

EMODnet: An EU asset powering Marine Data Services in Europe and beyond

CALL TO ACTION

The European Marine Observation and Data Network (EMODnet)¹ is an established European Commission *in situ*² marine data service, and a flagship initiative funded by DG MARE¹. Complementary to Copernicus Marine, EMODnet is one of the main Marine Knowledge Initiatives of the European Union.

EMODnet's key assets include:

- Trusted FAIR³ pan-European data layers from the marine environmental and human activities domains⁴, published with associated metadata, aggregated from Europe's diverse *in situ* ocean observation capability⁵ and key actors in the marine data pipeline⁶ ;
- Open⁷ marine data products, metadata and services produced for European regional seas and beyond, many of which are unique EU assets in terms of coverage and resolution e.g., the EUSeaMap broad-scale seabed habitat map, EU Digital Terrain Model for harmonised bathymetry, pan-European Marine Litter Database, Vessel Density composite maps, etc.

Over the last 15 years, **EMODnet has evolved into a fully operational, unified and seamless data service** and knowledge base, **upon which thousands of diverse users depend, including:**

- **Marine and environmental research communities;**
- **EU Policy makers, in the Commission and the Member States;**
- **Blue Economy stakeholders**, including off-shore energy, shipping, aquaculture, environmental management Maritime Spatial Planning (MSP), and more;
- **Regional stakeholders**, including Regional Sea Conventions;
- **The Copernicus Marine Service;**
- **The EU Digital Twin Ocean (DTO);**
- **Global stakeholders and initiatives**, including the UN Ocean Decade⁸ and UN 2030 Agenda⁹;
- **Ocean Literacy actors** in Europe and beyond.

EMODnet will continue to evolve through well-identified opportunities on the way to 2035:

- Expanding and consolidating EMODnet's offer as the European focal point for *in situ* data, data products and services for the ***Ocean, land-sea interface and, when possible, inland waters***;
- Emphasizing EMODnet's core role for *in situ* marine knowledge, ***supporting establishment of the European Ocean Observing System, and development of the EC Ocean Observation initiative***;
- Consolidating EMODnet as an authority for interoperable *in situ* marine data services and infrastructures, ***driving innovation for the EU Digital Twin Ocean DTO***;
- Consolidating European marine data service ***community resources, best practices and standards***;
- Leveraging EMODnet's interoperable marine data/metadata in the ***global ocean data ecosystem***.

¹ emodnet.ec.europa.eu

² *In situ* ocean observations (including marine monitoring and wider data collection) are sampled directly in the water/air/sea-floor, not from satellites. In specific data products where satellite-derived data are used, data are primarily sourced from the Copernicus Programme.

³ Findable, Accessible, Interoperable and Reusable (FAIR), as published by Wilkinson et al., 2016: [nature.com/articles/sdata201618](https://www.nature.com/articles/sdata201618)

⁴ EMODnet offers marine data, data products and services across seven broad thematic, i.e. bathymetry, biology, chemistry, geology, human activities, physics, seabed habitats, collectively delivering hundreds of parameters.

⁵ Public research ocean observations, operational oceanographic platforms and research infrastructures, to regulatory monitoring, private sector operations, civil society e.g., Non-governmental organisations and citizen science.

⁶ National, Regional and European data infrastructures, data management centres, data networks, etc

⁷ Published under open data licenses

⁸ UN Ocean Decade of Ocean Science for Sustainable Development oceansdecade.org

⁹ un.org/sustainabledevelopment/development-agenda

To continue delivering on the aforementioned, and expand services to address the needs of the Green and Digital Transitions, EMODnet requires community and political action to ensure sustainability and resources appropriate for a fully functioning, operational service of the European Commission. **We, the EMODnet community, call on:**

EMODnet partners, associated partners and collaborators:

- To collectively deliver an **EMODnet Vision to 2035**, enabling a full and expanded function of EMODnet, fit for the European and Global ocean data ecosystem;
- To fully engage with EMODnet's contributions to **EU marine data spaces and the EU Digital Twin Ocean**, in close collaboration with Copernicus Marine Service;
- To further support the EC in its **EC Ocean Observation Initiative and work towards a sustained and optimised marine data and ocean knowledge value-chain¹¹** ;

EU agencies and authorities:

- To take forward the conclusions of the recent EMODnet evaluation and to assess the appropriate resources for EMODnet, **ensuring it can operate at full functioning levels to meet current and emerging user needs and requirements;**
- To assess how EMODnet can further strengthen its service for EU Policy, **through enhancing its role in the regulatory monitoring data pipeline, including for European Directives and Ocean assessments;**

Regional marine data services and regional initiatives: To further optimise the marine data flow from Regional Sea Conventions, International Council for the Exploration of the Sea (ICES) and others into EMODnet, and the use of EMODnet data and data products in Regional Assessments;

EU Member States and Associated Countries: To work with EMODnet, in collaboration with European actors e.g., JPI Oceans, European Marine Board, EuroGOOS, Research Infrastructures and EOOSS governance structures to establish EMODnet National networks, increasing National visibility and uptake;

Europe's marine and maritime community: To share *in situ* marine data and data products with EMODnet as a long-term EC marine data service, and fully utilise EMODnet for their marine knowledge needs e.g., EU Horizon Europe and EU Mission Restore our Ocean and Waters, also establishing EMODnet as a core pillar of ocean knowledge for ocean, water and climate literacy, in collaboration with the European Atlas of the Seas¹² and EU4Ocean for ocean, water and climate literacy;

Global and regional ocean data and information services: To continue to expand the data provision to EMODnet, including the deep ocean, to optimise the harvesting of EMODnet in global repositories and catalogues, including the Global Earth Observation System of Systems (GEOSS)¹³, the IODE IOC/UNESCO Ocean Data and Information System (ODIS)¹⁴, the IOC/UNESCO Ocean Biodiversity Information System (OBIS)¹⁵ and the GOOS/IODE Ocean Best Practices System (OBPS)¹⁶ and to foster EMODnet and other regional data service collaboration to deliver global ocean data interoperability, data sharing and stewardship for OceanData2030¹⁷ and the UN Ocean Decade.

This Call to Action was launched at the 3rd EMODnet Open Conference, 29-30 November 2023 in Brussels, where the EMODnet community and wider marine knowledge stakeholders gathered to discuss EMODnet's critical and expanding role in "Powering the European Marine Data Ecosystem: For a digital and green future"; together with its increasing global impact and evolution. Combined with further stakeholder consultation in 2024, it will be used as a basis to develop an EMODnet Vision to 2035 Document, to be delivered by the end of 2024.

¹⁰EC evaluation of EMODnet, SWD(2023)281: ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/1538-Evaluation-of-EMODnet_en

¹¹EuroGOOS Conference statement eurogoos-conference2023.marine.ie; EurOCEAN 2023 Vigo Declaration eurooceanconferences.eu/vigo-declaration; EuroSea Declaration eurosea.eu/download/eurosea-declaration-on-ocean-observing-and-forecasting

¹³geoportal.org

¹⁴IODE IOC/UNESCO ODIS <https://odis.iode.org>

¹⁵obis.org

¹⁶oceanbestpractices.org

¹⁷oceandecade.org/actions/an-ocean-data-and-information-system-supporting-the-un-decade-of-ocean-science-for-sustainable-development-oceandata-2030



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