EMODnet Secretariat progress update – January 2020

This update is based on the quarterly progress reports of the different EMODnet projects (Thematic Portals, Data Ingestion Portal) supplemented with updates from the Secretariat. This is the twelfth Secretariat progress report since the start of the EMODnet Development Phase III (2017-2020) and covers activities developed within EMODnet in the period October-November-December 2019.

EMODnet progress overview

Common progress highlights

By the end of 2019, all EMODnet data portals have started a new two year cycle, with the last ones kicking-off at the onset of this reporting period. To optimize the reporting process and facilitate the assessment of the portals to drive progress in this new phase, since previous reporting period EMODnet data portals now are asked to report using an updated set progress indicators (see progress update Q3 2019) and provide information on progress towards addressing specifically identified priority issues that need to be resolved. These priority issues are communicated to the portals by EASME based on input from the Secretariat and DG MARE at the start of each reporting period (see individual thematic portal quarterly reports – Section 3). The new approach also includes the aut" mization of the collection of user statistics which required some adaptions causing some minor delays in reporting to include the full web statistics. The progress monitoring will be further automated where possible in the coming year and reporting assessed and, where needed, further fine-tuned and adapted.

The EMODnet Secretariat provided DGMARE and EASME with an overview of achievements at the ends of its two year cycle with recommendations on future priorities to improve coordination of activities, monitoring of EMODnet performance and progress as well as the dissemination of results. The main points will be presented and discussed at the upcoming EMODnet Steering Committee and Technical Working Group meetings in April 2020. During the reporting period, the Secretariat also presented first plans for developing the 2nd EMODnet Open Conference and Jamboree which will take place in Oostende in the week of 20-25 September 2020.

Specific progress and achievements of thematic groups

- During the reporting period, **EMODnet Bathymetry** has dedicated considerable preparatory work to ensure timely release of the new GLOBE software by the end of February 2020. The latter is an important step in the preparation of the new version of the Digital Terrain Model, which should be completed and published near the end of the present phase of EMODnet Bathymetry. In parallel, the portal will update the Coastline and Legal Baselines products and generate three regional Digital Terrain Models covering the Mediterranean Sea area. The upgrading of the CDI Data Discovery & Access service has been finalised; the former and the CDI machine-to-machine services for WMS and WFS are fully operational. In addition, all XML output of the CDI services is fully INSPIRE compliant again.

- **EMODnet Biology** had a change of coordinator (staff change within VLIZ) at the end of October 2019 during the reporting period. Main activities for the reporting period include the launch and evaluation of a call for data grants to start in spring-summer 2020, and reports to assess existing data flows, including technical implementation, and on data packages and metadata gaps. Preparations are underway for a data product workshop in September 2020. There were also enhancements in the reporting tool and implementation of changes required to comply with data privacy regulation, including the setup of the https protocol for the portal.

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- During the reporting period, **EMODnet Chemistry** started a new two-year cycle (3 October 2019). Just before that, in early September 2019, the final signature of the Memorandum of Understanding between Copernicus Marine Environmental Monitoring Services (CMEMS) and EMODnet Chemistry was signed. This further consolidated the fruitful collaboration between both major European data initiatives. In December 2019 the portal finalised new data products for contaminants. The new dedicated maps (offering web services WMS and WFS layers) were first approved by the MSFD Board of experts, including RSCs, JRC and EEA. The Communications for this new release (Press Release, news item and social media) were prepared by EMODnet Chemistry, in collaboration with the EMODnet Secretariat, by 20 December 2019. To maximise the impact, the online launch was postponed to 09/01/2020, just after Christmas vacation.

- **The EMODnet Geology** assembly group launched its new project cycle with a kick-off meeting in Athens on 22-24 October 2019 to elaborate the work plan for the entire project and decide on the detailed activities for the next six to twelve months. The Portal was subsequently updated to reflect the new project's phase and data policy notice. At the same time, the portal was adjusted to show more similarity with the other EMODnet portals. Finally, the functionality of the Geology web portal was further improved with the possibility to search for layers by free-text search through layer titles. Also, the base map selection was extended with new Natural Earth theme and the base map selection was moved to the top for a better user-experience.

