

EMODnet Secretariat progress update – 2nd quarter 2023

This report provides an update of EMODnet progress made over the second quarter of 2023, and is based on the quarterly progress updates 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 sixth update since the start of the EMODnet Centralisation Phase (2022-2023) and refers to all activities developed within EMODnet for the period April-May-June 2023.

1 EMODnet progress overview

1.1 General progress highlights

[Registration for the EMODnet Open Conference is open!](#) The 2023 Conference edition will be a fully in-person event, taking place at the NHow Brussels Bloom Hotel in Brussels, Belgium on 29-30 November. The 2023 Conference will be the first of its kind since the unification of EMODnet thematic services in January 2023. It will serve as a platform to showcase the upgraded EMODnet Central Portal and the added value of a single-entry point for discovering, searching, visualizing, and downloading all of EMODnet's marine data and data products, along with its centralized features and functionalities. The Open Conference 2023 has also launched an [electronic community poster call](#) which is open to all to submit an abstract to one of the eight EMODnet Open Conference 2023 themes, with a deadline of 7 September 2023 for abstract submission. Following an approval process, stakeholders will be invited to produce their electronic posters, to be showcased in an EMODnet Virtual Exhibition that will also provide extensive information on EMODnet and the EU Atlas of the Seas, to accompany the physical Conference. A selection of posters (at least one/Conference theme) will also receive the opportunity to give pitch presentations at the Conference.

The Secretariat published the [EMODnet Annual Report 2022](#). It highlights EMODnet's main achievements, key facts and figures, partnerships at a European and global level, highlights of the European Atlas of the Seas, EMODnet-for-business Offshore Renewable Energy events, and much more!

EMODnet was well represented at the [European Maritime Day \(EMD\) 2023](#), which took place on 24th-25th May 2023, at the BREST EXPO, Parc des Expositions de Penfeld in Brest, France. EMODnet thematic and data Ingestion Coordinators, the Central Portal and Secretariat teams were in attendance, with a variety of roles representing EMODnet at the exhibition and as co-organisers and speakers at multiple stakeholder workshops related to marine and maritime data for innovation and sustained Ocean observations. EMODnet also promoted the Open Sea Lab 3.0 hackathon outcomes, represented EMODnet at the EDITO-Infra stand in collaboration with Copernicus Marine Service, and promoted the European Atlas of the Seas and EU4Ocean Platform at the EU4Ocean Ocean Literacy stand, in collaboration with Acteon, EU4Ocean partners and members of the EU4Ocean Platform, Youth4Ocean Forum and Network of European Blue Schools.

1.2 Specific progress and achievements of the thematic data assembly groups

- There was an increase in the number of Common Data Index (CDI) entries from 41,427 to 41,574 for **EMODnet Bathymetry**. Consortium partner Coronis started exploring the possibility of using the technique of Criminisi et al., originally devised for image inpainting, to preserve gradients during Digital Terrain model (DTM) interpolation. This technique will be useful in cases where the gap to fill is a large continuous area surrounded by an area of continuous data. This method uses the texture (i.e., colours and gradients) present in the known areas of the image to fill the missing data. The method must be tested on a more diverse set of DTMs to prove the utility of the method and its viability before being included in Globe. Coronis will work in this direction in the following months.

