

EMODnet Secretariat progress update – 2nd quarter 2022

This report provides an update of EMODnet progress accumulated over the second quarter of 2022, and is based on the quarterly progress reports of the different EMODnet projects currently running (*i.e.* seven thematic lots, and one Data Ingestion facility) supplemented with updates from the EMODnet Secretariat. The summary below constitutes the second 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 2022.

1 EMODnet progress overview

1.1 Common progress highlights

Experts from across the EMOD-network organised and participated in several activities at the UN Ocean Conference which took place from 27 June – 1 July in Lisbon, Portugal. As such, EMODnet co-organised a side event on Marine Data Interoperability together with IODE/IOC, VLIZ, Copernicus Marine Service and the Intertidal Agency, in collaboration with the EC and the UN Ocean Decade Data Coordination Group (for which EMODnet is a co-Chair). On several occasions, EMODnet was highlighted as a key marine data service and infrastructure for the EU Green Deal, Digital Twin Ocean, UN 2030 Agenda and the UN Ocean Decade. The European Atlas of the Seas communication tool was also noted to be the mapping tool selected by the EC for reporting the evolution of Mission “Restore our Ocean, seas and inland waters by 2030”. More information regarding EMODnet representation at the UN Ocean Conference is published on the [Central Portal](#).

EMODnet welcomed a new associated partner, [Fugro](#), the world’s leading Geo-data specialist. Through integrated data acquisition, analysis and advice, Fugro unlocks insights from Geo-data to help clients mitigate risks during design, construction and operation of their assets.

In the reporting period, two new [use cases](#) were published on the Central Portal covering the thematic Biology and Chemistry.

1.2 Specific progress and achievements of the thematic data assembly groups

- **EMODnet Bathymetry** made available an additional 3,880 Common Data Index (CDI) entries and 7 Composite Digital Terrain model (DTM) entries. The data providers have now also started preparing and populating additional high-resolution DTMs into Sextant (the marine data catalogue run by the French government, <https://sextant.ifremer.fr/eng>). The regional coordinators evaluated and selected the most relevant datasets to be used for updating existing areas or for covering gaps in the current Regional DTMs; the updating of their Regional DTMs is expected to be finalized by end of July 2022. The Best Estimate Satellite Derived Digital Coastlines will be extended to the Caribbean Sea; the data will be processed in 1°x1° tiles. New data on official coastlines and legal baselines was processed and included into the collection; as such an update of the report on the former is ongoing. The tenth anniversary of the Memorandum of Understanding (MoU) between the European Commission (EC) and International Hydrographic Organisation (IHO) was celebrated. The MoU was renewed for another decade.
- **EMODnet Biology** made available six new datasets and five updated datasets. In addition, work on one historical dataset is finalized – the dataset is pending publication via the EMODnet Biology portal. Work on two other historical datasets are in progress. The work on rescuing historical data through citizen science is progressing well: the project in the citizen science [Zooniverse](#) platform is about to be submitted to the technical Zooniverse team; and in a next step it will be advertised to citizen scientists. In parallel, a similar project on the citizen science [DoeDat](#) platform is being prepared with

a team at Meise Botanic Garden; the launch is estimated to happen over summer for a first test-case i.e. the digitization of a Mercator training ship expedition data report from 1941. The development of the `ows4r` R package, for accessing EMODnet raster data in R via WCS services, is completed.

- **EMODnet Chemistry** data harvests are planned to be closed by the end of June for eutrophication data and by the end of July for contaminants data. New data products are expected to be released at month 12 (i.e. October 2022) of the project. In the meantime, the Chemistry lot worked with the Central Portal Technical Team, as part of the centralization process, to rationalize the number of data product layers appearing in the new central portal map viewer. The Contaminants layers were grouped per matrix, while the DIVA maps by sea region were grouped by season. HELCOM provided positive feedback on the released dataset on beach litter monitoring data for the period 2020 and 2021 in their area.
- **EMODnet Data Ingestion** signed their new contract on 30 March 2022, marking the official start of the new two-year maintenance contract. In the first quarter of the contract, the number of published submissions increased from 1002 to 1072, and the number of elaborated submissions went up from 448 to 486. The Data Wanted has been taken out of service as it was not popular among users. The EMODnet Data Ingestion portal is setting up cooperations with EU projects (e.g. Horizon 2020 Eurofleets+), and provides guidance and support in the drafting of Project Data Management Plans aimed at sharing collected datasets with EMODnet. During the reporting period, new direct connections were made with several new data sources (e.g. river data from a number of European countries, data from MELOA project, and glider data from Voice of the Ocean Foundation) to ensure a faster availability of data through machine-to-machine connections such as ERDDAP.
- **EMODnet Geology** partner countries continued delivering data to the different work packages. The literature-based map of coastal vulnerability indices from previous phase/contract was translated into a harmonized polyline shapefile with three classes and is currently being quality controlled by the entire partnership in preparation of Web Map Service (WMS) publication on the portal. The update to the Submerged Landscapes database went live in May 2022. Partner GTK will take responsibility of all Caspian Sea tasks formerly assigned to Russian partner VSEGEI.
- **EMODnet Human Activities** updated a number of datasets, among others Nationally Designated Areas, Natura 2000 Areas and State of Bathing Waters. The Vessel Density Maps and Route Density Maps were also updated to include from 2021 and up to June 2022 respectively. Centralisation is almost complete; one pending item concerns the conversion of Vessel Density maps from GeoTIFF to NetCDF.
- **EMODnet Physics**, as part of the Marine Insitu Collaboration Technical Working Group (MIC TWG), joined a second meeting to start reviewing the recommendations for metadata global attributes and discussing the proposed internal workflow. During the reporting period, more operational river data were linked. The thematic lot continued their activity on reviewing and providing static web content to the Central Portal Technical Team for the new Central Portal, and they organized the list of products to be incorporated in the Central Portal.
- **EMODnet Seabed Habitats** is preparing a new broad-scale seabed habitat map for the Caspian Sea. The environmental layers have been prepared from existing data archives on light attenuation in the water column, wave length, seabed temperature and salinity; the benthic species data were identified from literature; and progress was made in the definition of physical seabed habitats. Subcontractor DHI produced a one-year mean prediction for the depth to the halocline in the Baltic Sea. The next step is the production of a multi-year mean for use in the EUSeaMap. The thematic lot managed to embed EMODnet Seabed Habitats into the OSPAR 2022 data call for data on threatened and/or declining habitats in the northeast Atlantic by offering its services to gather and format data for compilation in the database.

2 EMODnet data portals usage

2.1 User visit statistics

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

- The **EMODnet Bathymetry** Viewing and Downloading service and CDI Marine Data Access webpages remain the most visited ones (on average 313 and 15 daily pageviews respectively). Overall, the trend in number of pageviews remained constant for all web pages. This quarter, users spent on average 2 minutes on the webpage on Web Services & Standards.
- Decreasing trends in the average daily number of pageviews were observed for the various tracked **EMODnet Biology** pages. The most visited page was the Homepage (13), on which users on average spent 40 seconds. The How Can You Contribute webpage was on average the least visited one (1); the Atlas Product Mapper webpage was the page the users spent the least time on (7.5 seconds).
- The average daily pageview statistics for the **EMODnet Central Portal** website show that the Homepage was on average visited 82 times per day. The thematic entry-page received pageviews ranging from 3 (Chemistry) to 37 (Bathymetry). The daily average time spent on the Central Portal ranges from 28 seconds (News) to 2.3 minutes (Geology and Physics entry page).
- The statistics show an overall increase in number of pageviews for most of the **EMODnet Chemistry** webpages, between 10 and 15. The trend for the Home page remained constant at 41. Most of the time was spent on the Products page, with one minute.
- Visitors of **EMODnet Data Ingestion** primarily visit the Homepage (15 average daily pageviews) and the Data Submission service (7), where they stay for on average 26 seconds and 17 seconds respectively.
- Web traffic remained constant for **EMODnet Geology**. The Map viewer and Products page received the 9 and 7 average daily pageviews respectively, followed by the Services page (4). On those pages, users spent on average between 45 seconds and 2 minutes per visit.
- Compared to the previous quarter, the web traffic for **EMODnet Human Activities** remained stable. The webpages were visited daily on average between 2 (Documents) and 90 (View Data) times. Users spent on average 1.7 minutes on the View Data webpage, 22 seconds on the Homepage, and 42 seconds on the Search Data page.
- Slightly decreasing numbers of average pageviews were observed for the **EMODnet Physics**. On average, the Physics Map and Homepage received 27 daily pageviews, and users spent on average 1.3 minutes on this page.
- A slightly downward trend was observed in the number of average daily pageviews for most of the **EMODnet Seabed Habitats** webpages. The Launch Map Viewer received the most pageviews (22), followed by the Homepage (12) and Download data (9). On the Launch Map Viewer, users spent on average 1.5 minutes per visit, 30 seconds on the Homepage, and 1.8 minutes on the Download Data page.

2.2 Statistics on usage of EMODnet portals¹

2.2.1 Number of data downloads²

- A decrease was recorded in the number of Common Data Index (CDI) datasets manually downloaded (from 8,141 CDIs downloaded previous quarter, to 285 downloaded this quarter) from **EMODnet Bathymetry**.
- **EMODnet Biology** data usage decreased during the reporting period by 21.5% (192 data download requests, compared to 245 previous quarter).
- The number of **EMODnet Chemistry** CDI data file downloads increased with 181% (from 9,353 to 26,768 CDIs) due to a manual delivery of beach litter data to HELCOM. The number of users remained constant at 16.
- Nearly 300 dataset downloads were observed for the **EMODnet Data Ingestion** portal.
- An overall decrease was recorded in the number of manual dataset downloads for **EMODnet Human Activities** (the sum of the number of dataset downloads equals 2672, compared to 3928 previous quarter). Among the most downloaded datasets were Wind Farm locations (496), Cables Landing Stations (162) and Schematic Cables (154), and Oil and Gas Offshore Installations (148).
- Compared to the previous quarter, decreases in the number of data download requests were observed for almost all **EMODnet Physics** sub-themes. Download requests ranged from 1 (Underwater noise), to 25 (Optical properties) up to 456 (Water temperature).
- In this quarter, less records were manually downloaded from the **EMODnet Seabed Habitats** dataset “collection of classified points”. As such, a decrease of 14% was observed (from 27,389,408 records to 23,565,652).

2.2.2 Number of data product downloads³

- This quarter, a similar number of manual downloads of **EMODnet Bathymetry** DTM tiles was recorded as in the previous quarter (10,419 now vs. 10,630 previous quarter). More HR-DTMs were downloaded (840) compared to the previous quarter (602).
- Two data product downloads were recorded for **EMODnet Biology**.
- **EMODnet Chemistry** saw a big increase in the number of manually downloaded files of the Contaminants data product (from 29 to 251 files downloaded). A decrease in the number of manual file downloads was recorded for the other sub-themes, ranging from -38% to -65%.
- **EMODnet Geology** recorded a total of 270 data product download requests, which is in line with the total number recorded previous quarter. “Seafloor geology” remains the most downloaded data product (51), and the “substrate accumulation rate” product the least (12).
- Compared to the previous quarter, the number of dataset downloads decreased for **EMODnet Human Activities**. Of the “vessel density maps”, 1520 dataset downloads were done (compared to 1993); and of the “route density maps”, 459 dataset downloads were performed (compared to 620).
- Increases in the number of download transactions (through ERDDAP, from 10,562,119 to 12,774,748) were observed for the products of **EMODnet Physics**.

¹ For portals which provided this information.

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

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

- There is an overall reduction in download of products across the various **EMODnet Seabed Habitats** sub-themes.

3 Recent meetings and events

In the second quarter of 2022, a mixture of remote, hybrid and physical events was organized and/or attended by the EMODnet thematic lots. A few key meetings included the following:

- **EMODnet Bathymetry** attended the GEBCO Guiding Committee meeting to promote adoption of its approach to metadata and data management (20-22 April, Monaco), and attended the EU Marine Data Services for the All-Atlantic webinar (11 May).
- **EMODnet Biology** attended the 22nd meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea in New York (USA) to present the European perspective on Strengthening ocean observation value chain through regional cooperation (6-10 June), and attended a webinar organized by Netherlands Centre for Coastal Research to present a high-level overview about EMODnet Biology's activities and services.
- **EMODnet Chemistry** attended the ICES Working Group on Marine Litter (27-29 April, Trondheim, Norway) to discuss the revised format of micro-litter of ICES data centre and possible alignment on EMODnet Chemistry format for micro-litter; organized a parallel session on citizen science and ocean literacy at the International Ocean Literacy Conference (9-10 May, Malmö, Sweden) and organised a workshop on national marine infrastructure and data mapping (11 May, Malmö, Sweden).
- **EMODnet Data Ingestion** attended a conference for university students to introduce EMODnet (16 May, Bizkaia, Spain) and attended as a panellist in a webinar on EU Marine Data Services EMODnet and COPERNICUS Marine in the context of An All Atlantic Ocean Data Space 2030 and global ocean data ecosystem (11 May, remote).
- **EMODnet Geology** attended the Nordic Geological Winter Meeting 2022 (11-14 May, Reykjavik, Iceland) to present EMODnet and EMODnet Geology, and attended the GeoHab 2022 Conference (16-20 May, Venice, Italy) on marine geological and biological habitat mapping.
- **EMODnet Human Activities** attended the Marine Spatial Planning Conference – Planning for the future of Europe's Marine Space (14-15 June, Brest, France) and had a meeting with the Agência Nacional do Petróleo, Gás Natural e Biocombustíveis (Brazil) to discuss the feasibility of ingesting data on oil and gas from Brazil (17 June, remote).
- **EMODnet Physics** organized two meetings with the European Marine Networks of Environmental Data Stations (EMANEDS) (26 May & 21 June, remote) to discuss about data flow towards EMODnet, and with SONEL (24 June, remote) to follow up on the integration of new products and the harmonization of the data flow.
- **EMODnet Seabed Habitats** attended two meetings of the European Marine Board Working Group of Marine Habitat Mapping (kick-off meeting on 7 April, remote and a follow-up meeting on 15 June).

4 Upcoming EMODnet meetings and events

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

- The **EMODnet Technical Working Group** will meet physically on 21 afternoon and 22 September morning in Brussels, Belgium.
- On 22 September afternoon, EMODnet and Copernicus Marine Service will organise a **second EMODnet-Copernicus workshop dedicated to coastal issues** following the first meeting in 2020. The workshop is planned to take place in Brussels, Belgium, and is upon invitation only.

