

EMODnet Secretariat progress update – 2nd Quarter 2021

This report provides an update of EMODnet progress accumulated over the second quarter of 2021, and is based on the quarterly progress reports of the different EMODnet projects (Thematic lots, Data Ingestion Portal) supplemented with updates from the Secretariat. The summary below constitutes the eighteenth update since the start of the EMODnet Development Phase III (2017-2021), and refers to all activities developed within EMODnet for the period April-May-June 2021.

EMODnet progress overview

Common progress highlights

Adding to the series of videos illustrating the fundamental role of EMODnet in society, the Secretariat released its fourth, fifth and sixth video during spring 2021: [EMODnet for Aquaculture](#), [EMODnet supporting Marine & Maritime Policy](#) and [EMODnet supporting the Offshore Renewable Energy Sector](#). In the coming months, two remaining videos will be released covering EMODnet for Civil Society and EMODnet for Tourism.

During this quarterly period, a significant amount of time and effort went into the organisation of the second EMODnet Open Conference and Jamboree. A dedicated [EMODnet Open Conference 2021 website](#) was launched, hosting detailed information on the programme and over 70 European and International speakers and panellists, and providing access to the community posters, video interventions and slideshows. The event brought together over 400 participants composed of EMODnet partners, data providers and users from Europe and beyond. It provided an opportunity to reflect upon the progress made as well as to showcase current EMODnet data, data products and services, and to look ahead to co-design EMODnet's next phase to 2030 and beyond. A high-level summary of the Conference is available for review on the [Central Portal](#). During the Conference, an [EMODnet Virtual Exhibition](#) was launched to highlight EMODnet's diverse activities from the Central Portal, the seven thematic assembly groups, data ingestion, EMODnet for Business, the European Ocean Observation and the European Atlas of the Seas, together with a dedicated gallery which displayed the community's posters.

Two events were organised back-to-back with the Conference: (i) an Ocean Literacy workshop on the European Atlas of the Seas (16 June; read the summary [here](#)) and (ii) an EC Ocean Observation event (18 June; read more [here](#)). A report will be produced on the latter event which will be made available by September 2021.

Also, during this reporting period, the Secretariat prepared for the migration of the EMODnet Central Portal under the europa.eu domain. This 'repatriation' under the EU domain reflects the long-term commitment of the European Commission Directorate-General for Maritime Affairs and Fisheries (DG MARE) to EMODnet, as a trustworthy and reliable operational service. The EMODnet Central Portal is now accessible at emodnet.ec.europa.eu. For more information and background on the migration, please find it available in the Secretariat's [news item](#).

Specific progress and achievements of the thematic data assembly groups

- In the near future, **EMODnet Bathymetry** data providers will accelerate their activities to gather and populate new survey datasets, after which (as of September 2021) data processing and pre-gridding will start. In the meantime, the GLOBE software used by the data providers and regional coordinators for the processing of data, is in the process of being upgraded. This upgrade includes, among others, a refining of the interpolation algorithms developed by [CORONIS](#). The EMODnet Bathymetry technical team and EMODnet Central Portal team meet regularly to discuss the migration of the Bathymetry thematic lot to the Central Portal as part of the centralisation. To prepare for this migration, EMODnet



Bathymetry has been developing and handing over a set of XML metadata files that describe Digital Terrain Modelled (DTM) tiles, which will be followed by XML metadata files associated to the HR-DTM's.

- **EMODnet Biology** kicked-off its Phase IV development work plan with a new harvest of data in May 2021 resulting in 30 new datasets and updates of 14 existing datasets. This effectively added more than 350.000 records and brings the total number of available datasets to 1.107. The Phase IV kick-off meeting was instrumental to start defining the set of products to be developed during this phase, including extending the Phase III products in terms of geographical coverage (e.g. into the Mediterranean and Black Sea). This would be achieved by adding a temporal dimension to existing spatial products, and there is the aim also, to expand the taxonomic scope. There has been productive collaboration through the engagement of a number of EMODnet Biology partners together with the activities of the Regional Sea Conventions. As such, it is ensured that the EMODnet Biology tools, services and data are maintained as/made fit for use in assessment and reporting at the regional scale.
- **EMODnet Chemistry** released updated maps for beach litter and seafloor litter at measurements points, which were first tuned based on feedback received from the meetings with the board of experts of Marine Strategy Framework Directive (MSFD). Furthermore, the thematic lot released a new video named "EMODnet Chemistry: the treasure box for marine strategies", and also published a video tutorial and user manual on the webODV tool providing user-friendly instructions. The Thematic lot is making progress with the development of an API for the CDI service.
- In the reporting period, 30 new submissions have been recorded bringing the total number to 933 submissions, since the start of the **EMODnet Data Ingestion** project. Additionally, 23 submissions were processed and published 'as is' and 22 submissions were processed for uptake in European marine data infrastructures which feed into EMODnet. Together with EMODnet Physics, a number of operational oceanography data sources were successfully identified and convinced to get connected to the European ocean data exchange (e.g. currently there are mapping discussions to harvest [ARICE](#) project metadata and data; discussion with Ocean Race Europe to exchange data from offshore sailing boat sensors; progress with EuroFleets+ project and LAMMA towards configuring machine-to-machine linkages with EMODnet).
- As in the previous reporting period (i.e. 1st Quarter 2021), **EMODnet Geology** partner countries continued to contribute new data, for integration into new data products. The updated data products will be released and will become available on the portal in the coming months (expected by September 2021). On 27 May 2021, a new map on [Coastal Type](#) was released and promoted through the EMODnet Newsdigest of May. This map builds on the [EUROSION](#) project map of coastal types, which was released almost 20 years ago. It fills gaps and gives a first-order indication of vulnerability and resilience for policy makers, identifying areas of potentially irreversible future change. Regarding the Caspian Sea task for the Geology thematic lot, map products were already available on the Caspian's coastal behaviour and marine minerals present, and additional layers for the Caspian Sea from a number of work packages will be added during the final quarter.
- **EMODnet Human Activities** updated four datasets: Nationally designated protected areas; Maritime boundaries; Economic Exclusive Zone (EEZ) areas; and the Maritime Spatial Planning (MSP). The MSP dataset was updated with a new MSP plan from Denmark. Data on cables have been acquired from SHOM and will be made available on the EMODnet Human Activities portal in the near future. Regarding the data products, the thematic lot updated the route density maps to June 2021, and signed a new contract for the acquisition of Automatic Identification System (AIS) data for mapping vessel density until 2025. The thematic lot held a meeting with the Mediterranean Regional Sea Convention, i.e. the Barcelona Convention, which considers gathering data/information on pressures from human activities, related to the eleven ecological Marine Strategy Framework Directive (MSFD) indicators to link them to their pilot system known as the Integrated Monitoring and Assessment Plan (IMAP) Infosystem to help in their Quality Status Reporting due in 2023.
- A number of new products have now been made available on the **EMODnet Physics** portal website related to salinity, sea level, total suspended matter, temperature, and river flow. Moreover, the



development of the high-resolution coastal climatologies have been completed. These consist of high-resolution coastal salinity and temperature fields of an area featured by strong river influence, in the northern Adriatic Sea. The thematic lot continued to work on the system's backend, i.e. cleaning and updating a number of previously linked datasets and data packages to avoid the addition of any duplicates.

- A number of new layers were added to the **EMODnet Seabed Habitats** portal, including 8 layers which show the official 2018 reported distributions of Annex I habitats, as reported by Member States under Article 17 of the Habitats Directive. Also added were the WMS layers representing the outputs of the Norwegian mapping programme MAREANO, and the latest (2020) version of the official OSPAR 'Threatened and/or Declining Habitats' data product. On request of the OSPAR Intersessional Group on the Coordination of Biodiversity Assessment and Monitoring (ICG-COBAM), the thematic lot has created the first draft update to the data product showing the best available data on the extent of EUNIS habitat types in the North-East Atlantic. A final draft will be published in September. The lot is also working on a 'biogenic substrate' data product that will be used as input into the EUSeaMap (new version to be released in September). It is now possible to extract seabed habitat information from EurOBIS, using the EMODnet [Biology Data Download Toolbox](#).

EMODnet data portals usage

User visit statistics

The collection of user statistics (*i.e.* number of 'unique' page views and average visit duration) is done by the VLIZ Matomo instance (which will gradually be replaced by Europa Analytics as thematic portals are integrated in the Central Portal) 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. 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. Statistics for the Data Ingestion portal are now also available. Unless stated otherwise, page views are average per day and trends are compared to the previous quarter.

- An average of 12 daily page views can be observed for the Homepage on **EMODnet Data Ingestion**, which is similar to the previous quarter. Users spent on average 40 seconds on the Homepage.
- An increase was observed in the number of average daily page views for the **EMODnet Bathymetry** Viewing and Download service webpage (352, which is almost 200 average daily views more compared to the previous quarter). The visit statistics remained stable for the other webpages. Less page views were recorded for the Homepage. Varying visit durations were recorded for the various webpages, ranging from 2 minutes (Web services and standards) to 10 seconds (CDI marine data access).
- Stable trends to slight decreases were recorded in the number of average daily page views for the various **EMODnet Biology** webpages, compared to the previous quarter. Following the Homepage (14 page views), the Data Portal Map Viewer (6) is the most viewed page. Overall, users spent less than 2 minutes per visit on each of the webpages.
- Relatively stable page view trends were noted for the **EMODnet Central Portal** webpages. The Thematic lot entry-pages were the most visited ones (between 34 and 5 page views). Other pages, e.g. Portfolio and News, received 6 and 9 page views. Similarly, user spent more time on the Thematic entry-pages (*i.e.* on average around 1.3 minutes), and less on the other pages (e.g. between 45 seconds and 1.2 minutes).
- The **EMODnet Chemistry** Homepage was the most visited page, with an average of 64 daily page views. The pages on Data and Products both received on average 12-13 page views per day; compared to the previous quarters, these number of page views slightly decreased (Data) respectively increased (Products). Overall, users spent less than 2 minutes per visit on each of the webpages; most of the time was spent on the Data and Products pages (average of 1 minute, which is slightly less compared to previous quarters).

- Stable trends were recorded in the average number of daily page views for the various **EMODnet Geology** webpages. Page views ranged from 23 (Homepage) over 8-9 (Map viewer and Data products) to 1.25 (Contribute). User on average spent most time on the Services page (1.3 minutes), and the least amount of time on the Contribute page and Homepage (29 and 37 seconds respectively).
- Stable to slightly decreasing trends were observed in the number of daily page views for all webpages of **EMODnet Human Activities**. View Data is the most viewed page with 83 views (from 100 page views previous quarter), and users on average spent 1.6 minutes on this page.
- The average number of daily page views decreased for the **EMODnet Physics** Map viewer (14 page views compared to 19 previous quarter), and stayed stable for the other webpages such as the Homepage and Catalogue (both 2 page views). Overall, users spent less than 2 minutes per visit on each of the webpages; most of the time was spent on the Videos (average of 2 minute) and almost 1 minute on the Physics Map viewer.
- Overall the page views remained stable or slightly dropped compared to the previous quarter for **EMODnet Seabed Habitats**. The data-related pages (Launch map viewer, Download data) remain the most viewed ones in terms of page views (24.4 and 7.5 respectively). Similar trends were observed for the average visit duration; most of the time (about 1.8-1.9 minutes) was spent on the Data download, Launch map viewer, Documents and MESH archive pages.

