

EMODnet Secretariat progress update – April 2018

This update is based on the quarterly progress reports of the different EMODnet groups (Thematic Portals, Sea-basin Checkpoints, Data Ingestion Portal), and supplemented with updates from the Secretariat. This is the sixth Secretariat progress report since the start of the EMODnet Development Phase III (2017-2020) and covers activities developed within EMODnet in the period April-May-June 2018.

EMODnet progress overview

Common progress highlights

Two templates were designed and made available for the current quarterly reporting period: one excel-template including all progress indicators, presented in a clear way and accompanied with footnotes to improve understanding; a second word-template containing all sections within which the thematic portals comment on, among others, their progress, faced challenges and received user feedback. Together with Trust-It and the thematic portals, the Secretariat identified some minor remaining (overlooked) issues and inconsistencies, which will slowly be filtered out by the next reporting period.

Together with VLIZ, the EMODnet Secretariat has been working on a preliminary version of the [EMODnet data and data product portfolio](#). This portfolio provides a comprehensive overview of the available data and data products for all thematic portals, and is available on the Central Portal website. During the summer period, the preliminary version will be further updated to a final but dynamic end product.

Our EMODnet Annual Report 2017 is now available for download on the Central Portal website. On one of the first pages of the report, a timeline of 2017 is shown displaying per month the most interesting events, actions and activities that have taken place last year. Further, the report highlights innovative developments (e.g. the launch of the EMODnet GeoViewer), interesting international collaborations (e.g. EU-China Blue Year), remarkable use cases and surprising EMODnet figures.

Specific progress and achievements of thematic groups

- **EMODnet High Resolution Seabed Mapping (HRSM)/Bathymetry** reported great progress of the integration of the regional DTMs into the overall EMODnet DTM, despite some local quality issues that have resulted in a delay of the process. The new DTM will be integrated in the Viewing and Download Service, and 3D viewing will be added as extra functionality. Also, the number of downloadable tiles will increase from 16 to 64. Coastline data of national authorities have been collected; current work consists in cleaning up and production of final products.
- In this phase, focus of **EMODnet Geology** has been on the harvesting of data on entity indexes (e.g. borehole indexes). Interestingly, users seem to prefer accessing the products and services through the options offered on the “Products”-page. Users can now also request access to a PostgreSQL database where data are available for SQL analysis.
- **EMODnet Seabed Habitats** published an additional 257 habitat maps from across 12 partners on the web mapping portal, which represents an almost 60% increase in the number of available maps. They have revised the Black Sea region of the broad-scale habitat map-product which will be published on the portal soon. On the 13th of June the coordinators have joined a meeting of the OSPAR Intersessional Correspondence Group to discuss how they can support the latter through the provision of relevant datasets.
- **EMODnet Physics** is currently offering one of the widest in situ data collections for sea-level data and the completion of the Total Suspended Matter product covering all European Sea Basins. The EMODnet Physics catalogue, which is at the present is based on GeoNetwork, has been reorganised and updated, and also the data portal was updated to include several new filters allowing data to be

retrieved more easily. Interfaces are being set up to facilitate the interoperability with the Russian National Oceanographic Data Centre. Last but not least, the portal now contains more links with documentation (procedures, sensors, validation methods) to allow users to have easy access to all information related to the data.

- Data providers have continued to populate and make available data on contaminants and beach litter via **EMODnet Chemistry**. In this light an intensive interaction took place with the JRC, who helped aggregating and harmonising the beach litter data covering the period 2012-2016. The EMODnet Chemistry data portal has put in place a feedback form, asking for the motivation of users when they download a data product (through the OceanBrowser, Sextant Catalogue and DOIs).
- **EMODnet Biology** continued to dedicate time in making new available datasets (29 datasets representing 2183747 records) and updating existing ones (8 datasets). An important development in the portal concerns the implementation of a new GIS Viewer which is linked with the Data Download Toolbox. This same viewer will also be used in the future to visualise the new animated gridded abundance maps.
- **EMODnet Human Activities** has updated numerous of its datasets; most of them are not yet available online. The AIS data for the vessel density maps have been further cleaned and imported into a geodatabase. The final method for data processing has been agreed and is being elaborated.
- The number of data submissions 'as is' in the **Data Ingestion Portal (DIP)** keeps on increasing: over the past three months, the amount of submissions has increased from 106 to 182, and another 23 submissions are under processing. Most submissions concerned datasets belonging to the Physics theme, followed by Chemistry and Bathymetry. The fewest submissions concerned datasets belonging to the Seabed Habitats theme. Of the 182 submission, 24 have been elaborated to Phase II and their datasets are now available at national and European portals. Georgia, Italy, Norway and Spain belong to the top-submitting countries (between 18-32 submissions). Meanwhile, the DIP is being further promoted: Copernicus Marine Environment Monitoring Service (CMEMS) now also promotes the service through its Submit Data section.