5 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>

5.1 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

5.2 Data Ingestion Service

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

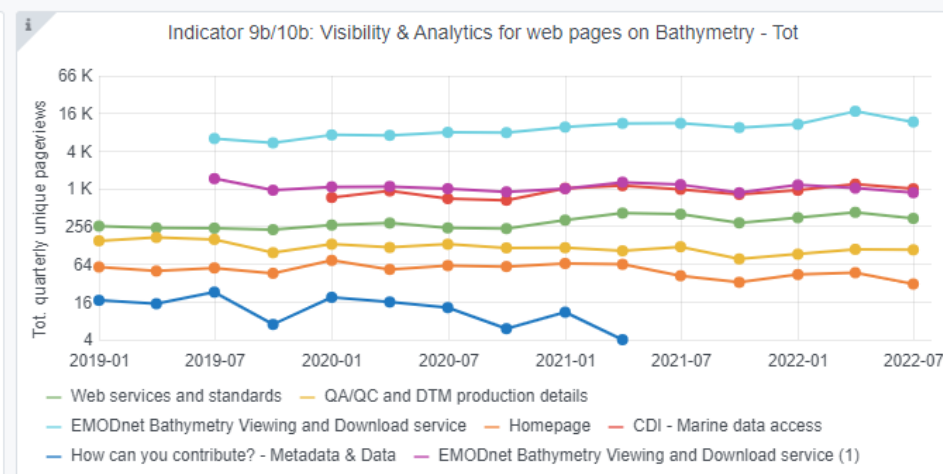
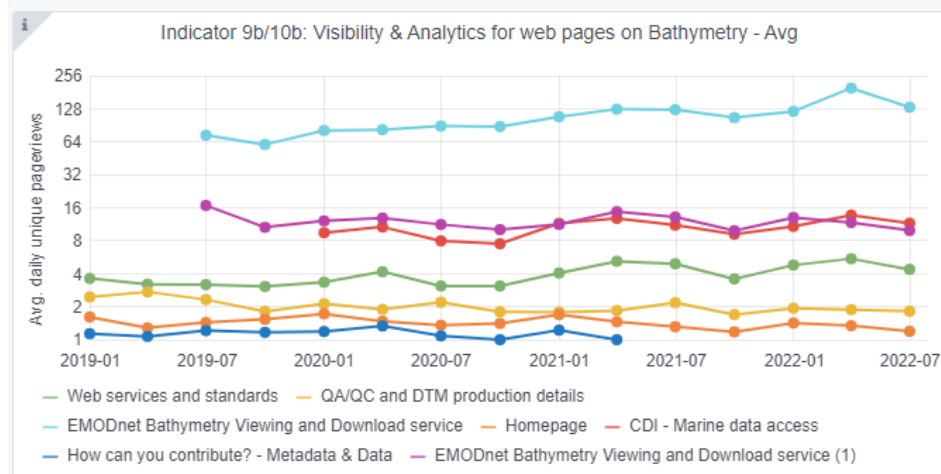
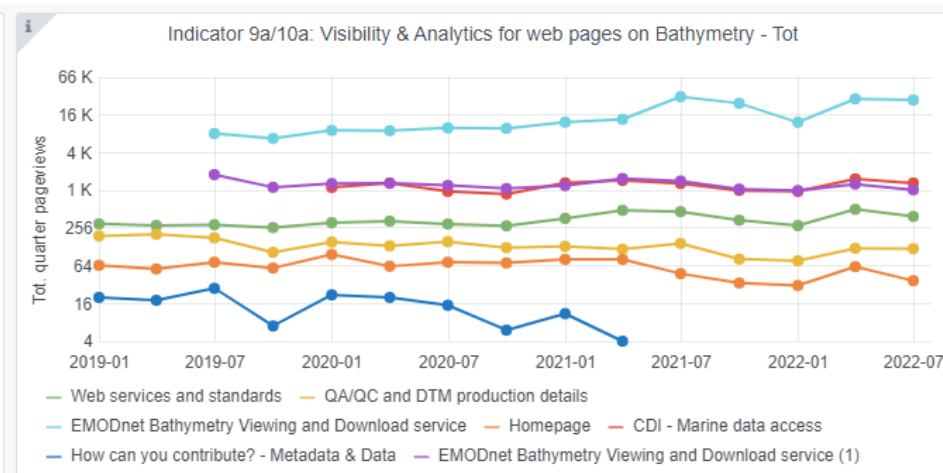
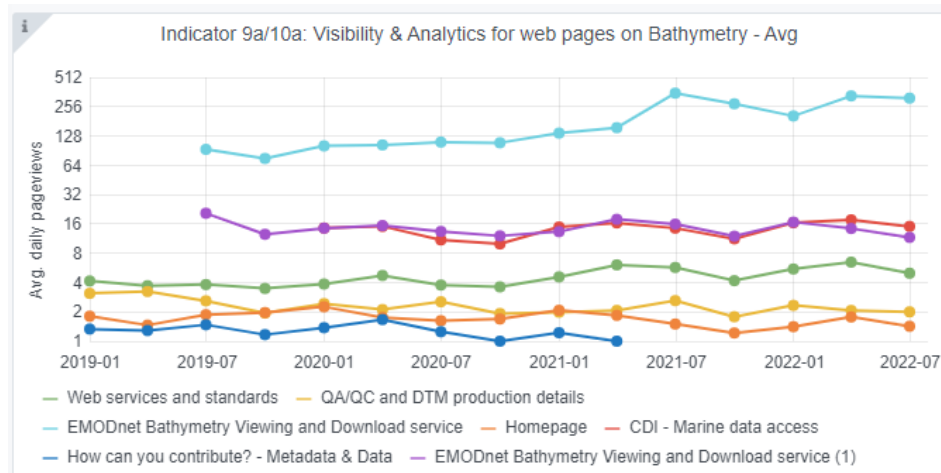
5.3 Sea-basin Checkpoints resources

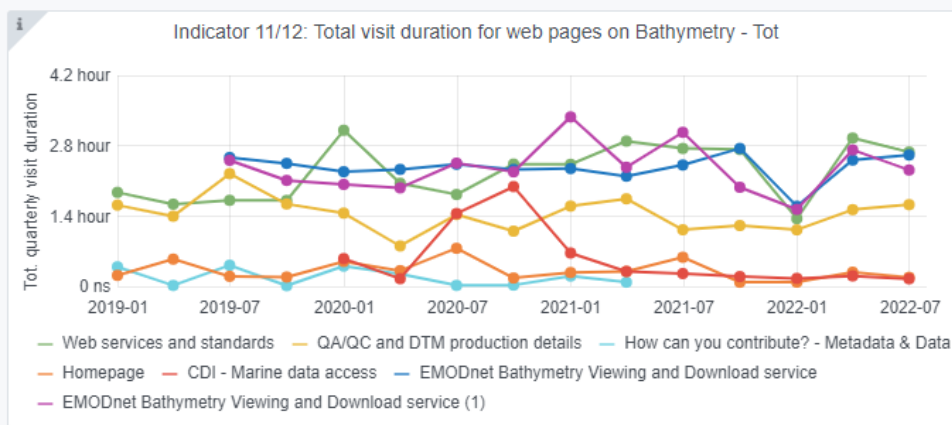
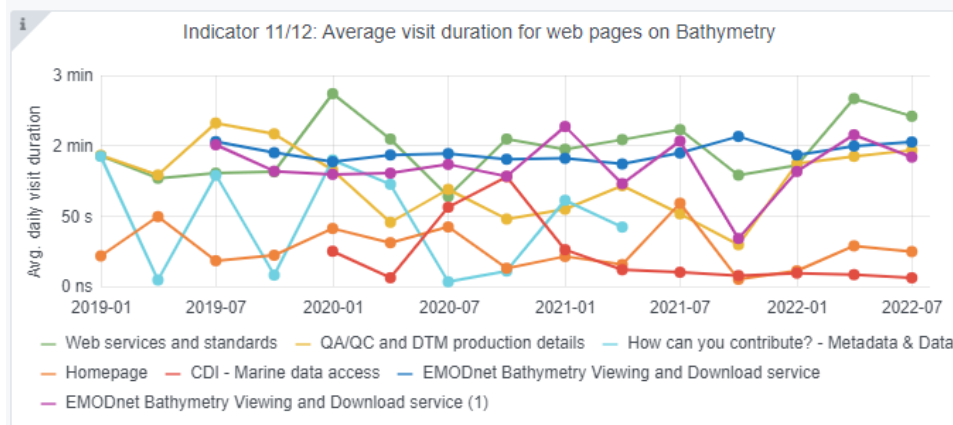
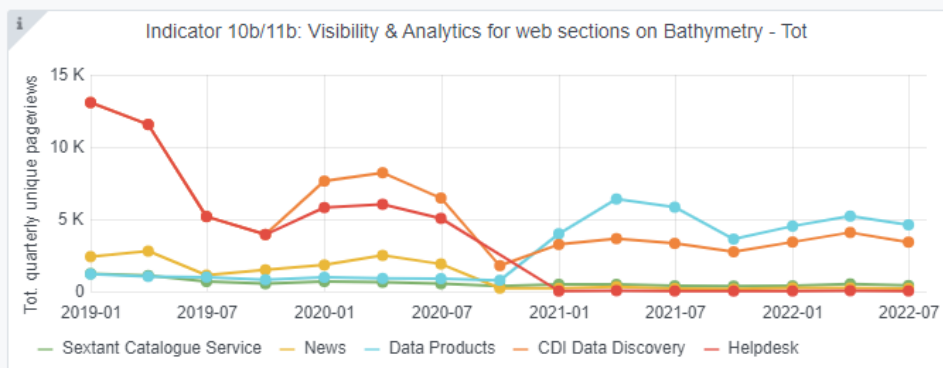
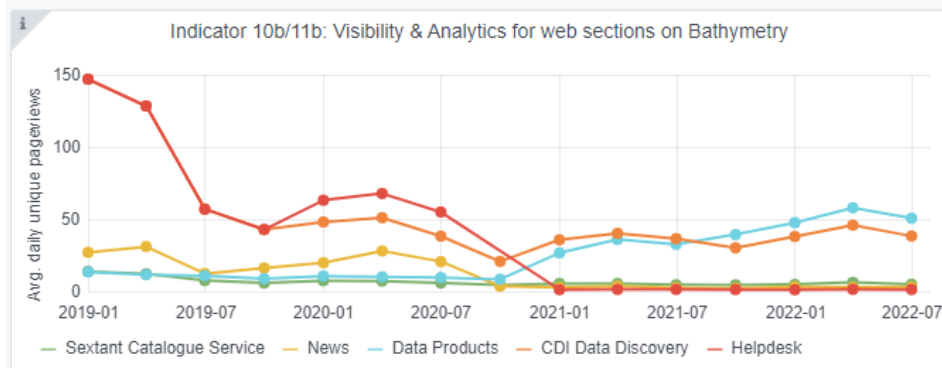
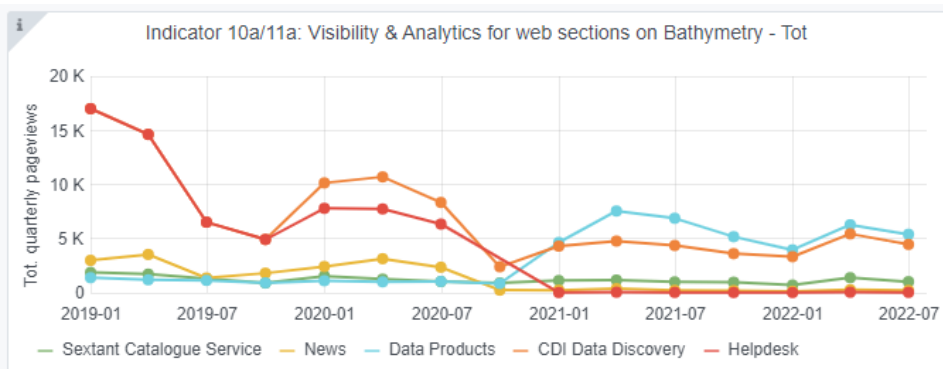
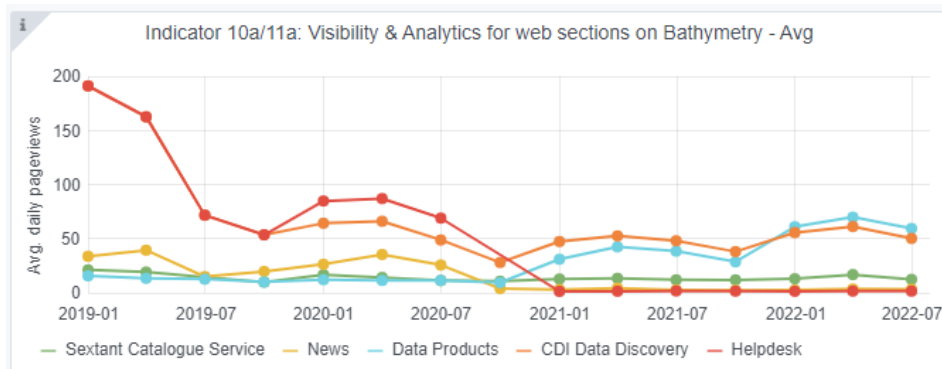
For an overview of and access to information and outputs from each of the Sea-basin Checkpoints (projects ended), visit: <https://emodnet.ec.europa.eu/en/checkpoints>

