

EMODnet Secretariat progress update – 4th Quarter 2020

This report provides an update of EMODnet progress accumulated over the last quarter of 2020, and is based on the quarterly progress reports of the different EMODnet projects (Thematic Portals, Data Ingestion Portal) supplemented with updates from the Secretariat. The summary below constitutes the sixteenth update since the start of the EMODnet Development Phase III (2017-2021), and refers to all activities developed within EMODnet for the period October-November-December 2020.

EMODnet progress overview

Common progress highlights

As part of EMODnet's 10-year celebration, a comprehensive [infographic](#) was published to illustrate the milestones and key achievements of the network's activities throughout its 10-years' existence. This infographic complements the earlier published [documentary](#) about 10 Years of EMODnet.

The Secretariat released a new video '[EMODnet-for-business](#)', the second video of a series of eight illustrating the fundamental role of EMODnet in society. The first one, '[EMODnet-for-science](#)', was released in May 2020.

A number of new [use cases](#) were published on the Central Portal, including 2 from Chemistry and 4 covering Physics. The [first](#) one from Chemistry demonstrates the value of EMODnet Chemistry data for producing the first EU Marine Litter quantitative Threshold value. The [second](#) one demonstrates how the data infrastructure inspired the HarmonIA visualization system. One of the [use cases](#) from Physics describes how, in the creation of Ocean Seismic – Integrated Solution technology (OS-IS), the easy access to sea-state EMODnet Physics data was important.

The Secretariat helped in promoting the new version of the EMODnet Bathymetry DTM in a [press release](#).

During the last quarter of 2020, the Secretariat has worked hard on centralising the EMODnet Checkpoint websites, which were stand-alone websites before. All information on the Checkpoint projects can be viewed [here](#). Finally, a full review and update was carried out of the [partnership list](#) to reflect the current Phase III of all Thematic Portals.

Specific progress and achievements of the thematic data assembly groups

- **EMODnet Bathymetry** reached the end of their project phase, which brought about a new product and a series of updated layers. The [new EMODnet Bathymetry 2020 grid \(DTM\)](#) was publicly released on 13 January 2021; all web services have been updated to include this new version. In parallel, the Quality layer (providing qualitative descriptions of the DTM) and Reference layer (referring to the origins of each dataset contributing to the DTM) were both fully updated. Soon to follow, were the new High Resolution DTM contributions to the HR-DTM layer. A new release of the best-estimate digital coastlines for different tidal reference levels can be viewed as an extra layer in the Bathymetry Viewing service; the production process has been detailed in a [report](#). Finally, the inventory of national legal baselines and coastlines of EU member states has been [updated](#).
- In this reporting period, **EMODnet Biology**'s harvest accounted for 34 new datasets and 4 updates of previously available datasets. At this moment, 1.056 datasets are available online on the EMODnet Biology portal, representing 25.066.516 million occurrence records. Work continued on the finalisation of data products which will be published in the coming months until the end of the Thematic Portal's contract phase (i.e. April 2021). Products prepared earlier were completed with a description of the product story and background, a description of the scripts used to generate the product, a list of sub-products (e.g. maps, tables, files) and a guide to the GitHub site with the code. A [report](#) on the

Transatlantic workshop (held 9 October 2020) is available on the EMODnet Biology portal website, discussing the challenges of accessing and integrating open data.

- **EMODnet Chemistry** data centres were asked to provide new marine litter data in line with the new data call launched by the MSFD Technical Group on Marine Litter. In the meantime, the new beach litter datasets, which were provided by the EMODnet Chemistry partners, were uploaded and validated. A release of updated data collections for all groups of parameters is expected in early 2021. During the reporting period, the trial version of the [webODV Data Explorer and Extractor](#) was released on the portal; the online tool helps the user to explore, subset, visualise and extract eutrophication datasets in different export formats.
- In the reporting period, **EMODnet Geology** partner countries contributed new data, which have been integrated into the data products. The latter will be updated on the portal by the end of the project phase in September 2021. A new update of the [Seabed Substrate Multiscale data](#) has been uploaded on the portal; the datasets were reclassified by using the modified Folk classification system. Apart from the subcontract with Kazakhstan, for the Caspian Sea subtask (i.e. the goal is to collect data to create sets of geological maps of the Caspian Sea), the subcontracts with Iran and Azerbaijan still haven't been signed due to problems related to the ongoing COVID pandemic. The pandemic also complicates the collection of geological information from archives.
- **EMODnet Human Activities** made available a number of new datasets on the Portal, i.e. Spirulina production and Military areas. A number of existing datasets received an update, among others: Oil and gas boreholes and offshore installations, Freshwater aquaculture (information was added on production methods, production stages and purposes) Marine finfish, Shellfish, Cultural heritage. From the products side, the Route density maps have been updated to August 2020.
- The work of **EMODnet Physics** in the last quarter focused mainly on updating the backend infrastructure so as to have ERDDAP and GeoServer as the core data servers. In a GOOS webinar, which the Thematic Portal recently attended, ERDDAP was strongly recommended as the data platform to enable and support FAIR¹ data principles. Two new products were developed and will be made visible during the last quarter of 2020; the Secretariat will help in widely promoting these products: (i) a [sea level product](#) presenting information about the completeness and time extension of the Revised Local Reference (RLR) monthly sea level time series; and (ii) a [sea level trend](#) product integrating reprocessed altimetry data and RLR PSMSL data. In addition, the [Sea Surface Currents](#) and [River Proxy Runoff](#) products were developed and updated.
- All **EMODnet Seabed Habitats** partners are working on a growing number of maps from surveys and ground-truthing point datasets. A number of reports were published on the portal: (i) '[Mapping seabed habitats over large areas: prospects and limits](#)' discusses e.g. alternative techniques and the opportunity to combine EUSeaMap with other data products such as fine-scale data products from survey; (ii) '[A review of stakeholder needs for combined, harmonised data products for seabed habitats in Europe](#)' compiles the priorities of the Regional Sea Conventions for new composite data products to be produced by the Thematic lot.
- **EMODnet Data Ingestion** reported an addition of 32 new submissions, for which data centres have been assigned that will process the submissions. Within the quarter, 47 data submissions were published 'as is' (Phase I), and 33 submissions have been elaborated to phase II, implying uptake in European marine data infrastructures feeding into EMODnet. A dynamic exchange between Data Ingestion and [SeaDataNet SEANOE](#)² data citing service resulted in additional scientific data submissions which can be elaborated for use in EMODnet. More Near Real Time oceanography sources were added/linked to the EMODnet Physics ERDDAP catalogue.