EMODnet Sea-basin Checkpoints progress

The EMODnet Sea-basin Checkpoints for the Arctic, Atlantic, Baltic Sea and Black Sea have reached the end of their project. Final updates on their progress will be published in separate, dedicated reports.

EMODnet data portals usage

The thematic portals not only report updates on their progress, but they also provide the EMODnet Secretariat with user statistics based on progress indicators. The summary below covers the three-month period April-May-June 2018. In this period, the thematic portals have reported using a new set of progress indicators after the pilot phase mentioned in the previous quarter. These new indicators cover not only different aspects of acquisition and development of data and data products, but also portal delivery and impact.

Also some statistics for the Central Portal and Data Ingestion Portal were reported.

- Few new datasets were added by **EMODnet Bathymetry** during the last period, but this did not stop an increase in the number of dataset downloads (3485 downloads, resulting in an increase of 197% since previous period) and the release of another 14 publications mentioning EMODnet Bathymetry (including theses, book sections and scientific articles). There's a small decrease in the number of DTM tile downloads (-10%), but nevertheless, there are still 11190 manual tile downloads. The number of unique page views of almost all pages has increased considerably since the previous report (e.g. 902 unique page views for the Viewing and Downloading Service (or Map Viewer) compared to 268 in the last period; and 102 views for the CDI Data Discovery and Access Service compared to 37 views).

- Since last period, there has been a 20% increase in the volume Entity Index data in **EMODnet Geology**. In total, there were 89 manual downloads which represents a decrease of 43% compared to the previous period, but there has been a 103% increase in the number of map visualisations (86355 in total). A slight decrease in number of page views has been reported for the webpages of EMODnet Geology, except in the case of the Map Viewer and Homepage which experienced a slight increase in page views by 11.6% and 4.5% respectively.
- Compared to previous reporting period, the “Individual habitat maps from survey” data product of **EMODnet Seabed Habitats** has experience an increase of 38% in manual downloads. No trend was reported on the number of manual downloads of the EUSeaMap, but it has been downloaded about 142 times this period, followed by 61 downloads of the Physical map layers (more specifically, the Optical properties) and 42 downloads of the OSPAR habitat types. Overall, the products on the portal have been visualised 3495 times and requested per WMS about 11022 times. EMODnet Seabed Habitats is popular among researchers, and they represent half of all users who have downloaded data from the portal. Nevertheless, the portal has experienced a decrease in number of page views for almost all of their webpages, except for the Interactive map and their Home page (which experienced an increase of 34.4% and 69.4% respectively).
- Compared to the last quarterly period, the volume of available data has increased across most of the themes (e.g. Temperature, Salinity, Underwater noise) and more data were manually downloaded from **EMODnet Physics** (an increase of 150%). The number of manual data product downloads as well as WMS requests decreased by more than 80% in both cases (451 compared to 3487 manual downloads in former case). The majority of the users originates from academics or are researchers, followed by businesses & private companies and government/public administrations (both share places). Overall, there is a slight decrease in the number of page views in case of the Map viewer and Home page compared to previous period.
- Overall, there is an increase in the volume of data made available through, and in the number of built data products by, **EMODnet Chemistry**. Hence, the downloadable volume of data increased, which was however not accompanied by an increase in the number of manual downloads (113813 downloads; a decrease by 36% was reported). As was the case in the previous period, EMODnet Chemistry is popular among academics and researchers (mainly from France, Belgium and Italy), who constitute the majority of the users downloading data and data products. All webpages have been viewed a considerable amount of time more since last report, both in total number of page views and unique page views (e.g. the products webpage was viewed 1005 times compared to 336 in the last period, and the data webpage 1316 times compared to 510 times).
- Less manual datasets have been downloaded by **EMODnet Biology** users this period: 194 compared to 213 in the last period. The availability of data via the portal seems well appreciated by researchers and data managers. Unfortunately, this is not reflected in the number of page views, which has decreased for all webpages (except for the Home page, which experienced an increase in (unique) page views – from 714 to 915 page views, and from 529 to 702 unique page views).
- In this period, some datasets of **EMODnet Human Activities** were clearly more popular than others: the datasets belonging to for example Environment (e.g. State of bathing waters, Natura 2000 areas, and Nationally designated areas (CDDA)) have experienced an increase in the number of manual downloads (by 78%, 50% and 194% respectively), as well as those belonging to Waste Disposal (Dumped munitions 38%, Dredge spoil dumping 59%) and Main ports (56%). The datasets belonging to Hydrocarbon extraction (Boreholes -4%, Active licenses -14%, Offshore installations -31%) and Ocean energy Projects (-43%) experienced a decrease in the number of manual downloads. As for the other portals, EMODnet Human Activities data are mostly downloaded by academics and researchers. Nevertheless, also consultancies, large as well as small & medium enterprises and governmental organisation have found their way to EMODnet. The View data webpage remains the most viewed page and also experienced a slight increase in number of page views since last reporting



