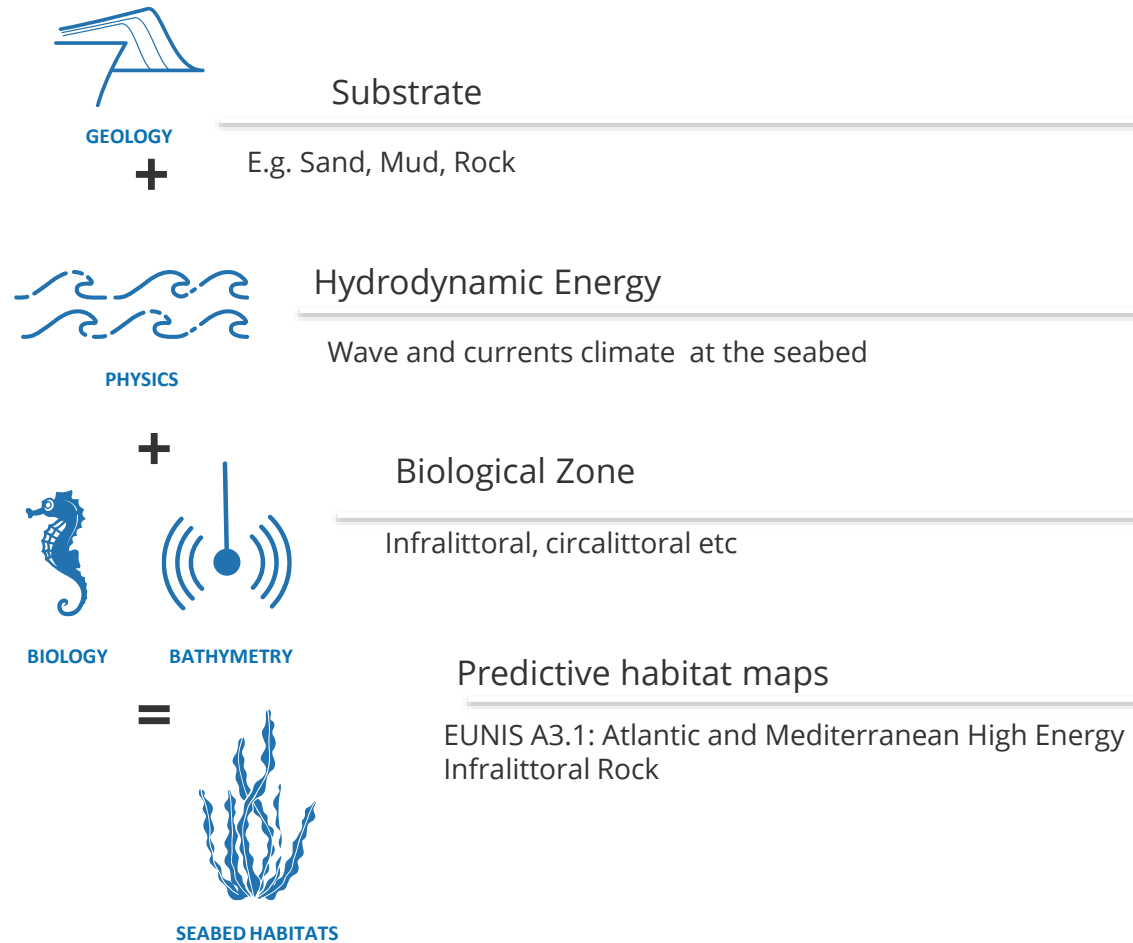


EUSeaMap: Broad-scale European seabed habitat map



Exp. DeLamé, GEBCO, NOAA NGDC, and other contributors

