The European Marine Observation and Data Network (EMODnet):

A public EU operational marine *in situ* data service

GEO Blue-Planet online workshop, 6 June 2023
Ocean observation and prediction for coastal sustainability

Kate Larkin, Head of EMODnet Secretariat

EMODnet is an operational *public* marine *in situ* data service and marine knowledge initiative of the **European Commission (DG MARE)**

One central map viewer
to visualise all EMODnet data

1 OCEAN 1 EMODnet
One single portal

140 partners

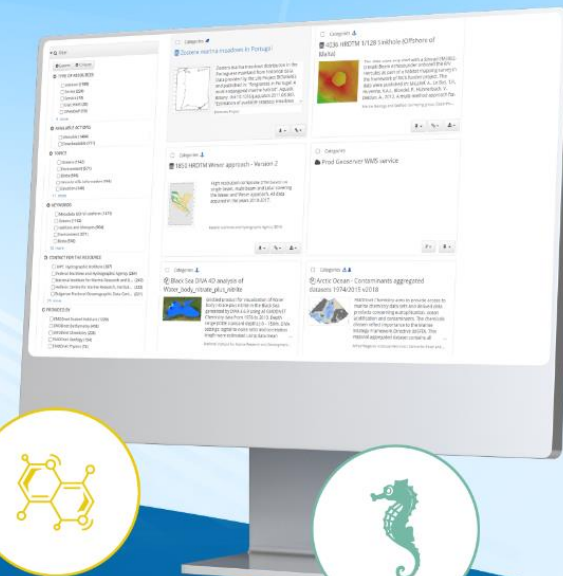# One central metadata catalogue
to enhance data search and discovery

+100 use cases

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

BATHYMETRY

HUMAN ACTIVITIES

PHYSICS

GEOLOGY

SEABED HABITATS

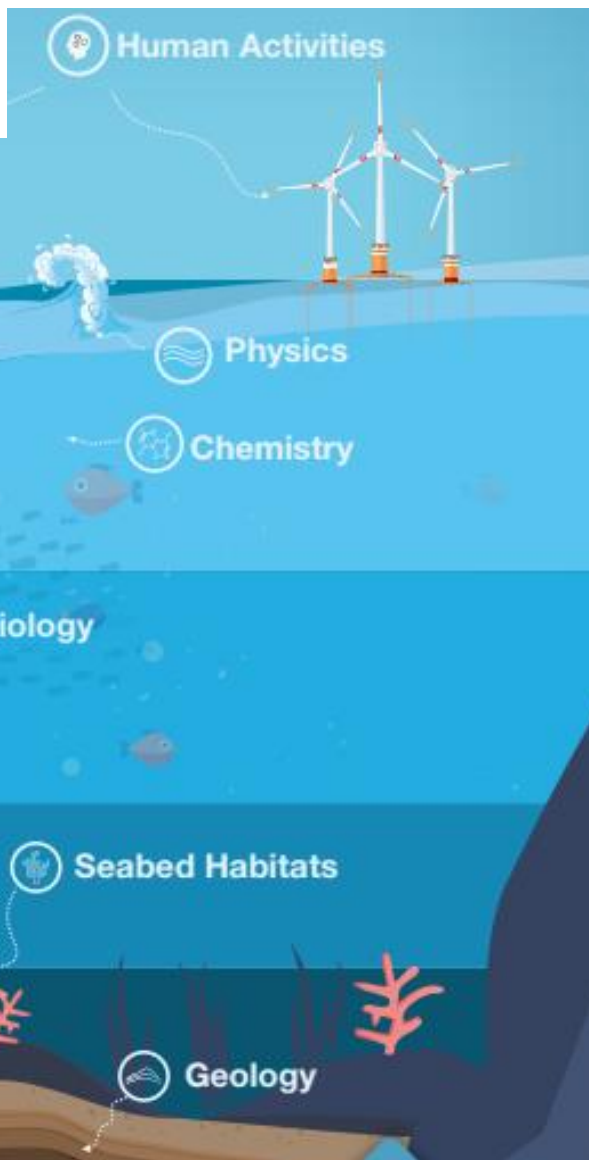CHEMISTRY

BIOLOGY

EMODNET.EC.EUROPA.EU

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

EMODnet
European Marine Observation and Data Network

EMODnet European Marine Observation and Data Network

Findable **A**ccessible **I**nteroperable **R**eusable

EMODnet in a nutshell

In situ marine data (field data) from coast to open ocean, from surface to seafloor;

- **Seven thematics** (bathymetry, biology, chemistry, geology, human activities, physics, seabed habitats);
- **Hundreds of data parameters** from diverse sources and added value **data products**;
- A **community** of > 120 organisations many more thematic data experts;
- **European authority and regional best practice** in the marine data domain;
- **Collaboration with Copernicus Marine Service** including provision of aggregated, standardized *in situ* marine data to validate satellite-derived data, input to models, and towards an interoperable European marine data space and EU Digital Twin Ocean.