- The vessel density maps on the **EMODnet Human Activities** portal were further updated with 2018 data. EMSA developed additional route density maps, complementing the current vessel density maps, and based on an entirely different method. Furthermore, the portal has worked on making the website compliant with EASME's privacy and data protection policy.

- Over the last quarter, **EMODnet Physics** kept working on the back-office infrastructure in terms of delivering its regular operational service, inclusion and ingestion of data, security and data synchronization and presentation updates. The CMEMS-INSTAC new data naming and file system convention were re-synced. Two dedicated teams have been working on the high-resolution climatology on the North Adriatic (Po river estuary) and a nowcast Ocean State (Wave) product covering the Mediterranean area, respectively. EMODnet Physics closed a specific action on machine-to-machine INSPIRE compliancy. In collaboration with EMODnet Data Ingestion, they started working on ingesting Antarctic Circumnavigation Expedition (ACE) data. The EMODnet Physics Impulsive Noise Registry product page has been re-organized to show and make available the source data with original conventions.

- Led by its new coordinator Ifremer (France) since the start of the new project cycle, the **EMODnet Seabed Habitats** assembly group has focused on preparing the datasets (e.g. filling in INSPIRE-compliant metadata, getting the datasets into a standard format, checking for geometry errors and carrying out confidence assessments). The partners have agreed on a more flexible policy for confidence assessment. That is accepting maps whose confidence assessment varies spatially, in order to facilitate data ingestion from third parties (i.e. data providers that are not partners). The portal was registered on FAIRsharing.org in October and made fully GDPR compliant.

- Options to further develop the **EMODnet Central Portal** data services were reviewed during the reporting period with a view to improving the query tool and make it ready for official launch before the next Steering Committee end of April 2020. The previously standalone EOOS2018 Conference website is now also fully integrated into the central portal and news items were added related to recent activities and forward look the 2nd EMODnet Open Conference later this year. Changes were implemented following EASME's requests pertaining to https and Brexit disclaimer.

- The **EMODnet Data Ingestion** portal signed its new contract on the 11th of October 2019. With regard to outreach activities, the Data Ingestion portal completed a disclaimer agreement with the Nord Stream 2 pipeline project who is willing to share multidisciplinary datasets for the pipeline trajectory, and made progress with the EU H2020 EUROFLEETS+ project whose researchers will ingest their

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processed datasets from cruises into the Submission service of EMODnet Ingestion. During the reporting period, the GDPR compliancy of the website and related services was improved.

EMODnet data portals usage

<u>User visit statistics</u>

The Secretariat automatised the collecting process of user statistics (*i.e.* number of (unique) page views and average visit duration) 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 below.

As with regard to the **EMODnet Data Ingestion** portal, the portal had over 19,000 unique visitors (although, the high number is caused by two bots which have been registered by multiple sites) in November 2019, and around 3,200 in October and December.

<u>EMODnet Central Portal:</u> Overall, there has been an increase in the number of map visualisations. The webpages and layers from EMODnet Bathymetry remain the most popular products, and this can also be seen on the trend numbers. In general terms, the majority of layers from EMODnet Physics and Seabed Habitats exhibit a positive trend, with other portals showing a stable or for some data layers, a negative trend. The average visit duration to each portal webpage, accessed from the Central portal, is highest for the Geology, Chemistry and Biology portals in this reporting period.

For **EMODnet Bathymetry**, the "EMODnet bathymetry viewing and Download Service" have the highest score. This means that users spent the most time browsing and interacting with the viewing service which as many functions and overall is the most interesting product and service that EMODnet Bathymetry has to offer. Average visit duration is erratic, ranging from few seconds to 2:30 minutes. From Q3 to Q4 the following pages have seen some increase in average visit duration: "RSM" and "How can you contribute and Web services".

EMODnet Biology reported a total number of 2303 visits (up from 1534 visits in the previous quarterly report), the Toolbox and Portal being the most popular pages. Whilst the average was 23 visitors per day, seven days registered an excess of 50 visitors, possibly due to the data grant call as most of these spikes occurred before the submission deadline.

EMODnet Chemistry web statistics reported approximately 3000-3500 pages views (around 2000 unique page views) across the quarterly reporting period. User visits increased for the "Explore Marine Litter" page and the search function, particularly for Chemicals per region.