Statistics on usage of EMODnet portals¹

a. Number of data downloads²:

- Considerable decrease in the number of downloaded CDIs for **EMODnet Bathymetry** (from 4.640 to 435, i.e. -90.6%) compared to the previous quarter, in parallel with a decrease in the number of users downloading data (from 52 to 32).
- A further decrease in the number of data download requests was registered by **EMODnet Biology** (from 206 to 106).
- In the quarter covered, **EMODnet Chemistry** registered more than double the number of download requests for CDI data files compared to the previous period, i.e. from 43.001 to 87.419 CDI downloads. This was performed by 26 users.
- About 1.231 data download transactions were recorded on the **EMODnet Data Ingestion** portal, compared to 119 in the first quarter of 2021, representing an increase of 934%.
- An overall decreasing trend was recorded in the number of dataset downloads from **EMODnet Human Activities**. Users had most interest in the Wind Farms dataset (308 downloads compared to 397 in the previous quarter), and the Cables datasets on Schematic cables (143 compared to 170) and Actual Route Locations/Power cables (130 downloads compared to 139). Increases were observed in the number of WMS and WFS requests for most of the datasets.
- Increasing as well as decreasing trends were noted in the number of manual data requests on the **EMODnet Physics** portal. As such, increasing interest was noted in data on among others waves and winds (24% and 97% respectively), and decreasing interest in data on a.o. currents, water conductivity and optical properties (-18%, -64% and -75% respectively).
- Compared to the previous quarter, 31% less records were downloaded on the **EMODnet Seabed Habitats** portal, i.e. 21.069.256.

¹ 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.

² For portals which provided this information.

b. Number of data product downloads³:

- A decrease of almost 30% was reported in the number of data file downloads for both the DTM and HR-DTM products of **EMODnet Bathymetry**: 10.405 DTM tiles were downloaded (-29%, compared to 14.634), and 598 HR-DTMs (-30%, compared to 853).
- No **EMODnet Biology** data products were downloaded during the reporting period.
- A big increase in the number of data product file downloads (i.e. ranging from 17% to 256%) as well as map visualisations (i.e. ranging from 73% to 402.5%) was recorded for nearly all **EMODnet Chemistry** data products (a decrease in download was recorded for Marine litter). Number of downloads ranged from 41 (Marine Litter), over 99 (Acidity) to 153 (Contaminants).
- Decreasing trends ranging from -5% to -28%) were recorded in the number of data product downloads for all data products, with the exception of Submerged Landscapes (+40%, i.e. from 10 to 14) and Coastal migration (+31%, i.e. from 13 to 17). The Seabed Substrate Multiscale product remains the most downloaded product (74 downloads, which is 5% less compared to the previous quarter).
- The Vessel Density maps from **EMODnet Human Activities** were downloaded more frequently compared to the previous quarter, i.e. in total 2.203 downloads (+52%) were recorded for the Vessel density maps. The Route Density maps were downloaded almost an equal amount of time, i.e. 555 downloads (-2%).
- **EMODnet Physics** reported on the usage of data according to the interface the user is using to access data products. Overall, EMODnet Physics recorded decreases in number of map visualisations for all sub-themes, with the exception of Currents (76 visualisations, compared to 47). The sub-themes Winds, River and Underwater noise were less visited (43, 22 and 32 map visualisation respectively) compared to the previous period. Despite the decrease in number of map visualisations, Temperature was the most visited page (163 visualisations).
- Mainly decreases (ranging from -10% to -28%) were recorded in the number of dataset downloads on the **EMODnet Seabed Habitats** portal, except for Modelled habitat maps (13% increase, download of 35 datasets compared to 31). The most downloaded datasets were the Individual habitat maps from surveys (688.886 dataset downloads, 26% decrease compared to the previous quarter).

Recent meetings and events

Due to the CoViD-19 pandemic, all meetings and events in the second quarter of 2021 continued to be organised online and/or attended remotely. A number of key meetings included the following:

- **EMODnet Bathymetry**: general presentation on EMODnet Bathymetry at the International Conference on Marine Data and Information Systems (IMDIS) conference (held 12-14 April), and for the North Sea Hydrographic Commission on 27 April.
- **EMODnet Biology**: internal meeting with EMODnet Seabed Habitats on the recent ingestion of habitat data to EMODnet Biology and future steps (18 May). Attendance to 3-day EuropaBON workshop on Biodiversity Data User, Provider & Policy Needs (26-28 May).
- **EMODnet Chemistry**: several meetings with UNEP/MAP to discuss the data and product needs in the Mediterranean (May and June 2021), and organised training workshop on microliter data management (27 May) which was attended by Member States and the MSFD Technical Group on Marine Litter.
- **EMODnet Data Ingestion**: discussion with NAUTILUS as NAUTILOS 2nd consortium meeting about the data connection of the former to EMODnet (13-14 April). Workshop with RGI (Renewable Grid Initiative) to explore further possible data sharing and adoption of best practices with RGI stakeholders (28 April).
- **EMODnet Geology**: organisation of “GeoHab 2021 – Europe and Africa” node conference to exchange knowledge and ideas for sustainable ocean management and mapping (5 May). vEGU 2021 online

³ For portals which provided this information.

conference (28 April) to present Submerged Landscapes work package, with relevance to the NEPTUNE project.

- **EMODnet Human Activities:** attendance as speaker and panellist to the European Maritime Day (EMD) 2021 workshop on Ocean Observation and Marine Data for the Blue Economy.
- **EMODnet Physics:** EuroGOOS international conference (3-5 May), and technical meeting with GOOS, OceanOPS and HFR on data integration and interoperability (6 May).
- **EMODnet Seabed Habitats:** attendance to GEOHAB habitat mapping conference (5 May), and presentation of the EUSeaMap at the XXI International Multidisciplinary Scientific GeoConference Surveying, Geology and Mining, Ecology and Management (SGEM) (26 June – 5 July).

Upcoming EMODnet meetings and events

The main EMODnet meetings planned for the coming period are:

- Over the summer, the Secretariat and Thematic lots will start preparing for the 15th EMODnet Steering Committee meeting and the 10th Technical Working Group meeting (7-10 September), back-to-back with the sixth Marine Knowledge Expert Group.

More information

More information about EMODnet's resources are 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>

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

Sea-basin Checkpoint portals

For an overview of and access to each of the Sea-basin Checkpoint portals, visit:

<https://emodnet.ec.europa.eu/en/checkpoints>

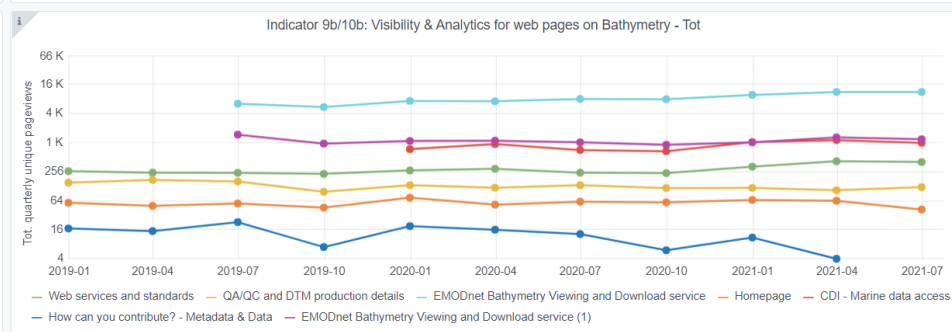
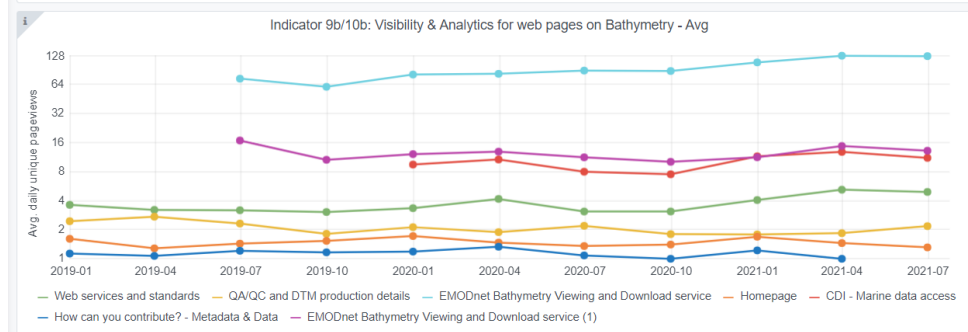
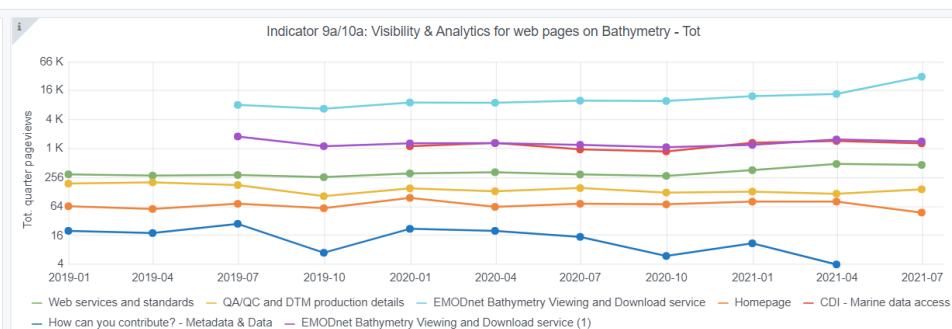
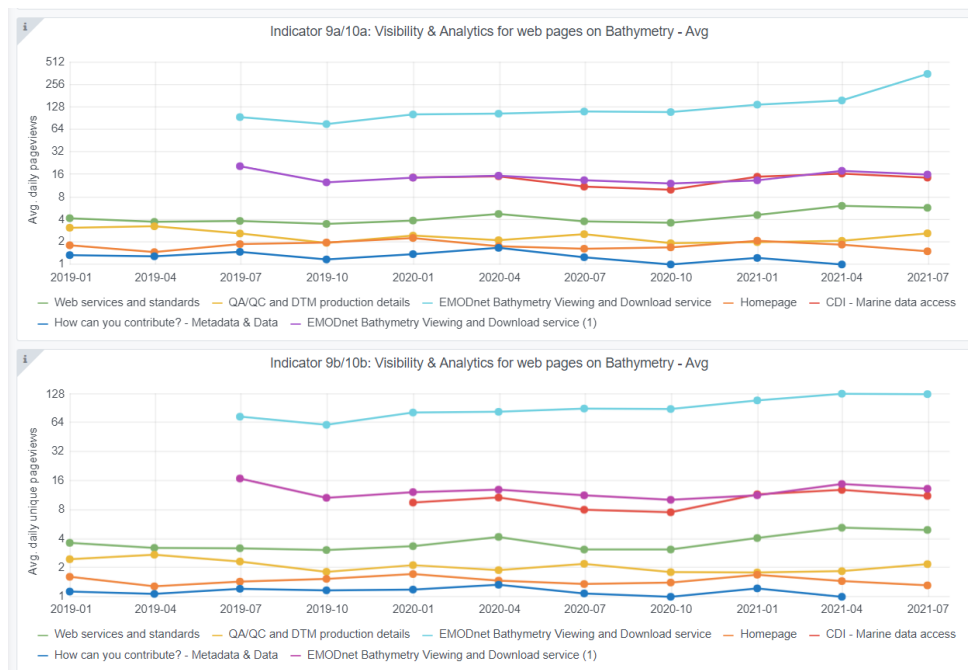
- North Sea checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/north-sea>
- Mediterranean checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/medsea>
- Arctic checkpoint - <https://emodnet.ec.europa.eu/en/checkpoint/arctic>
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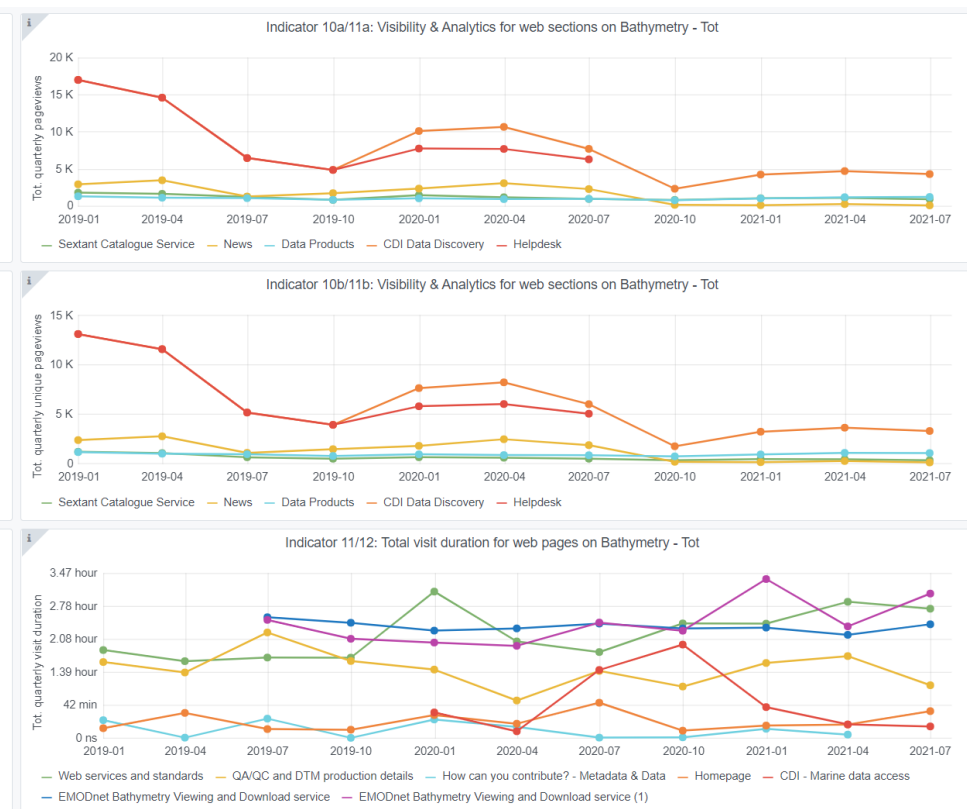
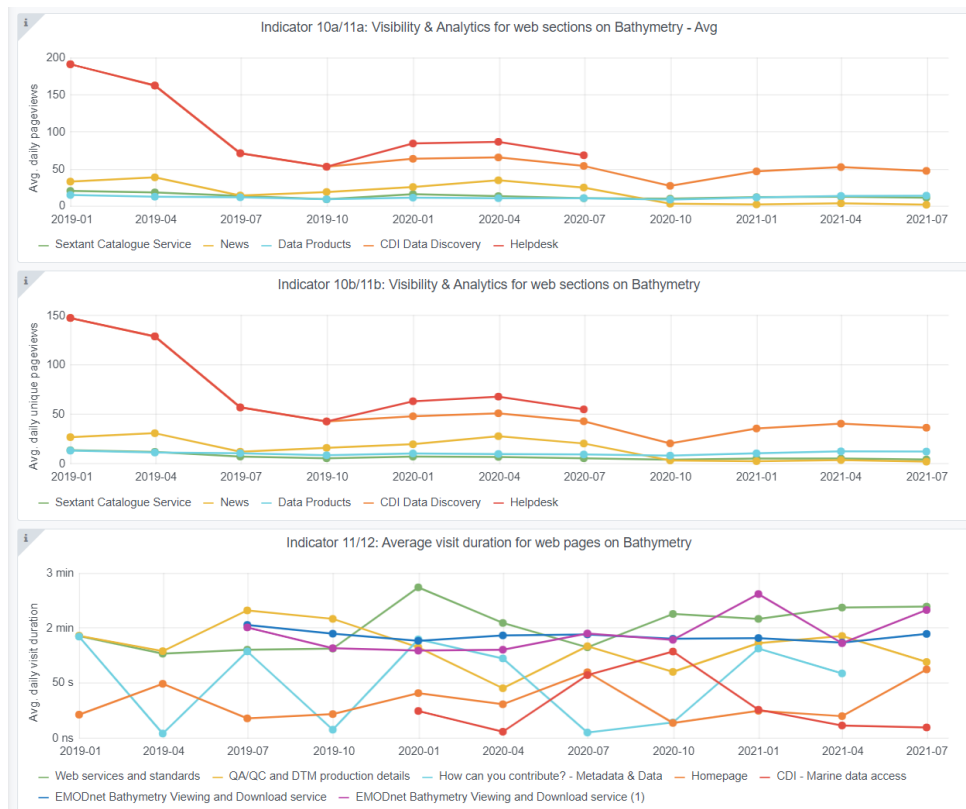
Data Ingestion Service

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

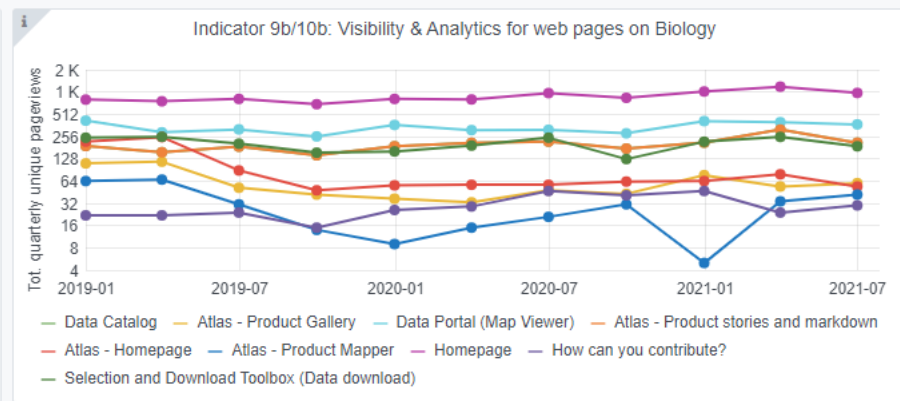
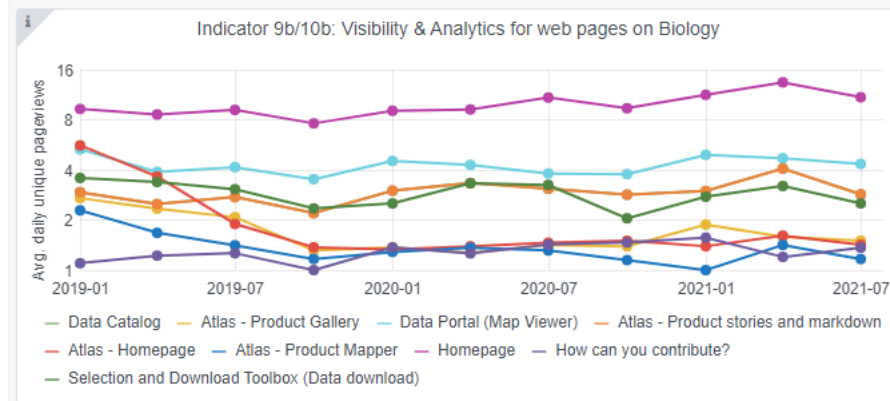
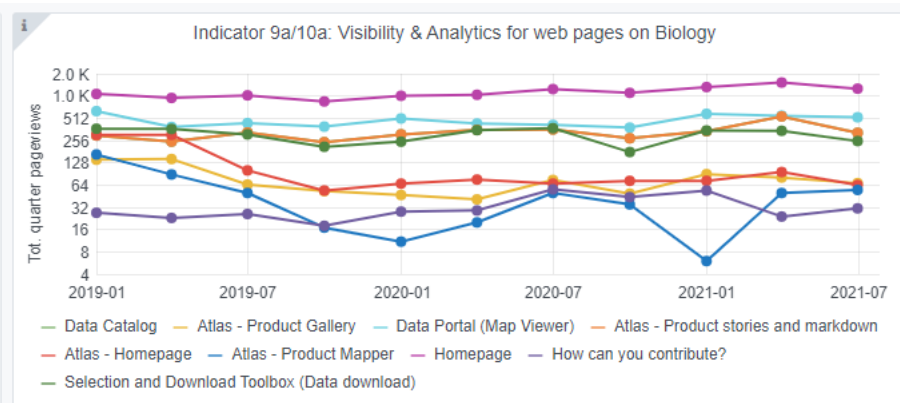
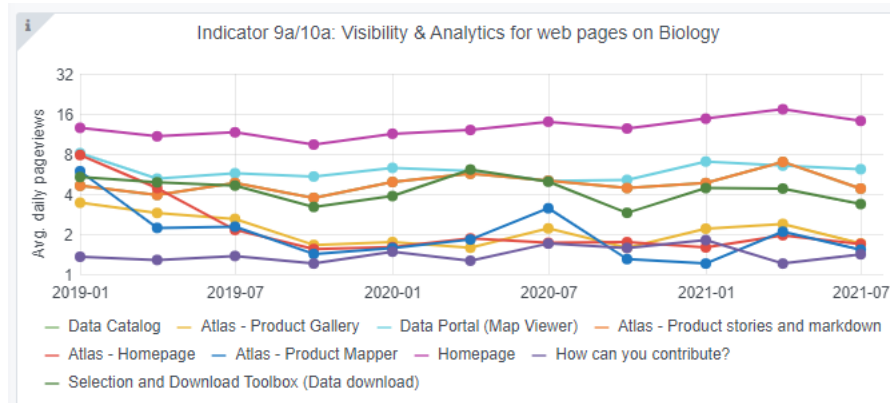
Gallery