- **EMODnet Biology** kicked-off their new contract, which started 10 May 2023 and will cover a two-year period. Preparations are underway for the first data harvest of the contract. During the kick-off meeting in June, a first draft of the roadmap of the work package on data product creation was discussed. Concrete product plans include, among others, (i) the development of a new R package enabling the user to project benthic carrying capacity as a function of fishing pressure and to assess the impact of fishing pressure on ecosystem functions and recovery potential; (ii) the development of a product focusing on the link between zoobenthic species and benthic substrate types; (iii) the extension of the previously developed [DIVAnd](#) (Data-Interpolating Variational Analysis in n dimensions) framework on new biological data to map fine resolution species probabilities based on scattered sample data; (iv) and the extension of reef-building species distribution maps by increasing the geographic range and total number of included species.
- During the reporting period, the regional aggregated, validated and harmonised data collections for eutrophication and contaminants from **EMODnet Chemistry** were published in the EMODnet Central Portal. The data collections on beaches, seabed and microlitter were shared with the Joint Research Centre (JRC) and Technical Group on Marine Litter (TG ML) members for further analysis and with IFREMER for map production. Two regional meetings were organised in April, involving data centres in the Mediterranean Sea, Black Sea, and NE Atlantic Ocean, as well as in the North Sea, Baltic Sea, and Arctic Ocean, to push for timely updates to data and metadata, given data collection deadlines in April 2023 (for eutrophication and other data) and May 2023 (for contaminant and microlitter data).
- During the reporting period, **EMODnet Data Ingestion** received 47 submissions, pushing the total number of received submissions so far to 1,466. The total number of published data submissions increased from 1,262 to 1,334, of which the number of elaborated data submissions went from 564 to 606. In collaboration with the Central Portal Technical Team, an approach for the migration of the EMODnet Ingestion portal was drafted, which is currently being explored further for its feasibility. A short promotional video featuring a Belgian success story is under preparation.
- The new **EMODnet Geology** subcontractor Caspian Locus Limited Liability Company managed to collect, harmonize and submit various data from the Azerbaijan sea areas to all of the Geology work packages. During the next contract, data from regional geological survey organizations of the Caribbean Sea will be added. Users of EMODnet Geology are interested in geotechnical data, which are not yet provided. At the six-monthly meeting for EMODnet Geology the partners agreed to find out if geotechnical data can be added in the next phase; several partners, e.g. Belgium, Netherlands, United Kingdom, Finland and Denmark, would be able to provide such data.
- **EMODnet Human Activities** collected new data on Lighthouses (though not yet available on the EMODnet Central Portal) and processed and harmonised nine different sources of data on Shellfish polygons from France. The Route density maps were update with data up to May 2023, and the Vessel density maps were updated with 2022 data. Marine Spatial Plans from Estonia and Spain were added to the Marine Spatial Planning dataset. The Environment theme was enriched with an entirely new dataset on Emerald network sites.
- **EMODnet Physics** updated a number of products, including the Coriolis Ocean datasets for reanalysis, the temperature and salinity along the trajectories and the Marine Mammals Exploring the Oceans Pole to Pole (MEOP) dataset.
- **EMODnet Seabed Habitats** created a draft habitat point submission guidance document to facilitate the submission of partner habitat point data to EMODnet Biology. This is currently being tested using an initial batch of data and will be refined following feedback from partners and EMODnet Biology. The next step once data is submitted will be to ensure access to seabed habitats data from EMODnet Biology using web services. A secondary layer grouping was implemented on the Central map viewer, to add two new data layers to the viewer, i.e., essential fish habitats and Ramsar habitat maps.

Subcontractor SAERI begun engagement with the Specially Protected Areas and Wildlife Regional Activity Centre (SPAW-RAC) as part of the work in the Caribbean Sea.

2 EMODnet data portals usage

2.1 User visit statistics

Before the integration of the thematic data portals into the EMODnet Central Portal, when each thematic provided access to their thematic data, products and services through each of their respective web portals, user statistics (i.e., number of 'unique' page views and average visit duration) were collected through an EMODnet Matomo instance managed by the Flanders Marine Institute (VLIZ). Since centralisation and thus as of 25 January 2023 onwards, statistics on user visits to the EMODnet Central Portal are collected through Europa Analytics. Below we provide the quarterly total (for the period April – June 2023) or daily number of page views¹ (in absolute number) of the EMODnet Central Homepage, a selection of webpages, and each of the thematic entry pages.

