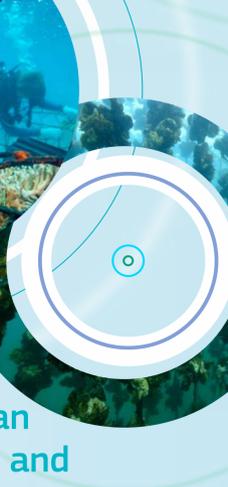




# European Marine Observation and Data Network and EU aquaculture: A Win-win collaboration



## What is the European Marine Observation and Data Network (EMODnet)?

EMODnet is free

- The **marine data service** that supports the integrated maritime policy of the European Commission's Directorate-General for Maritime Affairs and Fisheries (DG MARE).
- Provides open access to **high-quality pan-European marine data**, metadata and data products from the marine environment and human activities at sea.
- EMODnet supports the **aquaculture sector** and wider **Blue Economy** in their diverse data needs and requirements for planning, operations and environmental impact assessments.

Data collection and monitoring is a key area for further work identified in the European Commission's [Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021-2030](#). Collecting accurate data is necessary to ensure the appropriate planning of aquaculture activities and to assess and monitor the social, economic and environmental performance of the EU's aquaculture sector. Transparency and data reporting is also important for maintaining the trust of consumers and other stakeholders in the sector.

### Who uses EMODnet?



- Researchers, scientists and universities
- Regional, national and EU authorities and policymakers
- Industry and private enterprises (Blue Economy)
- Society (NGOs and citizens)

### Where does EMODnet data come from?

- EMODnet includes over 120 public and private organisations with **experts in marine data** management, data ingestion, data and web services.
- Europe's ocean observing and data collection efforts provide a diverse range of **in situ data** taken by in-water surveys, sourced from research institutes, public authorities, the private sector, NGOs and citizen science.
- Together with data collectors and providers, EMODnet assembles and processes the **in situ** data according to **European** (e.g. INSPIRE) and **international standards**, making freely available data layers and data products.



**EMODnet:** Collect data once and use it many times!

By integrating Europe's ocean observation efforts, EMODnet saves EU Member States and the Blue Economy costs in data collection, while opening new opportunities for innovation and growth!

## EMODnet's seven data themes

Data covers seven thematic groups, all of which are accessible in one central map viewer for discovering, visualising and downloading data all from one place.

### Bathymetry

View and download datasets of European water depths and sea-floor topography, including the harmonised Digital Terrain Model data product.

### Biology

Discover Europe's unique marine biodiversity through maps and data on species and biomass distribution from phytoplankton to marine mammals, and via data products.

### Chemistry

Access quality-controlled data on the concentration of nutrients, organic and pollutants in European seas, including the EU marine litter database.

### Geology

Learn about harmonised survey data on seabed substrates, sea-floor geology, coastal behaviour, mineral resources, geological events and probabilities.

### Human activities

Explore datasets that cover 20 different themes on the intensity and extent of human activities along Europe's coasts and at sea from shipping and vessel density, mining and waste disposal, to energy, aquaculture, cultural heritage, and European Member State Maritime Spatial Plans.

### Physics

Investigate data on salinity, temperature, waves, winds, currents, sea level, water turbidity, ice coverage, river outflow and underwater noise.

### Seabed habitats

Find out about European seabed habitats through data, maps and the EUSeaMap broadscale seabed habitat data product.

## What does EMODnet offer the aquaculture sector?

EMODnet's high-quality baseline marine data supports the aquaculture sector in terms of farm management, well-being of marine life and sustainable exploitation of living resources, advancing the sector's efforts to build resilience, sustainability and competitiveness, while supporting green transition and stimulating innovation.

### Access to FAIR (findable, accessible, interoperable, reusable) data

EMODnet's reliable *in situ* data provides Member States and the aquaculture sector with knowledge and information to:

- Support planning, management and decision-making
- Select optimal farm sites
- Monitor changing conditions in the marine environment
- Increase predictability of production cycles
- Carry out environmental impact assessments
- Avoid hazards and risks

## Marine data dialogues

### Aquaculture workshops

In 2020 and 2021, EMODnet collaborated with EATIP and Copernicus Marine Service to organise two online workshops, raising awareness about the wealth of marine data made available to support EU aquaculture and to promote opportunities for data sharing in the sector.

[Marine Data to Support Aquaculture in the North Atlantic \(20 October 2020\)](#)

[Marine Data to Support Aquaculture in the Mediterranean and Black Seas \(24 March 2021\)](#)

Click on the link to watch the short video "[EMODnet for aquaculture](#)"

### European Atlas of the Seas

EMODnet also powers the [European Atlas of the Seas](#), an interactive tool that allows users to explore, collate and create their own marine maps. It's ideal for school projects, researchers and professionals. Each week, the Atlas features a new map for exploration, including themes related to [aquaculture](#).

## Use cases for aquaculture

### Human Activities

Maps of shellfish, finfish and freshwater production provide insights into the **distribution, density and health of marine populations**. Integrating maps of production into decision-making processes can enhance efficiency, sustainability and overall success of the aquaculture sector in farming operations.



### Chemistry

Data layers of **oxygen, chlorophyll-a, nutrients, marine contaminants** and more are invaluable tools for managing and reducing potential risks associated with water quality. Integrating maps of marine contaminants into operations helps to proactively manage environmental risks, ensure product safety and maintain the sustainability of farming operations.

#### Marine contaminants



Heavy Metals - Lead

Pesticides and biocides - DDT-DDE-DDD

### Bathymetry

By incorporating **bathymetry data and Digital Terrain Models** into their decision-making processes, the aquaculture sector can enhance site selection, infrastructure design, environmental sustainability and overall operational efficiency.



Mean depth

### Physics

Aquaculture is exposed to water **temperature fluctuations, ocean acidification, water currents and extreme events**. Integrating maps of physical parameters into operations helps to proactively manage environmental risks, ensure animal safety and maintain the sustainability of farming operations.



Temperature

Salinity

Wind

Explore the full EMODnet data offer on the [EMODnet Catalogue](#).



## How can aquaculture contribute to EMODnet?

EMODnet encourages the aquaculture sector to contribute its own data to fill gaps regarding the extent and intensity of finfish, shellfish and algae farming in Europe.

In return, the aquaculture sector will benefit from a more transparent representation of its access to marine and coastal space, as well higher quality datasets relevant to its own needs.

Learn how you can contribute through the [EMODnet Data Ingestion Portal](#).

## Want to learn more?

Explore [EMODnet](#) and see what it can do for you!



[emodnet.ec.europa.eu](http://emodnet.ec.europa.eu)

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