Flagship EMODnet data products

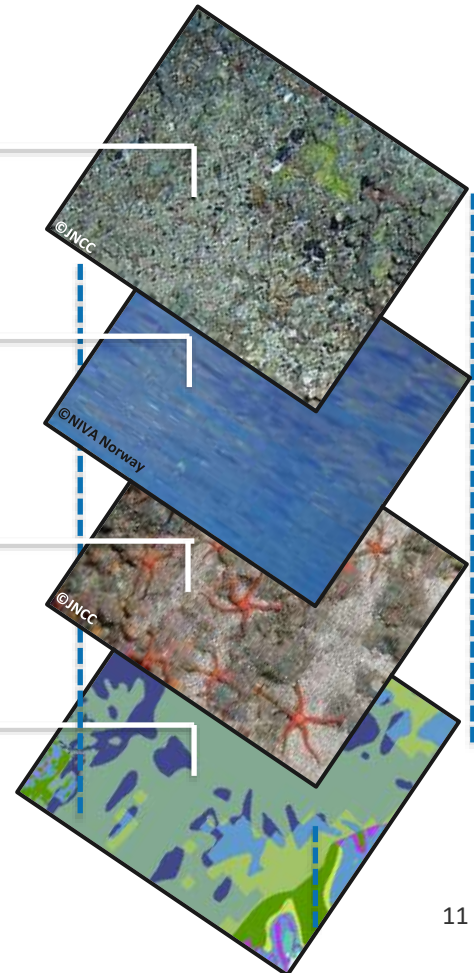
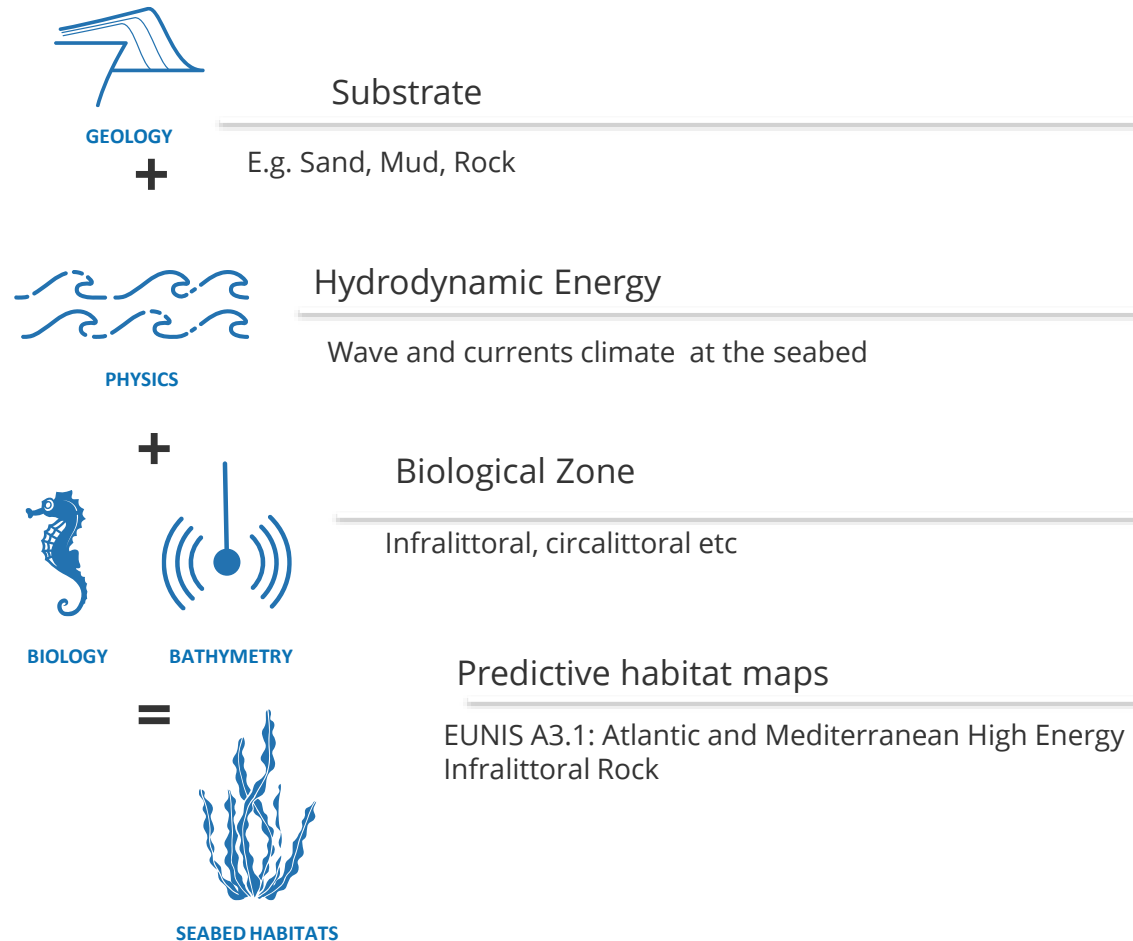