¹ Findable, Accessible, Interoperable and Reusable

² SEA Scientific Open data Edition



EMODnet data portals usage

User visit statistics

The collection of user statistics (*i.e.* number of 'unique' page views and average visit duration) were 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 portal as well as the Central portal can be viewed in the gallery at the end of this report. Unless stated otherwise, pageviews are per day.

- In the last quarter of 2020, the number of monthly unique visitors of **EMODnet Data Ingestion** slightly increased from 775 (September 2020) to between 914 and 1054.
- Overall, the average daily (unique) page views for **EMODnet Bathymetry** slightly increased since the last quarter. The Viewing and Download service (provided by the EMODnet Bathymetry map viewer) remains the most viewed web page: a daily average of around 136-page views and 107 daily unique page views were recorded for this reporting period. On average, users spent around 1.5 minutes on the map viewer. Though the CDI Marine access service on average received more visitors compared to Q3 2020 (from 10 to 15), the time spent on this page decreased to from 1.3 minutes to 25 seconds.
- Slightly increasing average daily pageviews were observed for most of the **EMODnet Biology** webpages. Following the Homepage (14.6), the data related pages (*i.e.* Map viewer, Atlas of Life: Product stories, Data download Toolbox) were the most viewed with average pageviews of between 7 and 4.4. User spent most of their visit time browsing the Atlas Product gallery and Map viewer (average of 1.75 minutes) and the least time on the Atlas Product mapper (6.4 seconds).
- Increasing average pageviews were recorded for the different **EMODnet Chemistry** webpages. The data related pages (*e.g.* Search chemicals by region, Products, Explore marine litter) received the most views, on average between 8 and 19. On aforementioned three pages, users on average spent the most time (between 1.4 and 1.7 minutes).
- Stable average numbers of pageviews were observed for **EMODnet Geology**. Following the Homepage, Data products and Map viewer are the most viewed pages (average of 6-7). On average, users spent between 40 and 55 seconds on aforementioned pages. Most time was spent on the Services page (1.7 minutes).
- The View Data webpage on the **EMODnet Human Activities** portal on average received more pageviews compared to the previous quarter (from 47 to 69). The average number of pageviews remained relatively stable for the other webpages (between 2 and 22). Users on average spent an equal amount of time on the portal than the previous quarter; most of the time was spent on the View Data page (1.6 minutes). Least time was spent on the Search Data page (36 seconds).
- Since the previous quarter, there have been slight decreases in the average daily page views (from 64 to 28) and average visit duration (from 7 to 1.3 min) for the **EMODnet Physics** Map viewer. The average daily page views remained stable for the other pages Homepage, How to contribute and Videos (between 1 and 2). Similar average visit durations were recorded for aforementioned pages, with a peak for the Physics Videos page likely due to the publication of the Fishing for Data Workshop.
- Compared to the previous quarter, comparable average daily page views and average visit durations were recorded for the various **EMODnet Seabed Habitats** webpages. An exception to this are the Data Submission Process webpages, for which an increase in both figures was observed (from 1 to 2 pageviews, and from 2 seconds to 2.6 minutes). The data-related pages, *i.e.* the Map Viewer and Download Data pages, remain the most viewed pages; though compared to the other webpages an average amount of time is spent on time by the users (1.8 minutes on average).

a. Number of data downloads⁴:

- **EMODnet Bathymetry** reported a decrease of 55% in the number of CDI downloads since the previous reporting period (from 3009 to 1358).
- **EMODnet Biology** reported a 28%-increase in the number of data downloads (from 225 to 288).
- A large decrease was reported in the number of data downloads for **EMODnet Chemistry** (-77.4%, from 206.423 to 46.644 CDI downloads), coming from 29 users.
- **EMODnet Human Activities** reported an overall increase in the number of data downloads. Most downloaded datasets were Windfarms, Schematic cables, Offshore oil and gas installations and Goods, passengers and vessels (Main ports). Least downloaded datasets include Cables Landing stations, Advisory councils (Other forms of area management/designation), and FAO fishery statistical areas and ICES statistical areas (Fisheries).
- Since the previous quarter, decreases were recorded in the number of manual data downloads (i.e. requests) for almost all sub-themes of **EMODnet Physics**, except 'Underwater noise' and 'Winds' (which experienced a 142 and 15% data download increase respectively). Temperature remains the most popular sub-theme for data download; this can also be observed in the number of API requests which have reached over 200.000 for this quarter.
- **EMODnet Seabed Habitats** reported an increase of 109% in the number of manual data downloads (from 43 to 90). Also, more WMS and WFS requests were done by the users compared to the previous quarter (+16% and +2%).

b. Number of data product downloads⁵:

- An increase was reported in the number of data product downloads for **EMODnet Bathymetry**: the DTM tiles have been download 7674 times, which is an increase of 12% since the previous quarter. A 138.5% increase was recorded in the number of HR-DTM file downloads.
- An increase was reported in the number of data product downloads (from 2 to 6) for **EMODnet Biology**, representing an increase of almost 70%.
- For the **EMODnet Chemistry** Portal, with the exception of contaminants, an increase in the number of manual data product downloads was recorded. Increases ranged between 74% (Chlorophyll; 176 file downloads compared to 101) and 188% (Acidity; 170 file downloads compared to 59). Also the Marine litter products are gaining popularity (from 24 to 57 file downloads, representing a 137% increase).
- Overall, **EMODnet Geology** reported decreasing numbers of data product downloads (between 12% and 55%). The most downloaded product was the Seabed Substrate Multiscale product (47 downloads, compared to 65 downloads previous quarter); less popular is the Submerged Landscapes product (6 downloads, compared to 13 downloads).
- Both the Vessel density maps and Route density maps from **EMODnet Human Activities** were downloaded more frequently compared to the previous quarter. 1396 downloads (+105%) were recorded for the Vessel density maps, and 437 downloads (+30%) for the Route density maps).
- **EMODnet Physics** reported on the usage of data according to the interface the user is using to access data products. The figures indicate that the Wind page is the most visited and used page (7139 map visualisations), followed by the page Temperature in the water column (331 map visualisations).

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.

⁴ For portals which provided this information.

⁵ For portals which provided this information.

- Apart from one data product (Environmental variables, 214 to 225 downloads), increases were reported in the number of data product downloads for **EMODnet Seabed Habitats** compared to the previous quarter. The Individual habitat maps from surveys remain the most downloaded product (from 14.612 to 71.063 downloads), followed by the Broad-scale habitat map (EUSeaMap) and Composite data products (from 417 to 859 downloads).

Recent meetings and events

Due to the CoViD-19 pandemic, all meetings and events in the fourth quarter of 2020 continued to be organised or attended virtually. A number of key meetings:

- **EMODnet Bathymetry:** the Ocean Hackathon (10-11 October) provided an opportunity to increase EMODnet visibility by acting as a data coach. In a remote web meeting, the NATO Geospatial Unit was introduced to EMODnet Bathymetry.
- **EMODnet Biology:** a presentation on EMODnet Biology data products was given at the Transatlantic Data Product workshop on 9 October 2020, which was attended by 24 participants from various international organisations. At the EVOLMAR conference on Marine Evolution, EMODnet Biology explained [how it can be used for marine biodiversity studies](#).
- **EMODnet Chemistry:** attendance of the Sustainable Ocean Meeting conference (Ocean Vision 2030: the Decade for Ocean Action) on 8 and 10 December 2020. A number of workshops were attended to promote EMODnet data.
- **EMODnet Data Ingestion:** at the IODE international data sharing workshop, Ingestion was promoted to a new initiative in the Baltic seeking guidance on how to share EMODnet to EMODnet and other European data aggregators. Promotion of Ingestion at the World Ocean Council Sustainable Ocean Summit (8 December 2020), session on the U.N. Decade of Ocean Science - Data Collection and sharing by industry.
- **EMODnet Geology:** meeting on artificial-intelligence-based-seabed-sediment modelling for the southern North Sea, to discuss added value of EMODnet Geology. Meeting on embedding EMODnet in the Digital Twin of the Oceans, which will be coordinated by Geology if the project is awarded.
- **EMODnet Human Activities:** attendance of a workshop on the Harmonisation of Terminology and Nomenclature for MSP output data workshop (29 October 2020).
- **EMODnet Physics:** meeting with VOTO (Voice of the Ocean) took place to initiate discussion on data sharing with EMODnet of data from smart autonomous platforms in the Baltic Sea. A meeting took place with ICES to discuss a proposed product on continuous noise monitoring stations asset mapping.
- **EMODnet Seabed Habitats:** meeting with CMEMS on the MSFD portfolio within which the EUSeaMap would be included; presentation at Copernicus workshop 'Using earth observation for water quality monitoring' on how satellite data can be used for seabed habitat mapping.

Upcoming EMODnet meetings and events

The main EMODnet meetings planned for the coming period:

- Due to COVID, the EMODnet 2nd Open Conference and Jamboree has been postponed to a 14-18 June 2021. If you are interested in this event and would like to follow the updates, please keep an eye on the updates [dedicated page](#) on the EMODnet Central Portal.

More information

More information about EMODnet's resources available consult:

- EMODnet Data and Data product portfolio: <http://www.emodnet.eu/data-portfolio>
- EMODnet for Business brochure: <http://www.emodnet.eu/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 portal, visit:

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

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

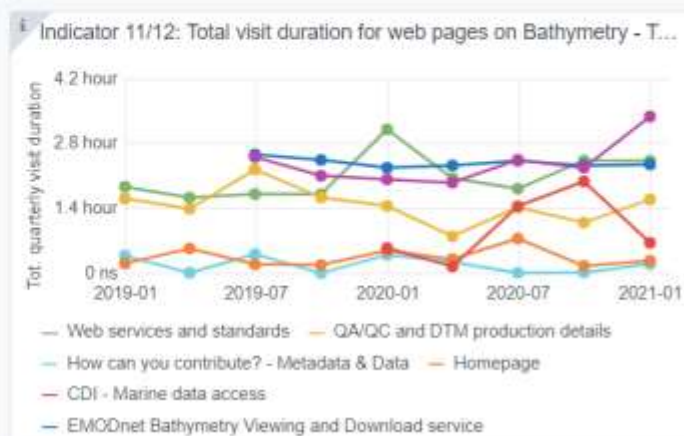
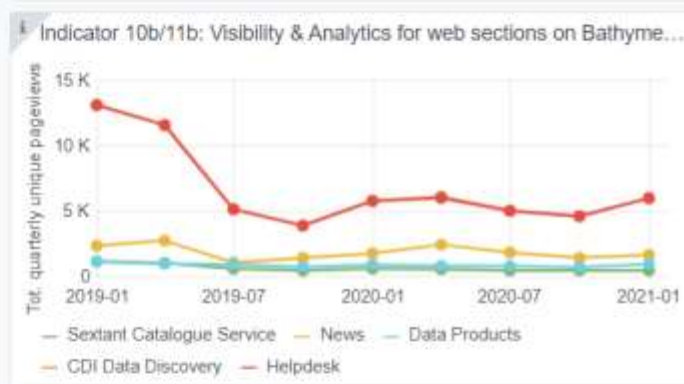
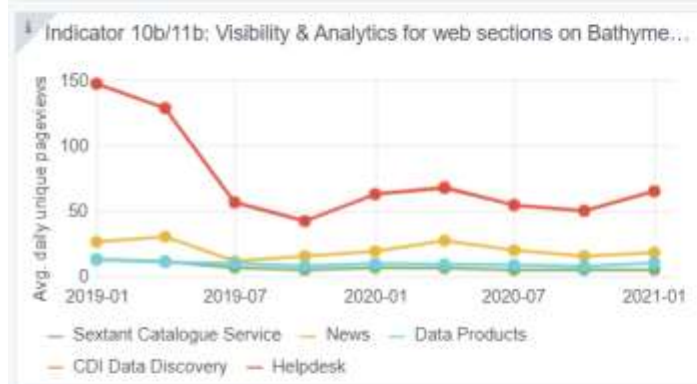
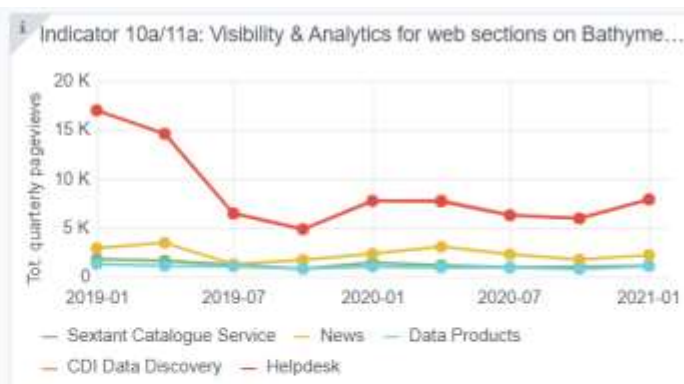
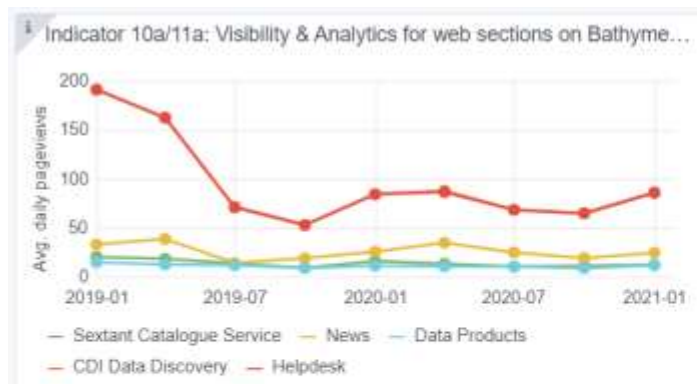
Data Ingestion Service