EMODnet | The results of data sharing and working together
Unlocking and democratising marine data from diverse sources

Bathymetry

Physics

Chemistry

Biology

Number of occurrences
- 1
- 10
- 100
- 1,000
- 10,000
- 100,000

Geology

Seabed Habitats

Human Activities
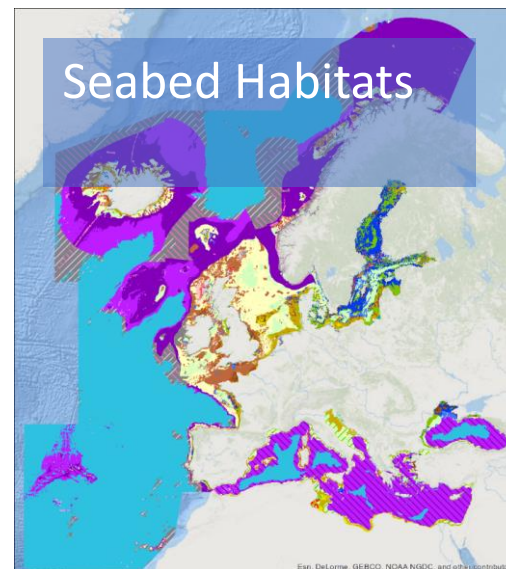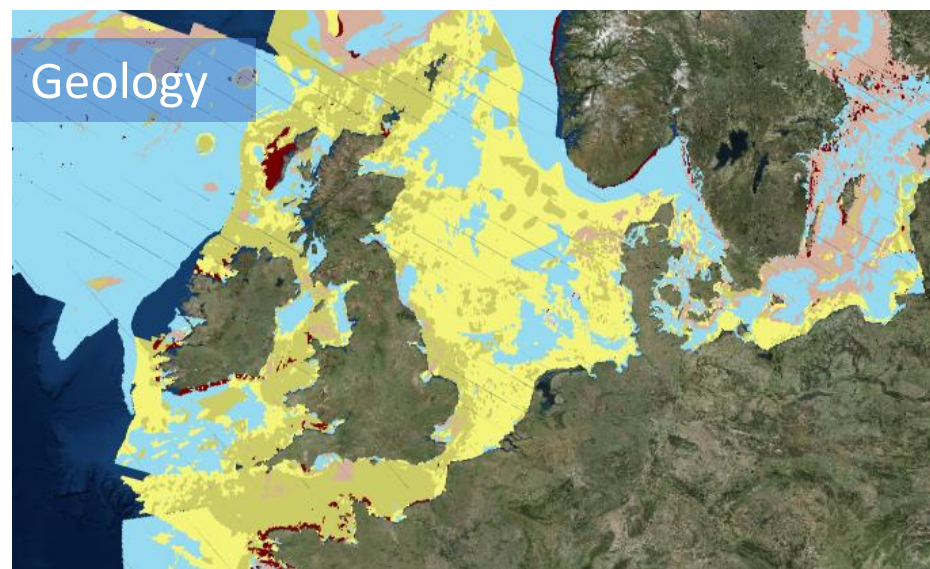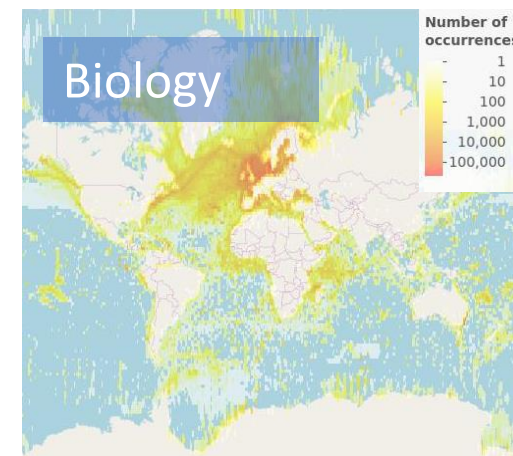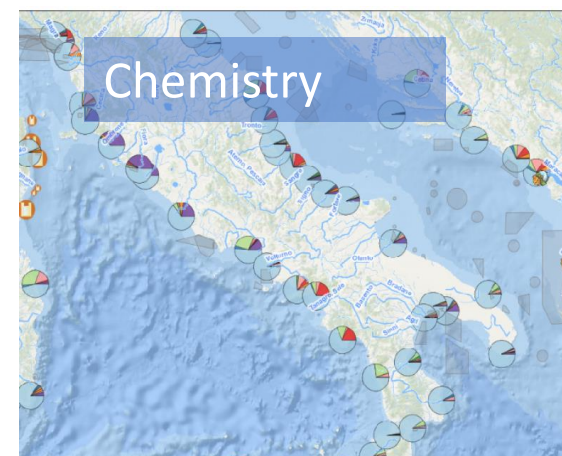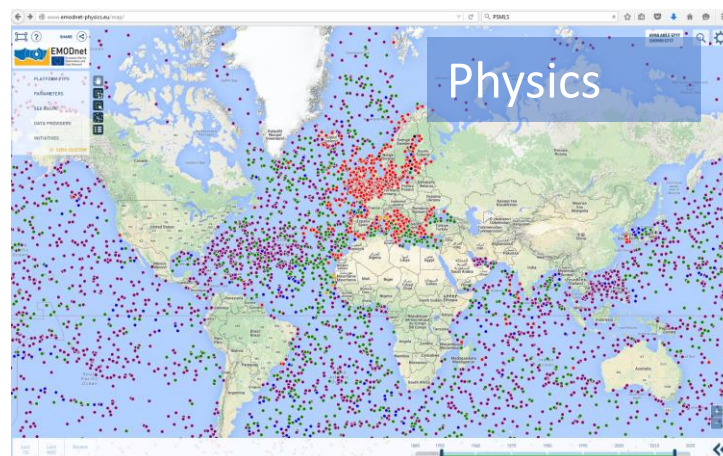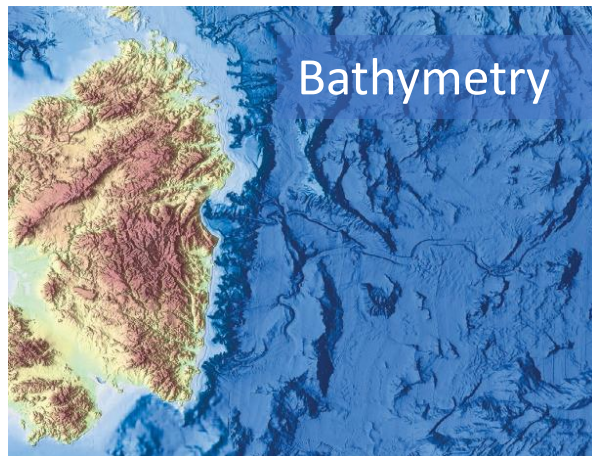
Ten Years of EMODnet in Ten Minutes - watch the full movie - YouTube