EUSeaMap: Broad-scale European seabed habitat map

- Made possible by integrating multidisciplinary FAIR data from EMODnet's data service
- Full coverage of all EU seas, expanding to Caspian Sea and Caribbean Sea
- Essential Ocean Variable habitats e.g., live hard coral cover, Seagrass cover and Macroalgal canopy cover.
- Common European language for habitat types (e.g., EUNIS, MSFD benthic broad habitat types)
- Spatial confidence assessment available

Flagship EMODnet data products

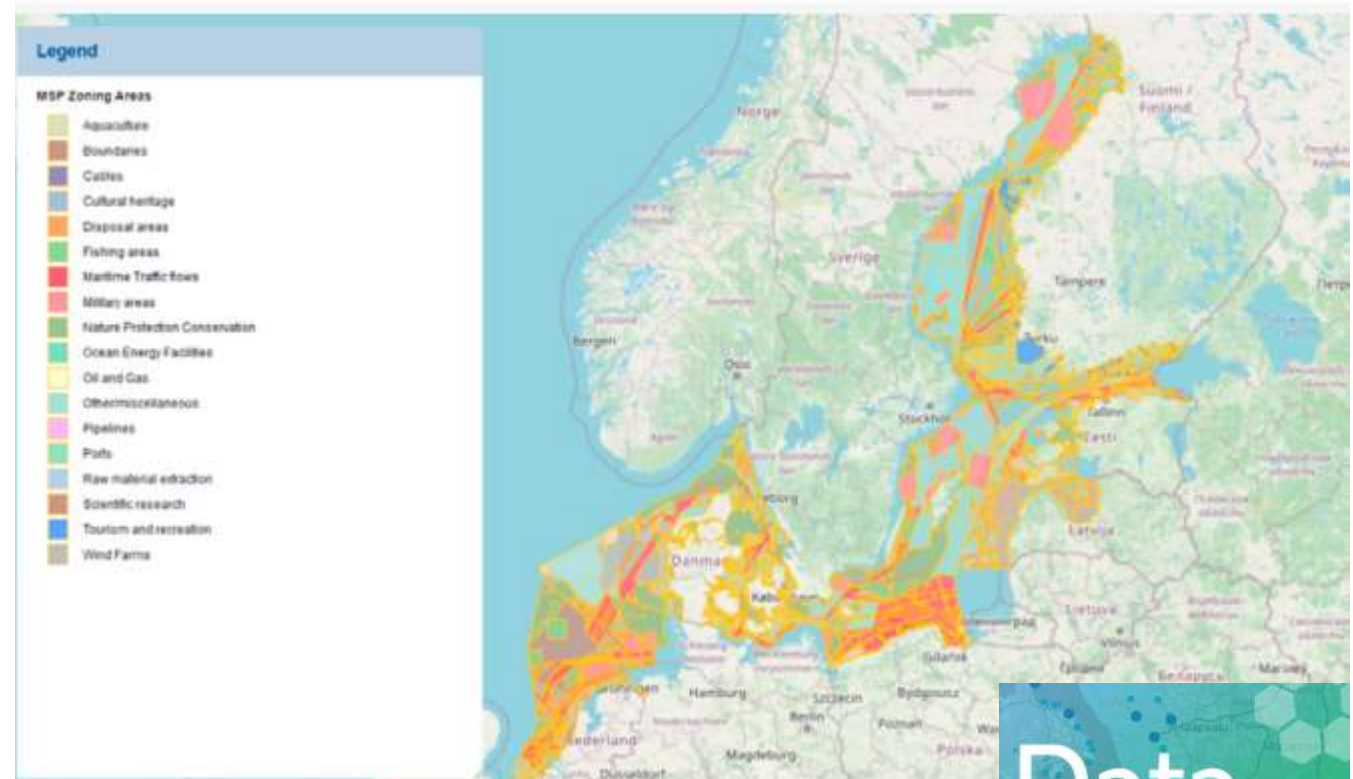




National Marine Spatial Plans: In geospatial format

- EMODnet hosts National (EU Member State) **Marine Spatial Plans**;
- EMODnet works in close co-operation with the EC JRC Technical Group (TG) on Data for MSP and in dialogue with Regional Sea Conventions to provide MSP in harmonized geospatial formats, enabling cross-border MSP information.
- INSPIRE-compliant data model, towards an EU-wide dataset on Marine Spatial Planning.

Flagship EMODnet data products



EMODnet Portal. Map layer: National Member State Maritime Spatial Plans, Baltic Sea.
EMODnet Human Activities

Data
for MSP



EMODnet

European Marine
Observation and
Data Network



*“ EMODnet Human Activities is a **focal point for EU Member State Marine Spatial plans** and in the future this can be expanded to include MSP data products, for example at the European level.”*

Joni Kaitaranta, HELCOM, Regional Sea Convention for the Baltic Sea



Climate-Smart MSP: Interoperable marine environmental and human activities

EMODnet multi-disciplinary & transboundary *in situ* marine environmental and human activities data are essential for **climate-smart MSP** and offering **trusted multi-disciplinary data** to underpin **cumulative impact assessments**.

Flagship EMODnet data products



EMODnet Portal Map viewer: Map layers: EMODnet Bathymetry contours & EMODnet Human Activities National MSP Plans, Wind farm point locations, Natura 2000 sites



EMODnet

European Marine
Observation and
Data Network

What is EMODnet's added value for the Blue Economy?



Get value from ocean data

