

EMODnet Secretariat progress update – October 2018

This update is based on the quarterly progress reports of the different EMODnet groups (Thematic Portals, 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 July-August-September 2018.

EMODnet progress overview

Common progress highlights

The summer period was a calm, though productive period for EMODnet. At the EMODnet Secretariat, time was dedicated to assessing the user-friendliness of the EMODnet Thematic Portals, the further development of the EMODnet portfolio (which provides a comprehensive overview of the available data & data products in EMODnet) and catalogue (providing more precise details on the data & data products listed in the portfolio), and to preparing the ‘EMODnet for business’ campaign (launch in October 2018).

We also started planning and preparing the second edition of the EMODnet hackathon, better known as the Open Sea Lab (www.opensealab.eu), which will take place in September 2019 in Antwerp. Other work was related to the promotion of the European Atlas of the Seas (EAS): since mid-June, the EMODnet Secretariat has been launching a “Map of the week” related to, for example, a certain event happening that week, an international day, or the season. The maps are launched on Twitter and Facebook. We also launched a pilot with three secondary school geography teachers interested in using the EAS for two to three months in their classes at school during Autumn. Next month in November, the teachers will be asked to share experiences, opportunities and challenges related to the use of the EAS.

Finally, work was done on the development and publication of EMODnet Community or Stakeholder Pages on the Central Portal (subsections: Arctic, Atlantic, EOOs, and Mediterranean), which aim to highlight the wealth of marine data resources available for specific stakeholders and users that belong to a specific community or region extending beyond Europe. The stakeholder pages follow the ‘EMODnet for global’ strategy to make EMODnet efforts more visible, relevant and user-friendly for global stakeholders and data users. By sharing these stakeholder pages, EMODnet displays a list of collaborations among European institutions that ensure data is made available openly to the private sector, public sector, research community and civil society.

Specific progress and achievements of thematic groups

- Thanks to contributions from 51 data providers, new bathymetric data sets have been added to the CDI Service (80 new CDIs, increasing the total to 27158) of **EMODnet Bathymetry**, thereby now also covering the Baltic Sea and the Arctic region. From all these sources, a total of 9369 were used in the new version of the DTM which was released on the 24th of September. Nevertheless, certain imperfections remain due to a lack of better source data. It is foreseen to expand the DTM with a layer with high resolution hot spots in November 2018. Also new is the introduction of a user form asking for user details and reasons for downloading.
- **EMODnet Geology** has reported to now have contact with the Barcelona Convention and will do their best to meet with them as soon as possible – unfortunately, repeated contact trials with other Regional Sea Commissions (RSCs) did not result in meetings. Currently, much work is done in harmonising the borehole indexes into the adopted EPOS standard format – this is done centrally, to

maintain sustainability and to allow for a direct connection with the partner's data structures, infrastructure and services.

- The update of the EUSeaMap by **EMODnet Seabed Habitats** is foreseen at the end of the second year of the project (spring 2019), and much preparatory work is continuing in advance of this. In light of the aforementioned, discussions are currently being held with geological and biological experts from EMODnet partners over thresholds for the habitats in the Barents Sea. Benthic experts feel that the EUNIS classification is not well developed enough to adequately capture the habitats present in this area (see below: Challenges encountered). Following up on the survey to gather user feedback on their web mapper, EMODnet Seabed Habitats is now developing a contract specification for the redevelopment of the mapper (to update it and improve its functionality in line with responses received).
- **EMODnet Physics** announced their first release of the EMODnet Impulsive Noise Registry, available through their map viewer. This Registry reports pulse days per block (1/3° x 1/6° ICES extended grid), and is specifically purposed in providing the RSCs with information to feed into their regional assessments. In September, EMODnet Physics co-organised the International Glider Workshop where proactive discussions were held on data flow and harmonisation, which settled the basis for the development of an international standard (*i.e.* one OceanGlider data format) which will facilitate data discoverability, access and interoperability. The migration of the data management structure on a new ERDDAP instance has started: this instance will facilitate data search & access by parameters/themes.
- During the summer period, the six regional leaders of **EMODnet Chemistry** were occupied releasing a new set of DIVA maps for eutrophication, computed based on the updated harmonised data collections. The core partners responsible for the management of Marine Litter data were involved in the database update, particularly for Beach Litter data; a first pan-European marine litter database is presented to TG ML for evaluation of development, harmonisation and data access.
- During the summer period, **EMODnet Biology** has worked on the integration of the metadata of the datasets from the Associated data partners into the EMODnet metadata catalogue. In addition, a lot of work was done on the development and publication of a Creation Data Quality Control tool (<http://rshiny.lifewatch.be/BioCheck/>) to assess to what extent a dataset published on an IPT or DwC-A file meets the EMODnet Biology Data Quality Criteria. For researchers, businesses and organisations interested in ingesting their data into EMODnet Biology, the latter has published a training course (<https://classroom.oceanteacher.org/course/view.php?id=328>) providing guidelines on all the required steps. Main activities were dedicated to the further organisation and development of the Atlas of the European Marine Life, and the finalisation of the associated data products that will become available in a first phase.
- **EMODnet Human Activities** has updated numerous of their datasets; most of them are not yet available online. Possible improvements considered by the consortium members have been discussed during the AAC meeting on 8 October, and include, among others, the access to layers from other EMODnet portals, new datasets (e.g. seaweeds aquaculture), new segmentations, and the accuracy of data. It is predicted that the Vessel Density Maps will be available before the end of 2018. Other updates concern the map viewer, where a number of improvements are being tested such as the implementation of a layer transparency tool, a search facility, and a print & labelling tool. These will be available to the users soon.
- The EMODnet Secretariat helps in promoting thematic portal activities on the **Central Portal** website. As such, a newsletter and news flash on the new version of the DTM were launched in September and five new Use Cases have been added (and many more are in the pipeline!). Last but not least, EMODnet welcomed five new Associated Partners.