- Compared to the previous quarter, a decrease of 30% was recorded in the number of page views of the **EMODnet portal homepage** (from 14,759 to 11,320 page views).
- On average, the page containing web services documentation received between 30 and 40 page views per day. A jump was observed in the daily number of page views for the news section at the end of May, from on average 1-6 to 25-35 daily page views.
- The web pages Web services documentation, Use cases, Reports and Communication continued to have a high percentage of returning visitors (between 42 and 58%).
- With regard to the EMODnet **thematic** entry pages, the entry page of **Bathymetry** was visited the most in the past quarter. The second most viewed entry page was the one of **Seabed Habitats**, followed by **Human Activities**, **Physics**, **Geology**, **Biology** and **Chemistry**.
- In this new phase of EMODnet, the statistics for web traffic have yet to stabilize across the EMODnet portal. We see an increase in the number of page views for some thematic entry pages, and a decrease for others. Similarly, we have seen an increase in data and data product downloads for some themes, and a decrease for others (see below). We expect to have a better understanding of EMODnet web traffic trends as we improve the granularity of our web traffic analytics.
- Specific numbers for the thematics are:
 - A decrease of 9% was recorded in the number of page views for the **Bathymetry** entry page.
 - The number of page views for the **Biology** entry page decreased by 24%.
 - A decrease of 31% was recorded in the number of page views for the **Chemistry** entry page.
 - The number of page views for the **Geology** entry page increased by 11%.
 - The number of page views for the **Human Activities** entry page decreased by 10%.
 - The number of page views for the **Physics** entry page decreased by 4%.
 - The number of page views for the **Seabed Habitats** entry page decreased by 27%.

The **Data Ingestion Portal** is not yet centralised, hence web traffic to their portal is currently still being tracked using Matomo. An average of 14 daily page views was recorded for the Homepage, and of 6.5 for the Data Viewer.

2.2 Statistics on usage of EMODnet portals²

From previous quarter onwards, we are seeing a change from reporting on metrics from the individual thematic portals to the metrics from the new unified portal. This affects the thematics in different ways, depending on their technical back-end infrastructure. Hence, for some of the thematics there is no download information available yet, or only partly and therefore we have not reported metrics that may be confusing

¹ The number of times a page was visited.

² For thematics which provided this information.

due to this. The new unified metrics are still being developed, and will be deployed over the next few quarters. Some caution is advised with regards to the metrics at this stage. We expect a clearer picture in the next few quarters as the new EMODnet Central Portal gets established.

2.2.1 Number of data downloads³

- There was a decrease of 99% in number of downloaded CDIs from **EMODnet Bathymetry** compared to previous quarter, i.e. from 47,210 to 388 CDI downloads, from seven users.
- **EMODnet Data Ingestion** recorded a decrease in number of data download transactions, from nearly 350 to 251 (decrease of 29%).
- Decreases as well as increases in dataset downloads were observed for **EMODnet Human Activities**. The sum of the number of dataset downloads for all subthemes equalled 2,068 compared to 2,126 previous quarter. Among the most downloaded datasets were the Energy Wind Farms (from 307 to 258 dataset downloads), Cables Actual Route Locations (from 182 to 199), and Fishing Intensity (from 163 to 162).
- For this quarter, **EMODnet Seabed Habitats** could only report on the number of manually downloaded records from the thematic portal when it was still live in the period between 1 and 26 January 2023. They observed 3,411,191 downloaded records of their dataset Collection of Classified Points.

2.2.2 Number of data product downloads⁴

- An increase was recorded in the number of downloads of **EMODnet Bathymetry** DTM tiles (from 8,300 to 13,201 downloads) and a decrease in number of downloaded High-Resolution DTMs (from 2,215 to 2,160 downloads). The Satellite Derived Coastlines were downloaded 0 times (compared to 7 in the previous quarter).
- For most **EMODnet Geology** data products, the number of data product downloads increased. Increases range from 11% (Seabed Substrate (from 397 to 440 file downloads), to 47% (Seafloor Geology (222 to 327 file downloads)) to 75% (Minerals (40 to 70 file downloads)).
- For **EMODnet Human Activities**, about 1,084 Vessel Density Maps datasets were downloaded this quarter, representing a decrease of 18% since the previous quarter (1,329 downloads). Similarly, the Route Density Maps were downloaded 667 times, compared to 815 downloads in the previous quarter, representing a decrease by 18%.
- A decrease in the number of product download transactions through ERDDAP (from 4,202,618 to 1,575,052) were observed for **EMODnet Physics**.
- For this quarter, **EMODnet Seabed Habitats** could only report on the number of manually downloaded datasets from the thematic portal when it was still live in the period between 1 and 26 January 2023. Most downloaded product dataset was Habitats - seabed habitats (including coastal wetlands) - collection of classified maps (15,394 dataset downloads).

