



MARITIME FORUM

EMODnet Secretariat progress update – 1st Quarter 2022

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This report provides an update of EMODnet progress accumulated over the first quarter of 2022, and is based on the quarterly progress reports of the different EMODnet projects currently running (i.e. seven thematic lots, and one Data Ingestion facility) supplemented with updates from the EMODnet Secretariat. The summary below constitutes the first update since the start of the EMODnet Centralisation Phase (2022-2023) and refers to all activities developed within EMODnet for the period January-February-March 2022.

EMODnet progress overview

Common progress highlights

This progress update covers the first quarter of 2022, at the same time marking the beginning of a new two- to four-year work plan of the EMODnet Secretariat.

EMODnet Secretariat focused on rolling out its new work plan and preparations for the 16th EMODnet Steering Committee and 11th Technical Working Group meetings, which were held on 26-28 April 2022. Both meetings were hybrid events, taking place at the InnovOcean site in Ostend and remotely.

The EMOD-network attended and actively contributed to several important events during the first quarter of 2022. Among others, EMODnet was well represented at the IODE International Ocean Data Conference (14-16 February 2022), organised by IOC/UNESCO and held in Sopot (Poland). The EMODnet Secretariat also attended the Copernicus Marine Service 2021-2028 Kick-off event (17 February, online) and the European Ocean Observing System (EOOS) Technology Forum 2022 (22-24 March, online).

EMODnet welcomed a new associated partner, the [Cyprus Marine and Maritime Institute \(CMMI\)](#) [1]. Among CMMI's priorities is to provide rapid data access and sharing, working with EMODnet, to a wide range of potential users—from academic, industrial, and governmental communities—improve services, facilitate research and innovation, and enhance the development of EU policies and legislation.

In the reporting period, six [use cases](#) [2] were published on the Central Portal covering the thematic Physics, Biology, Seabed Habitats and Chemistry.

Specific progress and achievements of the thematic data assembly groups

- The data population phase for **EMODnet Bathymetry** is nearly finished. The pre-gridded bathymetric datasets are now being brought together by the respective regional coordinators, which evaluate and select the most relevant datasets for updating existing areas or for covering gaps in the current Digital Terrain Model (DTM). Regional coordinators are expected to provide the results of their updated regional compilations around summer 2022 to partner GGSGc who will then have several months to integrate all the regional components into the full DTM product.
- **EMODnet Biology** continued working on exploring citizen science platforms for rescuing historical data through citizen science. Two platforms - Zooniverse (<https://www.zooniverse.org/> [3]) and DoeDat (<https://www.doedat.be/> [4]) - were selected according to set criteria. Discussions with the technical coordinators of those platforms took place to set and test the backbone workflows. The final selection of appropriate datasets will be done in the next step. During the reporting period, two data harvests were completed, bringing the total number of available occurrence records to 29,7 million originating from a total of 1,213 datasets. During the EMODnet Biology annual work package 3 workshop, significant progress was made on the EMODnetWFS R package (<https://github.com/EMODnet/EMODnetWFS> [5]) - the package remains in active development as more functionality is added and issues are addressed.
- **EMODnet Chemistry** registered a steady increase in the data (ca 18.000 datasets) delivered via its portal. Some data sets were enriched with new metadata with information about the instrument, the platform and monitoring purposes. Also noteworthy, the thematic group also released an updated beach litter dataset (2015-2020) to the EU MSFD Technical Group on Marine Litter. Web content wise, they extended their “About” and “Promotion” sections by adding two new guidelines, two new reports, project meetings, six pieces of news, three presentations and one new use case. EMODnet Chemistry will be used by HELCOM for the beach litter assessment of 2020 and 2021 in their area.
- The first quarter of 2022, **EMODnet Geology** welcomed new data deliveries from various partner countries for the different work strands, which will be added to the different data products on the web portal. Subcontracts with Caspian Sea organisations have not yet been made due to the situation in Ukraine; fortunately, EMODnet Geology managed to receive a lot of data from the Caspian Sea at the end of the previous contract in September 2021 which have already been incorporated in the main data products.
- **EMODnet Human Activities** is preparing a new version of the vessel density map methodology which will be uploaded to the Central portal. The thematic node maintains ongoing contacts with national authorities from Finland, Sweden, Romania, Croatia and Slovakia to improve the coverage of the shellfish dataset with at least data from the main freshwater aquaculture producers (e.g., mainly Italy and Romania).
- **EMODnet Physics** updated and published a data product on river outflow and three products on sea level. In the reporting period, three additional machine-to-machine connections were made: (i) Norway and France were linked in the operational river outflow product; (ii) MELOA (Multi-sensor Extra Light Oceanography Apparatus) data project was linked, which is deploying drifting wave buoys; and (iii) preliminary data from the ARICE (Arctic Research Icebreaker Consortium) project are now linked in the EMODnet Physics Catalogue.