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 a set of progress indicators. The summary below covers the three-month period July-August-September 2018. Also some statistics for the Central Portal are reported.

- As previously mentioned, about 80 new datasets were added in the CDI Service, resulting in an increase of 0.3% since previous quarterly period. **EMODnet Bathymetry** has seen an overall increase in the number of unique page views, which is likely in part due to the release of the new DTM: the Home page was viewed 12880 times (increase of 42%), the map viewer showing the new DTM was viewed almost 1000 times (increase of 9.3%), and the CDI access service 14 times (increase of 42%). In this period, 90% less dataset downloads were done (347 compared to 3485 in the previous period), yet 2779 tiles of the DTM have been downloaded since its launch. The old DTM remains popular with over 8000 downloads in the last quarterly period, despite a decrease of 28% compared to the previous period.
- Some new datasets were added in **EMODnet Geology**, more specifically to the groups Seabed substrates and Entity Index, resulting in an increase in these groups of 40% and 14% respectively. The EMODnet Geology Home page was viewed about 705 times in the last period, which resulted in a small decrease of about 12% compared to the previous period (803). Also the other web pages (such as map viewer, services) experienced decreases in the number of unique page views: trends range between -19% and -33%. The Seabed substrate layers have been downloaded more frequently (55 times) than the other layers (17 times or less).
- No new datasets have been added to **EMODnet Seabed Habitats** in the current reporting period, but new records have been added to a number of data products (an increase of 13 and 21% in the OSPAR habitats points and polygons respectively). Despite a small decrease in the number of unique page views (1491, associated with a decrease of 40%), the Home page remains the most visited webpage followed by the interactive map viewer (1611, which is 227% more than previous period) and Data download (642, which is an increase of 138%). Overall, there has been an increase in the number of manual downloads of all data product datasets (percentages ranging from 9% to 150%).
- In total, **EMODnet Physics** has experienced an increase in the number of platforms (and thus available data) of over 15% compared to the last reporting period. What concerns the data products, the Underwater Noise data product has become available through the map viewer, and there's also an increase in the number of acquired external Sea Level data products (21%). The Map viewer and Home page remain the most visited webpages (1475 and 786 unique page views respectively). Compared to previous period, there were 93% less manual data download requests (2323 compared to 31388), 71% less Web Service requests and consequently less map visualisations (-89%). In this period, EMODnet Physics received 531 requests to manually download data products in NetCDF, shapefile or json format.
- The total volume of available acquired data in **EMODnet Chemistry** slightly increased (from 962007 to 968168) - percentages ranged between 0.5% and 1.5% across the sub-themes, and also the number of data products increased (between 2.5% and 8%). Despite these increases, the number of manual dataset downloads decreased by 92% as well as the number of dataset downloads related to the data products (between -10% and -66%). Compared to the previous period, the number of unique page views of the Home page has dropped by almost 50% (105 compared to 198), which is according to EMODnet Chemistry likely due to the summer period. The unique page views for the other pages (e.g. data, products, news and events) remained stable.
- Six new datasets were added, and 14 datasets were updated. As a result, the **EMODnet Biology** database now contains 23,945,855 occurrence records. All pages experienced a decrease in the number of unique page views: -22% for the Home page (from 702 to 542), -15% for the map viewer (333 to 282), and -32% for the data download page (213 to 144). Despite these decreases, EMODnet



Biology experienced an increase in the number of data downloads (282 compared to 194 in the previous period).

- Apart from dataset updates, there were also some additions in **EMODnet Human Activities** of among others environment-related datasets, Waste at ports datasets, and datasets related to the topics Cables and Waste disposal. There was an overall decrease in the number of unique page views compared to the previous period: the Home page experienced a decrease of 14% (443 compared to 517 views), the map viewer a decrease of 17% (1028 compared to 1243), and the search data page a decrease of 14% (210 compared to 247). This overall decrease in number of page views is also reflected in the number of manual data downloads: compared to the previous quarter, less datasets have been downloaded (percentages ranging from -4 to -68%), apart from the increased interest in datasets of Ocean Energy Projects, Advisory Councils and Actual route locations (cables).
- Over the summer period, the **EMODnet Central Portal** has seen a small decrease in the number of unique page views (from 5864 to 4905), while the number of Twitter and LinkedIn followers has increased by 11% and 24% respectively. Also the Central Portal map viewer seems to have experienced a drop in popularity during the summer period: in total, there were over 800 less map visualisations compared to the previous quarter. With over 1800 unique page views, EMODnet Bathymetry (starting from the EMODnet Central Portal) remains the most viewed portal. EMODnet Human Activities and Seabed Habitats follow with 882 and 709 unique page views, while Chemistry closes the line with 187 unique page views.