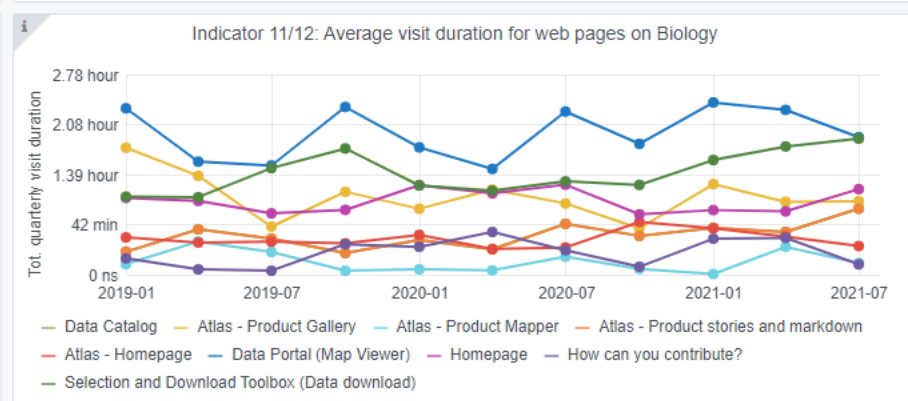
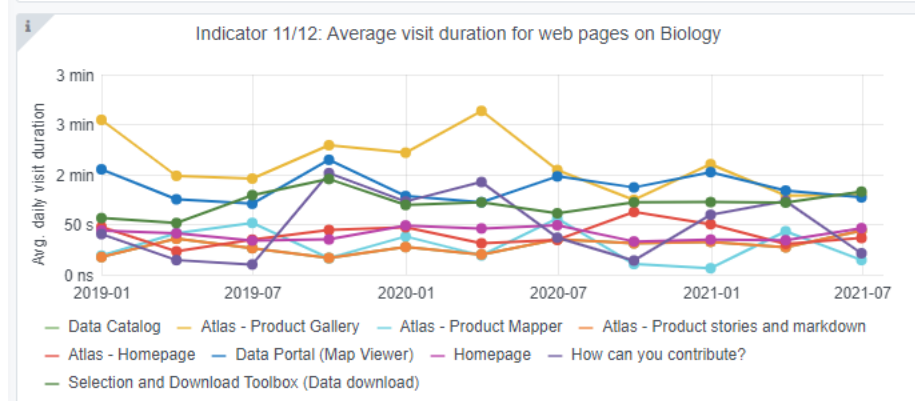
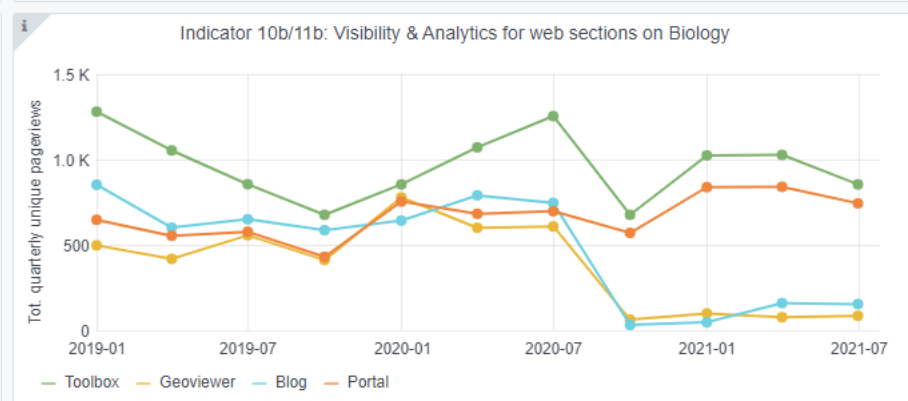
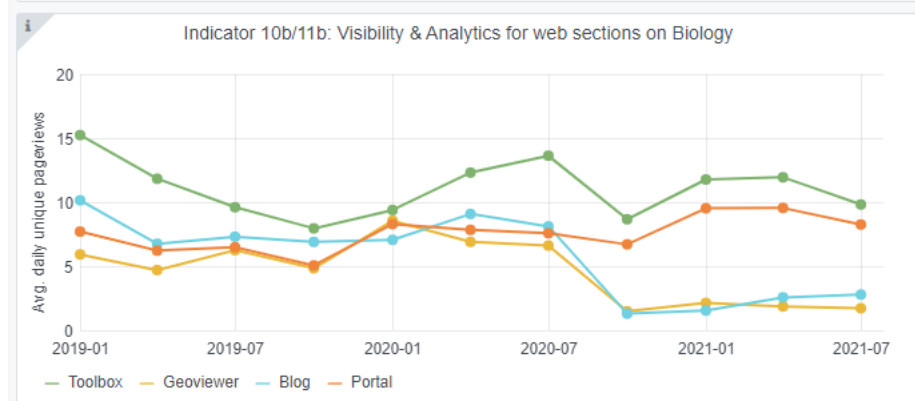
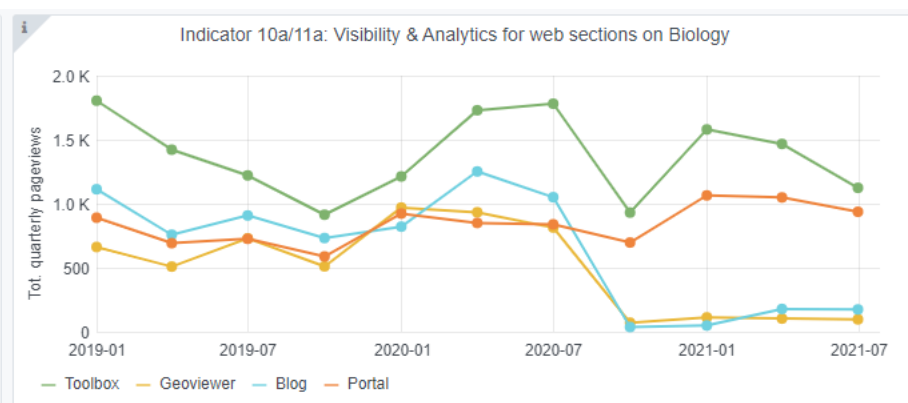
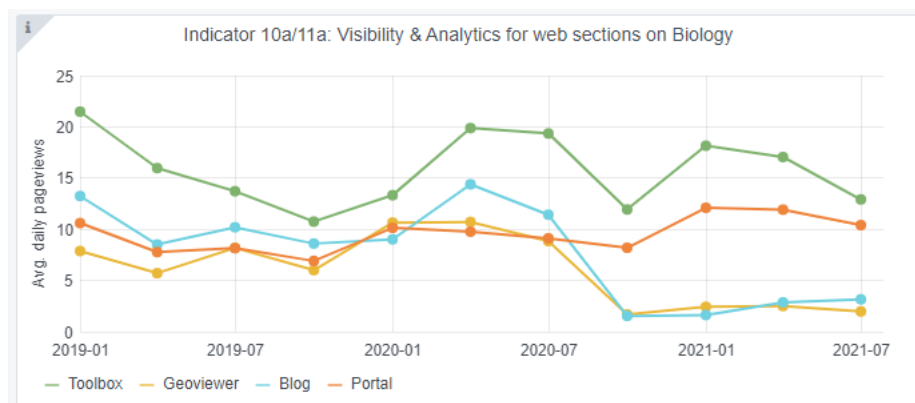
Bathymetry



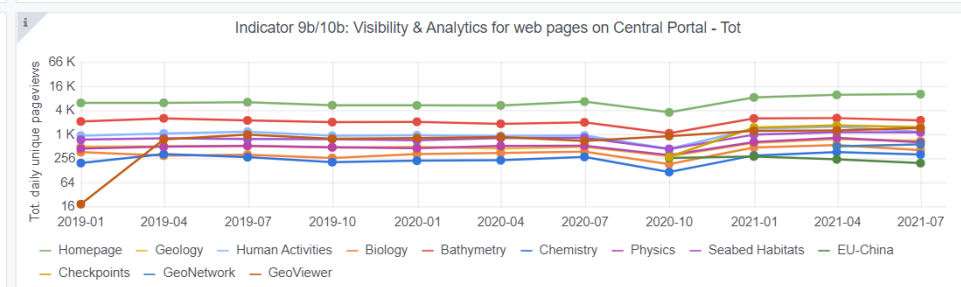
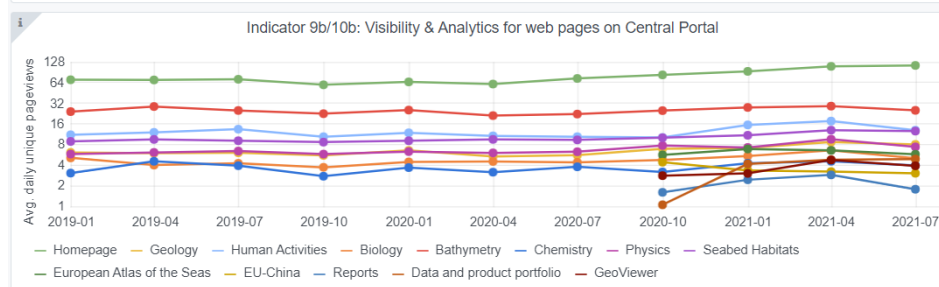
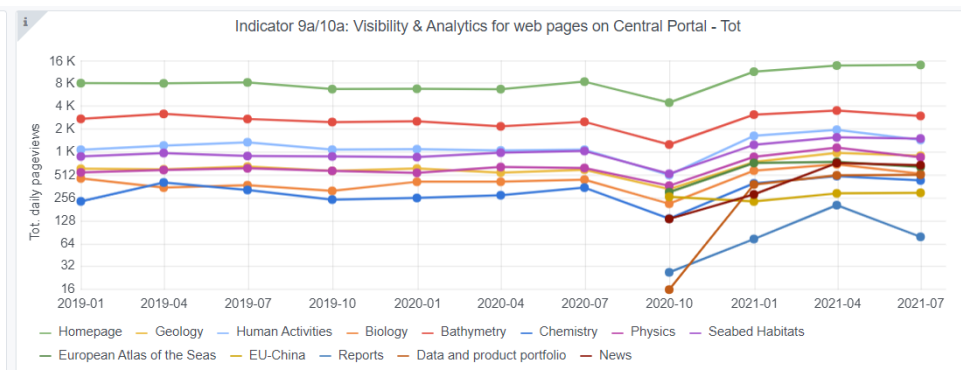
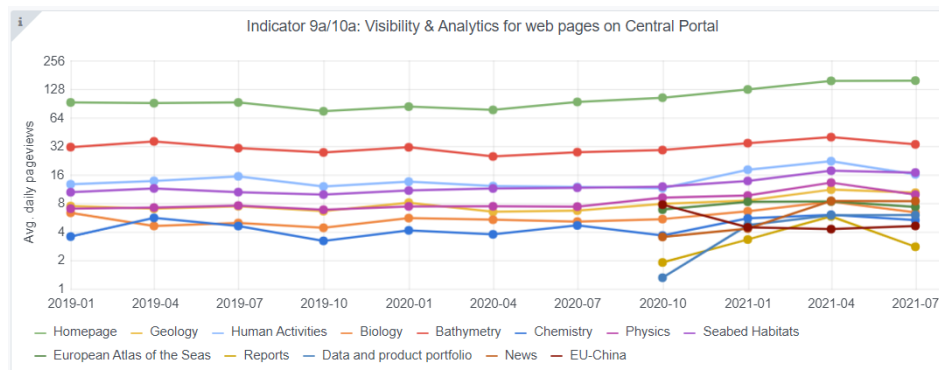