- 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>

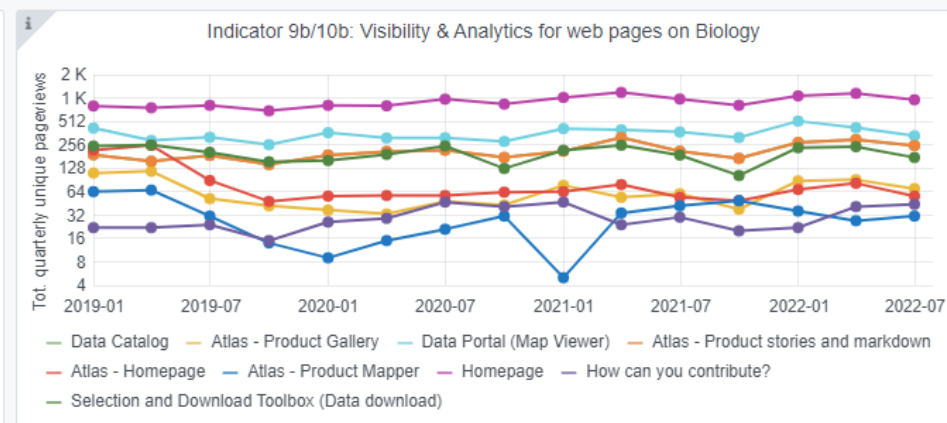
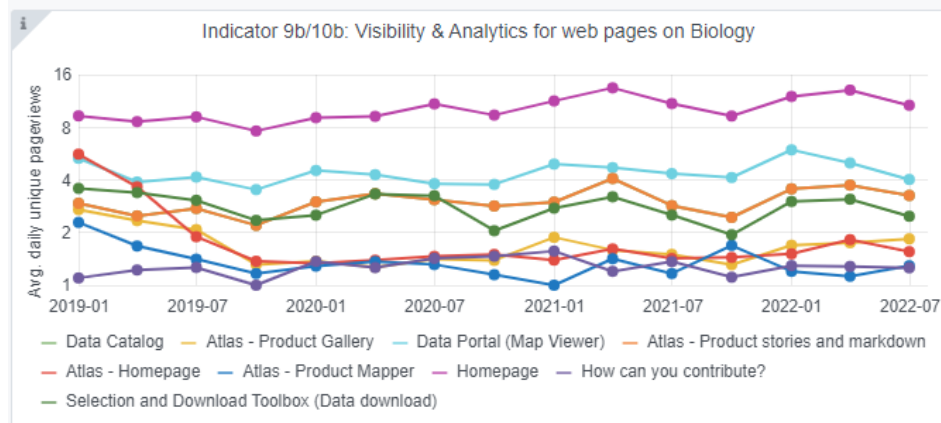
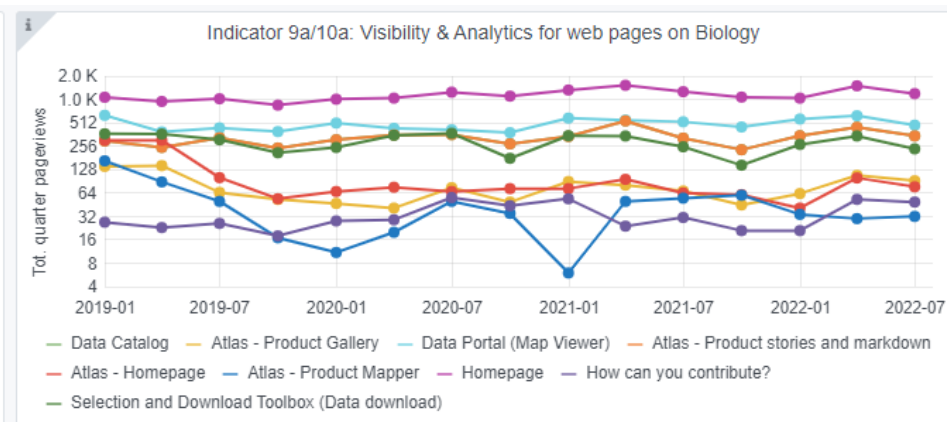
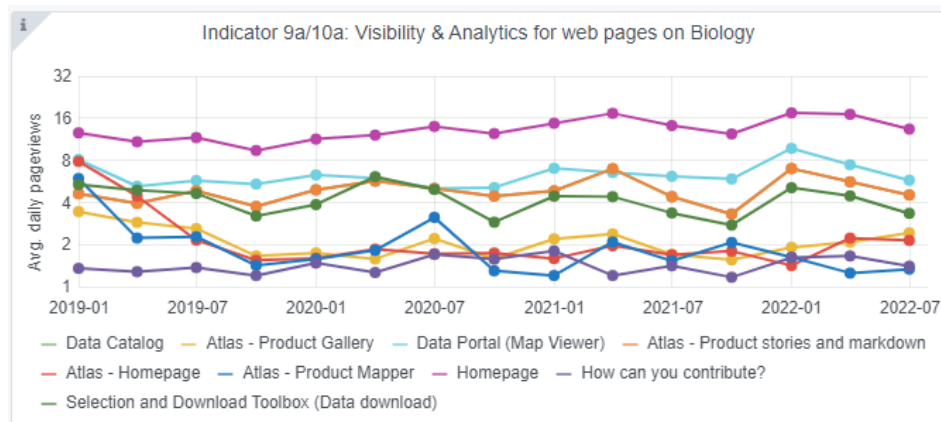
Gallery

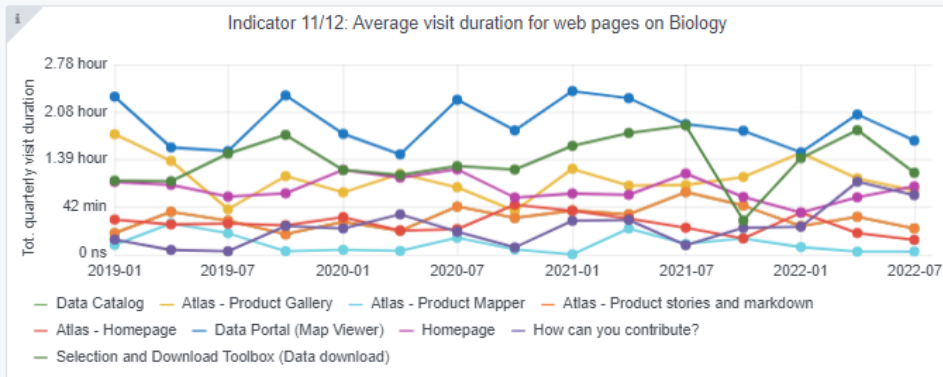
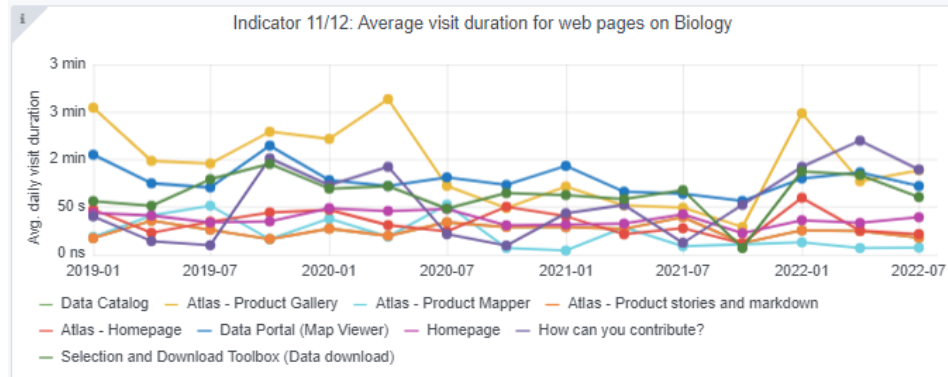
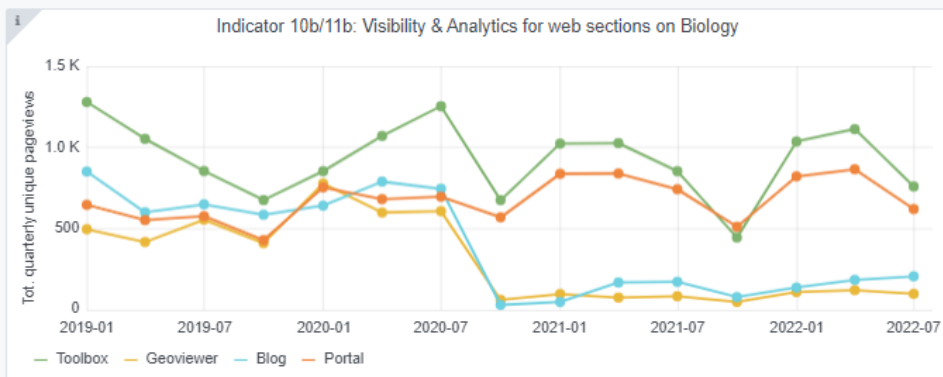
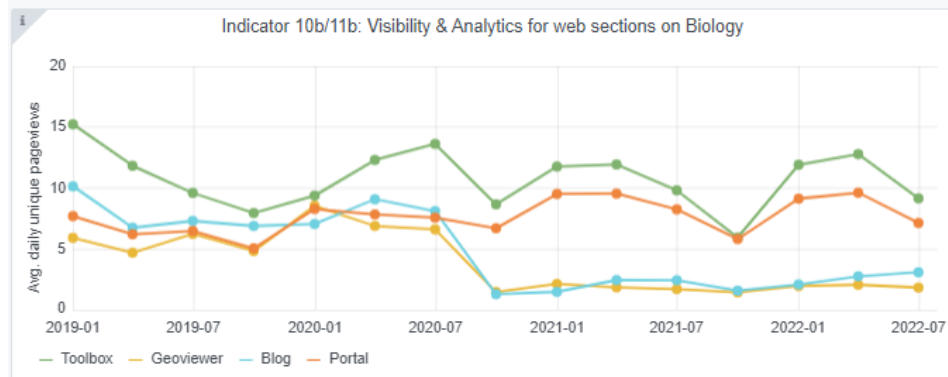
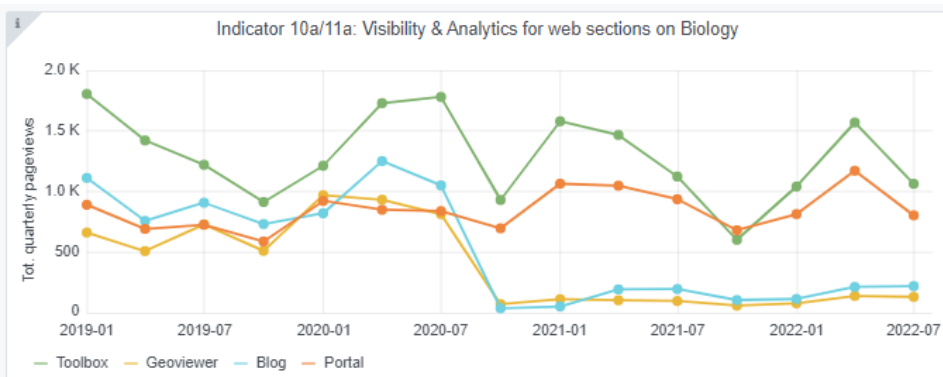
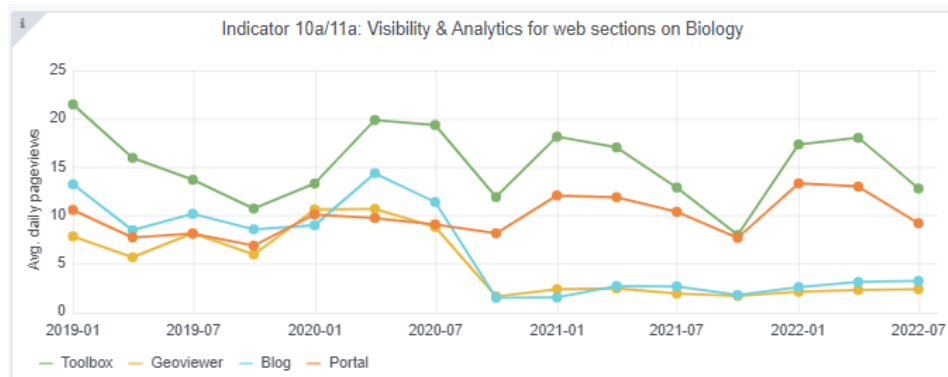
Bathymetry



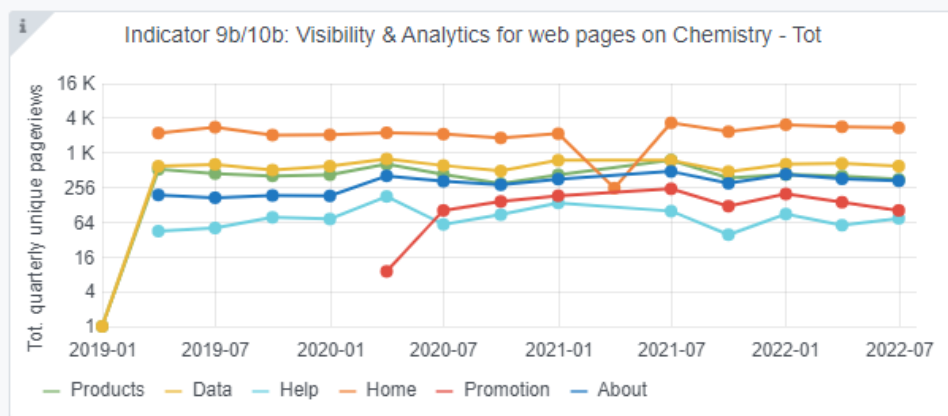
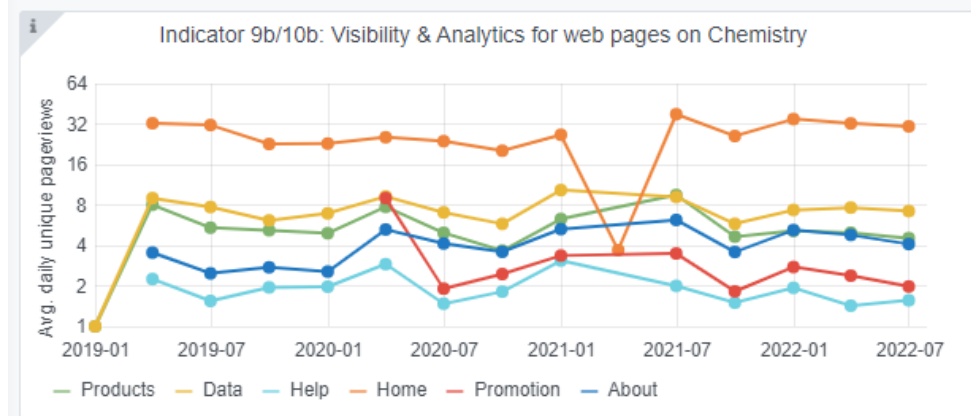
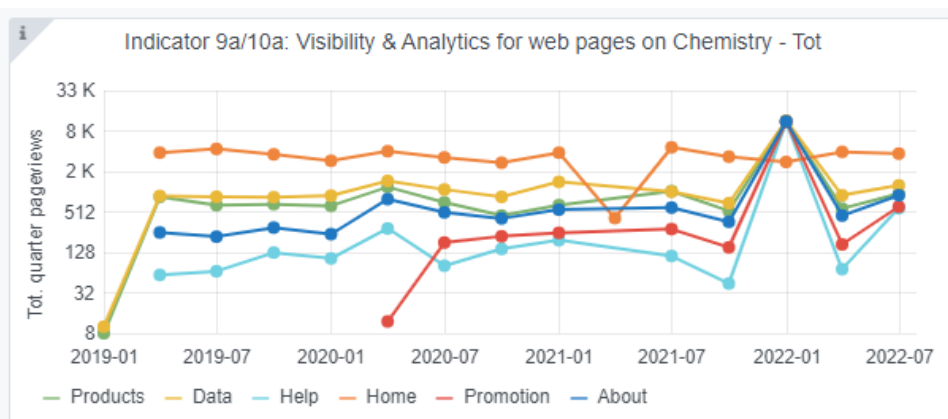
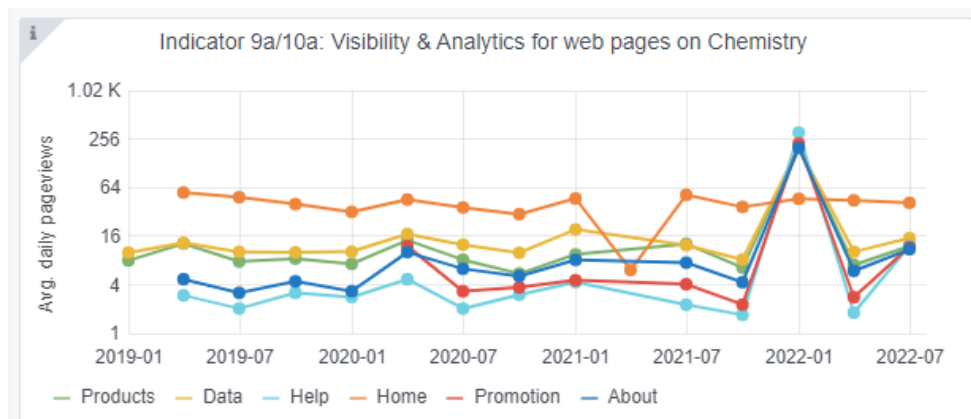