period (1915 compared to 1801). The Home page even experienced an increase of 43% in number of page views.

- On the **Central Portal**, the Bathymetry page still is the most visited one, followed by Seabed Habitats and Human Activities. Chemistry is the least visited portal. EMODnet has been very active on Facebook and Twitter this period, which is reflected in the performance of our Social Media channels: the number of Twitter followers has increased from 2305 to 2575, and we also received a lot more Facebook likes (731 compared to 58 in previous report).
- Compared to last period, the monthly number of unique visitors on the **Data Ingestion Portal** has decreased a little bit. Nevertheless, the portal still reached almost 8000 unique visitors per month. Researchers constitute the majority of the sectors submitting data.

Challenges to be addressed

- Despite the availability of a European tidal model, the Establishment of European coastlines by **EMODnet Bathymetry** causes some issues in areas covered with ice and intertidal areas where it is difficult to determine the coastlines.
- The efforts of **EMODnet Geology** to liaise with the Regional Sea Conventions remain unsuccessful, except in the case of the Mediterranean Sea Convention which responded positively; a first step of a hopefully fruitful collaboration. Further, partners have provided data on seabed substrates of different qualities thereby challenging the harmonisation process and data product generation, forcing the portal to send further instructions to the former.
- One challenge identified by **EMODnet Seabed Habitats** comes with the recent migration of the portal to a new content management system which resulted in some inevitable bugs. Luckily, user feedback has already proven its goal in helping discovering these bugs which would otherwise remain hidden. Another concern for the portal is the revision of the EUNIS habitat classification system, which forms the basis of the EUSeaMap data product. Since the release date of the revised EUNIS system is unknown and since this revision means that the portal would need to entirely adapt their model (to produce the EuSeaMap), it will not be possible to use the revised classification in the production of the new version of the EUSeaMap in 2019. This means that the new EuSeaMap could become outdated as soon as the revised EUNIS classification system is released.
- The challenges identified by **EMODnet Physics** concern the increase in the level of communication to end-users by means of publications and stronger contacts, and the collection of data for the indicators used in this report (mostly the numbers provided by Trust-IT).
- Some challenges mentioned by **EMODnet Chemistry** concern adjusting the timing of the project in relation to commitments made to partners and additional efforts dedicated to other tasks, and ambiguities about the compliance with GDPR.
- **EMODnet Biology** requested an amendment of their contract to EASME. They report that their partner SAHFOS merged with MBA which is also a partner. Hence, the expertise to perform the contract was not jeopardised.
- The update, improvement as well as enlargement of certain datasets in **EMODnet Human Activities** required regular contacts or even negotiations with data providers and sources. Another challenge concerns a problem with the visualisation of the diacritics in the dataset of “state of bathing waters”.