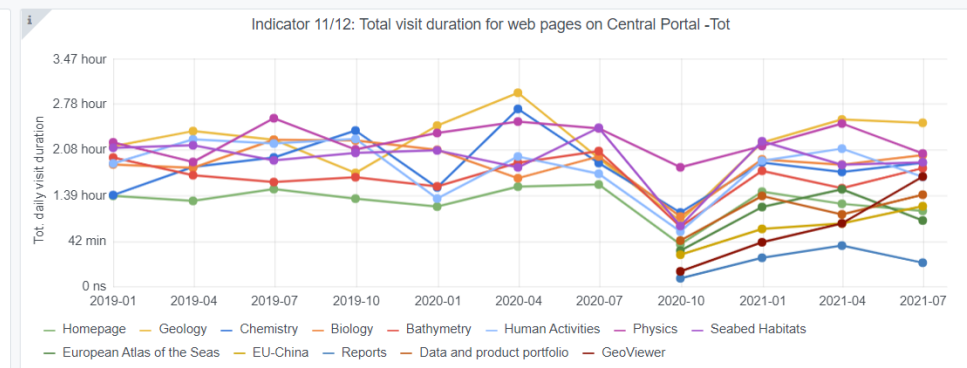
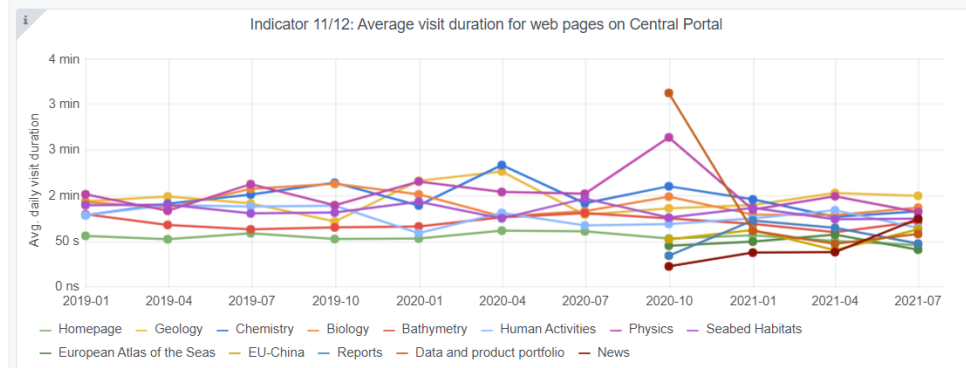
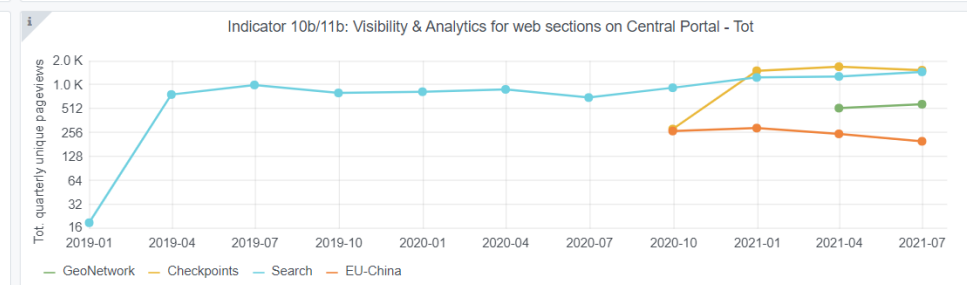
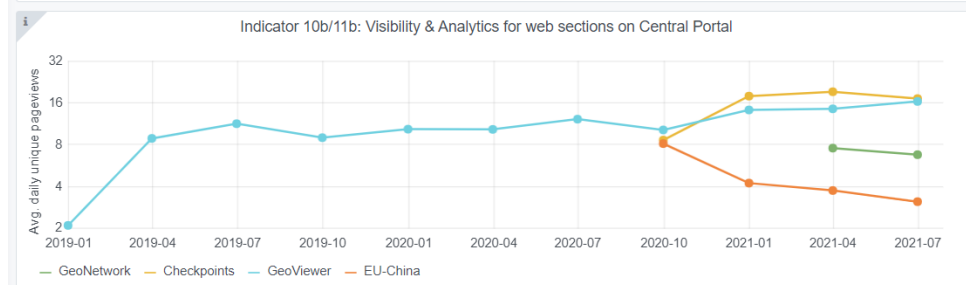
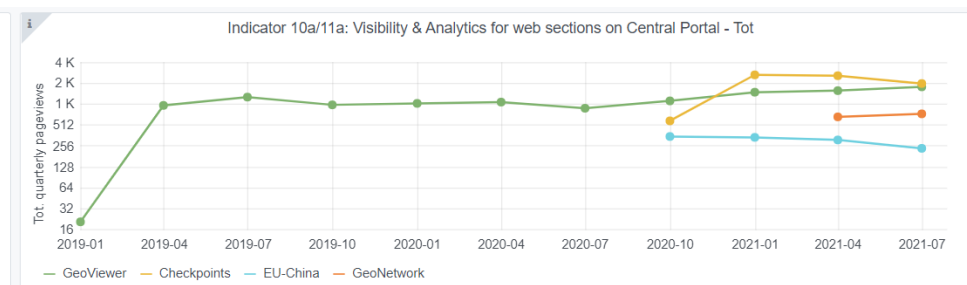
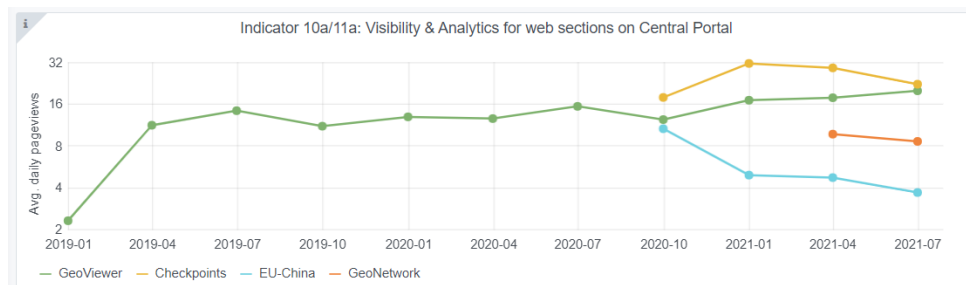
Biology



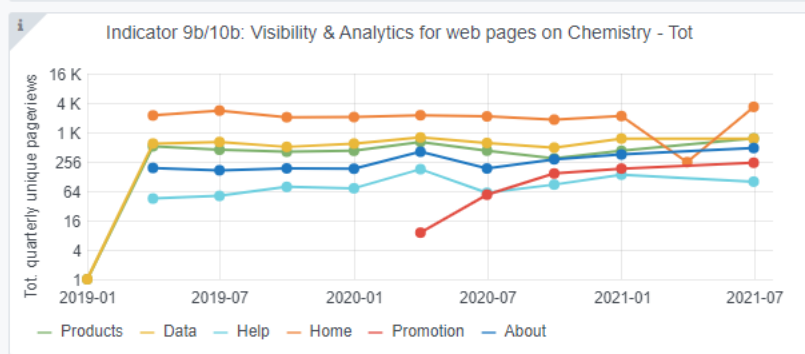
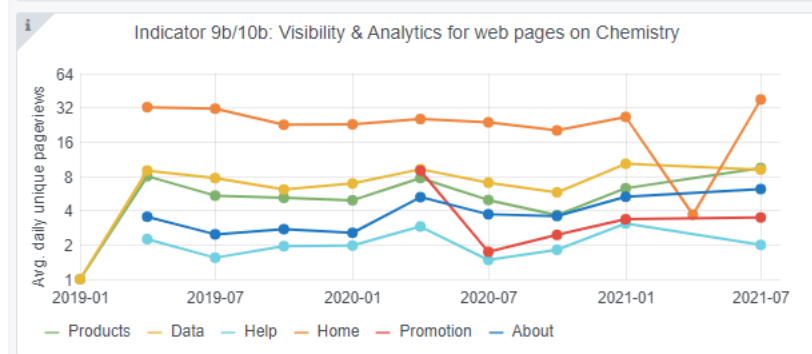
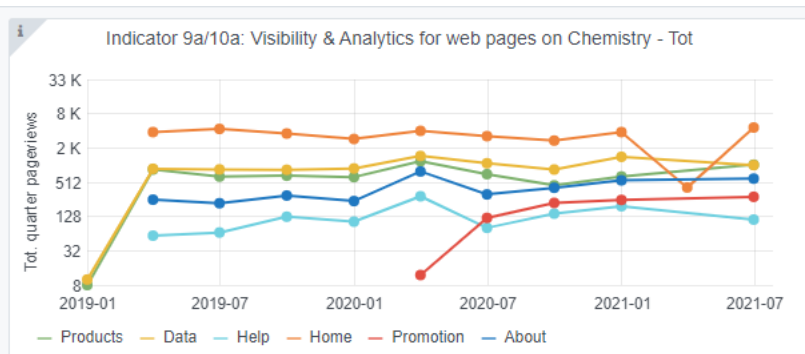
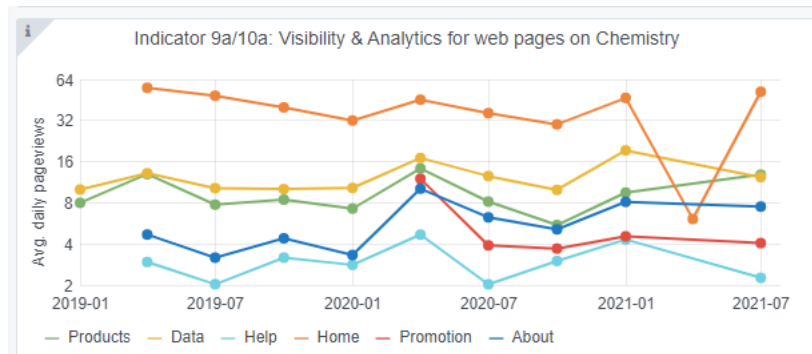