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

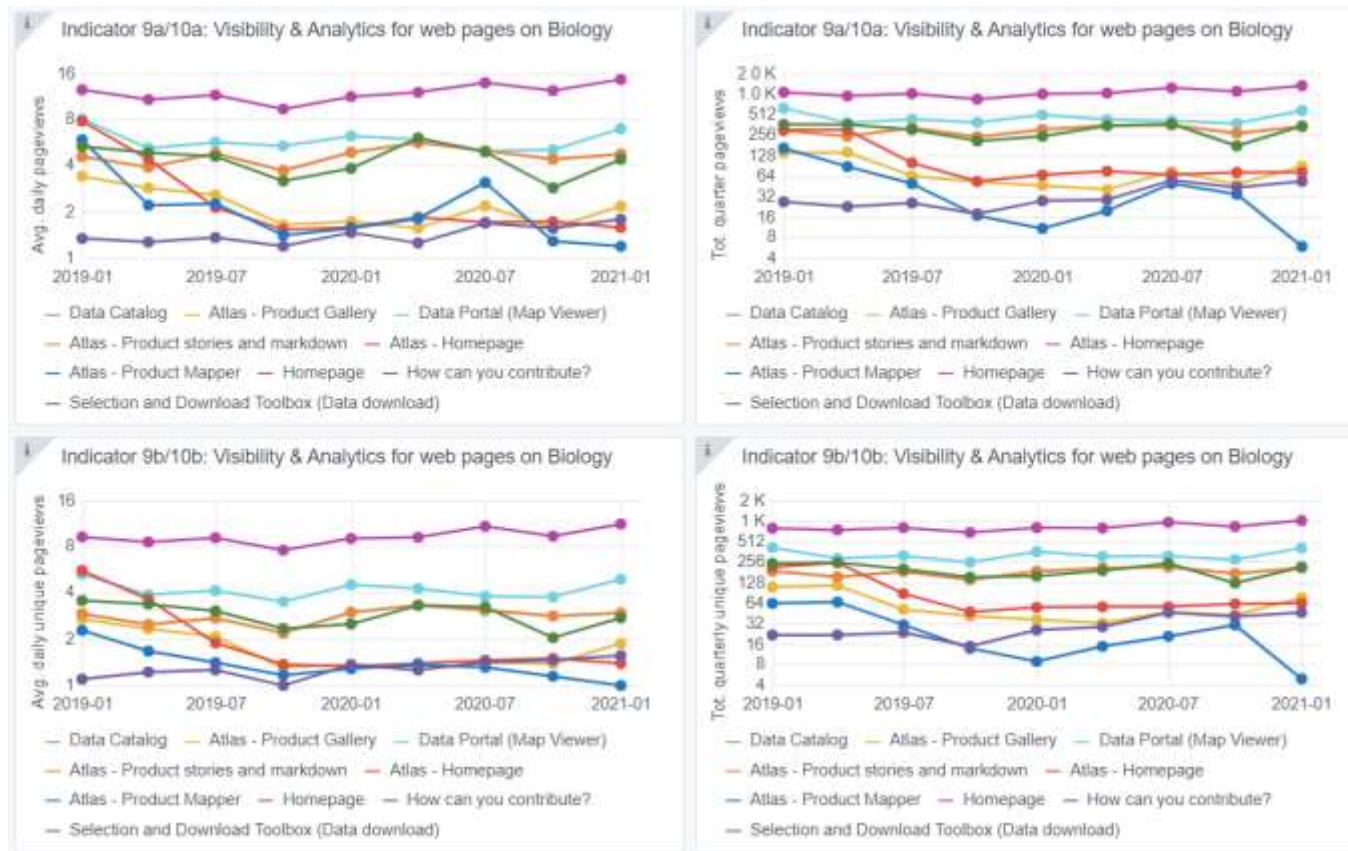
Gallery

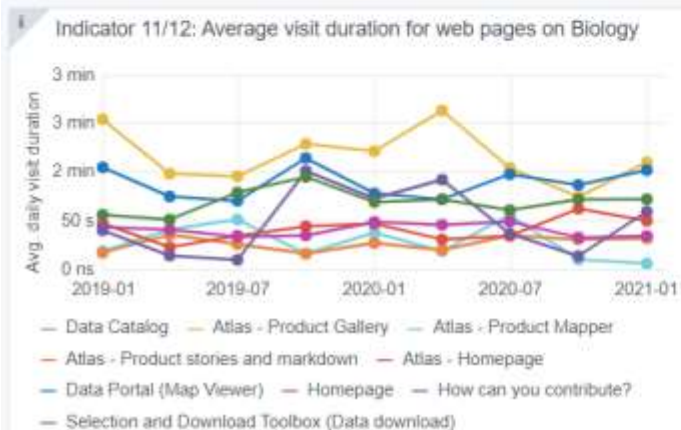
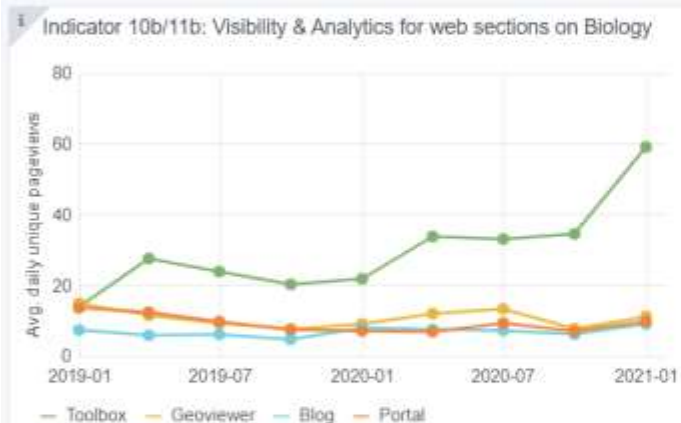
Bathymetry