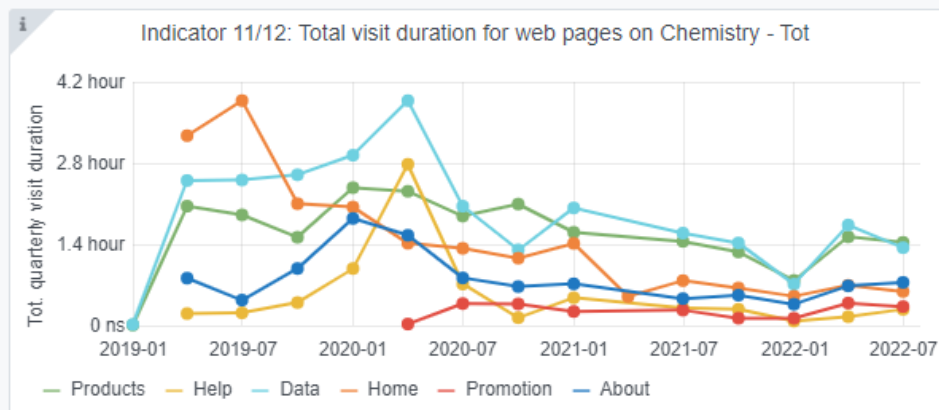
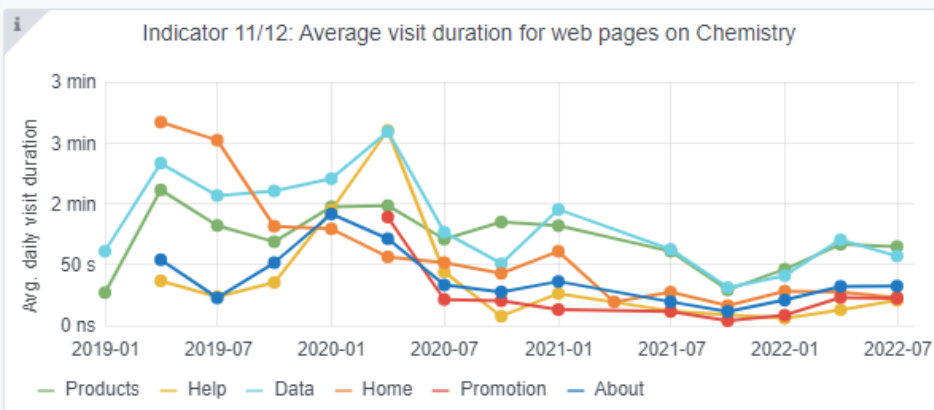
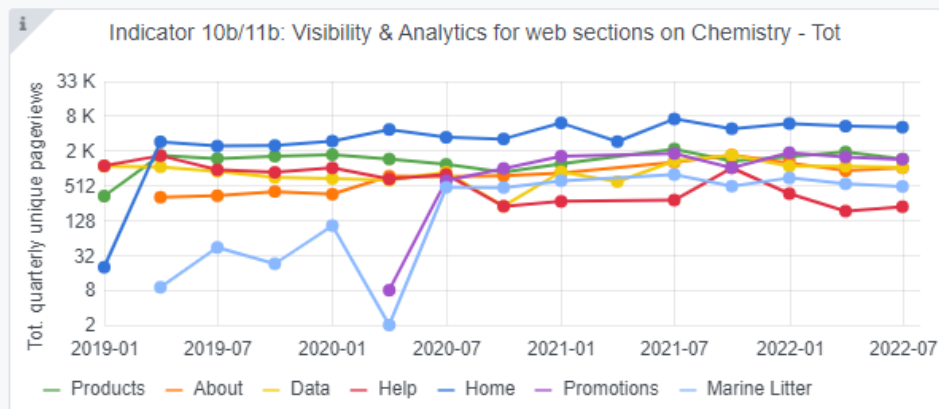
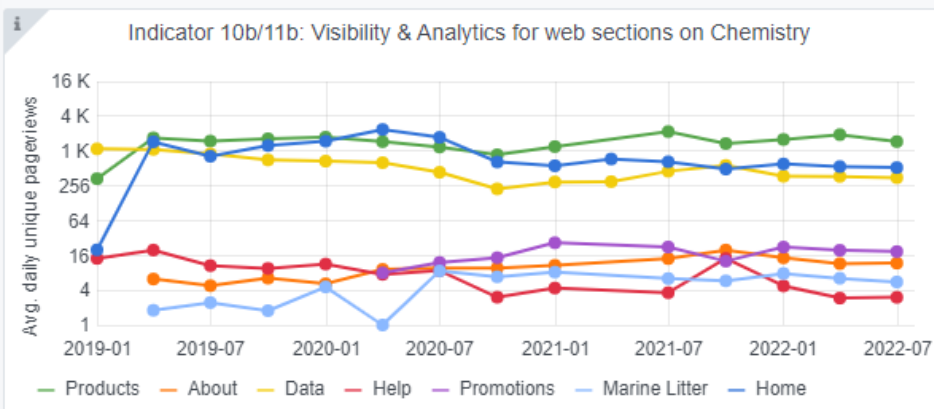
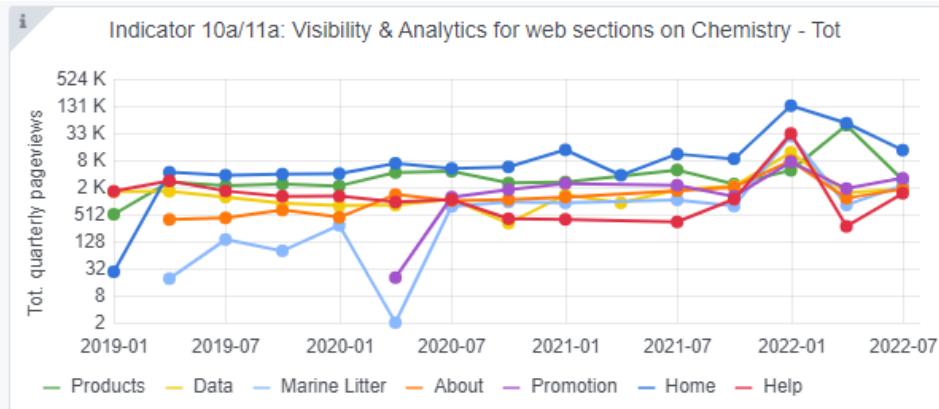
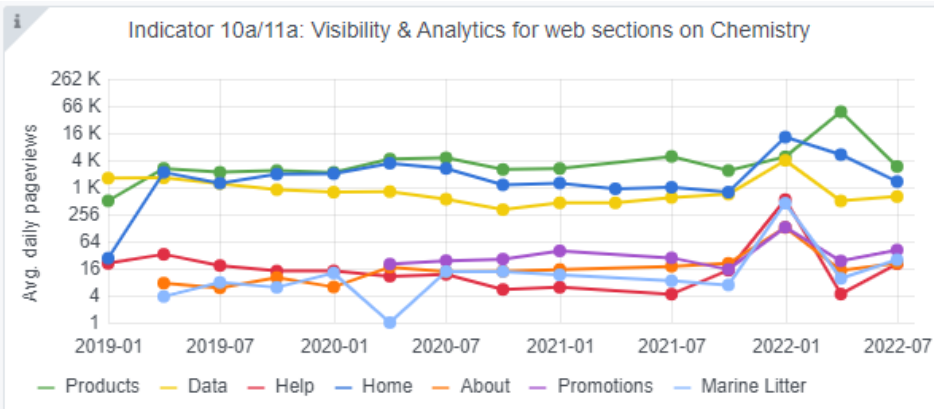
Biology



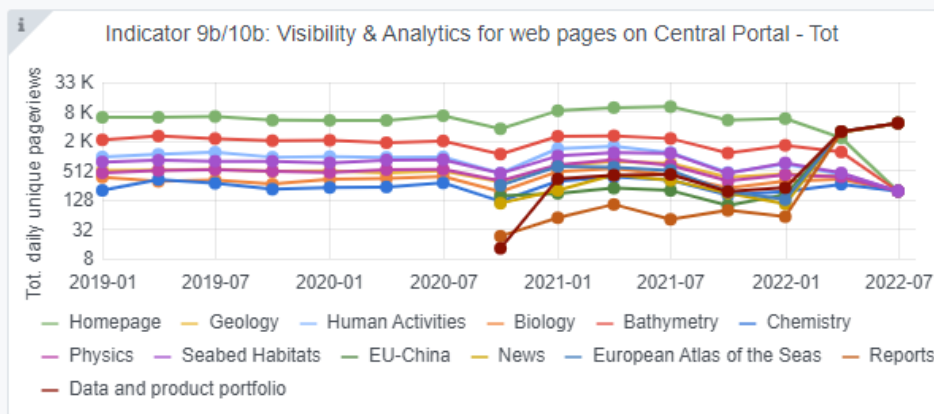
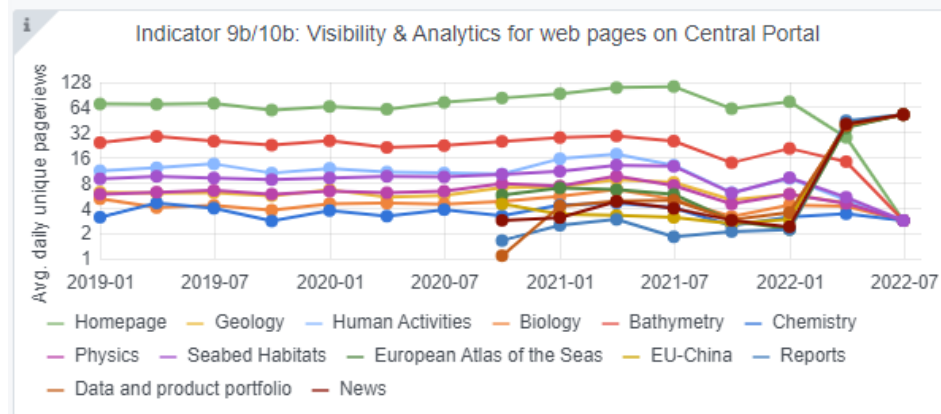
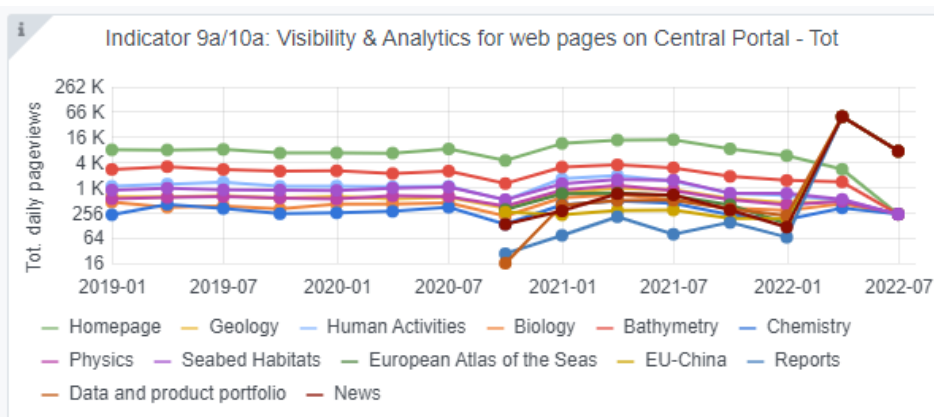
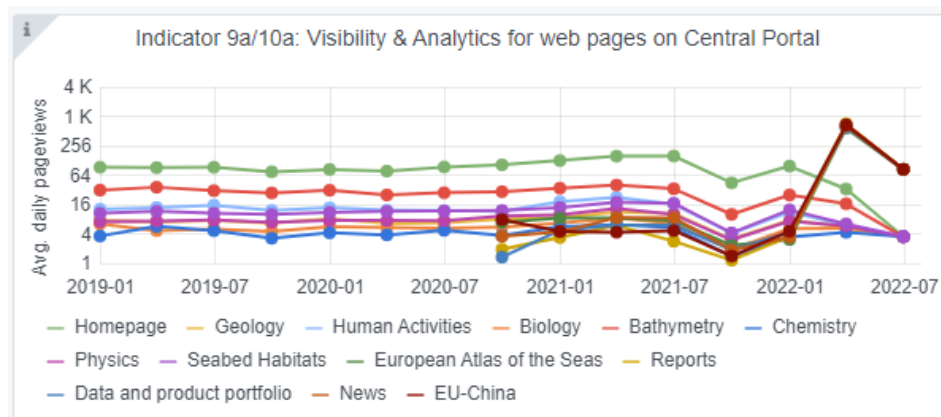