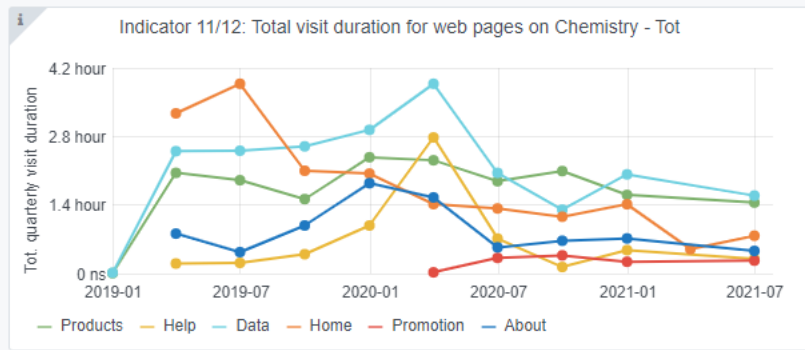
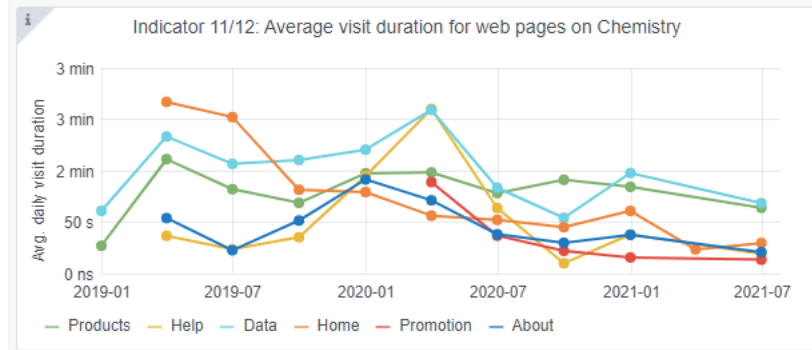
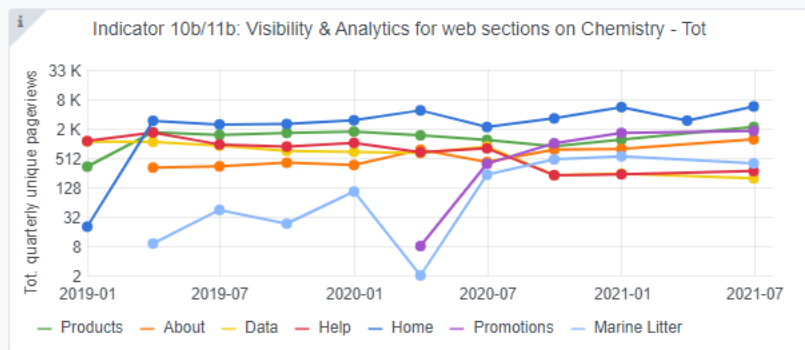
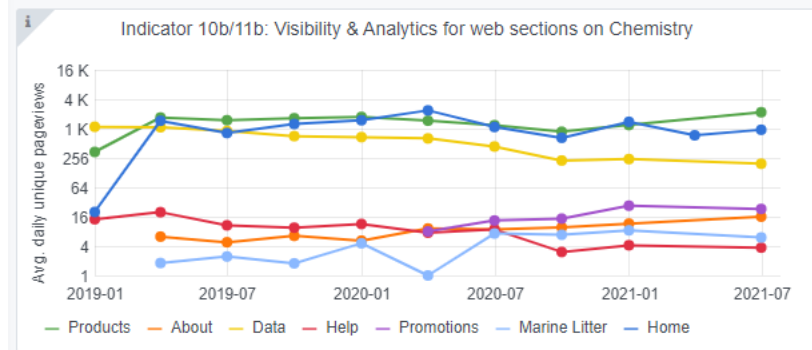
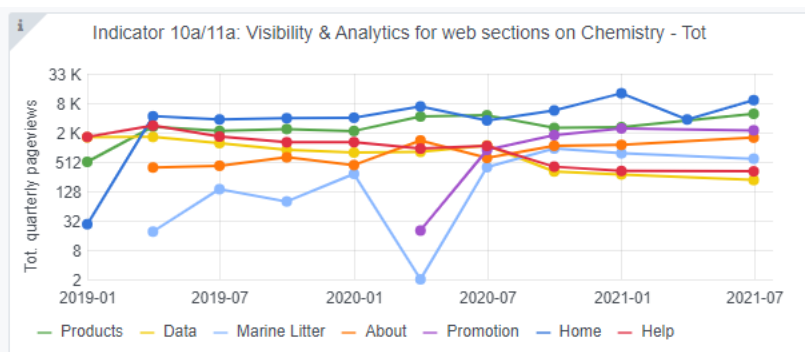
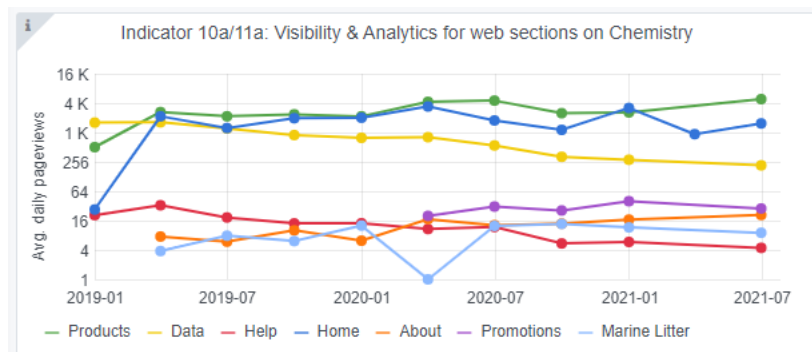
Central Portal



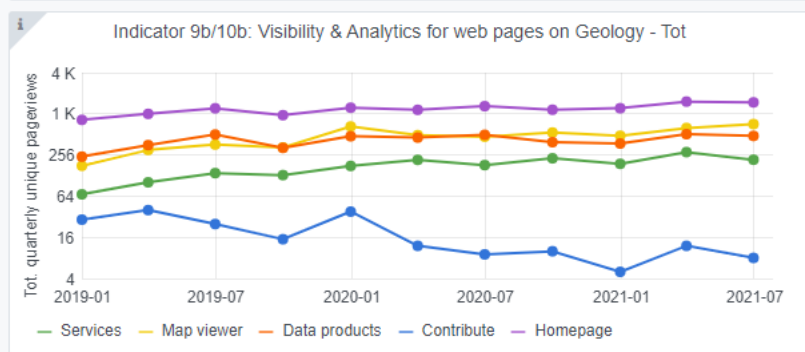
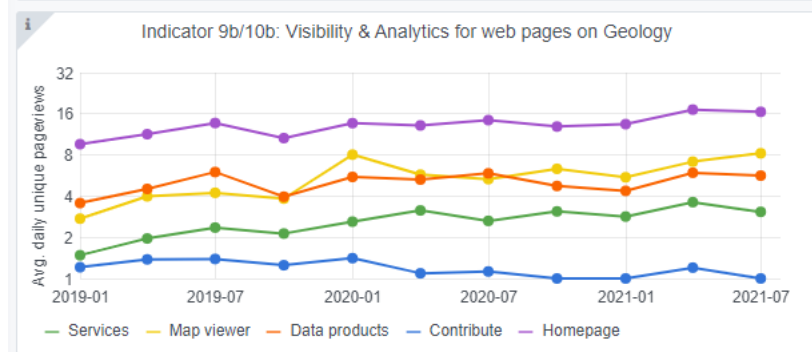
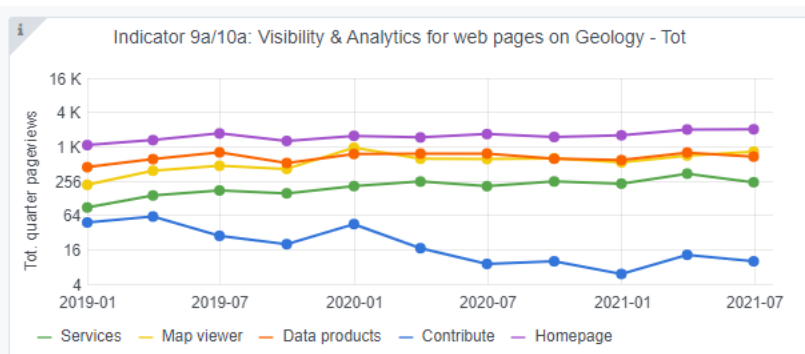
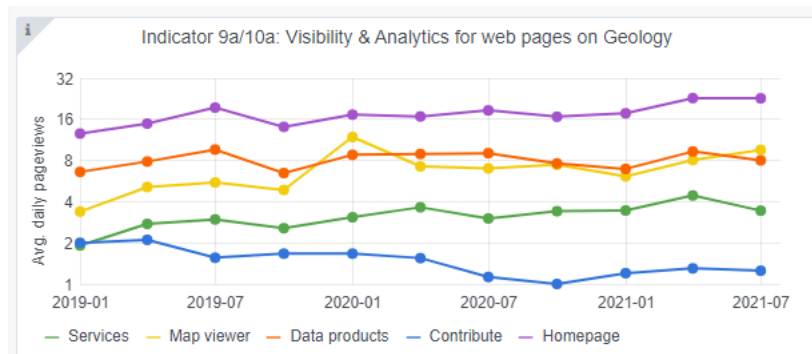


