



EMODnet



European Marine
Observation and
Data Network

Your gateway to marine data in Europe

EMODnet – Phase III (2017-2020)

Marine Knowledge Expert Group – 19 January 2018



Jan-Bart Calewaert

janbart.calewaert@emodnet.eu

EMODnet Secretariat

secretariat@emodnet.eu

Data

Bathymetry

Data on bathymetry (water depth), coastlines, and geographical location of underwater features such as wrecks

Geology

Data on seabed substrate, seafloor geology, coastal behaviour, geological events and probabilities, and minerals

Metadata

Human activities

Data on the intensity and spatial extent of human activities at sea

Biology

Data on temporal and spatial distribution of species abundance and biomass from several taxa



EMODnet

Central Portal

www.emodnet.eu

Seabed habitats

Data on modelled seabed habitats based on seabed substrate, energy, biological zone and salinity

Chemistry

Data on concentrations of chemicals (pesticides, heavy metals, antifoulants) in water, sediments and biota

Physics

Data on salinity, temperature, waves, currents, sea level, light attenuation and FerryBox data

Data Products

Data Services



EMODnet Principles

EMODnet



- ((⦿)) Collect data once and use it many times**
- ((⦿)) Provide data free of restrictions on use in an interoperable way**
- ((⦿)) Accompany data with statements on ownership, accuracy and precision, and**
- ((⦿)) Recognise that marine data is a public good and discourage cost-recovery pricing from public bodies**

- ((⦿)) Develop standards across disciplines as well as within them*
- ((⦿)) Build on existing efforts where data communities have already organized themselves*
- ((⦿)) Provide sustainable financing at an EU level so as to extract maximum value from the efforts of individual Member States*
- ((⦿)) Develop a decision-making process for priorities that is user-driven*



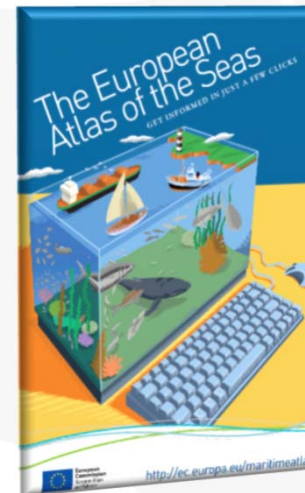
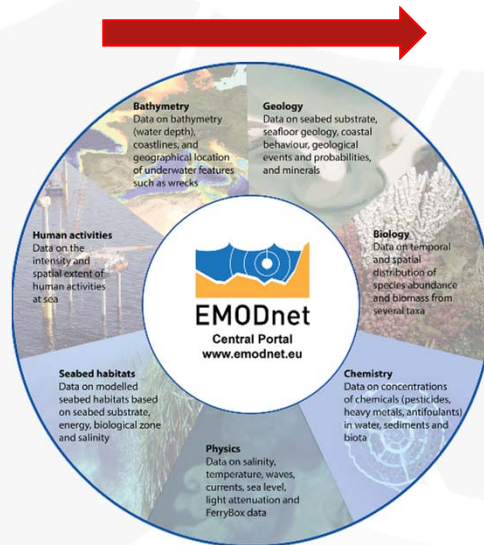
EMODnet



European Marine
Observation and
Data Network

Marine Knowledge Value Cycle

Data can only generate knowledge and reduce uncertainty/costs for offshore operators and managers, if it can be easily found, accessed and used



- **Informed policy and environmental management**
- **Assessing, forecasting & risk prevention**
- **Informed society**
- **Innovation (industry)**
- **Research**

Requirements and gaps - improved observations and data



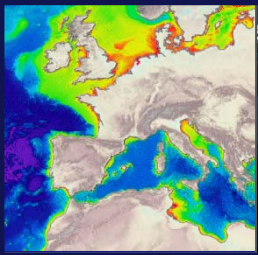


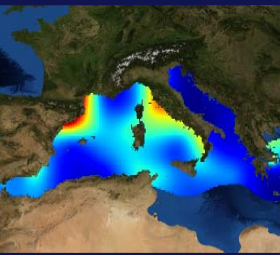
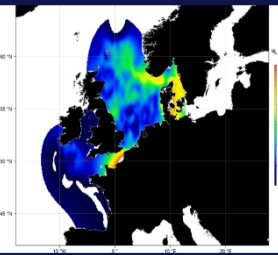
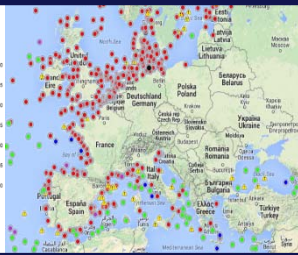