- **EMODnet Seabed Habitats** managed to identify some available environmental layers for the Caspian Sea that are expected to be useful for EUSeaMap. The thematic has produced a new product for OSPAR, covering the northeast Atlantic and including individual habitat maps from surveys where they exist, and EUSeaMap elsewhere. The product is being used by OSPAR to assess the extent of physical damage to the seabed as part of its 2023 Quality Status Report. Four members from the EMODnet Seabed Habitats consortium have been accepted onto a new European Marine Board Working Group on Marine Habitat Mapping, which will produce a Future Science Brief in 2023, outlining recommendations on the future of habitat mapping in Europe.

EMODnet data portals usage

User visit statistics

User statistics (*i.e.* number of ‘unique’ page views and average visit duration) are collected through an EMODnet Matomo instance managed by VLIZ and is automated for the following progress/monitoring indicators: Visibility & Analytics for web pages; Visibility & Analytics for web sections; and Average visit duration for web pages (note that Matomo will gradually be replaced by ‘Europa Analytics’ as thematic portals are integrated into the Central Portal). The resulting graphs for each EMODnet thematic lot as well as the Central Portal can be viewed in the gallery at the end of this report. Unless stated otherwise, page views and visit durations are average per day and trends are compared to the previous quarter.

- The **EMODnet Bathymetry** Viewing and Downloading service and CDI webpages remain the most visited ones (on average 392 and 15 daily pageviews respectively).
- Decreasing trends in the average number of pageviews were observed for the various tracked **EMODnet Biology** pages. The most visited page was the Homepage (16), on which users on average spent 26 seconds. The How Can You Contribute webpage was on average the least visited one (1); the Atlas Product Mapper webpage was the page the users spent the least time on (9 seconds).
- The average daily pageview statistics for the **EMODnet Central Portal** website show that the Homepage was on average visited 82 times per day. The thematic entry-page received pageviews ranging from 3 (Chemistry) to 37 (Bathymetry). The daily average time spent on the Central Portal ranges from 28 seconds (News) to 2.3 minutes (Geology and Physics entry page).
- Globally, **EMODnet Chemistry**, had a major traffic decrease for all web pages and more especially for the Help page (from 308 to 2 average daily page views). The most viewed section is the “Homepage” with, on average, 41 daily page views. Users spent on daily average, between 11 (Help) and 56 seconds on the portal (Products).
- Overall, there was a decrease in web traffic for **EMODnet Geology**. The map viewer and Products page received the same amount of average daily pageviews (7), followed by the Services page (3). On those pages, users spent on average between 1.1 and 1.4 minutes per visit.
- Compared to the previous quarter, the web traffic for **EMODnet Human Activities** decreased. The webpages were visited daily on average between 2 (Documents) and 83 (View

Data) times. Users spent on average 1.7 minutes on the View Data webpage, and 25-26 seconds on the Homepage and View Data page.