3 Upcoming EMODnet meetings and events

The main EMODnet meeting planned for the coming quarterly period in 2023 is:

- An EMODnet for Business **online workshop "EMODnet for Coastal tourism"** on 26-27 September 2023. The workshop will take place over two half-days (mornings) and is designed to explore how

³ Disclaimer: please note that percentages given can reflect small as well as large changes in the number of data and data product downloads. In most cases however it is difficult to provide an actual explanation for the downloading behaviour of users.

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the coastal tourism industry can benefit from EMODnet. Participants will discover the potential of EMODnet services (e.g., EMODnet's marine data and data products to support coastal tourism operations) and will be able to engage in cross-regional dialogue and exchanges with participants from all European sea basins on topics including data needs and requirements for coastal tourism and opportunities for data sharing.

4 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>
- EMODnet for Business brochure: <https://emodnet.ec.europa.eu/en/emodnet-business-brochure>

4.1 Thematic portals

- EMODnet Bathymetry - <https://emodnet.ec.europa.eu/en/bathymetry>
- EMODnet Biology - <https://emodnet.ec.europa.eu/en/biology>
- EMODnet Chemistry - <https://emodnet.ec.europa.eu/en/chemistry>
- EMODnet Geology - <https://emodnet.ec.europa.eu/en/geology>
- EMODnet Human Activities - <https://emodnet.ec.europa.eu/en/human-activities>
- EMODnet Physics - <https://emodnet.ec.europa.eu/en/physics>
- EMODnet Seabed habitats - <https://emodnet.ec.europa.eu/en/seabed-habitats>