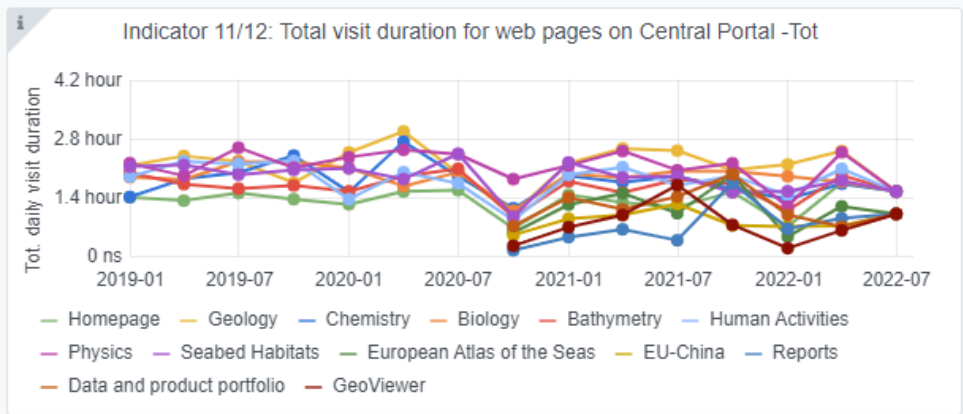
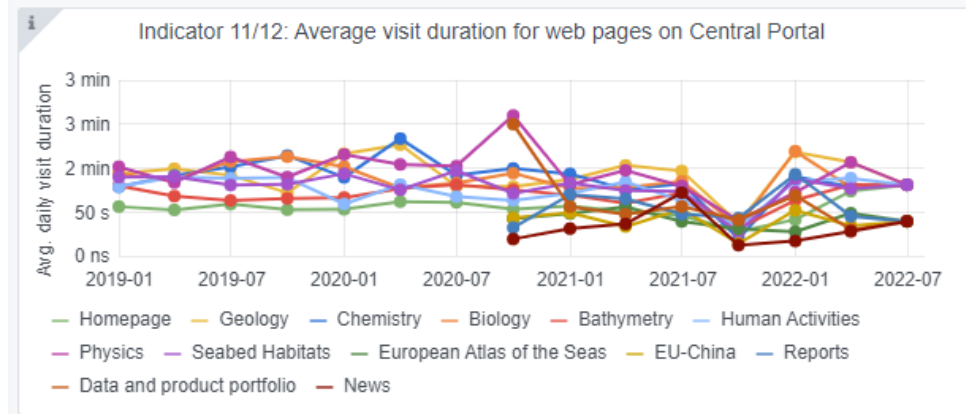
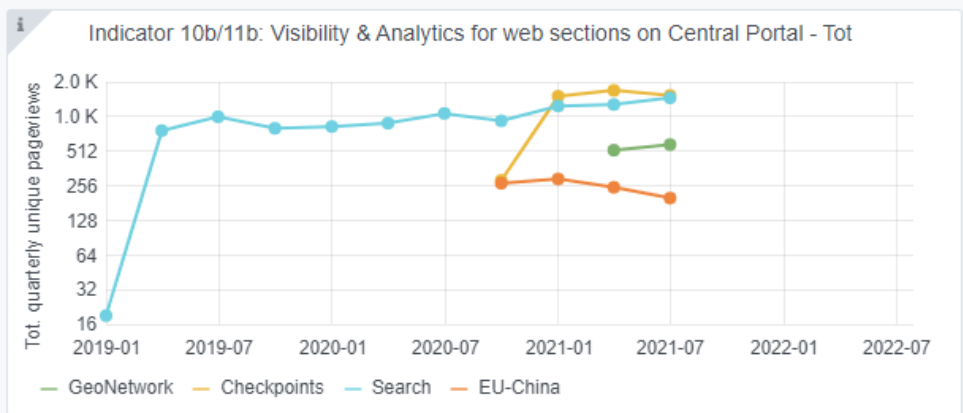
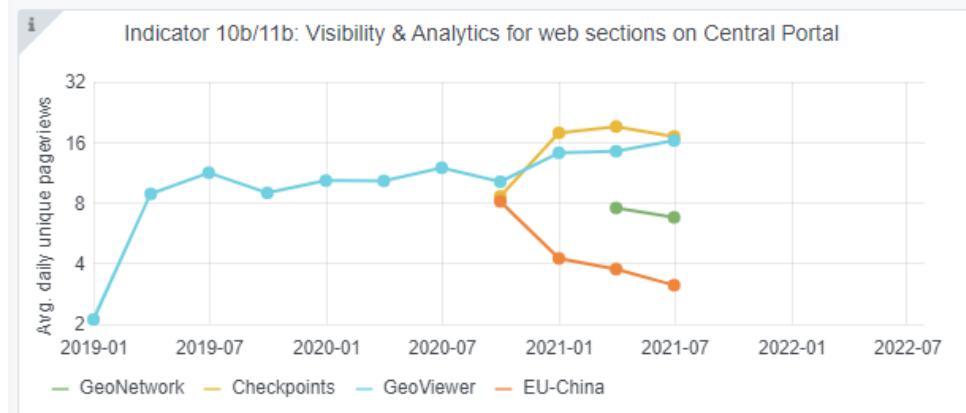
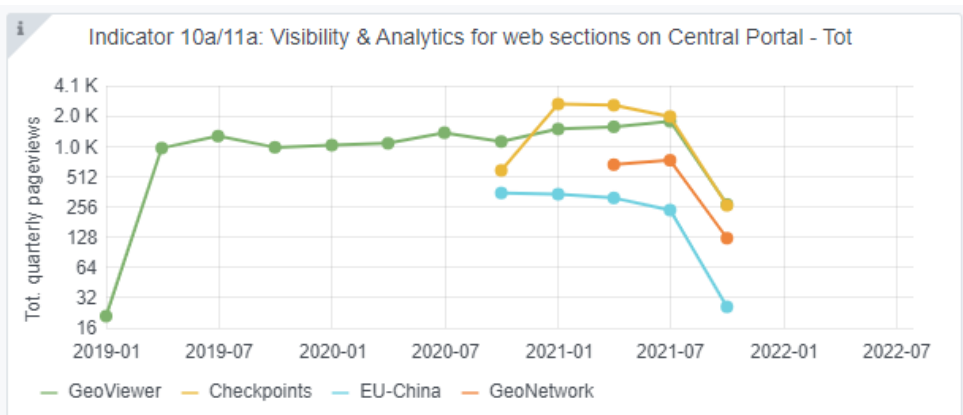
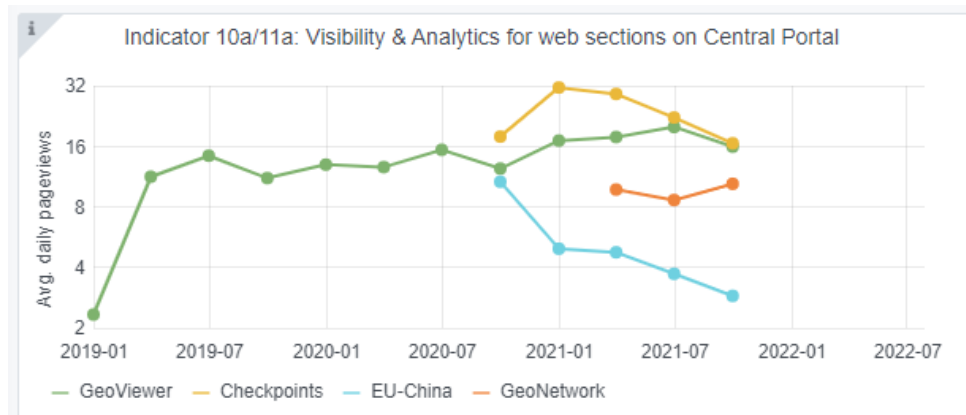
Chemistry



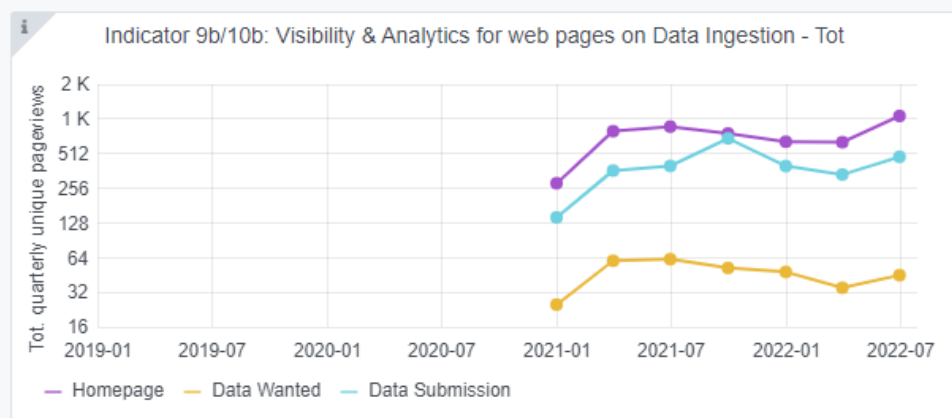
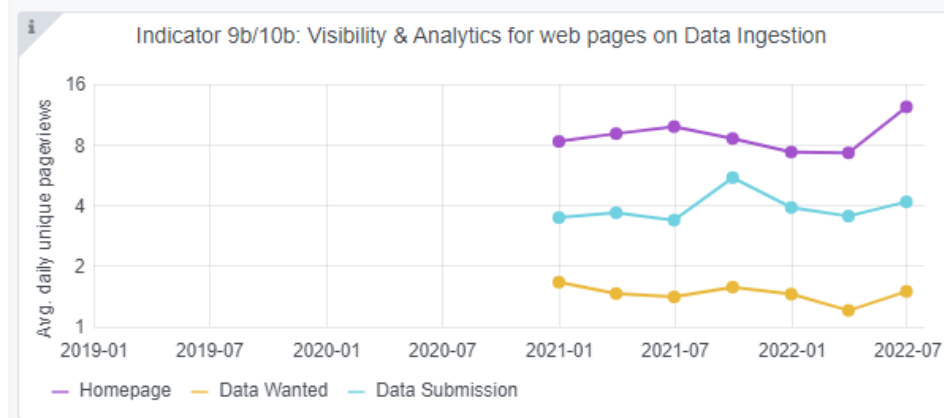
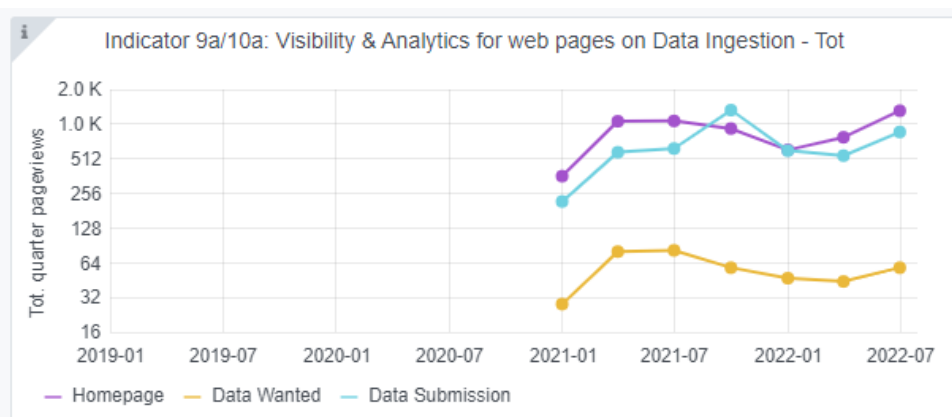
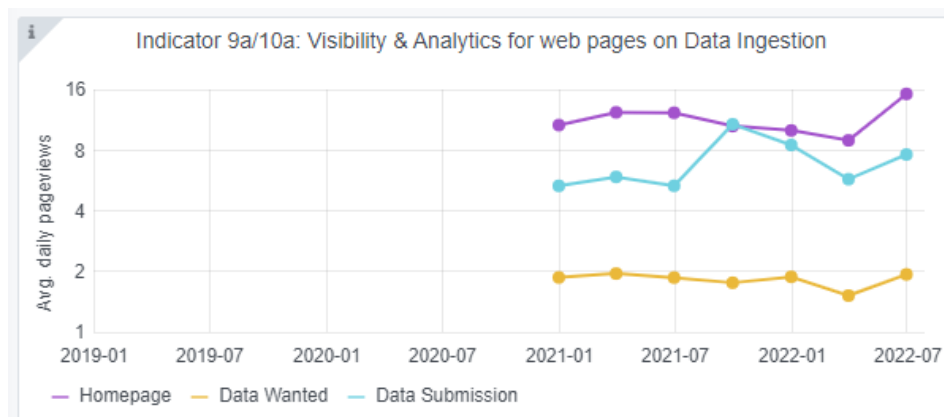