User feedback

All thematic portals are easily reachable through their dedicated helpdesk. Some thematic portals have even set up a live chat, enabling them to help people instantly. In the current quarter, all portals dealt with technical questions for most of the time (e.g. how to use certain file formats, problems with or support for downloading data, problems with map viewer, broken links). Most of them were solved within the day (or

even within the hour). In some cases (e.g. Bathymetry), it took a little longer to fix the problem but never more than one week. Other contacts were of informative nature (e.g. request to change metadata, questions about certain map layers or datasets), or involved a compliment to EMODnet.

Recent meetings and events

- EMODnet exhibited at the **European Maritime Day** in Burgas (Bulgary), a two-day event which took place from 31 May - 1 June. The EMODnet Secretariat presented, in addition to the European Atlas of the Seas, what the Secretariat can offer for public and private institutions in terms of data, data products and services. The Secretariat also organised a short workshop of one hour and a half (with the help of EMODnet Human Activities coordinator Alessandro Pititto) together with the Sea Traffic Management organisation, where the power of cross-sector marine initiatives such as the EMODnet Open Sa Lab Hackathon were demonstrated.
- The EMODnet Secretariat officially launched with proud the **European Atlas of the Seas** on Monday the 11th of June. The Atlas is enriched with new features and visuals as well as new content depending on data providers such as, among others, EMODnet (from which more than 100 layers were added). Consult, or create your own, interesting maps on https://ec.europa.eu/maritimeaffairs/atlas_en.
- From 19 to 23 June, the 6th Edition of the **Sea Future** event took place in La Spezia (Italy) and attracted over 2000 visitors. The EMODnet Secretariat was present and occupied a booth, while Antonio Novellino of EMODnet Physics presented what EMODnet can do for business. The event offered a unique opportunity to meet key players and innovators, display strengths, establish new contacts, and exchange knowledge with peers, research centres and universities.

Upcoming EMODnet meetings and events

- EMODnet Secretariat was present on the 4th **GEO Blue Planet Symposium** (Theme: *Our future is Blue: Linking oceans and coastal information with societal needs*) that took place from the 4th until the 6th of July in Toulouse (France). Our poster in light of Topic 3: *Ocean and Coastal Information in Support of Blue Growth*, is also available from the Central Portal.

YOUR GATEWAY TO MARINE DATA IN EUROPE

The Solution...
The European Marine Observation and Data Network (EMODnet) aims to connect, integrate and harmonise data resources, through close co-operation, for research, operations and business without restriction. EMODnet is a network of more than 100 organisations supported by the European Commission who work together to address the challenges we face in meeting international standards and make their information freely available as interoperable data layers and data products. This robust data once used and many times, primarily benefits marine data users, including policy makers, scientists, private industry and the general public. Our European marine data sharing platform allows users to offshore and coastal businesses and offers a range of new opportunities for innovation and blue growth.

The Challenge...
Data from the marine observation and research sector, gathered in many different formats and standards, is not always accessible, making it difficult to use in various areas, from the marine environment to the management of natural resources and the development of coastal and offshore activities and of high quality and accurate information trends and to forecast future changes. Oceanic data quality and quantity is not always available, marine data and information for coastal development, societal and economic growth. Unfortunately, marine data collection, storage and access is often not being carried out in a systematic and regular manner. Data are often collected for a single purpose, to meet the needs of a specific scientific organisation, often resulting in isolation from each other. This leads to duplication of effort, redundant sampling campaigns and unnecessary expenditure.