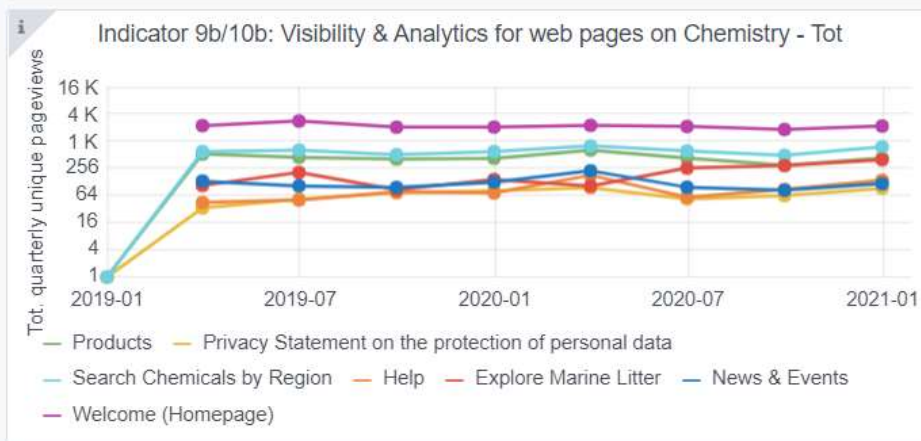
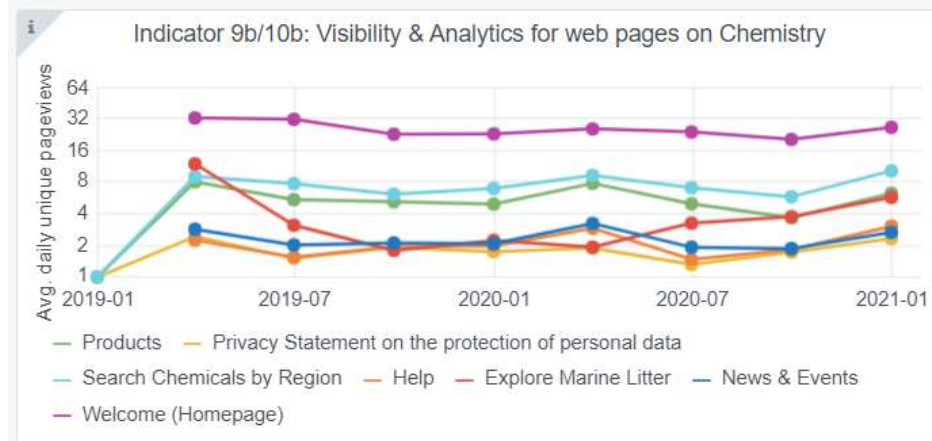
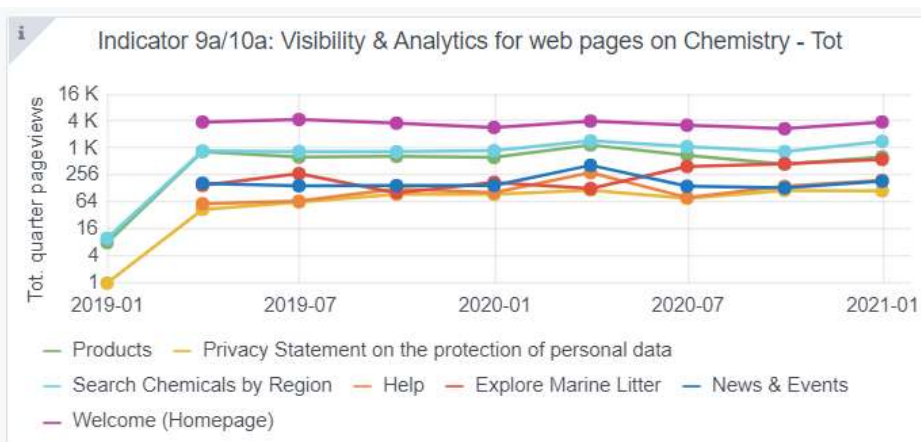
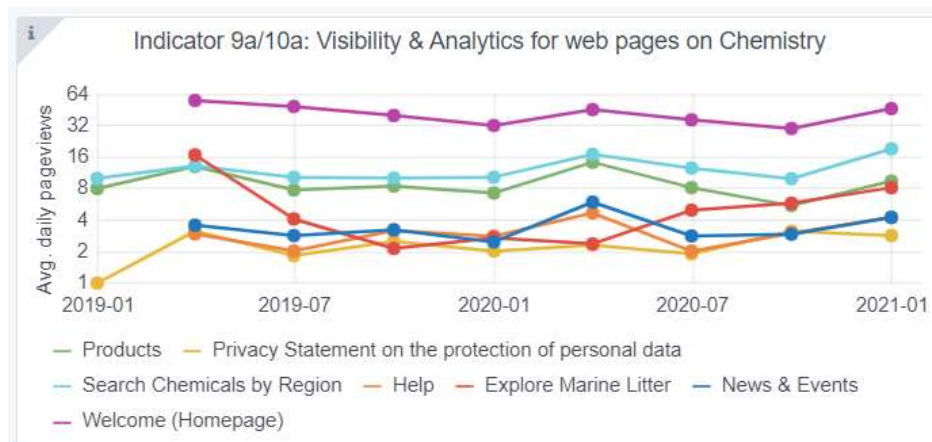