The **EMODnet Geology** portal reported an increase in page views in the reporting period, with 1250 unique page views by the end of the reporting period. The map viewer was the most popular web page, followed by the data products. Users spent most time on the services web pages, followed by the map viewer.

The number of views (and unique views) of homepage is in line with previous periods over 500 in **EMODnet Physics Portal**. Landing page and map viewer page are the most clicked by users. It is probably because the interaction with the map viewer let the user to stay more on the portal. In Q4 2019, there was a peak in average duration of visiting the webpage of videos over 3 minutes, followed by 'how to contribute' webpage.

EMODnet Seabed Habitats reported visit duration for web pages remained fairly consistent over the course of 2018 and 2019. The high variability for the Web Services page is probably a consequence of the small number of overall visits to this page, meaning that a small number of outliers can skew the results. The page views of map viewer launching peaked in Q4 2019 up to over 2000.

In **EMODnet Human Activities**, the page view went up in Q4 2019 most certainly because of major updates and data releases - route density and updated vessel density went live towards the end of the reporting period. The page views of data reached 4000. Since the new blog was released in October 2019, the number of blog views reached 1500. No major variations are reported regarding average visit duration for web pages.

<u>Statistics on usage of EMODnet portals</u>

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Number of data downloads:

Compared to the previous period, **EMODnet Bathymetry** reported an increase of 970% in the number of manual CDI data downloads. No apparent reason was identified to explain this major increase.

Following a number of new dataset releases and updates, the number of data downloads in **EMODnet Human Activities** has increased considerably since the last reporting period. Increases range from 6% up to 1200% for most of the datasets. A small number of decreases were reported, among others for MSFD Reporting Units (-25%) (Other forms of area management), Macro- and Microalgae (-17%) (Algae Production), and Lighthouses (-8%) (Cultural heritage).

The number of data downloads in **EMODnet Physics** varied depending on the platforms: e.g. the portal reported an increase in the number of dataset downloads on under water noise (+100%), and River (+91%) and Water conductivity/ BioGeoChemical (+76%) and winds (+101%). Decreases in dataset downloads were reported for among others Atmospheric (-54%), Currents (-7%), Optical Properties (-52%), Sea Level (-81%), Water salinity (-62%), Water Temperature (-54%) and Waves (-22%).

EMODnet Chemistry reported high data downloads (1001419 CDIs) The actual EMODnet Chemistry data volume also remains high, with an ongoing migration to the new upgraded CDI service meaning that any decreases in availability of some EMODnet Chemistry data files are temporary as the whole CDI database and related data sets have to be validated for their syntax and semantics as part of the migration and a number of data files have been temporarily de-activated awaiting their correction by data providers.

EMODnet Biology reported a positive trend for data downloads (manual downloads up 44%) from the last reporting period, which might be partly explained to the post-summer (holiday) period but also an increase in visitors' numbers and the use of tools to search and access data. This was accompanied by an increase in the number of individual users downloading the data.

EMODnet Seabed Habitats did not provide updates on the number of data downloads during the reporting period.

Number of data product downloads:

The number of DTM tiles downloaded from the **EMODnet Bathymetry** portal has increased by 11.5% compared to the previous period.

An increase in the number of downloads of the vessel density maps (92%) was reported by **EMODnet Human Activities**. The new maps, route density maps, were downloaded already five times since their release at the end of 2019.

EMODnet Physics reported an increase in the number of downloadable data products with percentages ranging between 80% and 1360%. No trends are predicted since data product downloads are not available in this quarter.

EMODnet Seabed Habitats reported a decreasing trend in data product downloads ranging from 13% to 46%. Decline in trends is most likely due to a different time reporting duration: this report is 3 months only, whereas the previous report was covering a longer period from the end of the previous phase (May 2019) to end of September 2019 (~5 months). Updates on the number of map visualizations (2700), however the reported statistics do not include which specific data layers are being used by each service.

EMODnet Geology reported 291 data product downloads, which resulted in a 35% decrease compared to the previous period. Number of downloads show a negative trend, which is a typical for Q4 (holidays and project round-up phases).

There were no updates on data product downloads and trends for **EMODnet Biology** or **EMODnet Chemistry** since the last reporting period.