- As for the previous quarter, the **EMODnet Physics** thematic recorded increases in the number of pageviews. On average, the Physics Map and Homepage received 27 daily pageviews, and users spent on average 1.4 minutes on this page.
- A downward trend was observed in the number of average daily pageviews for most of the **EMODnet Seabed Habitats** webpages. The Launch Map Viewer received the most pageviews (20), followed by the Homepage (14) and Download data (8). On the map viewer, users spent on average 1.6 minutes per visit, 25 seconds on the Homepage and 1 minute on the Download Data page.

Statistics on usage of EMODnet portals[1]

Number of data downloads[2]

- 45 users manually downloaded a total of 8,141 Common Data Index (CDI) datasets from **EMODnet Bathymetry**, constituting an increase compared to the previous quarter (461 CDIs by 31 users).
- **EMODnet Biology** data usage decreased during the reporting period by 25% (245 data download requests, compared to 328 previous quarter).
- The number of requests for CDIs decreased considerably (from 33,561 to 9535) for **EMODnet Chemistry**. The number of users is almost the same as the previous quarter (from 16 to 15 this quarter).
- Increases in manual dataset downloads were recorded for most of the **EMODnet Human Activities** subthemes. Among the most downloaded datasets were Natura 2000 sites (151), Main Ports: Goods, Passengers and Vessels (234) and Wind Farms locations (543).
- For all **EMODnet Physics** sub-themes, decreases were observed in the number of data download requests, ranging from -21% to -89%. The most popular sub-themes were temperature (1,087 download requests) followed by salinity (739) and atmospheric parameters (492).
- Of the **EMODnet Seabed Habitats** dataset “collection of classified points”, a similar number of records was downloaded compared to the previous quarter, i.e. 27,389,408 (compared to 27,389,692).

Number of data product downloads[3]

- In this quarter, 10,630 **EMODnet Bathymetry** DTM tiles were downloaded totaling a volume of 1.3 Terra Byte. This is a decrease compared to the previous quarter when more than 15,600 DTM tiles were downloaded. Slightly more HR-DTM files were downloaded (602 compared to 588).
- There were no data product downloads recorded for **EMODnet Biology**.
- **EMODnet Chemistry** saw a significant increase in map visualisations, especially the “silicates” product (increase of 533% compared to previous quarter). For the manual

downloads there is globally a slight increase (on average 30% increase), except for the "contaminants" and the "fertilisers".

- A total of 265 manual data product downloads was recorded for **EMODnet Geology**, which is 4 less than in previous quarter. The "seafloor" product was downloaded most often (52), the "substrate accumulation rate" product was downloaded the least (13).
- This quarter, an increase in the number of dataset downloads was recorded for **EMODnet Human Activities**. Of the "vessel density maps", 1993 dataset downloads were done; and of the "route density" maps, 620 dataset downloads were performed.
- Decreases were recorded in the number of data product map visualisation for most of the **EMODnet Physics** sub-themes. Map visualizations ranged from 135 (temperature) to 4 (underwater noise).
- A total of 96,702 dataset downloads was recorded for **EMODnet Seabed Habitat**. The most downloaded product was the "collection of classified maps", of which 94,549 datasets were downloaded. The least downloaded product was the "dissolved gasses" dataset (12).

Recent meetings and events

In the first quarter of 2022, most meetings and events continued to be organized online and/or attended remotely; though, several physical meetings starting to be organized as a physical or hybrid event. A few key meetings included the following:

- **EMODnet Bathymetry** attended a Seabed 2030 technical meeting (25 January) to share methodologies, and Oceanology International (15-17 March, London, United Kingdom) to discuss EMODnet Bathymetry FAIR principles and collaborate with industry.
- **EMODnet Biology** attended the Black Sea CONNECT Innovation Workshop (2 February) and the MarineLife2030 Co-design and Stakeholder Engagement meeting (4 February), and had a meeting with Trans Europe Marinas and European Boating Industry (17 February).
- **EMODnet Chemistry** organised two internal meetings and they attended nine others. They attended the IODE training on "Implementing the Ocean Data and information System (ODIS) architecture (25-29 October), ICES WGML (Working Group on Marine Litter) meetings (12 November & 21 December), the Virtual exhibition 'One Integrated Marine Debris Observing System (IMDOS) for a Clean Ocean (17-19 November), the "EUROSEA macroalgal workshop" (23-25 November) and some others also.
- **EMODnet Geology** attended an external webinar on the Baltic Sea (16 February), organised the INFOMAR seminar 2022 (21 February, Dublin, Ireland), and attended the FINMARI researcher Day (24 March).
- **EMODnet Human Activities** attended a Mediterranean OSMoSiS workshop (20 January) and a meeting on the summary of advances in the data gathering and analysis of Maritime Spatial Planning (28 March).
- **EMODnet Physics** attended the Copernicus Marine Service in-Situ Thematic Service Kick-off meeting (24 January), the Swedish Ocean Data Factory, which was a workshop on data availability (8 February) and had a periodic meeting with the Southern Ocean Observing System (SOOS) Data Management Steering Committee (1 March).

- **EMODnet Seabed Habitats** attended a stakeholder discussion for the “Urbanisation and Climate Change Adaptation in the Caspian Sea Region” project, organised the INFOMAR National Seabed Mapping Conference (21 February, Dublin, Ireland), and organised a web meeting with the Ecosystem Accounts Division of Centre Statistics Office Ireland (4 March).

Upcoming EMODnet meetings and events

The main EMODnet meetings planned for the coming period in 2022 are:

- For [European Maritime Day 2022](#) [6] (Ravenna, Italy, on 19-20 May 2022), EMODnet Secretariat is co-organising a stakeholder workshop on 19 May 2022 titled “Ocean Observation, Marine Data and Services for the EU Green Deal” in collaboration with the H2020 Blue-Cloud and EuroSea projects and the wider research community.
- This year, EMD2022 will also host the first European Ocean Literacy Summit on 20 May bringing together partners and wider practitioners from the marine and maritime community to showcase and celebrate achievements of the first two years of the EU4Ocean Coalition for Ocean Literacy with three key communities: The EU4Ocean Platform of marine/maritime professionals, the Youth4Ocean network of 16–30-year-olds and the European Network of Blue Schools.
- On 12 May 2022, EU marine data services EMODnet and Copernicus Marine Service are organising a joint webinar [7] to discuss the evolution of these key marine data services in the context of an all Atlantic and global ocean data space. The webinar is supported by the European Commission and in collaboration with the AANCHOR All-Atlantic Cooperation for Ocean Research and Innovation. The event is open and inclusive, intended for all interested stakeholders across the Atlantic Ocean Basin and beyond.

More information

More information about EMODnet’s resources is available at the following links:

- EMODnet Data and Data product portfolio: <https://emodnet.ec.europa.eu/en/data-portfolio> [8]
- EMODnet for Business brochure: <https://emodnet.ec.europa.eu/en/emodnet-business-brochure> [9]

Thematic portals

- EMODnet Bathymetry - www.emodnet-bathymetry.eu [10]
- EMODnet Geology - www.emodnet-geology.eu [11]
- EMODnet Seabed habitats - www.emodnet-seabedhabitats.eu [12]
- EMODnet Physics - www.emodnet-physics.eu [13]
- EMODnet Chemistry - www.emodnet-chemistry.eu [14]
- EMODnet Biology - www.emodnet-biology.eu [15]
- EMODnet Human Activities - www.emodnet-humanactivities.eu [16]

Data Ingestion Service

- Ingestion and safe-keeping of marine data - www.emodnet-ingestion.eu [17]

Sea-basin Checkpoints resources

For an overview of and access to information and outputs from each of the Sea-basin Checkpoints (projects ended), visit: <https://emodnet.ec.europa.eu/en/checkpoints> [18]

- North Sea checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/north-sea> [19]
- Mediterranean checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/medsea> [20]
- Arctic checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/arctic> [21]
- Atlantic checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/atlantic> [22]
- Baltic checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/baltic> [23]
- Black Sea checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/black-sea> [24]

[1] For portals which provided this information.