Our Services and Products

- Central Access Portal and Thematic Data Portals**
EMODnet operates a suite of access to European marine data access over 200 specialised services.
- EMODnet Bathymetry**
- EMODnet Seabed Habitats**
- EMODnet Human Activities**
- EMODnet Chemistry**
- EMODnet Biology**
- EMODnet Geology**
- EMODnet Physics**

Data Ingestion Portal
Facilitating the submission of new datasets
EMODnet and partner organisations collect a wealth of marine data throughout many data remain hidden or unshared. EMODnet's Data Ingestion Facility makes these datasets available to the public, ensuring the benefits of sharing their data and offers a support service to assist them in uploading their data for subsequent processing and quality control. The aim is to increase the quantity and quality of available European marine data for research and operations.

Regional Data Stress tests assess the fitness for purpose of marine data in Europe
EMODnet provides a series of stress tests in EMDnet, for a series of 14 European countries covering almost all of Europe's regional seas. These tests assess the fitness for purpose of marine data in Europe. These assessments test the current availability of marine data to support it. It is not effective possible and whether it is feasible to collect additional data.

From raw data to real-life applications
EMODnet provides many advantages for professionals from the public and private sector, the research community and civil society.

The Benefits
EMODnet provides many advantages for professionals from the public and private sector, the research community and civil society.

- Save costs and increase productivity: You can avoid the costs of repeated data collection by an improved access to already existing marine data resources.
- Improve knowledge and reduce risk: Better access to data improves forecasts of the behaviour of the sea, reducing costs of activities that are exposed to coastal erosion and offshore.
- Develop new products and services: Anyone (including SMEs) can build value-added services using data from different sources.
- Add value to your own data: Sharing data with EMODnet allows your own data to be combined with data from others to generate new value-added products and services.

EMODnet Timeline: A growing network

| Year | Phase | Number of Organisations |
|------|-----------|-------------------------|
| 2009 | Phase I | 50 organisations |
| 2013 | Phase II | 120 organisations |
| 2017 | Phase III | >150 organisations |
| 2020 | | >150 organisations |

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The European Marine Observation and Data Network (EMODnet) is financed by the European Commission under Regulation (EU) No. 808003 of the European Parliament and of the Council of 18 July 2014 on the European Maritime and Fisheries Fund.



- About 50 students will learn how to access EMODnet data (using, among others, web services) during the **JERICO Summer School** which will take place from the 9th until the 13th of July in Malta.
- From 10 to 21 September, the **Blue Growth Summer school** will take place in Ostend (Belgium). EMODnet Secretariat is invited to give a short demonstration on EMODnet and the European Atlas of the Seas on the 17th of September.
- Looking forward, we like to take this opportunity to promote the first edition of the **EOOS Conference**. This three-day conference, organised by the EMODnet Secretariat and the European Marine Board, will take place this autumn (21-23 November) in The Egg in Brussels (Belgium). The focus of this event is to bring together and connect diverse ocean observing stakeholder communities to discuss the future of a European Ocean Observing System (EOOS). This is an opportunity to showcase your work, network with stakeholders across Europe and help shape EOOS. Participation is free, but registration is required at <http://www.eoosconference2018.eu/registration>.

More information

More detailed information can be found on the EMODnet thematic and sea-basin checkpoint portals, also accessible through the [EMODnet Central Portal](#).

Thematic portals

- EMODnet Bathymetry - www.emodnet-bathymetry.eu
- EMODnet Geology - www.emodnet-geology.eu
- EMODnet Seabed habitats - www.emodnet-seabedhabitats.eu
- EMODnet Physics - www.emodnet-physics.eu
- EMODnet Chemistry - www.emodnet-chemistry.eu
- EMODnet Biology - www.emodnet-biology.eu
- EMODnet Human Activities - www.emodnet-humanactivities.eu
- EMODnet Coastal Mapping - <http://www.emodnet.eu/coastal-mapping>

Sea-basin checkpoint portals

- North Sea checkpoint - www.emodnet.eu/northsea/home
- Mediterranean checkpoint - www.emodnet-mediterranean.eu
- Arctic checkpoint - www.emodnet-arctic.eu
- Atlantic checkpoint - www.emodnet-atlantic.eu
- Baltic checkpoint - www.emodnet-baltic.eu
- Black Sea checkpoint - www.emodnet-blacksea.eu

Data Ingestion Service

- Ingestion and safe-keeping of marine data - <https://www.emodnet-ingestion.eu/>