Challenges to be addressed

- Establishing a DTM version of higher quality is a challenge in itself: the computer resources of **EMODnet Bathymetry** have been challenged during the processing due to an increased number of datasets and DTM grid size. Tiling the coverage solved this problem. As mentioned in the previous progress report, the establishment of the European coastlines, based on a European tidal model, remains difficult in areas with ice coverage and complex intertidal areas.
- The main issues reported by **EMODnet Geology** concerns challenges associated with mapping results of Coastal behaviour at a pan-European scale: many satellite data/measurements are overlapping, and an application is currently tested to smooth the short-distance variability. This approach is however not possible for the field data. Another challenge concerns the rather difficult process of data harmonisation in the WP related to Geological events and probabilities. Here, harmonisation requires continuous exchange with and feedback and validation by partners.
- The later than planned delivery of the EMODnet Geology 1:100k layer will leave **EMODnet Seabed Habitats** short on time to re-run the EUSeaMap at 1:100k before the end of their contract on the 4th of May. To anticipate, EMODnet Seabed Habitats will start working with the 1:1250k and 1:1M layers first. The EUNIS classification is not well developed further north in Europe, giving problems with habitat mapping in the Barents Sea. Consequently, there will be limitations in the quality of the EUSeaMap for this region.
- The Noise Sound maps of **EMODnet Physics** are currently based on free AIS data, while awaiting the launch of the vessel density maps of Human Activities which will be derived from the AIS data the latter bought. This free data allows working on certain geographic locations only. Another challenge concerns the abovementioned reorganisation of the entire EMODnet Physics data management system and data infrastructure.
- The **EMODnet Chemistry** exchange of data with the EEA required tuning of data formats and metadata, and the adjustment of ODV, Common Vocabularies and tools. Analogously, efforts were done to tune and review the beach litter data to be included in the Beach Litter database and to match with Baselines timing.
- No challenges were reported for this period by **EMODnet Biology**.

- **EMODnet Human Activities** strive to enlarge their aquaculture dataset to ensure a better geographical coverage (gather data for countries that were not yet covered). Several contacts were made however, without significant feedback. The lot now tries to also contact other ministries that possibly have the same information.

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. As is usually the case, all portals dealt with technical questions for most of the time (e.g. support to download data, issues with the map viewer or web services, the use of certain data formats) which were in the majority of the cases solved instantaneously or within one day. Some lots received direct information on use cases (e.g. Seabed Habitats, where the EUSeaMap version 2016 was in a windfarm project for EIA) or questions to participate in workshops and meetings (e.g. Biology). The summer period was especially quiet for EMODnet Chemistry which received no feedback through the helpdesk.

Recent meetings and events

This summer, the EMODnet Secretariat attended 26 meetings. A few highlights are given below:

- EMODnet and the European Atlas of the Seas (EAS) were presented by the EMODnet Secretariat at the **Tropical MSP Summer School** (France, Brest) which took place from 3 to 7 September.
- The EMODnet Secretariat and the Flanders Marine Institute attended the **Blue Growth Summer School** on the 10th of September to give an introduction and demonstration on EMODnet to about 30 students from different nationalities. A small dissertation was given to the students for which they were partly required to explore and use EMODnet.
- The second **Marine Knowledge Expert Group** meeting took place in Brussels on the 12th of September. Experts from different disciplines came together to collectively work to advance EU marine data programmes and services to the next stage, thereby sustaining blue growth. Some results and outcomes will be presented during the Steering Committee meeting in November.

Upcoming EMODnet meetings and events

- From the 23rd to the 24th of October, the **5th Atlantic Stakeholder Platform** was taking place in Vigo (Spain), where we took the opportunity to present EMODnet and the EAS and give a workshop to highlight the importance of marine observing efforts. It was presented how the EMODnet data portals and the EAS can be used by professionals, and demonstrated how one can benefit from EMODnet and the EAS resources by means of use cases. In return, the Secretariat received views and suggestions how to further improve their tools.
- The 10th **EMODnet Steering Committee** is coming up (19-20 November) right before the **EOOS Conference** (21-23 November). DG MARE, EASME and the EMODnet Secretariat will meet with the coordinators of all thematic lots to discuss progress made in EMODnet, tackle challenges, and agree action points to keep on improving EMODnet in a user-friendly and cost-efficient way.
- In December (3-7 December), the EMODnet Secretariat will be present at the **IODE Ocean Teacher Global Academy** in Ostend, to give a course/demonstration on EMODnet to students and researchers with a background in oceanography and data management.

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/>