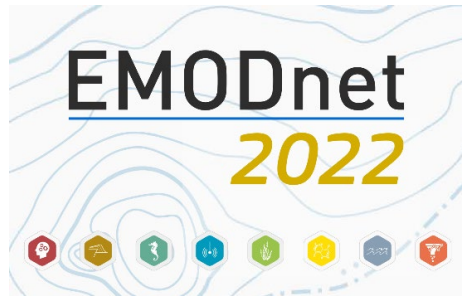


2022: marking the start of a new phase



Dear EMODnet partners, users, colleagues and friends,

As we do each year at the beginning of a new calendar year, we invite you to take a moment to reflect with us on the previous year past, to collectively consider EMODnet's main achievements of 2021 and look forward to what the coming year will bring for our growing network of data providing partners, implementers and users. This is a good time to do so as a lot of progress has been made over the past few years and more is on the horizon, as new vision objectives will drive EMODnet to adapt to the evolving needs of those who rely upon the resources and services we provide.

A closer look back

Following the 10 years' anniversary of EMODnet in 2020, we came together in 2021 to reflect on the achievements and highlights over the past decade during the [EMODnet second Open Conference and Jamboree](#). More than 400 participants from 50 countries and over 70 speakers and panelists gathered online for the 3-day Conference! Download the [Conference report](#) and **relive the moment** with us in this short Conference [video](#). The timing for this event could not have been better, with 2021 as a 'super year' for ocean, biodiversity, ecosystem, environment and climate with the official kick-off of the UN Decade of Ocean Science for Sustainable Development, the 47th G7 Leaders' Summit, related Climate & Environment Ministers meetings and Science & Technology dialogues.

This event was also important as it marked the **end of an era and the beginning of a new one** as the EMODnet partnership collectively met the EC Marine Knowledge 2020 vision targets, i.e. producing a seamless multi-resolution digital seabed map of European waters by 2020 of the highest resolution possible, covering topography, geology, habitats and ecosystems; accompanied by access to timely observations and information on the present and past physical, chemical and biological state of the overlying water column, by associated data on human activities and by their impact on the sea. More than that, in 2021, the **EMODnet Central Portal became fully embedded into the ec.europa.eu domain**, reinforcing the clear connection between EMODnet and the EU family and setting the stage for the developments to come.

New products and services

2021 saw the end of the third phase of development for all of the EMODnet projects, which delivered a wide range of new and updated datasets and data products across hundreds of parameters, spanning seven thematic areas of the marine environment and human activities as well as data ingestion facility to help data holders to unlock their data. Let me share some key examples. In early 2021 the latest [EMODnet Digital Terrain Model \(DTM\) for the European Seas](#) from **EMODnet Bathymetry** was released as an update from previous versions, including new data and improvements following expert inputs. **EMODnet Seabed Habitats** released its newest version of the [EUSeaMap 2021](#), with an updated, higher resolution seabed substrate layer from the **EMODnet Geology** project, the inclusion of a biogenic substrate class and

attribution in five different classification systems. It is available in three European-wide classification systems (EUNIS habitat classification 2007, EUNIS marine habitat classification 2019 and MSFD Benthic Broad Habitat Types), and two regional classifications (HELCOM Underwater Biotopes in the Baltic and Barcelona Convention habitat types in the Mediterranean). **EMODnet Chemistry** released new [Eutrophication maps](#), based on new data collections as input, and developed to support the evaluation of the state of the eutrophication of the European sea basins.

EMODnet Biology demonstrated what can be done by combining marine biodiversity and ocean physical and biogeochemical data, information and knowledge by developing [proof of concepts](#) including on the potential vulnerability of commercial shellfish species to ocean acidification. Two years after the first release of the algae production dataset, **EMODnet Human Activities** complemented this with [new data on spirulina production](#). This was the result of a very fruitful cooperation between the thematic portal, the European Joint Research Centre (JRC) and EMODnet Data Ingestion. **EMODnet Geology** released, among others, an updated [Sea Floor Geology](#) product, with new datasets on earthquakes, submarine landslides, volcanoes, tsunamis, fluid emissions and Quaternary tectonics in seas surrounding European countries. For this product, EMODnet Geology partners extended the geographical coverage, integrating data from neighbouring countries so that the product extends from Iceland to Turkey, including the Caspian Sea. **EMODnet Physics** continuously updated its [products](#) throughout the project phase for all of its parameters ranging from temperature and salinity to underwater noise, river flow and sea level, in collaboration with European research infrastructures, EuroGOOS and wider data producers.