The number of data submissions to the **EMODnet Data Ingestion** portal has decreased slightly because some existing submissions were deleted as they were inactive and not further completed (649 to 638). The number

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of published data submissions 'as is' has increased (549 to 565). Most submissions involve physical data followed by chemical data and bathymetric data.

Challenges to be addressed

- The Replication Manager software is a new software to populate the **EMODnet Bathymetry** CDI service. The portal's data providers received hands-on training, bilateral guidance and support in deploying the new software, which was an intensive process.

- **EMODnet Geology** solved an issue with overlapping map layers (volcanic fluid emissions and volcanic polygons) by introducing additional separate layers for the former allowing representation of detailed information.

- A vulnerability issue on DotNetNuke (DNN) was encountered while working on **EMODnet Physics** security and data protection updates – the EMODnet Physics landing portal CMS. Dedicated efforts have been made to integrate in-situ meteorological data together with river data and more in-land data and a summary of outcome and plans will be presented in next report. Management of the new indicators, with a focus on a new definition of the monitoring object and consequently the development of new monitoring tools has been progressed well and a better view on the EMODnet Physics usage is going to be expected for next report.

- **EMODnet Chemistry** identified some Challenges, which included a request from EEA to supply contaminants and indicator datasets to EEA by mid-2020 and a query on how to handle metadata for these datasets which will require further agreement with SeaDataNet (e.g. possible extensions to ODV format. This was raised as a new request, not in the Phase IV planning and portal activities will need to be tuned to respect the new planning; and providing data management TOOLS to meet marine litter data handling requirements.

- **EMODnet Biology** noted a change in staff of the coordinators role in October 2019 and measures taken to improve reporting tools as particular challenges in the reporting period.

- No specific challenges were encountered by **EMODnet Human Activities** nor by **EMODnet Seabed Habitats** and **EMODnet Data Ingestion**.

Recent meetings and events

During October-December 2019 period, EMODnet Secretariat and partners were involved in several key meetings and events including:

- **EMODnet Bathymetry:** Technical meeting to discuss GLOBE upgrading and QA-QC methods, and possible implications for the overall planning (29 October 2019: Brest, France); other external meetings e.g. The Nippon Foundation-GEBCO Seabed 2030 Project: From Vision to Action (22-23 October 2019; London, UK), GEBCO Symposium (4-9 November 2019; Portsmouth, USA)

- **EMODnet Biology:** WP3 archaeology datasets meeting, 16 December 2019; Data grant evaluation (6 and 12 December 2019); Meeting with EMSA, 20 December 2019 and other external events e.g. SG-OBIS-Eighth session of the IODE Steering Group for OBIS, H2020 Blue-Cloud Kick-Off meeting, Biodiversity Next Conference

- **EMODnet Chemistry** 4th Steering Committee Meeting, 29-30 October 2019, Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA), Italy and workshop on EMODnet Chemistry oxygen data quality on 11-12 November 2019; and multiple other external events including presenting at a Copernicus Marine Service for MSFD event on 2 October 2019 and meetings with MSFD WG DIKE etc.

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- **EMODnet Data Ingestion** Kick-off meeting EMODnet Physics IV on 7 – 8 November 2019 (Genua, Italy), Nord Stream 2 pipeline project webex meeting (December 2019).

- **EMODnet Geology:** Project phase 4 kick-off Meeting on 23-24 October 2019 in Greece; other external events e.g. Irelands seabed mapping conference on 16 October 2019, Irelands annual petroleum conference on 29-30 October 2019 (Ireland), EuroGeoSurveys Marine Geology Expert Group meeting on 22 October 2019 (Athens, Greece), GOOS Workshop on Marine Data during the Polar Data Forum III on 21 November 2019 (Helsinki, Finland) and AGU Fall meeting on 9-13 December 2019 (San Francisco, USA) etc.

- **EMODnet Physics** Swedish EMODnet data ingestion session on 3-4 October 2019 (Umea, Sweden), EMODnet Physics core team meeting on 7-8 November 2019 in Genova (Italy) and HF Radar Task Team Workshop on 13-14 November 2019 (S. Sebastian, Spain); and multiple other external events including presenting at a workshop on Marine Data on 21 November 2019 (Helsinki, Finland) and MONGOOS Annual Meeting on 3-4 December 2019 (Trieste, Italy), and attending project meetings e.g. H2020 EuroSEA project, NORD STREAM 2 project and H2020 SO-CHIC project etc.