4.2 Data Ingestion Service

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

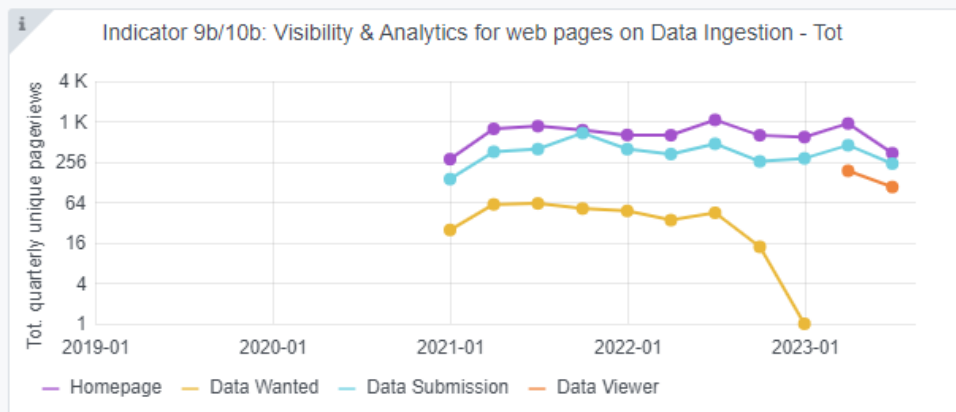
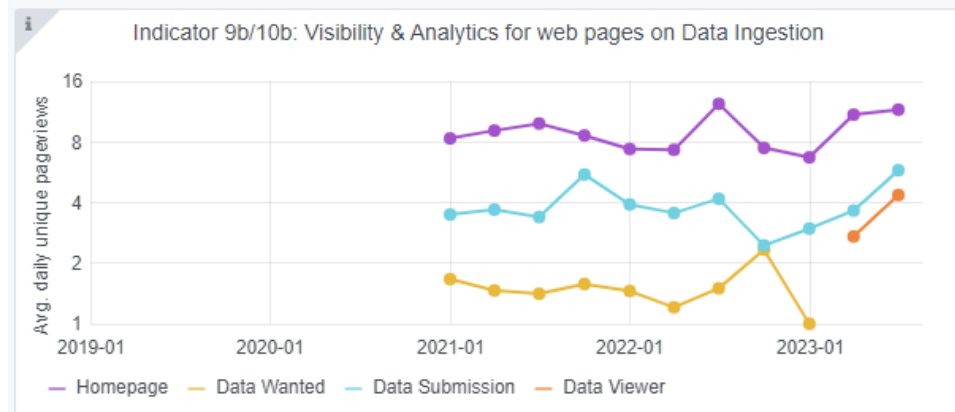
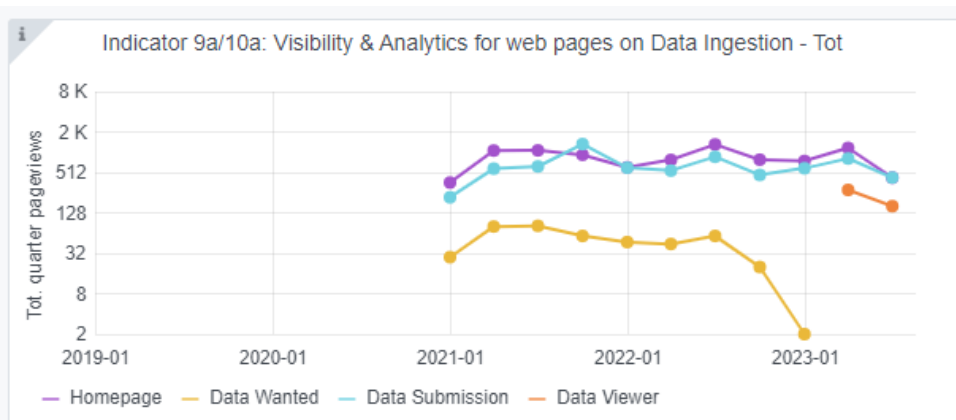
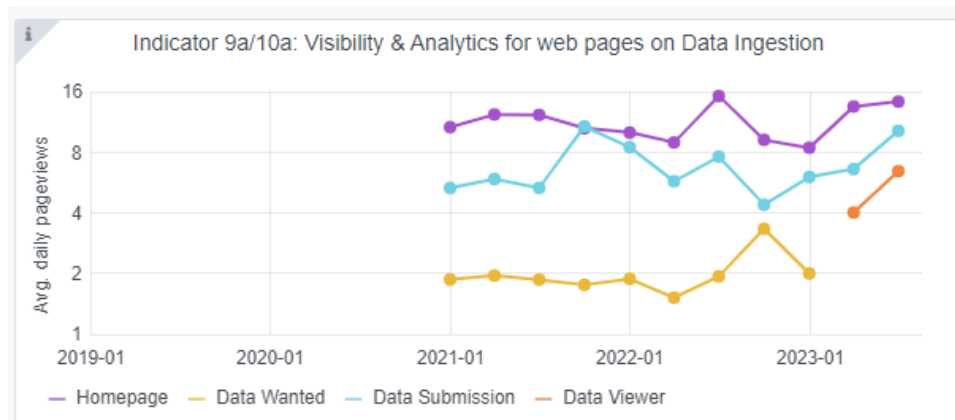
4.3 Sea-basin Checkpoints resources