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EMODnet
European Marine Observation and Data Network

EMODnet | One map viewer - controls

EMODnet: A key resource of *in situ* marine environmental and human activities data, including in the coastal region

Examples of key EMODnet data/data products relevant for Coastal sustainability:

- Bathymetry (Digital Terrain Model, EMODnet Bathymetry)
- Coastal Behaviour, Geology (age, lithology) and geomorphology (EMODnet Geology);
- Riverine inputs (EMODnet Physics)
- Pollutants & marine litter (EMODnet Chemistry)
- Blue economy operations, sitings and shipping/vessel transportation & National Maritime Spatial Plans (EMODnet Human Activities)
- Sea Level: Absolute and Relative Trends and Anomalies (EMODnet Physics);
- Biodiversity (EMODnet Biology)
- Seafloor/Benthic Habitats (EMODnet Seabed Habitats)
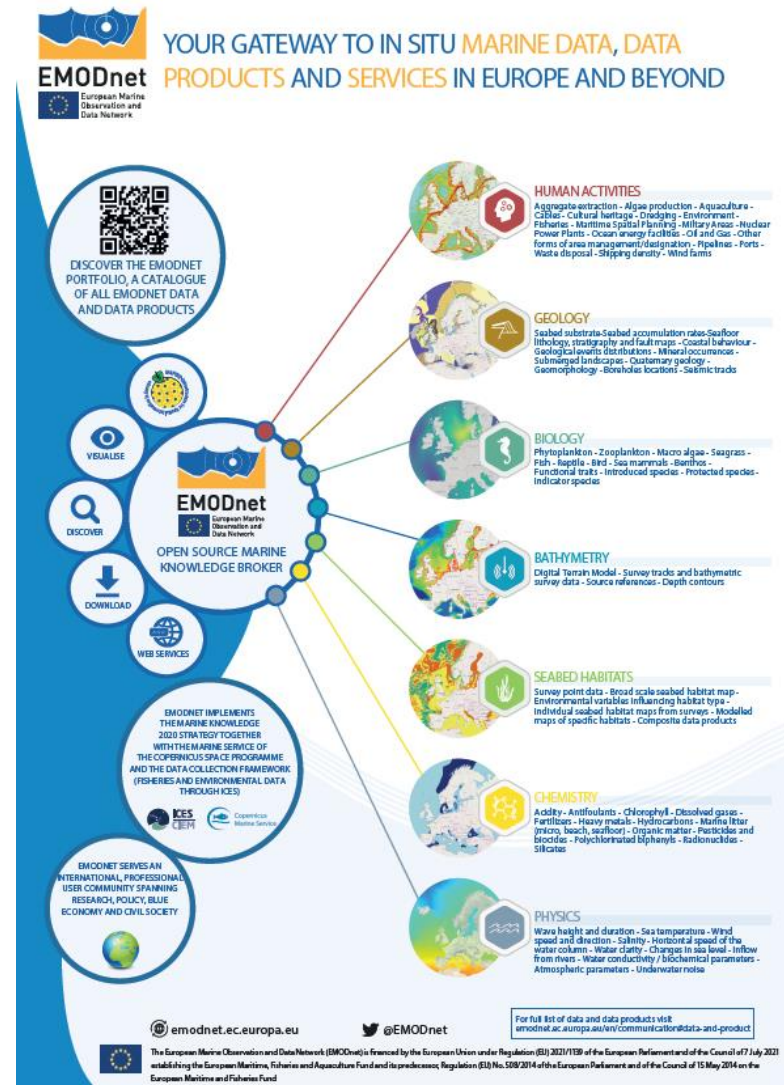
EMODnet: An operational service delivering marine data, information and knowledge for research, policy, blue economy and society

EU focus, Global context and international user-base

- Marine Knowledge 2020
- Marine Strategy Framework Directive (MSFD)
- Marine Spatial Planning Directive (MSPD)
- Blue Growth & SME Strategy for sustainable & digital Europe
- Natura 2000
- Habitats and Birds Directive

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EMODnet: A EU focal point for Marine Spatial Planning data & national plans
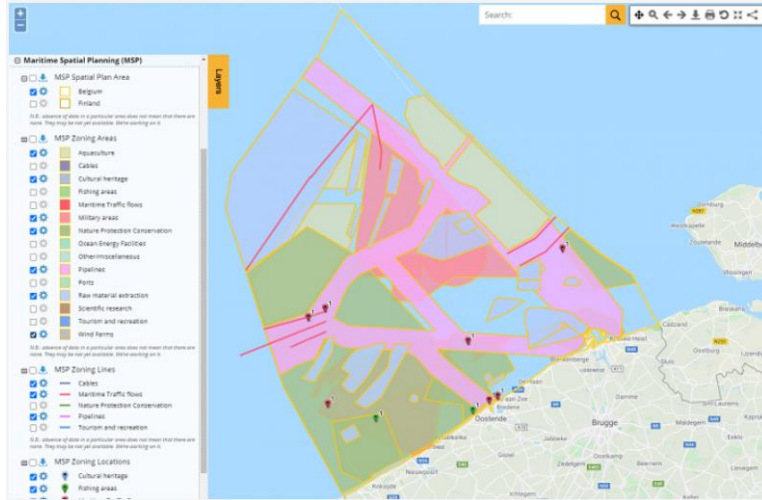
«*EMODnet Human Activities is a focal point for EU Member State Marine Spatial plans and in the fuiture this can be epxanded to include MSP data products, for examples at the European level*».
Joni Kaitaranta, HELCOM

Data for MSP

MSP Spatial Plan Area for Belgium, EMODnet Human Activities

EMODnet Human Activities
Map viewer and data visualization
(centralising by end 2022)

EMODnet provides a EU focal point for:

o **Access to transboundary *in situ* marine environmental and human activities data,** essential for MSP, as a tool to manage the use of our seas and oceans coherently and to ensure that human activities take place in an efficient, safe and sustainable way;

o **European Member State/National Marine Spatial Plans** through EMODnet Human Activities (Belgium, Denmark, Finland and Latvia already available, more to follow)

o **EMODnet Human Activities works in close co-operation with Regional Sea Conventions, the EC JRC, Technical Group (TG) on Data for MSP** towards a technical solution for harmonising EU MSP within EMODnet.