Besides datasets and products, a number of thematic groups developed tools for users to facilitate exploring the available data and products. For example, **EMODnet Chemistry** developed the [webODV tool](#), designed to facilitate exploration, visualisation and extraction of datasets in multiple formats. The Products widget on the **EMODnet Physics** Homepage leads to a new [product landing page](#) providing an overview of all data products available in Physics. The full EMODnet offer was also published in an updated EMODnet data and data product [portfolio 2021](#) spanning all thematics and outlining the latest data services and web services of the EMOD-network.

2021 also marked the end of the second phase of **EMODnet Data Ingestion**. At the end of the phase, there were 1.071 data submissions, ranging from single datasets to large integrated data from publicly funded research, the private sector, civil society and citizen science.

EMODnet's expanding number of datasets continue to power the EC DG MARE [European Atlas of the Seas](#). EMODnet remains the main data provider of this important data visualisation, web-mapping and ocean literacy tool which now contains almost 300 maps, with content available in the 24 official EU languages. To further improve the accessibility and usability of the Atlas, a new version (version 7) was released in April 2021, with improvements to the legends, the inclusion of layer labels indicating new or updated layers, and optimised visualization of data layers at small spatial scales. User visits to the European Atlas of the Seas continue to increase yearly, and in fact doubled in 2021 compared to the previous year.

Extending our network and reaching new communities

EMODnet continues as a user-driven service, used by a wide range of stakeholders. This is demonstrated in a [series of eight videos](#), which were released one by one throughout 2020 and 2021, illustrating the **fundamental role of EMODnet in society**.

EMODnet continued to dedicate special attention to the **needs of businesses and the Blue Economy** as a key user community with multiple sectors, many of which are still less familiar with the wealth of marine

data and resources provided free of charge by EMODnet. For this reason, EMODnet organised a series of events and a workshop focused at the private sector, including the workshop “Ocean Observation and Marine data for the Blue Economy” delivered to over 400 registered participants at European Maritime Day 2021. The workshop focused on exploring the value of ocean observation and marine monitoring for the blue economy, from the perspectives of marine and maritime industry, port authorities and government agencies. EMODnet also teamed up with the European Aquaculture and Technology Platform (EATiP), Copernicus Marine and the EC to deliver two virtual **workshops on the topic “Marine data for Aquaculture”** to demonstrate the EMODnet and Copernicus services, and to encourage the aquaculture sector to both use and produce more marine environmental data for their operations, that can be shared with EMODnet and Copernicus as key EU marine data services. The EC Marine Knowledge Expert Group (MKEG), which consists of marine and maritime stakeholders, with a focus on the Blue Economy also met twice in 2021 to provide feedback on EMODnet status, recommendations for future developments, and on related projects and initiatives (e.g. the EC Ocean Observing: Sharing Responsibility initiative for which EMODnet co-organised an [expert workshop on ocean observation on 18 June 2021](#), in collaboration with EC DG MARE, European Marine Board, EuroGOOS and Marine Research Infrastructures).

Moreover, in 2021 we were delighted to welcome new EMODnet [Associated Partners](#) such as [Cerema](#) and [develogic GmbH](#). We call upon you all to continue informing us of potential organisations, associations or companies that might be interested in this opportunity.

Finally, at the global level EMODnet has continued to contribute to **international initiatives**, among others in support of the [UN Decade of Ocean Science for Sustainable Development](#), the [International Oceanographic Data and Information Exchange \(IODE\) programme of IOC-UNESCO](#) and more. More concretely, via the **EMOD-PACE project (EMODnet Partnership for China and Europe)**, several key EMODnet implementors have been engaging with colleagues from the Chinese National Marine Data and Information Service (NMDIS) to (i) exchange best practices on ocean data management and sharing; (ii) develop interoperable data sharing solutions; (iii) evaluate European and Chinese methods for ocean circulation (forecast) modelling, seabed habitat mapping and environmental carrying capacity assessments; and (iv) develop joint products relevant to coastal adaptation. The results of these efforts are made available via the [EMODPACE website](#) under the EMODnet Central Portal.