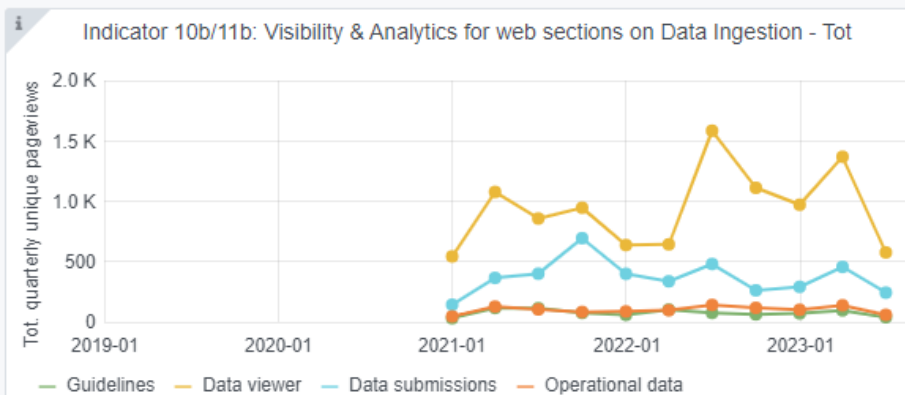
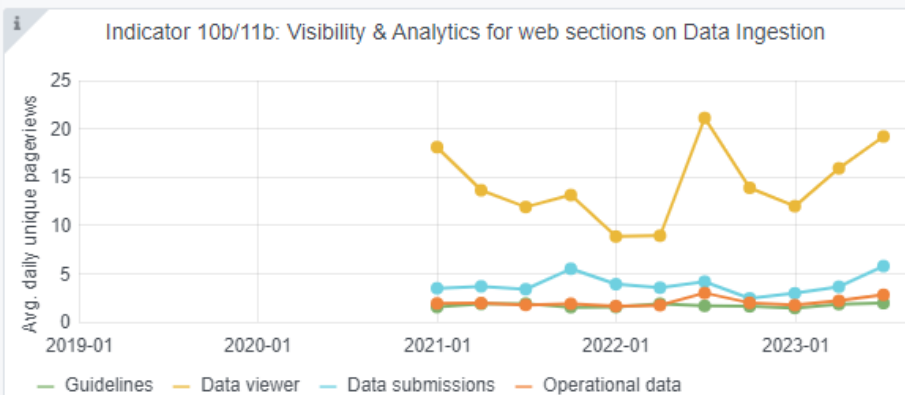
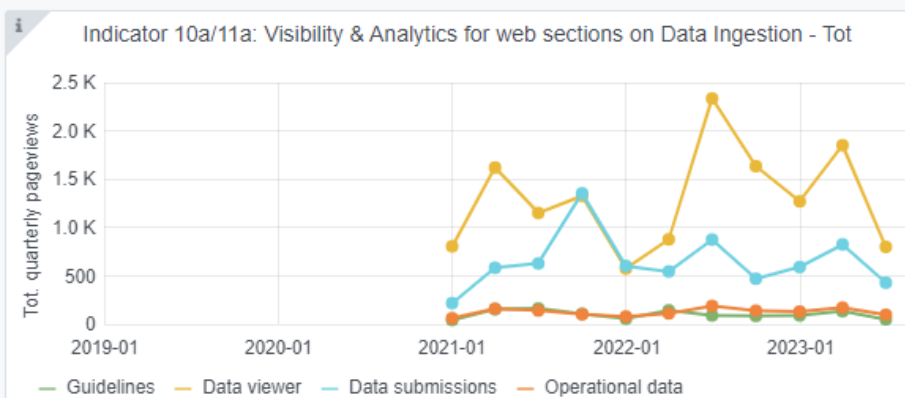
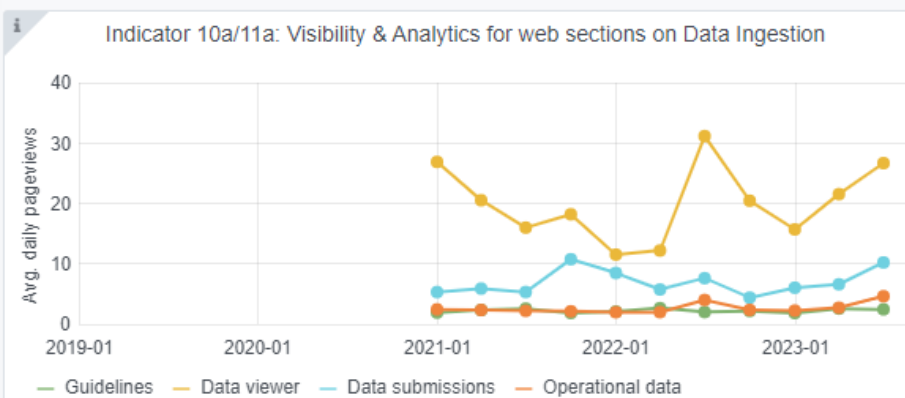
For an overview of and access to information and outputs from each of the Sea-basin Checkpoints (projects ended), visit: <https://emodnet.ec.europa.eu/en/checkpoints>