- **EMODnet Seabed Habitats** First and second Project Management Team meetings on 24 October 2019 and 16 December 2019, and First project meeting on 14 November 2019.

Upcoming EMODnet meetings and events

The main EMODnet meetings planned for the coming period are:

- European Aquaculture Technology Platform meeting on open marine data for aquaculture, co-organized with DG MARE and EMODnet, DG GROW and Copernicus Marine Service: 5-6 May 2020, Tromsø, Norway.

- EMODnet Steering Committee and Technical Working Groups 21-24 April 2020, Ostend, Belgium.

- EMODnet 2nd Open Conference and Jamboree with back-to-back partner and portal meetings: 21-25 September 2020, Ostend, Belgium. More information will be released regularly via the central portal here: https://www.emodnet.eu/conference2020.

More detailed information can be found on the EMODnet thematic portals, also accessible through the EMODnet Central Portal.

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

- North Sea checkpoint - www.emodnet.eu/northsea/home
- Mediterranean checkpoint - www.emodnet-mediterranean.eu
- Artic checkpoint - www.emodnet-arctic.eu
- Atlantic checkpoint - www.emodnet-atlantic.eu

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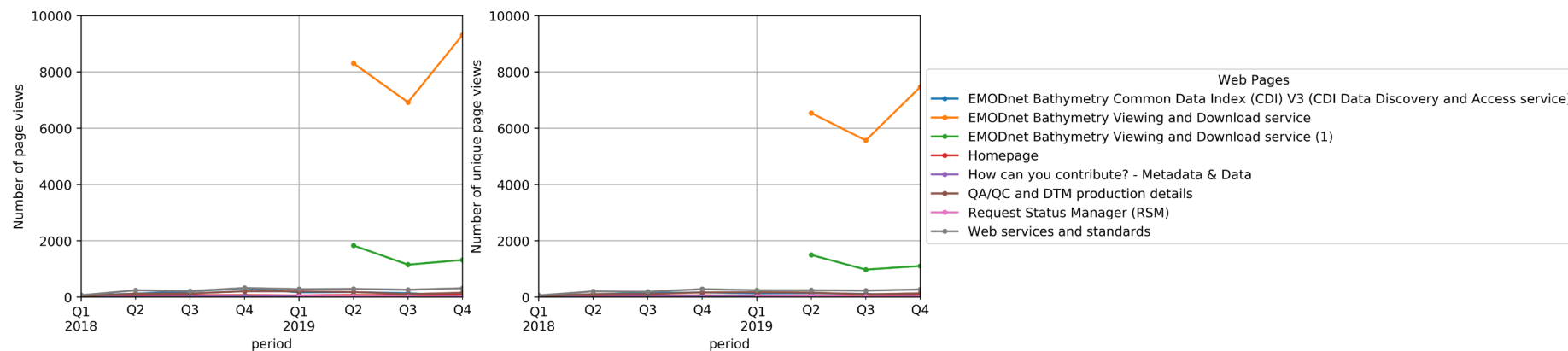- Baltic checkpoint - www.emodnet-baltic.eu
- Black Sea checkpoint - www.emodnet-blacksea.eu