As we are moving into the second year of the **UN Ocean Decade for Ocean Science**, in 2022 we expect to collectively step up the coordination of our network’s involvement in the various Decade Actions and as contributors to the Ocean Decade Data Coordination Platform which will develop and implement a strategy towards a global digital ecosystem underpinning the Ocean Decade’s objectives. We will also further strengthen our collaboration with other key marine data infrastructures in Europe including the Copernicus Marine Service, Marine Research Infrastructures, Regional Sea Conventions and many others.

EMODnet 2022 and a vision for the future

The **vision for the next phase** of EMODnet is clear: to (i) consolidate EMODnet as the EU operational service for open and FAIR access to *in situ* observations, data and products and as key contributor to the marine data space in Europe and beyond; and (ii) focus further developments to serve the future needs of all marine and maritime sectors as a critical marine service supporting the EU Green Deal and Digital Agenda envisaged transitions in Europe and globally. This also means underpinning the development of the EU Public Infrastructure for a European Digital Twin of the Ocean, as a key component towards Destination Earth (DestinE), and contributing to the UN Decade of Ocean Science by offering EMODnet as

a resource for co-developing and co-implementation of a global digital ecosystem in support of the Ocean Decades objectives.

As a first step towards this, access to **EMODnet data resources and services are being centralised** and all thematic websites and portals will be incorporated into the EMODnet Central Portal. This will create economies of scale and allow us to work more efficiently, and most importantly will further simplify the user experience. EMODnet will remain a distributed infrastructure and the EMODnet thematic nodes will become even more important to underpin the service by identifying, assembling and harmonising data sets, executing quality control and data adequacy analysis, facilitating the data ingestion process and creating data products and services which will be increasingly demand driven. These developments will take time and considerable efforts, but will make EMODnet more user-friendly and fit-for-purpose, adapting to the needs and requirements of tomorrow's data and information consumers, be it from science, public services, policy, civil society or other. The work to move the thematic data services to the EMODnet Central Portal as a single point of access for searching and downloading data and products from the EMODnet network started in 2021 and is expected to be completed within 2022.

The centralisation and technical developments will go in parallel with **continued efforts to increase the visibility and use of EMODnet resources**, provision of trainings and dedicated workshops for selected blue growth sectors which heavily rely on fast access to reliable ocean data. We are particularly excited to announce that, later this year, we will kick-off the **third edition of the EMODnet Open Sea Lab**, with the main event to take place in early 2023! On the agenda will be new and exciting challenges, new collaborations and attractive prizes. [Watch this space](#) to stay informed and get involved!

And before that, EMODnet will take part and contribute to **key external events** including the launch of the new phase of [Copernicus Marine](#), the [One Planet Summit for the Ocean](#), the [International Ocean Data Conference](#), [European Maritime Day 2022](#), the [UN Ocean Conference 2022](#) and much more.

In 2022, the EMODnet Secretariat will also continue to provide support to EC DG MARE's activities related to ocean observation, and in particular the [EC Ocean Observation – sharing responsibility initiative](#) which was launched in 2020 to explore the options, viability and usefulness of using the instruments at the disposal of the European Commission to strengthened coordination at national level across marine and coastal data collection efforts.

In conclusion, dear colleagues and friends, **EMODnet is at a pivotal point in time**. Over the past decade it has transitioned from its development phases, evolving from a series of prototype thematic data portals into a mature data service that has achieved its Marine Knowledge 2020 Vision Objectives. It now provides a fully operational and user-driven data service embedded in the Europa.eu domain. This advancement comes with new responsibilities, more stringent performance and quality requirements and a set of new challenges. What is clear is that while all thematic data, products and services will remain and even be further expanded in terms of coverage, resolution and functionalities, EMODnet will change considerably over the coming years: it will look, feel and operate differently. This is a necessary evolution if we want to remain relevant and useful. This is the beginning of a new Chapter which we can only successfully navigate if we continue working together as a partnership with shared objectives. We count on you!

We wish you all a fruitful, happy and healthy 2022 and look forward to working with you in the year(s) to come.

Jan-Bart Calewaert, Head of the EMODnet Secretariat

The EMODnet Secretariat Team