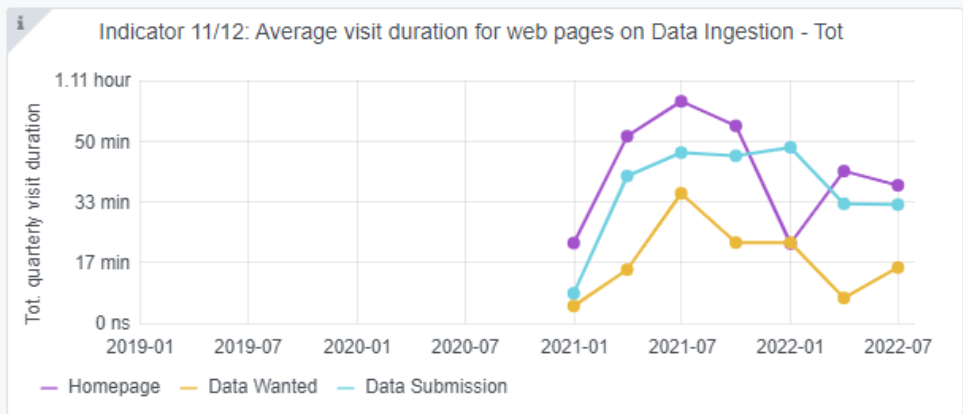
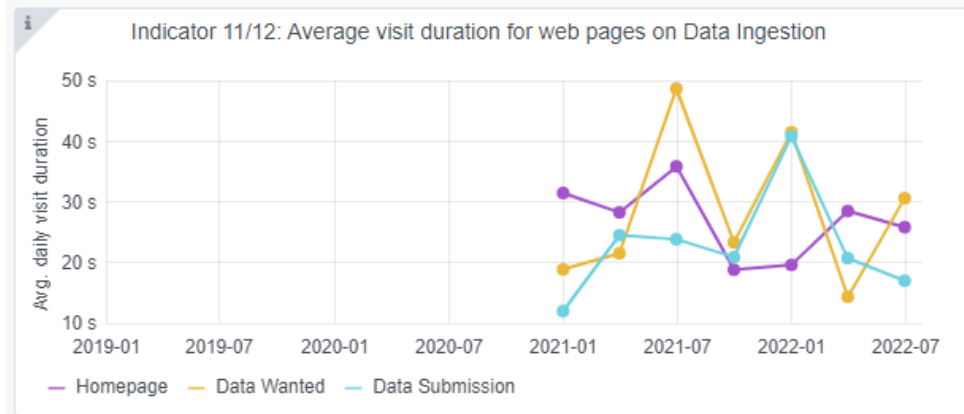
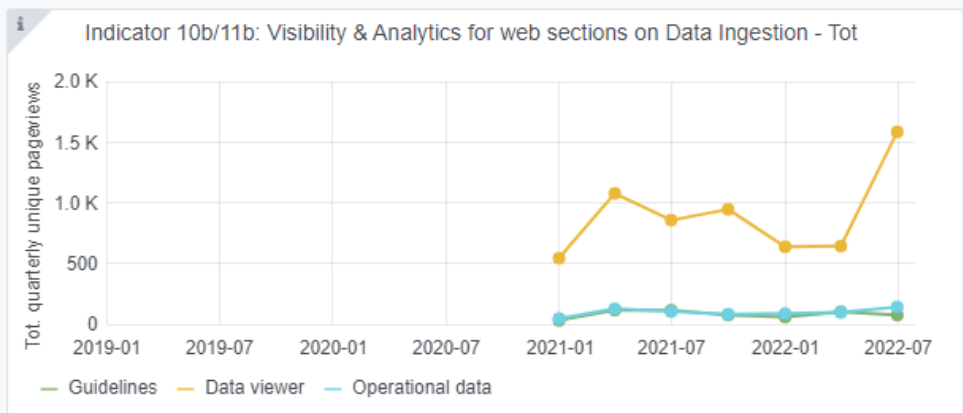
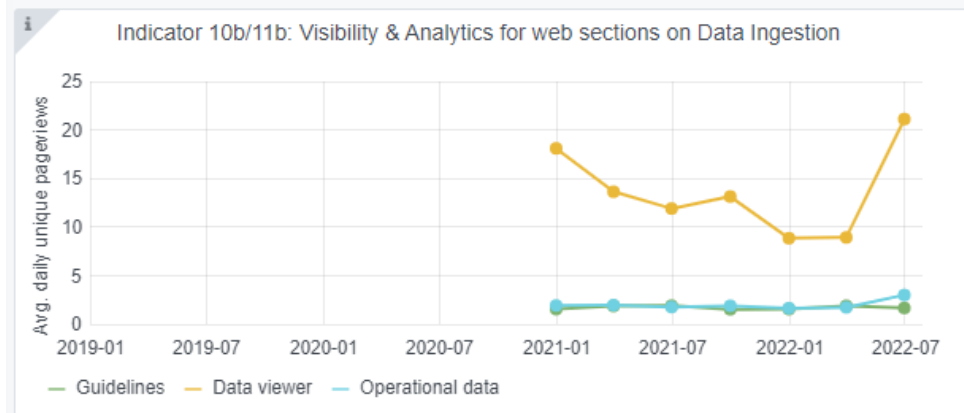
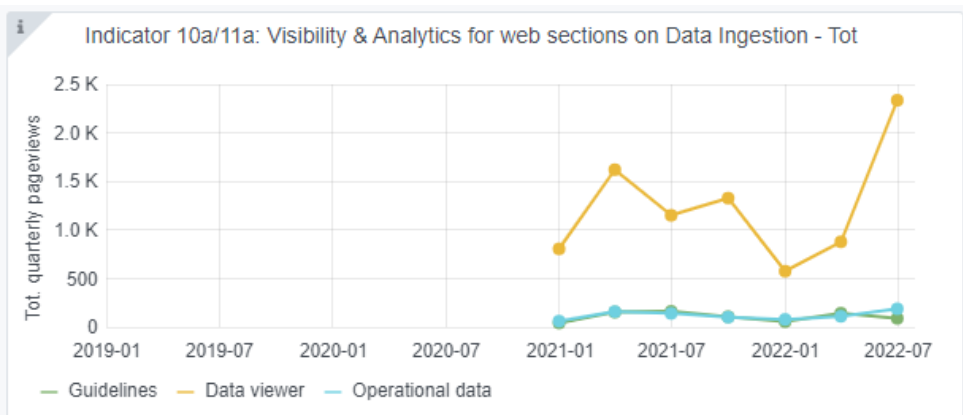
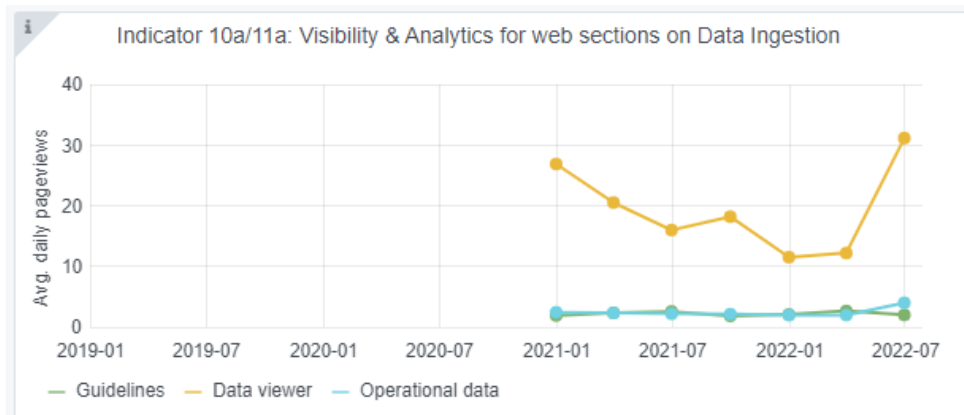
Central Portal



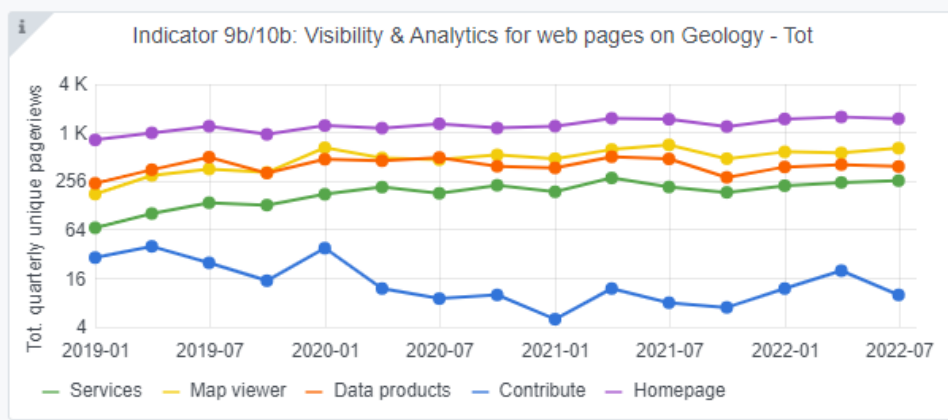
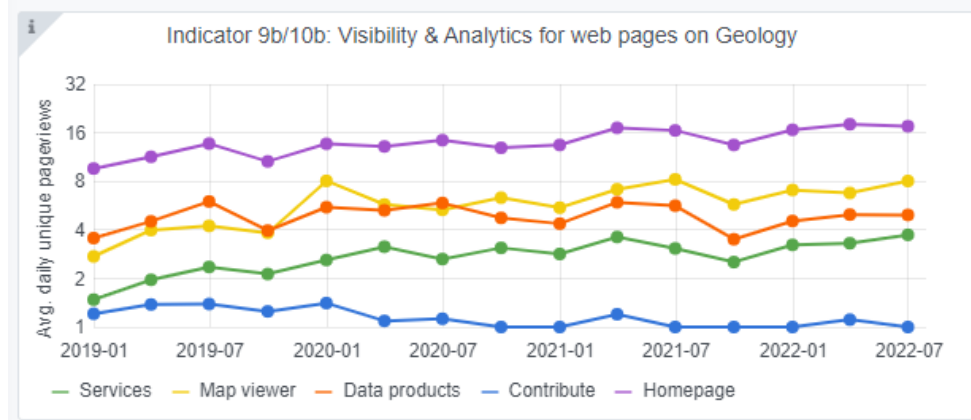
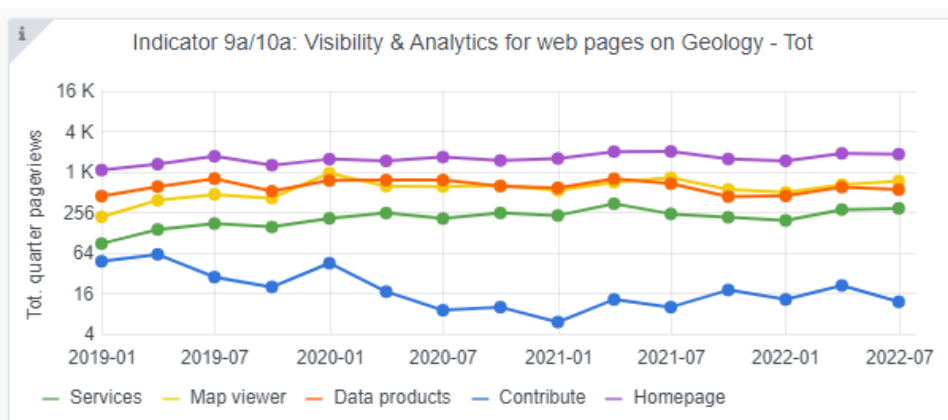
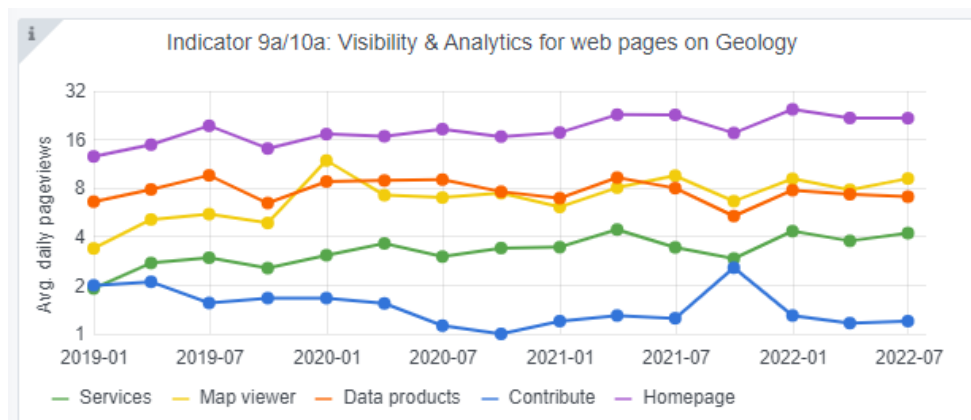


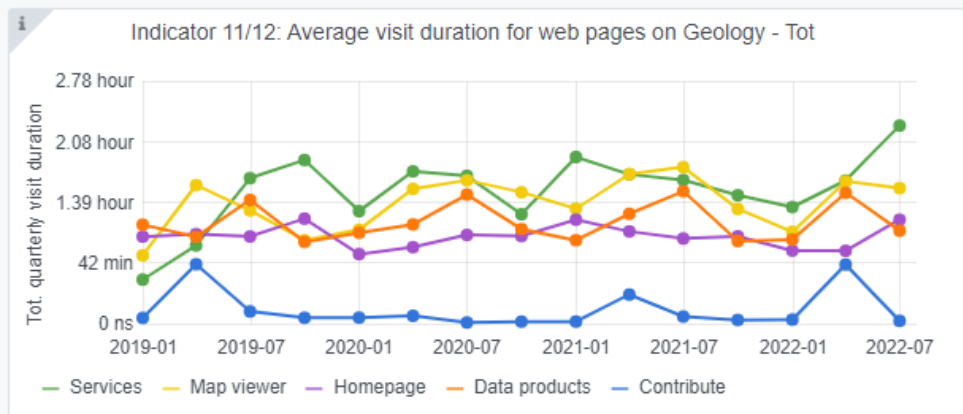
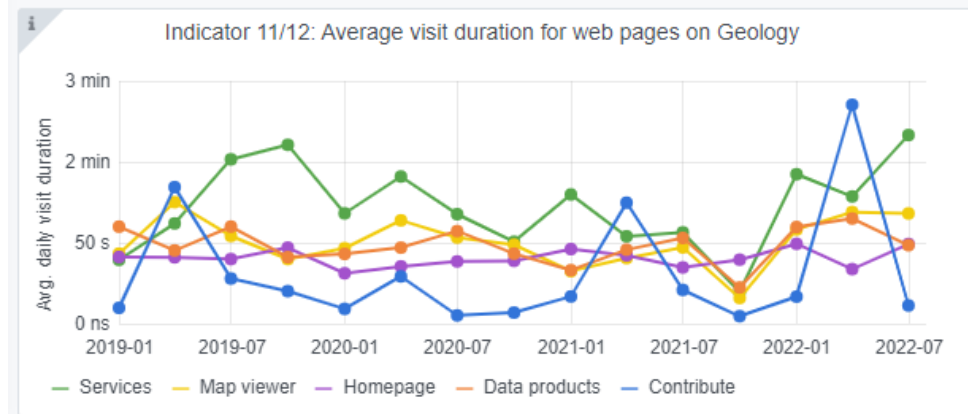
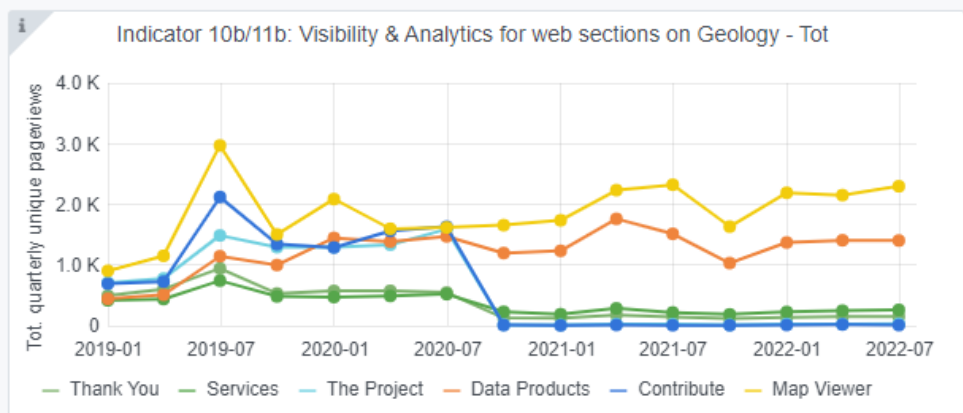
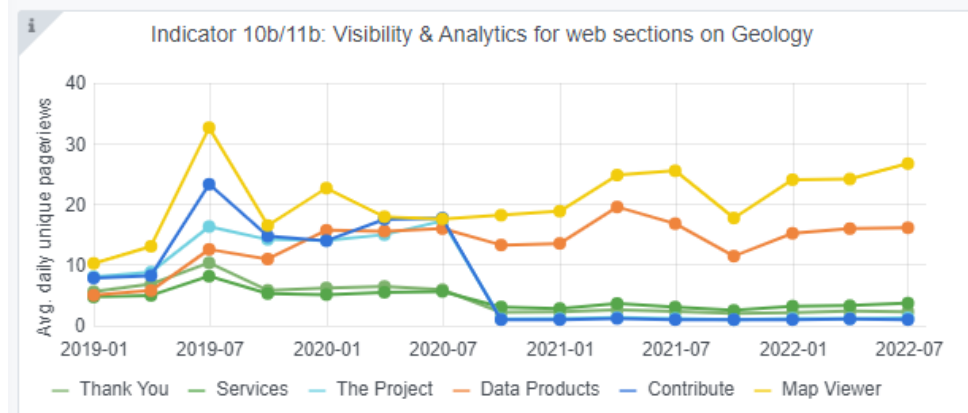
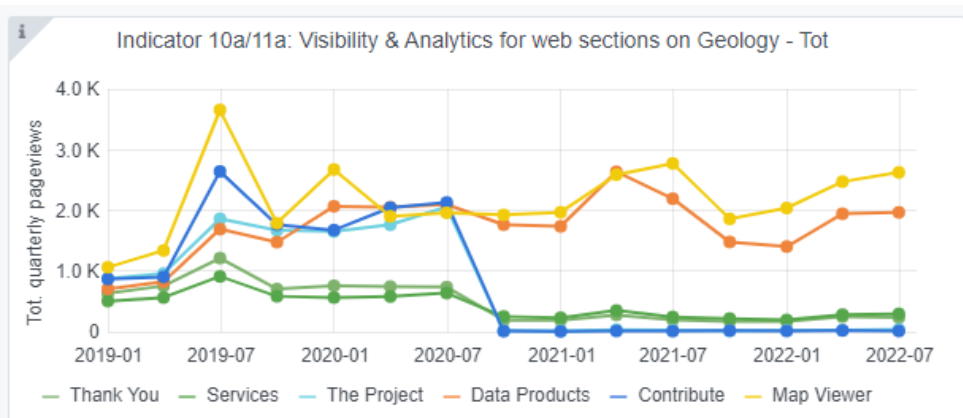
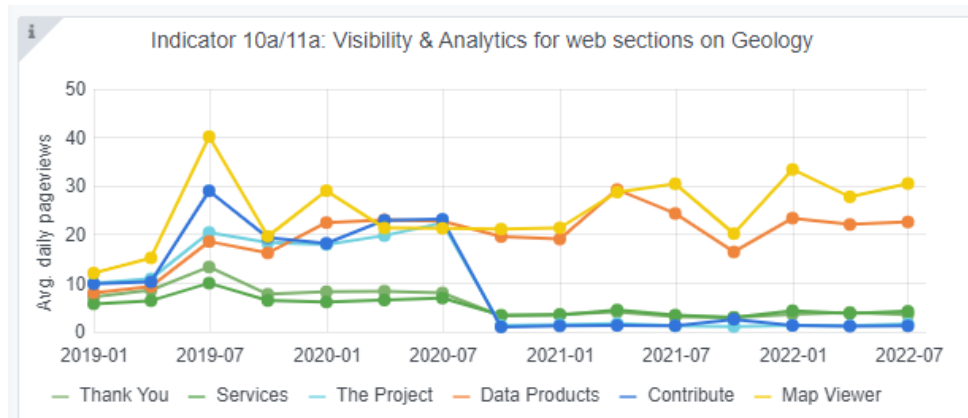
Data Ingestion