Biology





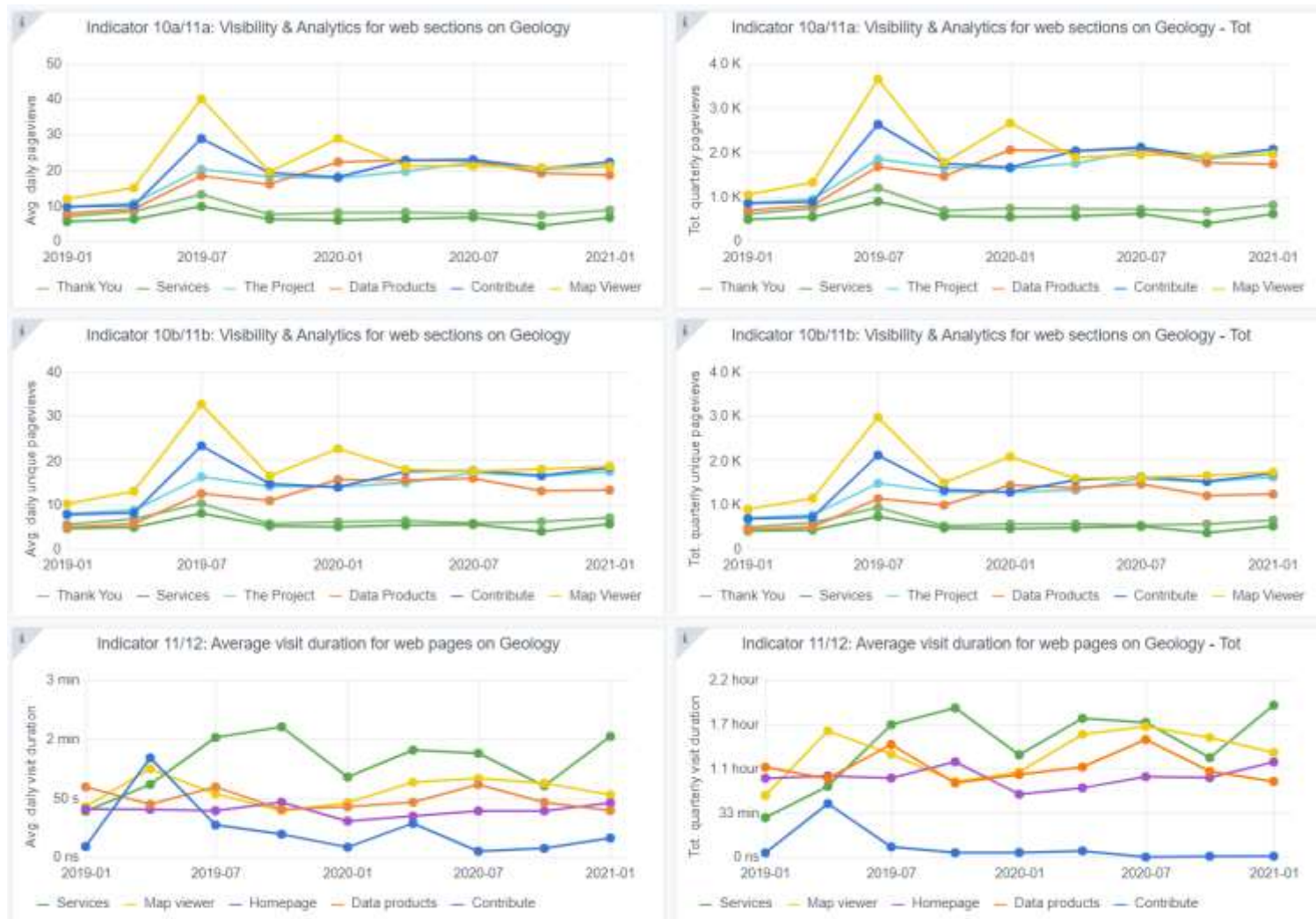
Chemistry





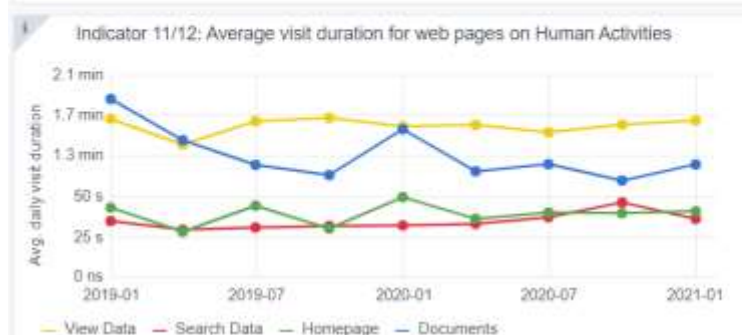
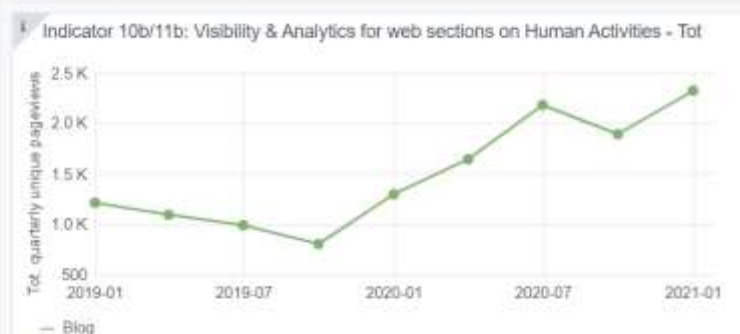
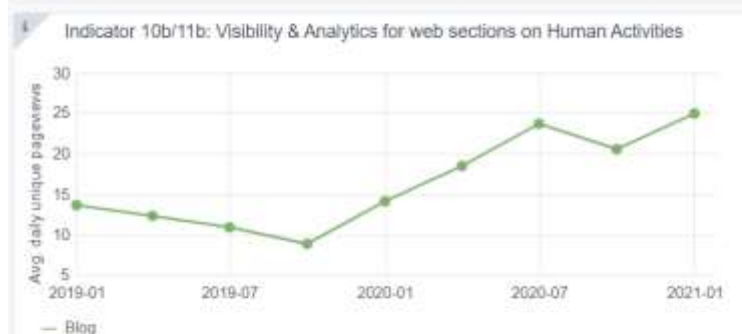
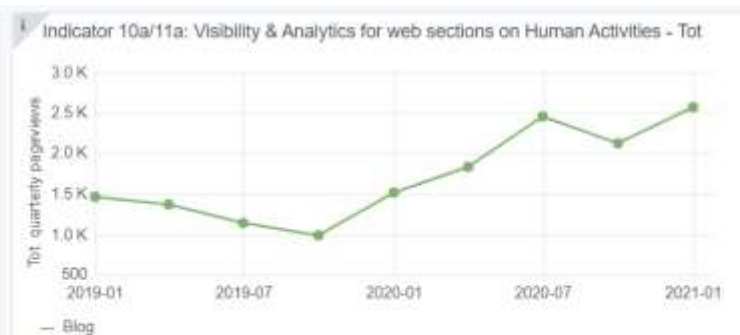
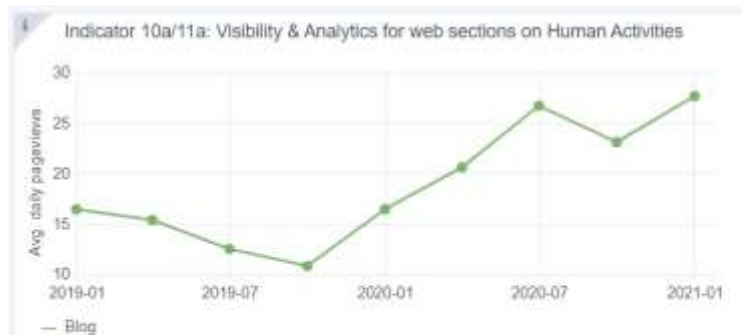
Geology