EMODnet Thematic Groups – Phase III

2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Phase 1 – limited sea basins											
			Phase 2 - low resolution all basins								
								Phase 3 - multi-resolution			

- 2009: Start EMODnet phase I: 59 Institutes - Budget €6.45M
- 2013: Start EMODnet phase II: 120 Institutes - Budget €16.3M
- **2017: EMODnet *phase III*: towards a seamless multi-resolution digital seabed map of European waters by 2020. €20M**

NOW: 8 thematic portals + 6 regional sea basin checkpoints + Central Portal + Data Ingestion Service + Secretariat

Thematic data coverage

Bathymetry	Geology	Seabed habitats	Chemistry	Biology	Physics	Human activities
						
<p>Bathymetric Data and metadata from surveys</p> <p>Bathymetry layers: average, minimum, maximum water depths</p> <p>Higher resolution data layers in coastal areas</p> <p>Underwater features</p> <p>Shipwrecks</p>	<p>Coastal behaviour (migration)</p> <p>Geological events and probabilities (volcanoes, landslides)</p> <p>Minerals (gas hydrate deposits, sulphides, phosphorite, cobalt)</p> <p>Seabed substrate (gravel, sand, mud)</p> <p>Seafloor geology</p> <p>Seismology</p>	<p>Depth</p> <p>Seabed substrate</p> <p>Energy at seabed (waves & current)</p> <p>Salinity</p> <p>Temperature</p> <p>Light at seabed</p> <p>Oxygen at seabed</p>	<p>DDT</p> <p>PCB</p> <p>TBT</p> <p>TPT</p> <p>Oxytetracycline</p> <p>Mercury</p> <p>Cadium</p> <p>Lead</p> <p>Anthracene</p> <p>Fluoroanthene</p> <p>Cs137</p> <p>Pu239</p> <p>Nitrogen (Din, TN)</p> <p>Phosphorus (DIP, TP)</p> <p>pH, pCO₂, alkalinity</p> <p>O₂, CO₂</p> <p>Polyethylene</p> <p>Polypropylene</p> <p>Chlorophyll</p> <p>Silicates</p> <p>Organic Matter</p> <p>Marine litter / microplastics</p> <p>10-y running</p>	<p>Biomass</p> <p>Abundance</p> <p>Gridded</p> <p>Abundance (DIVA)</p> <p><i>species groups</i></p> <p>phytoplankton</p> <p>zooplankton</p> <p>angiosperms</p> <p>macro-algae</p> <p>invertebrate</p> <p>bottom fauna</p> <p>birds</p> <p>mammals</p> <p>reptiles</p> <p>Fish</p> <p>Temporal evolution in species distribution and abundance</p>	<p>Waves</p> <p>Water temperature</p> <p>Water salinity/conductivity/density</p> <p>Currents</p> <p>Light attenuation/fluorescence</p> <p>Sea level</p> <p>Wind</p> <p>Underwater noise</p> <p>River</p> <p>Ice</p>	<p>Aggregate Extraction</p> <p>Dredging</p> <p>Fisheries</p> <p>Hydrocarbon Extraction</p> <p>Main Ports</p> <p>Mariculture</p> <p>Ocean Energy Facilities</p> <p>Pipelines and Cables</p> <p>Protected Areas</p> <p>Waste Disposal</p> <p>Wind Farms</p> <p>Vessel density maps</p> <p>Other Forms of Area Management / Designation</p>

Get started

Search over 150 data sets, services and maps,

Search ...