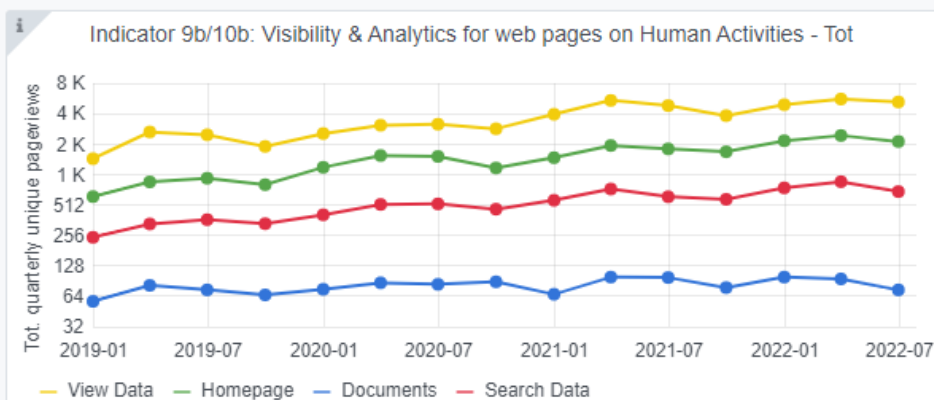
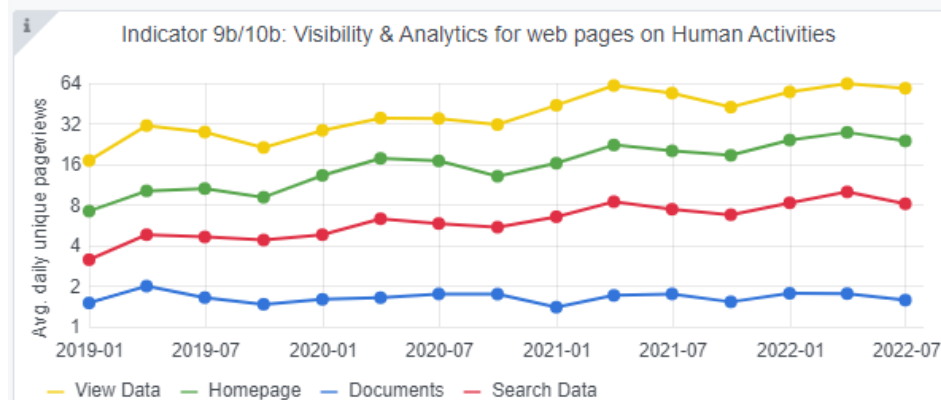
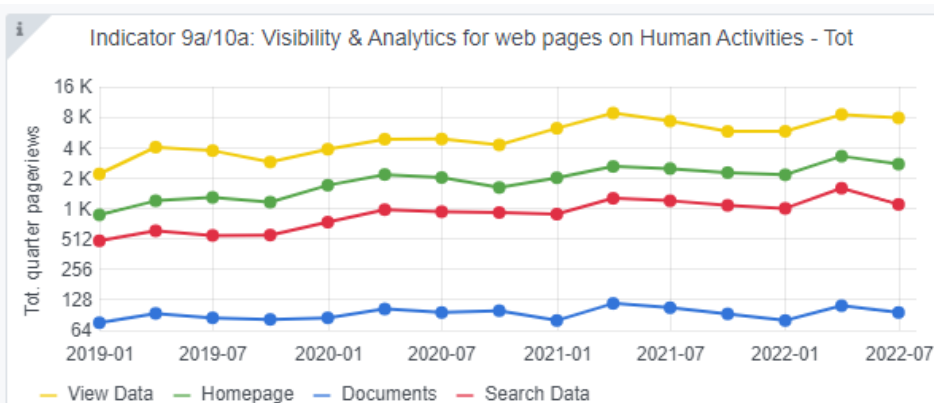
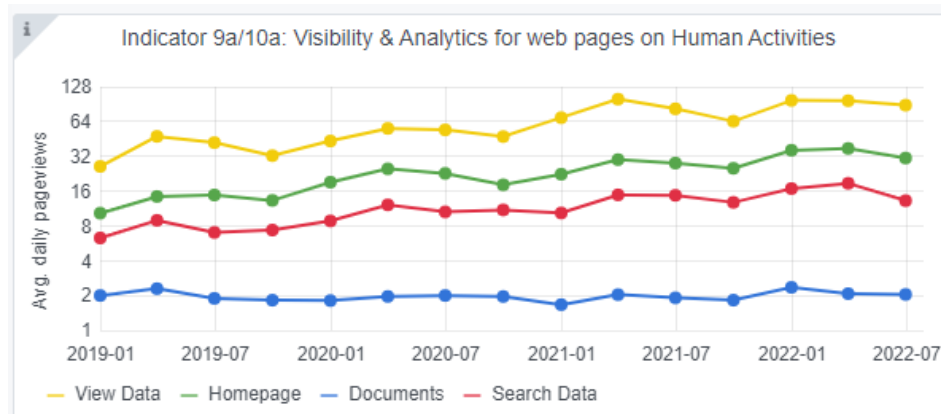


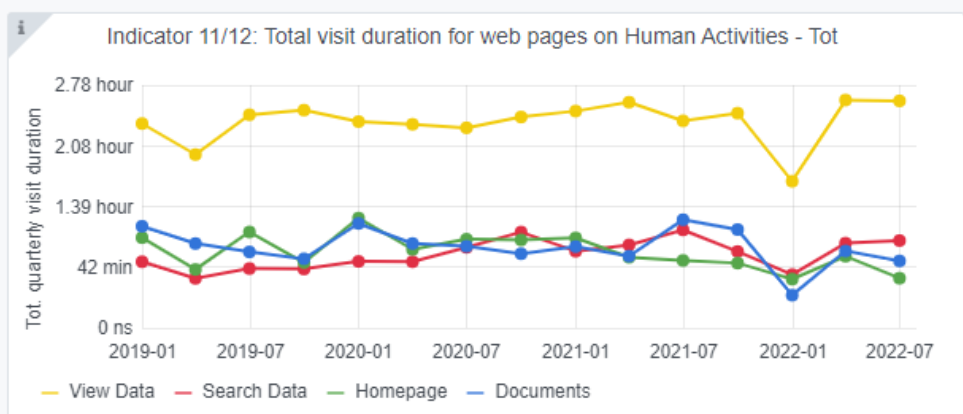
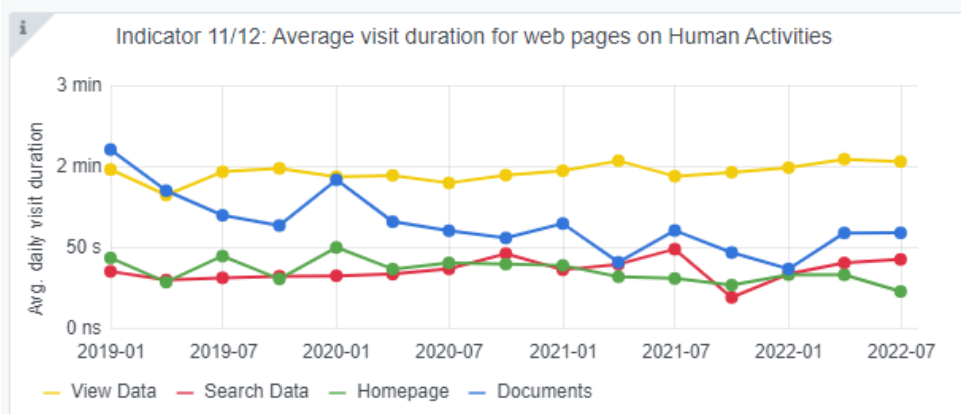
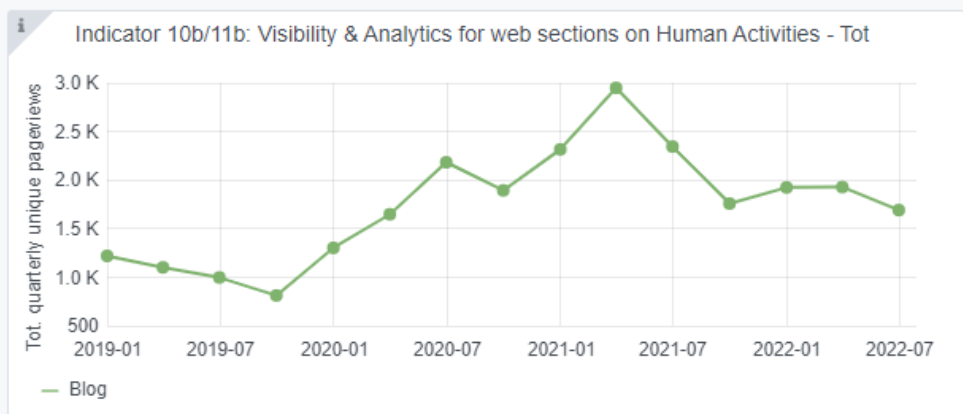
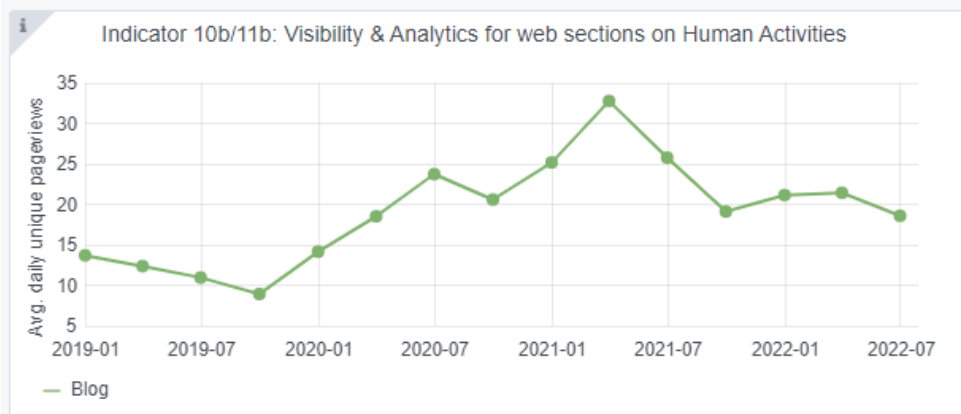
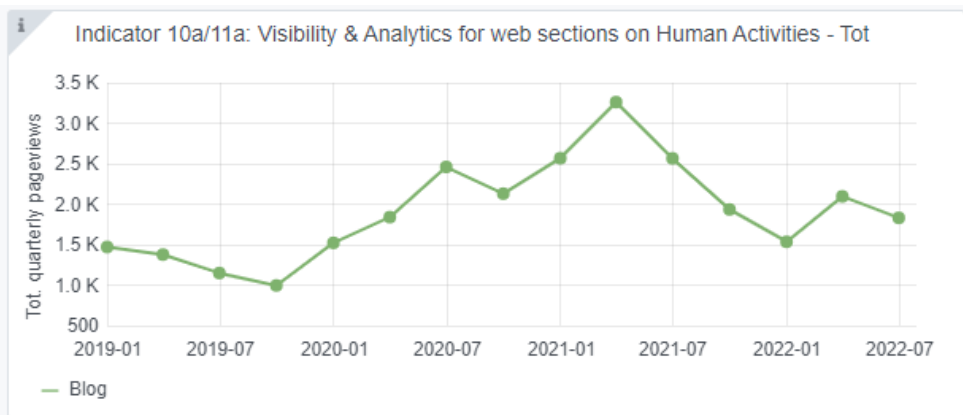
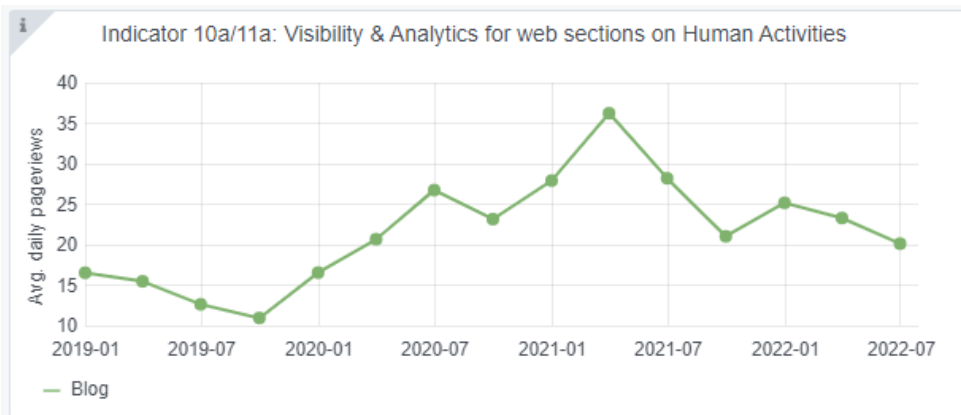
Geology