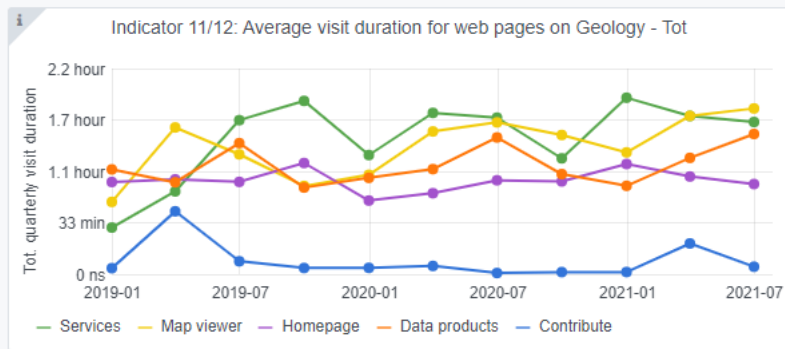
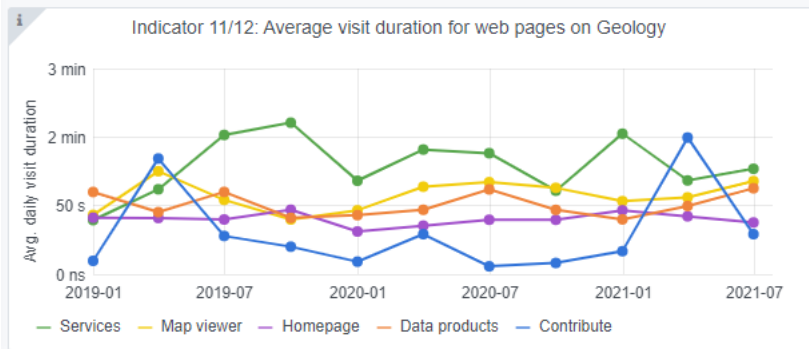
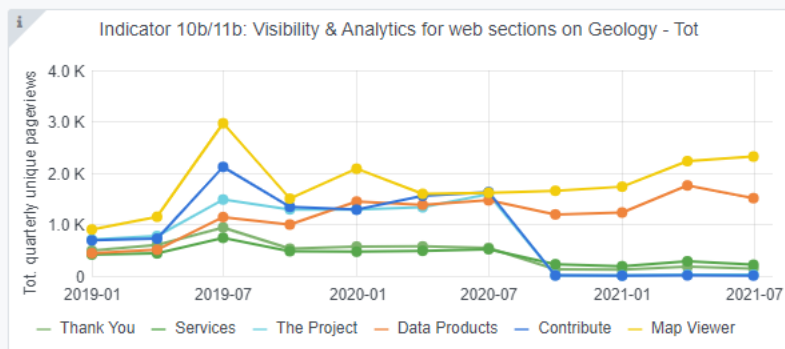
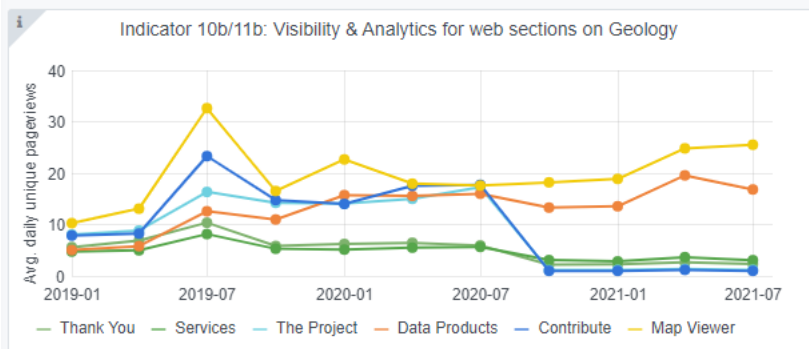
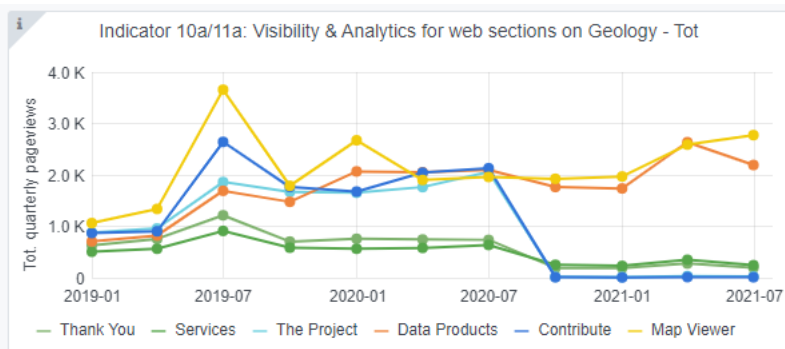
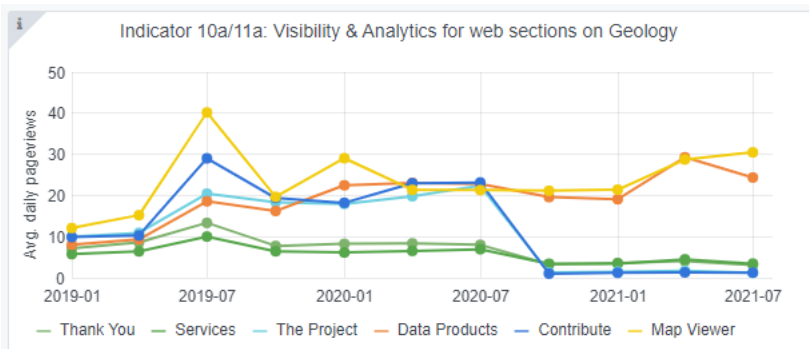
Chemistry



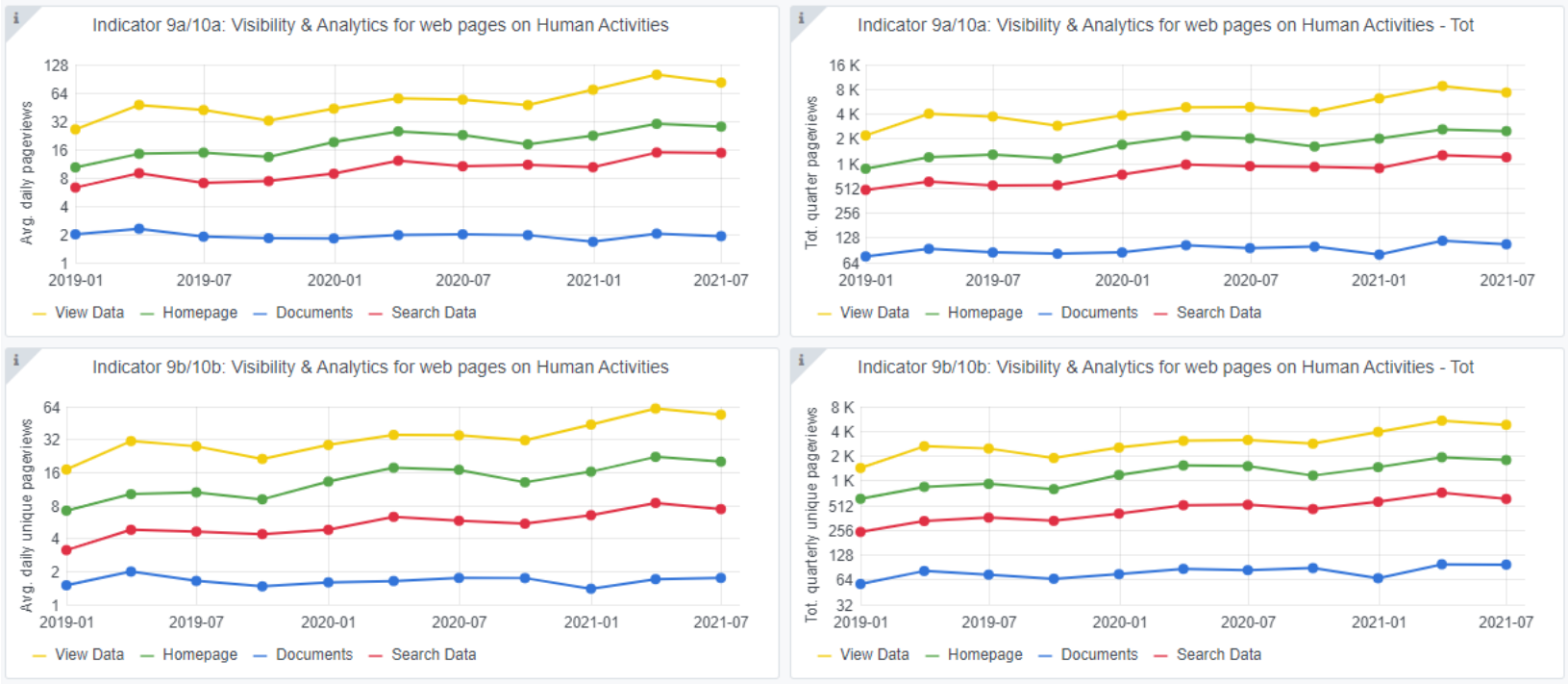


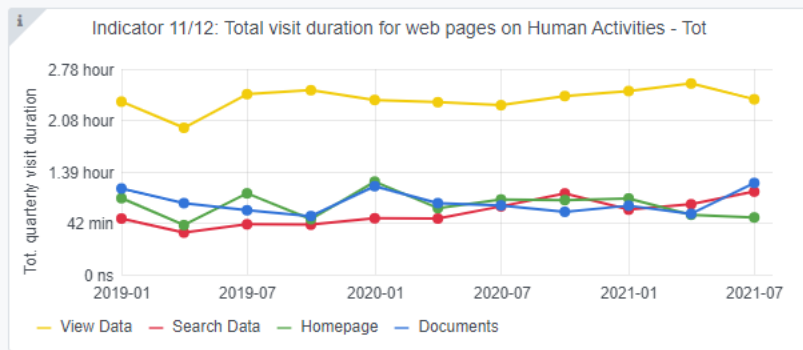
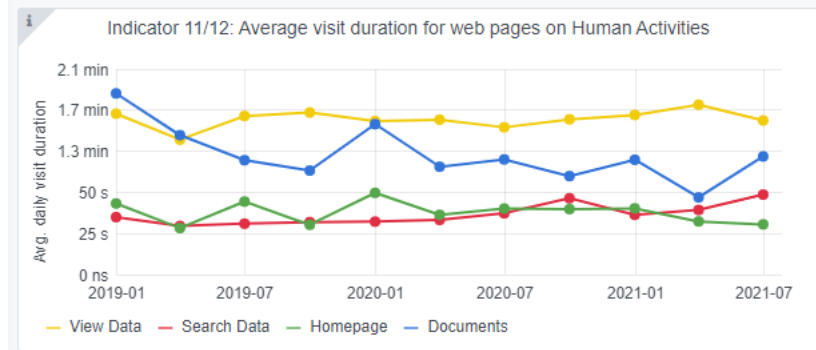
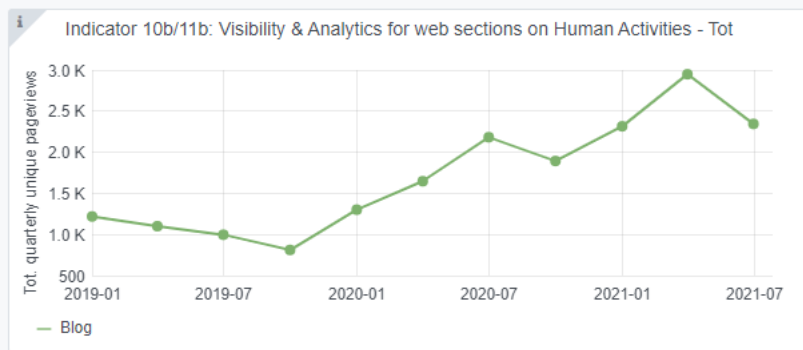
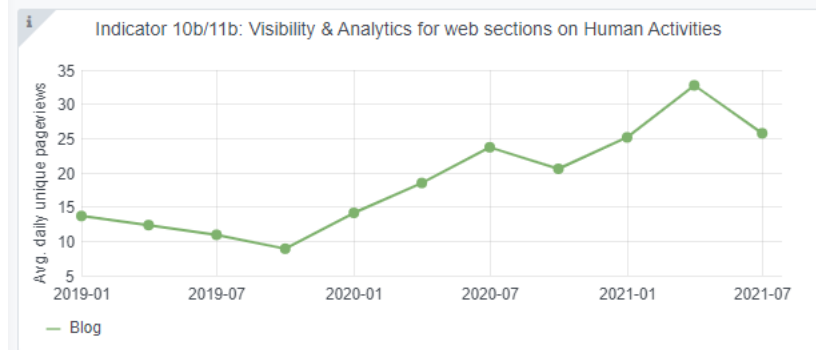
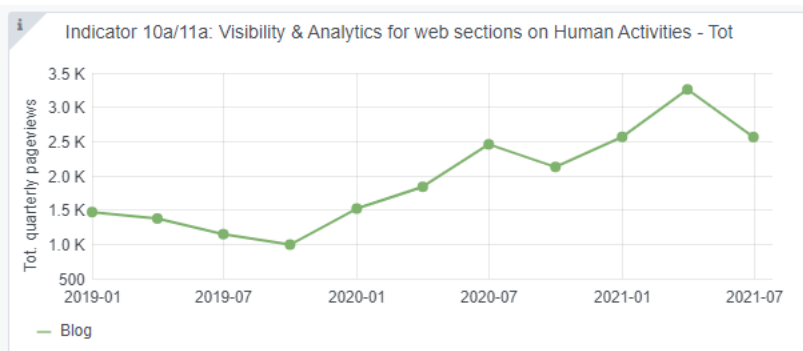
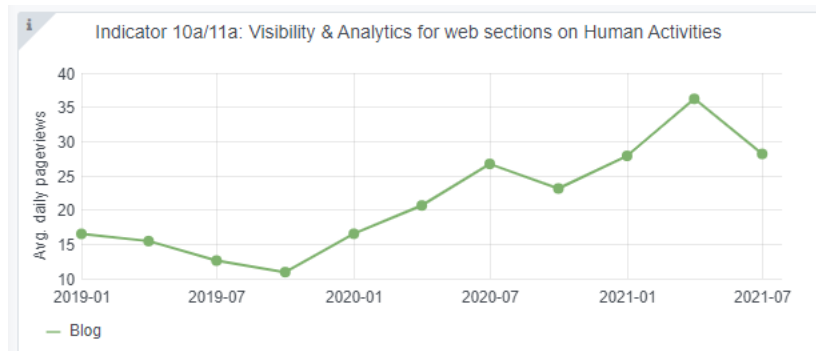
Geology