[2] Disclaimer: please note that percentages given can reflect small as well as large changes in the number of data and data product downloads. Note: Most thematic groups assigned reported decreases in the number of downloads to the COVID-19 situation and summer period. In most cases however it is difficult to provide an actual explanation for the downloading behaviour of users.

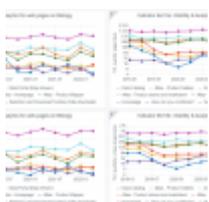
[3] Disclaimer: please note that percentages given can reflect small as well as large changes in the number of data and data product downloads. Note: Most thematic groups assigned reported decreases in the number of downloads to the COVID-19 situation and summer period. In most cases however it is difficult to provide an actual explanation for the downloading behaviour of users.



[25]



[26]



[27]



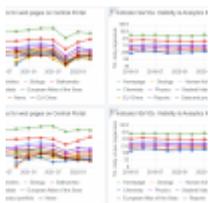
[28]



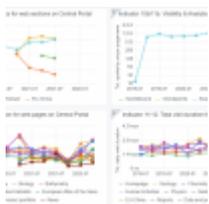
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[31]



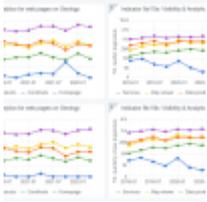
[32]



[33]



[34]



[35]



[36]



[37]



[38]

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Links

[1] <https://www.cmmi.blue/>

[2] <https://emodnet.ec.europa.eu/en/use-cases>

[3] <https://www.zooniverse.org/>

[4] <https://www.doedat.be/>

[5] <https://github.com/EMODnet/EMODnetWFS>

[6] https://ec.europa.eu/maritimeaffairs/maritimeday/news/register-now-european-maritime-day-2022-2022-03-31_en

[7] <https://emodnet.ec.europa.eu/en/eu-marine-data-services-emodnet-and-copernicus-marine-service-all-atlantic-and-global-ocean-data>

[8] <https://emodnet.ec.europa.eu/en/data-portfolio>

[9] <https://emodnet.ec.europa.eu/en/emodnet-business-brochure>

[10] <http://www.emodnet-bathymetry.eu/>

[11] <http://www.emodnet-geology.eu/>

[12] <http://www.emodnet-seabedhabitats.eu/>

[13] <http://www.emodnet-physics.eu/>

- [14] <http://www.emodnet-chemistry.eu/>
- [15] <http://www.emodnet-biology.eu/>
- [16] <http://www.emodnet-humanactivities.eu/>
- [17] <https://www.emodnet-ingestion.eu/>
- [18] <https://emodnet.ec.europa.eu/en/checkpoints>
- [19] <https://emodnet.ec.europa.eu/en/checkpoint/north-sea>
- [20] <https://emodnet.ec.europa.eu/en/checkpoint/medsea>
- [21] <https://emodnet.ec.europa.eu/en/checkpoint/arctic>
- [22] <https://emodnet.ec.europa.eu/en/checkpoint/atlantic>
- [23] <https://emodnet.ec.europa.eu/en/checkpoint/baltic>
- [24] <https://emodnet.ec.europa.eu/en/checkpoint/black-sea>
- [25] https://webgate.ec.europa.eu/maritimeforum/sites/default/files/bathy1_0.png
- [26] https://webgate.ec.europa.eu/maritimeforum/sites/default/files/bathy2_1.png
- [27] <https://webgate.ec.europa.eu/maritimeforum/sites/default/files/bio1.png>
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- [36] <https://webgate.ec.europa.eu/maritimeforum/sites/default/files/phys2.png>
- [37] <https://webgate.ec.europa.eu/maritimeforum/sites/default/files/sbh1.png>
- [38] <https://webgate.ec.europa.eu/maritimeforum/sites/default/files/sbh2.png>