EMODnet for business:

A wealth of marine data, products and services to support your company



EMODnet



THE BENEFITS

1 Save costs

Collecting marine data can be very costly. By providing access to already existing marine data, EMODnet improves offshore business' and operator's efficiency and saves costs in gathering and processing marine data for operational and planning purposes.

2 Develop new products and services

By providing harmonised open data and products, EMODnet offers the material from which innovative start-ups and companies can leverage new products and services, or improve existing ones.

3 Add value to your own data

Enrich your company's data with datasets available via EMODnet and generate better information to plan and implement your business activities.

4 Improve knowledge and reduce risks

EMODnet data resources are essential for your maritime investment decisions as they help to reduce uncertainty and improve our ability to forecast the behaviour of the sea. They also help you to understand and respond to the impacts that climate change may have on your business.

Why use EMODnet and get involved:

- EMODnet provides **easy access** to harmonised, transboundary, multidisciplinary data layers that can support businesses operating across different jurisdictions.
- EMODnet assists national, regional and local government agencies to **seamlessly share and reuse marine open data across European borders**.
- EMODnet provides a platform to share your data and data products in support of Europe's maritime economy. **Submit your data and get better quality products in return via the EMODnet Data Ingestion Portal** (www.emodnet-ingestion.eu). It's free of charge!



EMODnet

European Marine
Observation and
Data Network

What does
maritime business say?

How do they use EMODnet?



EMODnet

European Marine
Observation and
Data Network



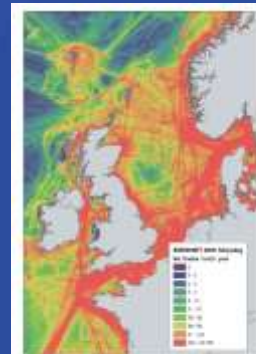
“We realise the importance of EMODnet data and data products e.g. Bathymetry, Physics in reducing uncertainty and improving offshore energy operators costs in micrositing”