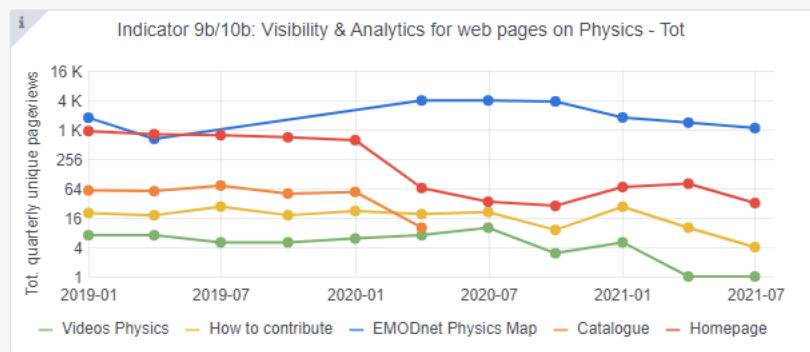
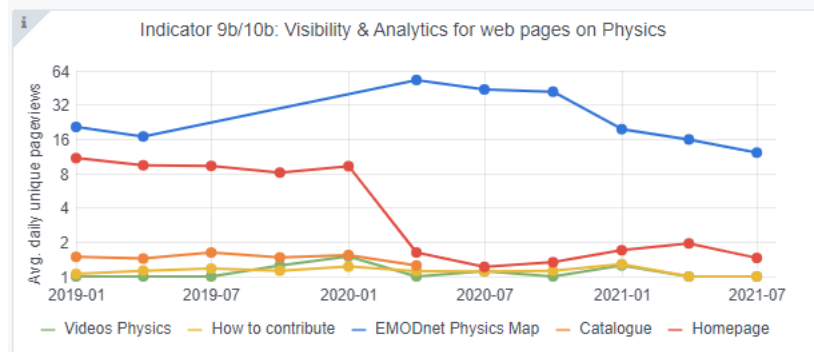
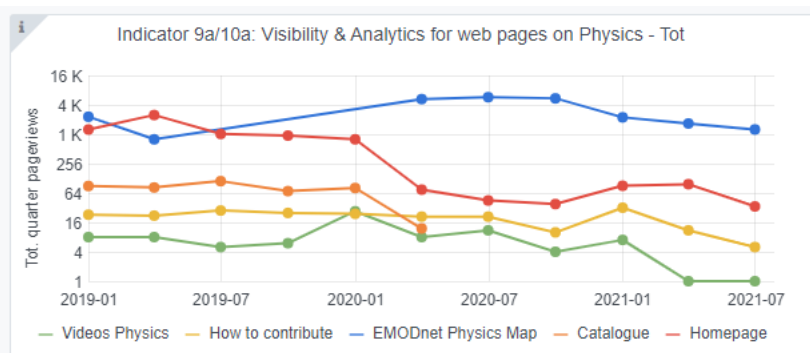
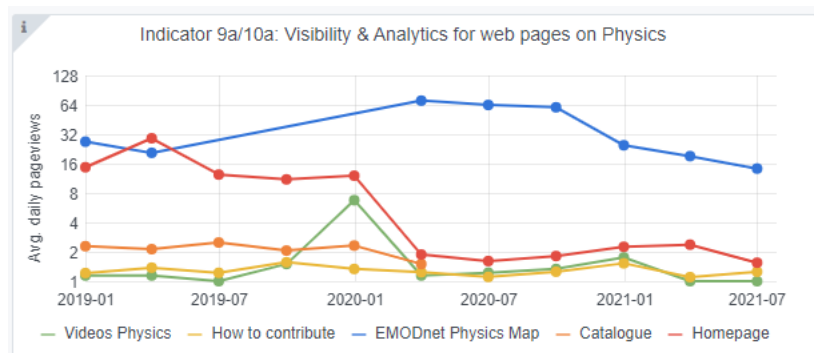


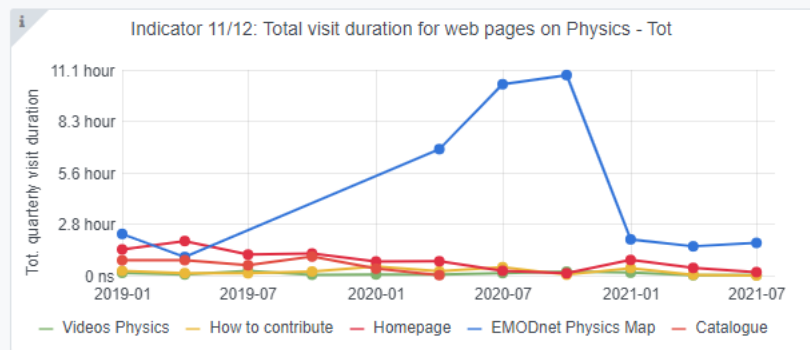
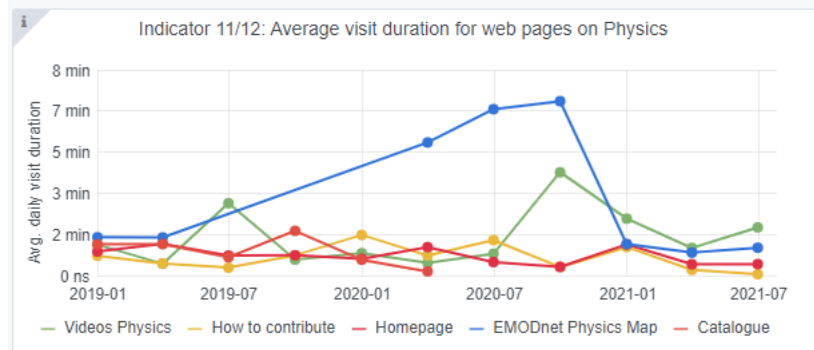
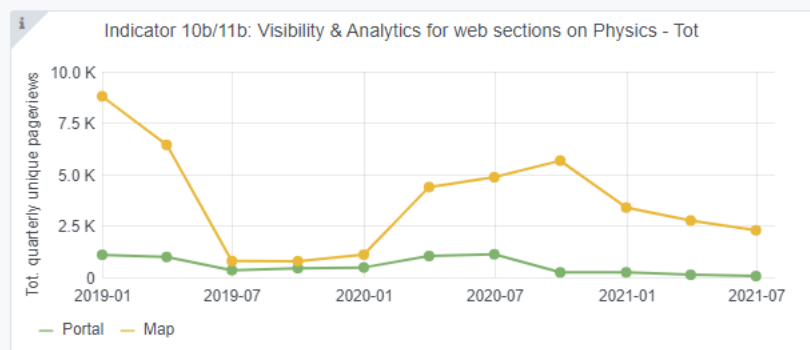
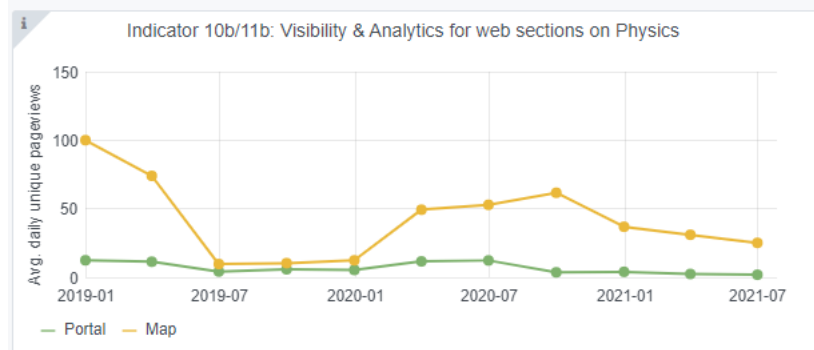
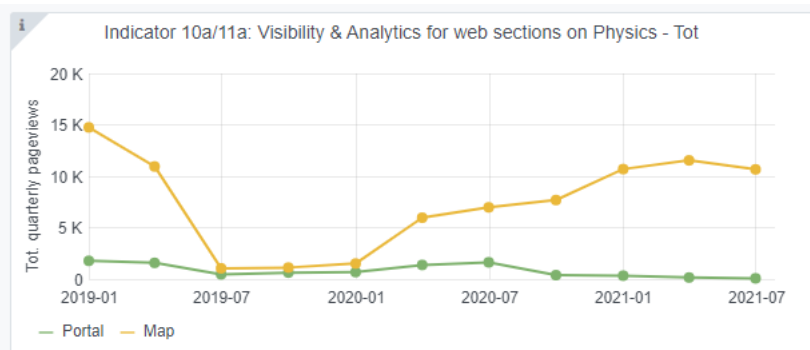
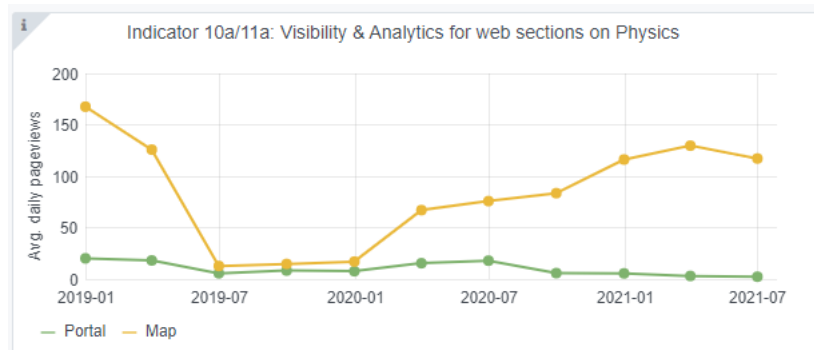
Human Activities





Physics





Seabed Habitats