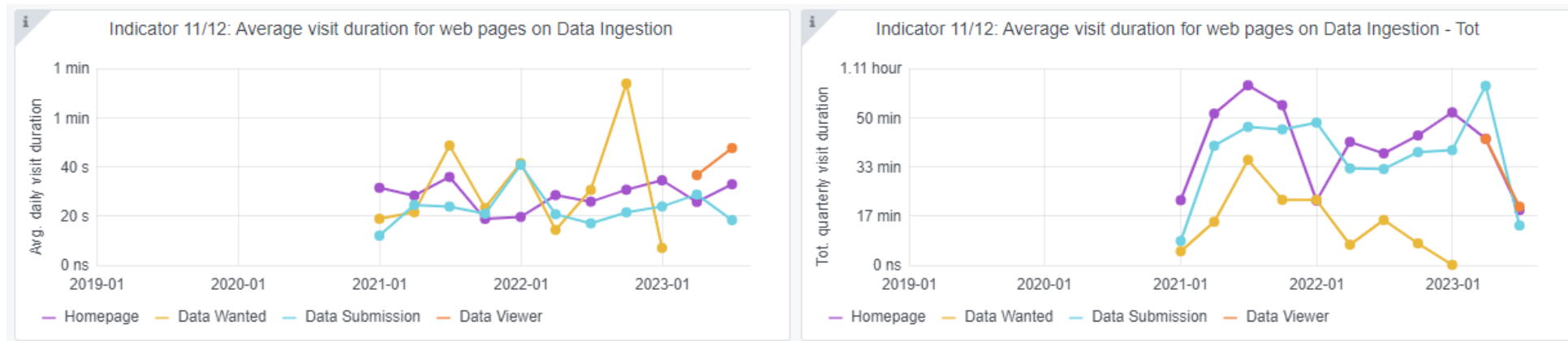
- North Sea checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/north-sea>
- Mediterranean checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/medsea>
- Arctic checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/arctic>
- Atlantic checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/atlantic>
- Baltic checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/baltic>
- Black Sea checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/black-sea>