Browse by topics



Biota
36



Oceans
35



Boundaries
35



Utilities communication
15



Environment
6



Geoscientific information
3



Economy
3



Planning cadastre
2



Elevation
1



Transportation
1



Intelligence military
1

Browse resources



Dataset
113



Series
32



Service
5

Latest news

Most popular



World Marine Heritage Sites
Dataset



world_countries_coasts
Dataset



world_estuary_delta
Dataset



World Bays, Gulfs, Lagoons, Inlets, Coves, Fjords, Creeks,
Dataset




SeaVoX - Sea Areas Polygons (v16, 2015)
Dataset



OSPAR Regions
Dataset



OSPAR Boundaries
Dataset



North America Coastal Water Bodies
Dataset



Global Biogeochemical Provinces (Longhurst)
Dataset



EMODnet



European Marine
Observation and
Data Network

Central Portal Map Viewer

Home About Data Portals Data Products **Map Viewer** Submit Data Checkpoints News & Events

Map configuration

Background: OpenStreetMap

Active Layers (1) Catalog

Search layer catalog

EMODnet Bathymetry

- Coastal Areas
- Depth contours
- Mean depth full coverage with land coverage
- Mean depth in multi colour
- Mean depth rainbow colour ramp
- Source references

EMODnet Biology

EMODnet Chemistry

EMODnet Geology

- Coastline migration
- Stratigraphy
- Submarine Slides
- Aggregate Deposits
- Aggregate Deposits Points
- Cobalt rich ferromanganese crusts
- Cobalt Rich Ferromanganese Crusts Points
- Evaporite Deposits
- Gas Hydrate Deposits
- Hydrocarbon Reservoir
- Lithology
- Marine Placer Deposits
- Marine Placer Deposits Points



www.opensealab.eu



COMPETITION

15-16-17th November,
Antwerp

Workshops & Data Competition



imec



EMODnet
European Marine
Observation and
Data Network



EMODnet



Outlook

- ⦿ Increased # parameters & more/higher resolution products
- ⦿ Further development of Central Portal Data Services
- ⦿ Rebranding and revamping – increasing **Coherence**
- ⦿ Supporting **EOOS** – Conference and joint actions
- ⦿ Alignment between **EMODnet-MARATLAS**
- ⦿ Engagement with private sector – **EMODnet for business**
- ⦿ Increase international relevance – **EMODnet for global**
- ⦿ More provision of webservice - **Interoperability**
- ⦿ Support and Services for data holders to share their data –
Data Ingestion
- ⦿ Alignment with **other initiatives** – CMEMS, Blue Cloud, .10.



EMODnet



The European Atlas of the Seas

- ⦿ An interactive geographic web portal published by EC/DG MARE.
- ⦿ Indented for anyone seeking for marine information, the Atlas provides an easy access to a large catalogue of maps and statistics.





A single user interface

EUROPEAN ATLAS OF THE SEAS

European Commission Language: English (EN) Help Feedback Legal notice

Map

Map projection: Mercator (Arctic available)

Map content: Thematic Map, DIY Map

Layers selection: Clear all layers

Traffic of passengers by port (Opacity: 1)

Ferry routes (Opacity: 1)

TIMESLIDER

Measurement, Print, Select Base map

Legend

Traffic of passengers by port

- < 1500
- 1500 - 6000
- 6000 - 15 000
- > 15 000

Ferry routes

- Seasonal
- All year

© EuroGeographics. Original product is available for free at www.eurogeographics.org Terms of li... esri



EMODnet



European Marine
Observation and
Data Network

An aggregator of accurate info/maps (>100 to date)



Selected among key EU bodies & initiatives

- ① EC DGs (MARE, ENV, ...)
- ① EMODnet
- ① European agencies (EEA)
- ① Eurostat
- ① Joint Research Center

Covering a wide range of marine related topics:

- ① Aquaculture and fisheries
- ① Coastal tourism
- ① Integrated maritime surveillance
- ① International Ocean Governance
- ① Marine knowledge
- ① Maritime spatial planning
- ① Nature - Environment
- ① Ocean energy
- ① Seabed mining
- ① Socio-economics
- ① Transport



EMODnet




European Marine
Observation and
Data Network

The European Atlas of the Seas

11 thematic composed maps + a create/share/export mode

- Europe
- Tourism
- Nature
- Passenger transport
- Energy
- Wind
- Security
- Sea level rise
- Sea bottom
- Fisheries
- Fish consumption

Energy

 http://ec.europa.eu/maritimeaffairs/atlas/maritime_atlas/#lang=EN;p=w;bkgd=5;theme=73:1,120:1,88:1,89:1





@EMODnet
www.emodnet.eu

Your gateway to marine data in Europe