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EMODnet: Ongoing contributions to coastal related initiatives

JPI Oceans Sea Level Rise Knowledge Hub as:

- Presenter/participant at kick-off meeting, April 2020
- Co-Chair of Task Group on Communication and Outreach, member of the Steering Committee
- Contributor to Sea Level Rise event, Venice, October 2022 and the Assessment Report

**UN Ocean Decade activity** as:

- **COAST Predict-CORE** Advisor
- **Collaborative Centre on Ocean Prediction** Advisor
- **Projects:** DITTO on digital Twins + TURTLE & many more

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What can EMODnet contribute to the European Knowledge Hub on Sea Level Rise?

- Open & free access to integrated marine datasets & data products for knowledge-creation for science, business and policy to:
  - reduce uncertainty through evidence-based operations & decisions;
  - increase productivity and cost-effectiveness;
  - add value and impact to data;
  - stimulate innovation.
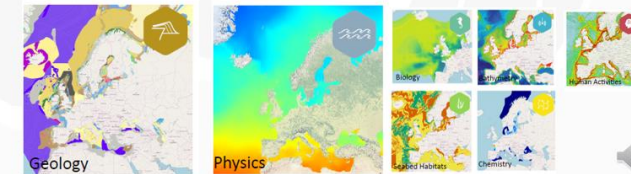
CoastPredict - Observing and Predicting the Global Coastal Ocean

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EMODnet: Strengthening Partnerships for International Interoperability and Impact
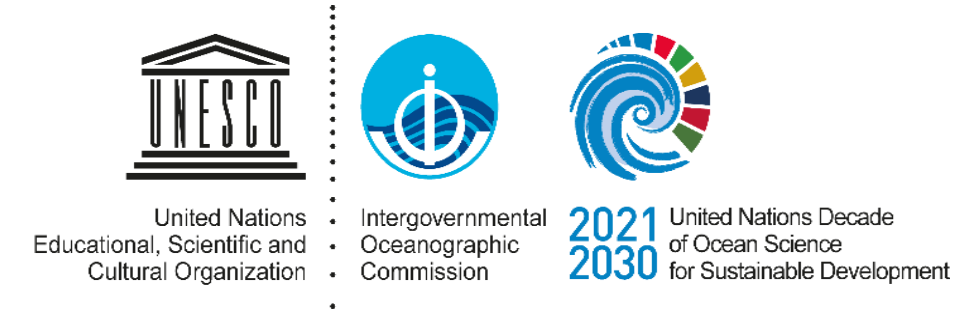
- **A key partner for open data, open science, data diplomacy and digital data stewardship** in Europe, and beyond;
- **Interoperable data discovery and access,** in collaboration with other key data services
- **Further diversifying data parameters and sources** (e.g. industry, citizen science)
- **Extending FAIR** to FAIR, CARE and TRUST

Transparency,
Responsibility,
User focus,
Sustainability and
Technology

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Thank you for your attention!

- **Discover the EMODnet Central Portal** and see what EMODnet services can do for you;
- **Connect** with the **online EMODnet community**
    - @EMODnet (Twitter);
    - EMODnet monthly Newsletter;
    - Ask questions and submit feedback via the EMODnet Central Portal and via online surveys
- **Contact the EMODnet Secretariat** to discuss data sharing, data/data product use, queries on data/web services, and to explore partnerships secretariat@emodnet.ec.europa.eu
- *Save-the-date* **for the EMODnet Open Conference 2023**, 29-30 November 2023 in Brussels, Belgium
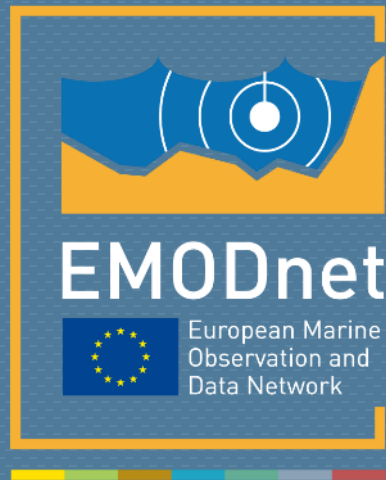
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Your gateway to marine data in Europe