Gallery

Data ingestion, statistics collected by Matomo

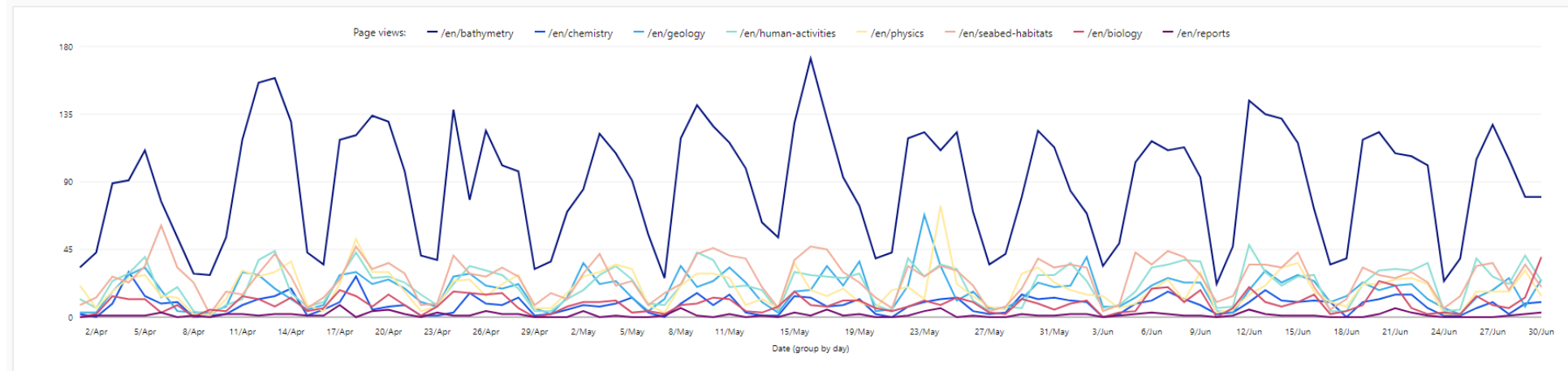




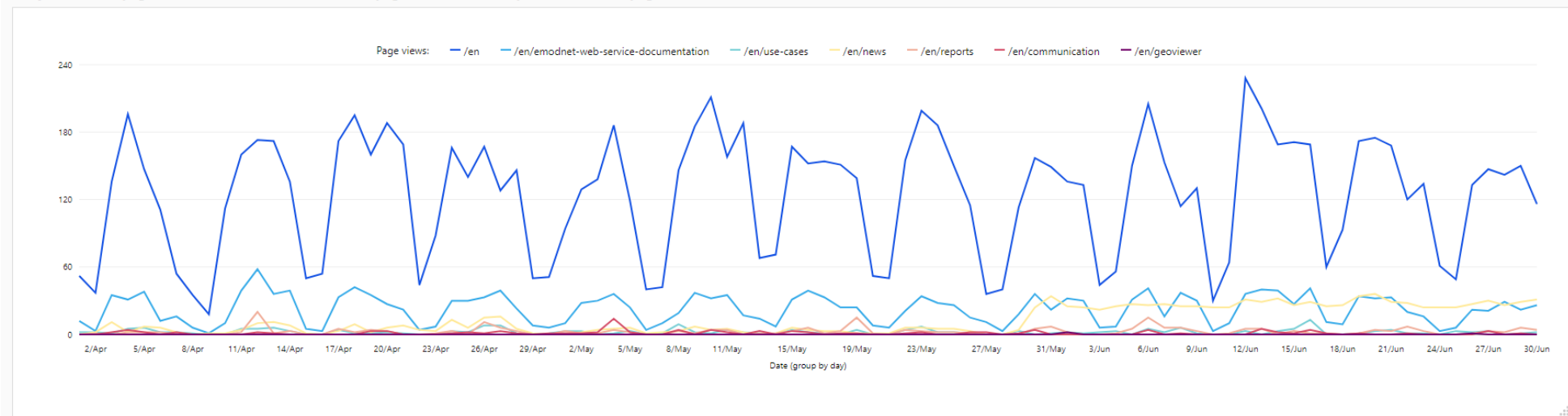


EMODnet Central Portal statistics collected by Europa Analytics

Daily number of page views (i.e. the number of times a page was visited) of EMODnet Thematic entry pages



Daily number of page views (i.e. the number of times a page was visited) of specific EMODnet pages 📊



Quarterly total number of visitors, page views, unique page views and percentage of returning visitors 📌

Visitors	Page views 📌	Unique page views	% of returning visitors	🔍 Page URL
6,437 42,65%	11,320 34,86%	9,099 35,17%	30,59%	https://emodnet.ec.europa.eu/en 🔗 📄
4,944 32,76%	8,066 24,84%	6,268 24,23%	26,84%	https://emodnet.ec.europa.eu/en/bathymetry 🔗 📄
1,468 9,73%	2,335 7,19%	1,856 7,17%	36,85%	https://emodnet.ec.europa.eu/en/seabed-habitats 🔗 📄
1,423 9,43%	2,075 6,39%	1,770 6,84%	42,3%	https://emodnet.ec.europa.eu/en/emodnet-web-service-documentation 🔗 📄
1,197 7,93%	1,985 6,11%	1,607 6,21%	38,51%	https://emodnet.ec.europa.eu/en/human-activities 🔗 📄
921 6,1%	1,716 5,28%	1,223 4,73%	29,42%	https://emodnet.ec.europa.eu/en/physics 🔗 📄
919 6,09%	1,642 5,06%	1,250 4,83%	39,17%	https://emodnet.ec.europa.eu/en/geology 🔗 📄
930 6,16%	1,120 3,45%	1,048 4,05%	7,96%	https://emodnet.ec.europa.eu/en/news 🔗 📄
541 3,58%	820 2,53%	646 2,5%	31,61%	https://emodnet.ec.europa.eu/en/biology 🔗 📄
391 2,59%	744 2,29%	586 2,27%	42,71%	https://emodnet.ec.europa.eu/en/chemistry 🔗 📄
95 0,63%	237 0,73%	173 0,67%	52,63%	https://emodnet.ec.europa.eu/en/reports 🔗 📄
126 0,83%	200 0,62%	162 0,63%	46,03%	https://emodnet.ec.europa.eu/en/use-cases 🔗 📄
64 0,42%	104 0,32%	80 0,31%	57,81%	https://emodnet.ec.europa.eu/en/communication 🔗 📄