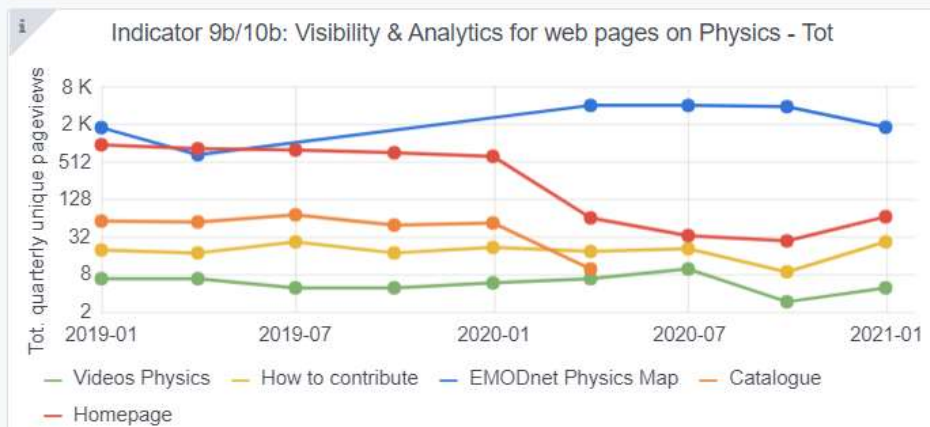
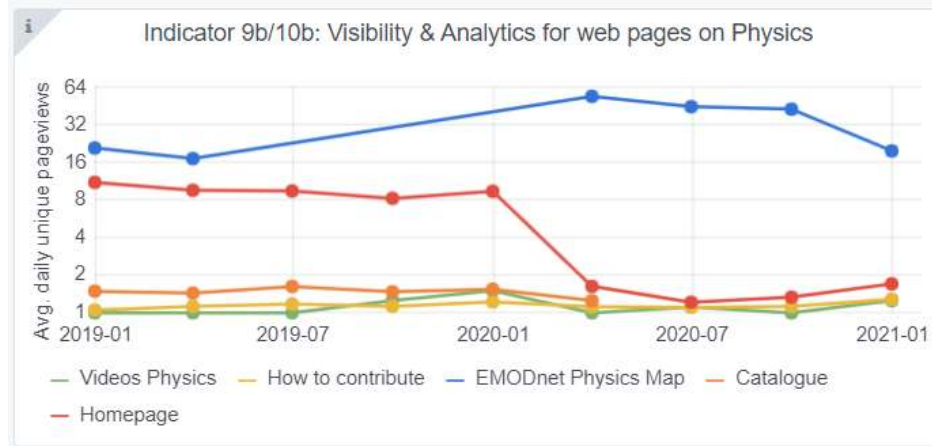
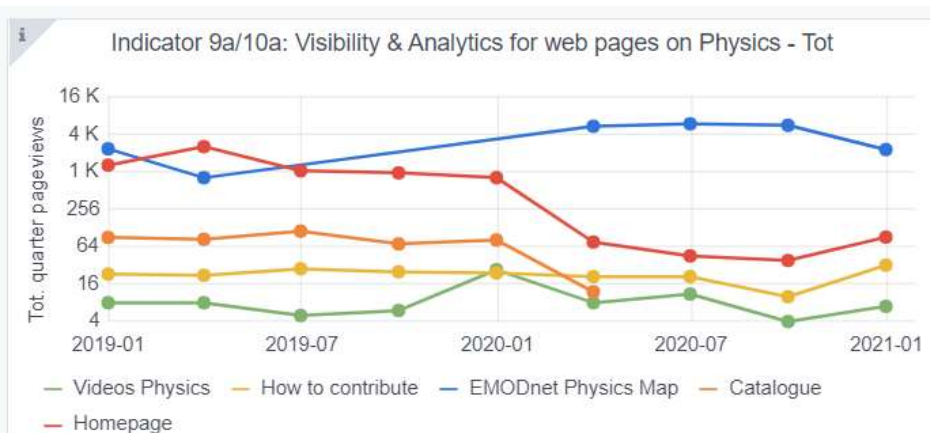
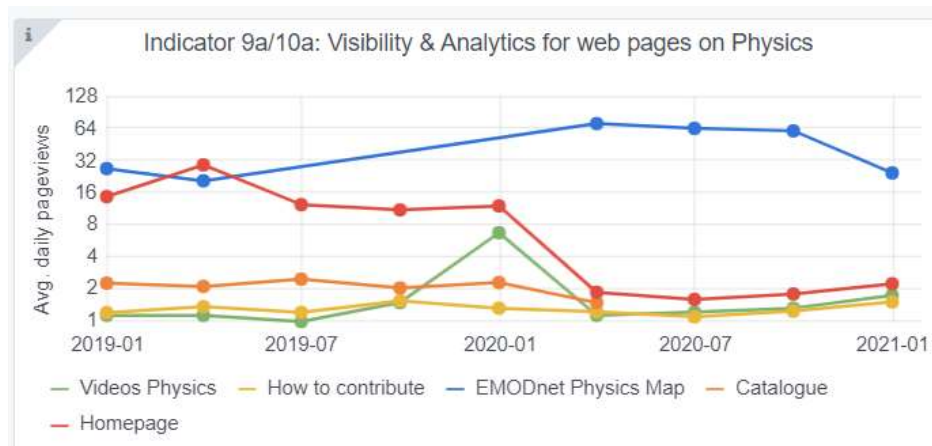


Human Activities





Physics





Seabed Habitats