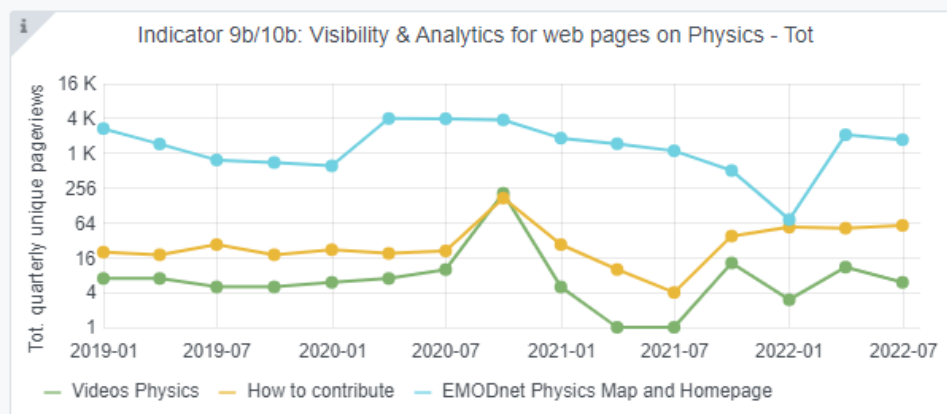
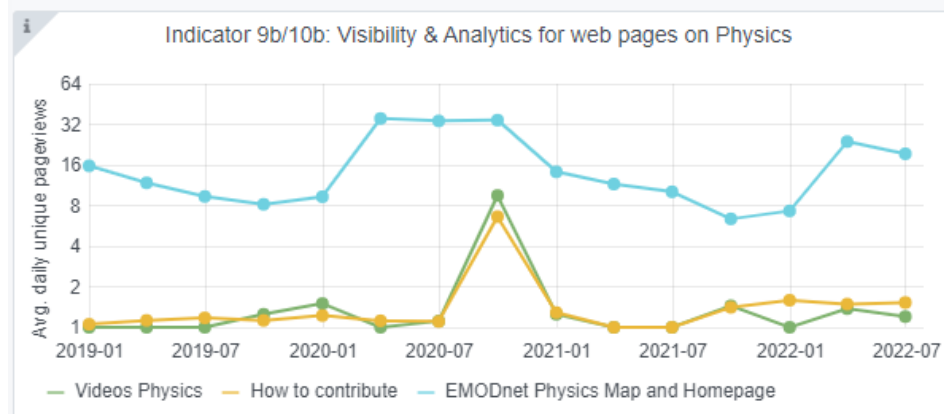
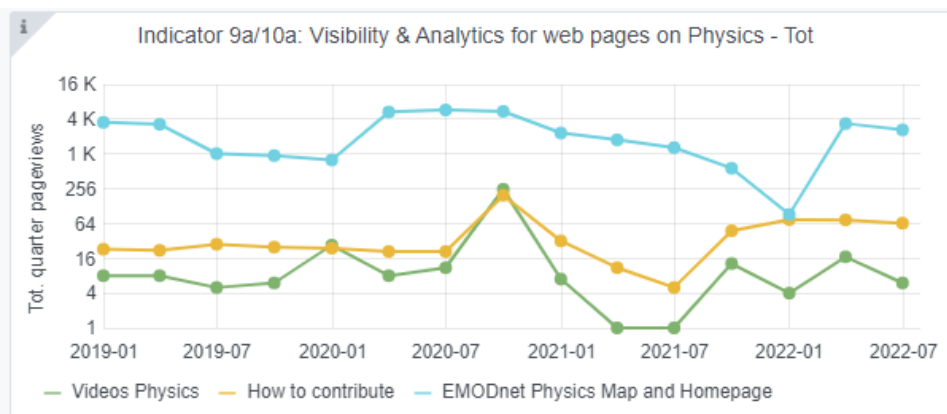
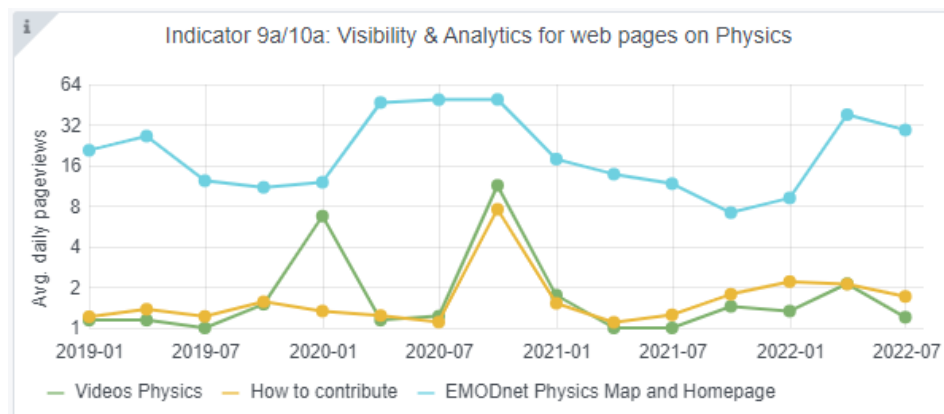


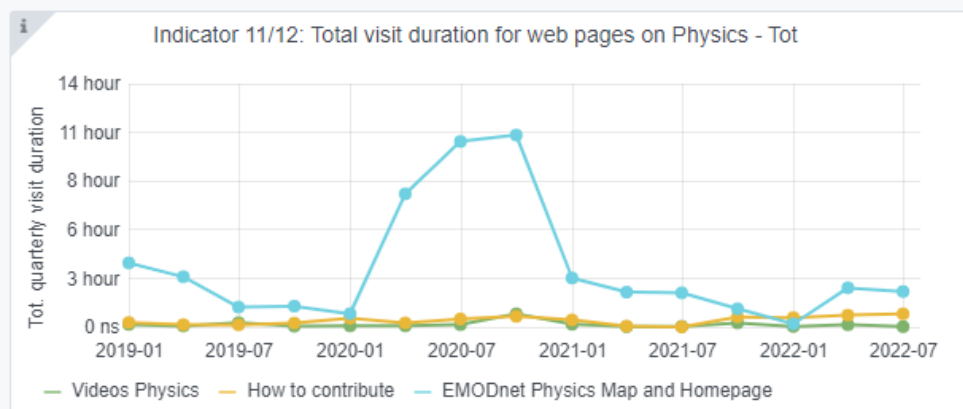
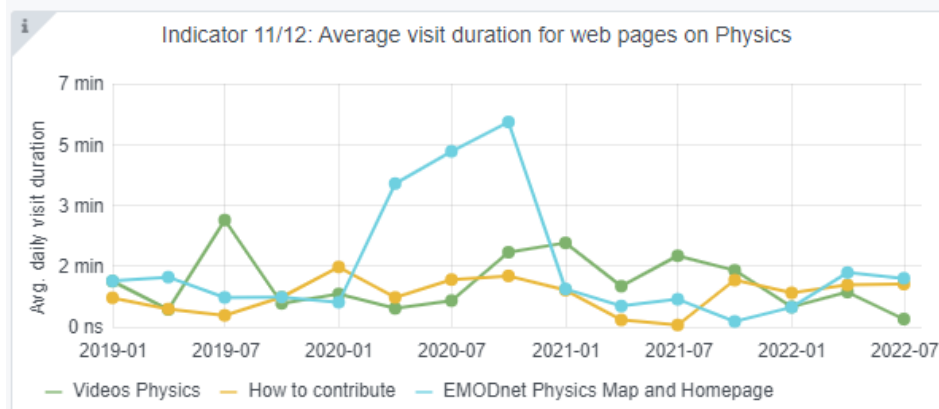
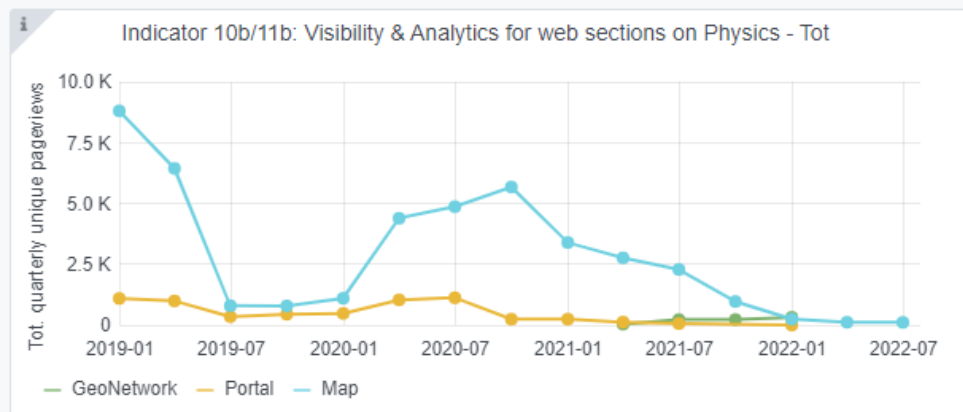
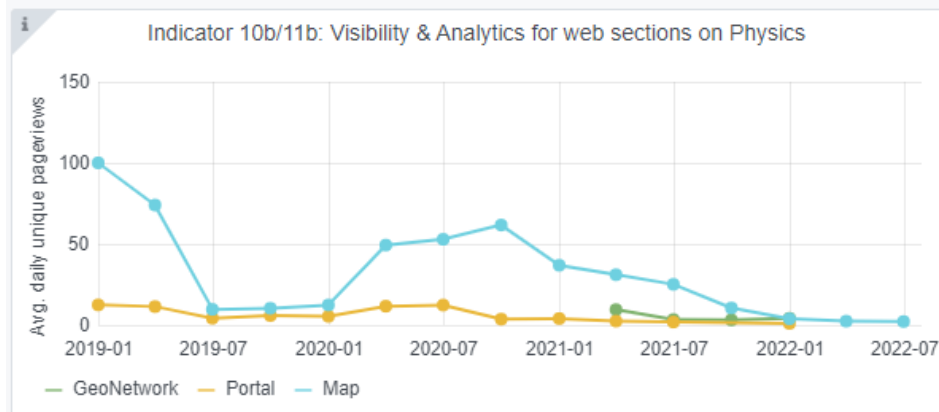
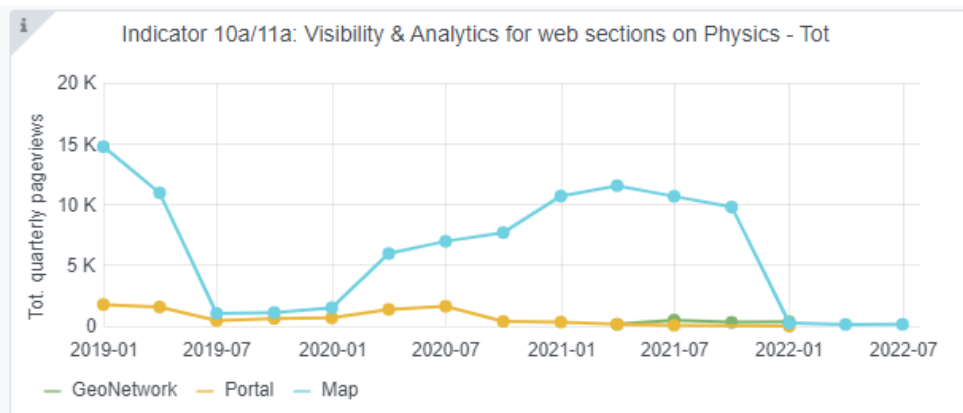
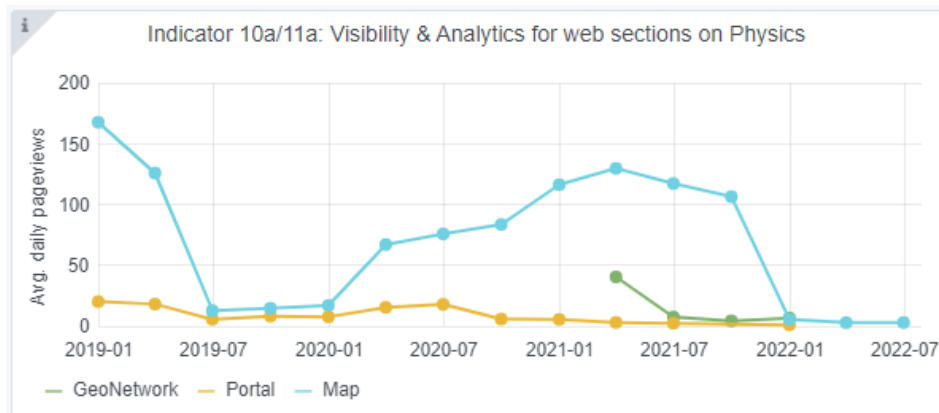
Human Activities





Physics





Seabed Habitats