Gerben de Boer, Van Oord, EMODnet Open Conference , 29-30 November 2023



*“We **use hundreds of datasets** throughout the lifecycle of an offshore wind farm, and **EMODnet is one of our main sources of data**, especially in the early phases of development e.g., EMODnet Bathymetry is our «go to» dataset until our own geophysical surveys are carried out and compared, EMODnet Seabed Habitat data are also used for Environmental Impact Assessments”*

Kieran Bell, Ørsted, EMODnet for ORE workshop, 20-21 September 2022





EMODnet

European Marine
Observation and
Data Network



“Energinet repeatedly used EMODnet Geology data products, including the Seabed Substrate map as baseline seafloor data and information to avoid unsuitable areas such as mud basins in the (micro)siting of offshore renewable energy platforms.... The map services and data from other thematics also helped provide information to highlight areas of potential constraints e.g., vulnerable habitat areas”

Energinet, EMODnet Use Case 2023

<https://emodnet.ec.europa.eu/en/use-cases>



Win-win Business dialogues

EMODnet for Business workshops:

- Free online workshops for the Blue Economy to learn how EMODnet can support your business and opportunities for data sharing with EMODnet Data Ingestion;
- Experts spanning the sector value chain, EU Policy officials, EMODnet experts and more;
- Sectors include Offshore Renewable Energy, Aquaculture, Coastal Tourism and Ports, Marinas and Boating;
- Email the EMODnet Secretariat to express interest and look out for the 2024 save-the-date coming soon secretariat@emodnet.eu

EMODnet for Business Blue Economy workshops



Coming in Autumn 2024:
EMODnet for Business: Marine data for ports, marinas and boating

Win-win partnerships

The EMODnet Associated Partnership:

- **Free and flexible** (no contractual obligations);
- **Access expert knowledge:** EMODnet experts (technical ICT and data services, best practices, cloud computing, digital twins, EU Policy);
- **Increase visibility:** Your company as an official Associated Partner on EMODnet Portal and invited to speak at EMODnet Conferences and Business events;
- **How do I apply?** Application letter to EMODnet Steering Committee secretariat@emodnet.eu

Join the growing EMODnet Associated Partner network!





Forging key partnerships to improve private-public data sharing, interoperability, and bring EMODnet closer to Blue Economy users and the market

Submit your data into Europe's leading *in situ* marine data service, with EMODnet Data Ingestion!

- **EMODnet Associated Partner**
- **EMODnet Vision 2035 Drafting Group member:** A community vision on EMODnet's service evolution (public consultation: summer 2024)
- **Data sharing:**
 - Contribution of Fugro in-transit bathymetry and metocean data into EMODnet Data Ingestion for the EMODnet Bathymetry platform, also contributing to the wider Seabed 2030 initiative;
 - Exploring data sharing of marine environmental data;
 - Fugro data is curated into standardised and FAIR observations, data and metadata, data quality indicators and integrated into processed data products used by policy, research, blue economy, visible via EMODnet services to users worldwide;
 - Fostering dialogue on global private sector marine data sharing in the UN Ocean Decade context.





Visit emodnet.ec.europa.eu



Continued evolution of EMODnet digital services

EMODnet and Copernicus Marine Service are mature, operational marine data infrastructures and EC services underpinning the interoperable EU marine data space needed to deliver the European Digital Twin Ocean and the Digital Ocean Knowledge System (EU Mission: Restore our Ocean and Waters)

EMODnet is the *in situ* pillar for the EU Digital Twin of the Ocean





Visit emodnet.ec.europa.eu



Global Interoperability and Contribution to OceanData 2030

EMODnet's FAIR common metadata catalogue is the backbone for EMODnet's contribution to the **global ocean data digital ecosystem**, the UN Decade of Ocean Science for Sustainable Development, Sustainable Development Goals (SDG) agenda and **machine-machine data harvesting**.

GEOS5 Portal

International portal, implemented by ESA



Ocean Data and Information System (ODIS)

Implemented by IODE of IOC/UNESCO



EMODnet



European Marine
Observation and
Data Network



emodnet.ec.europa.eu

Stay up-to-date with
the latest news