Data Ingestion Service

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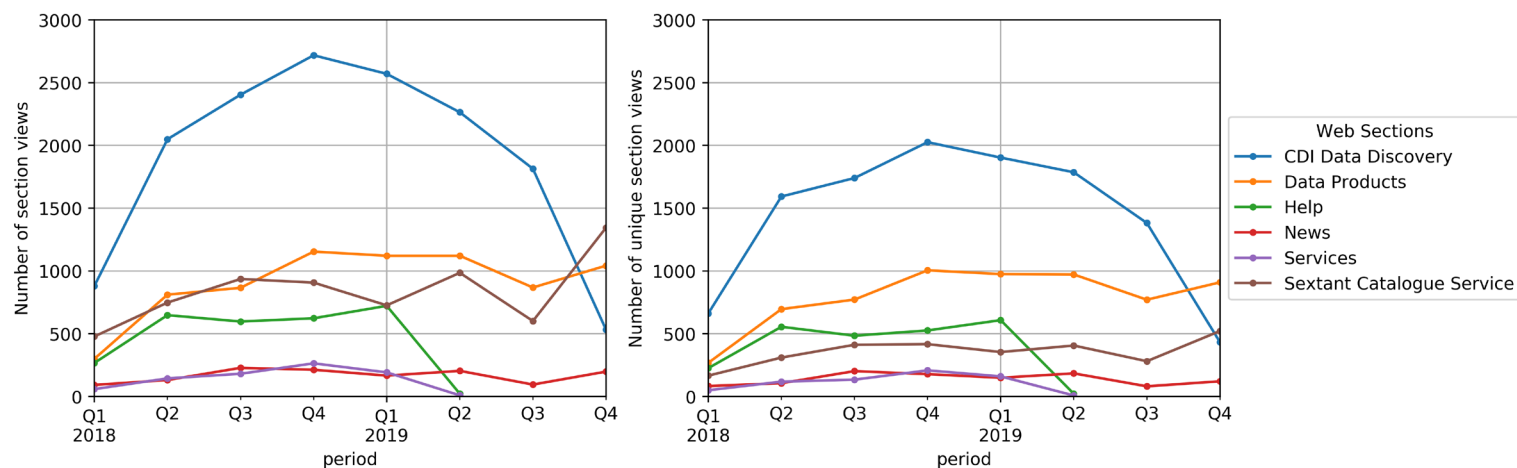
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Gallery

Bathymetry

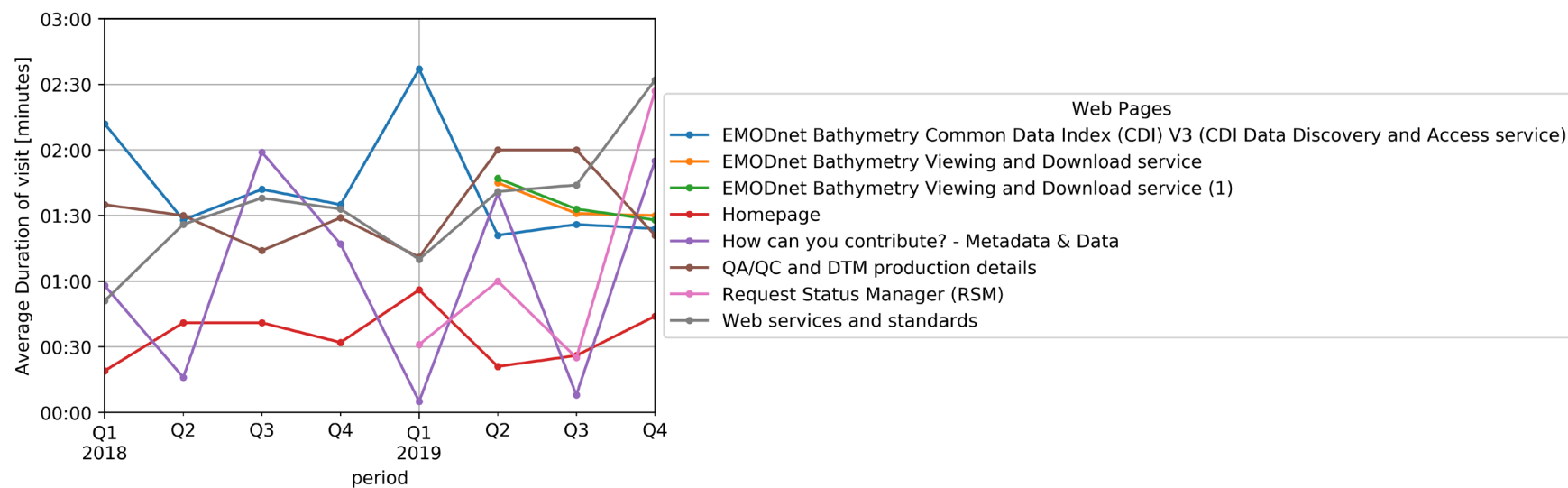### Indicator 10: Visibility & Analytics for web pages on BATHYMETRY

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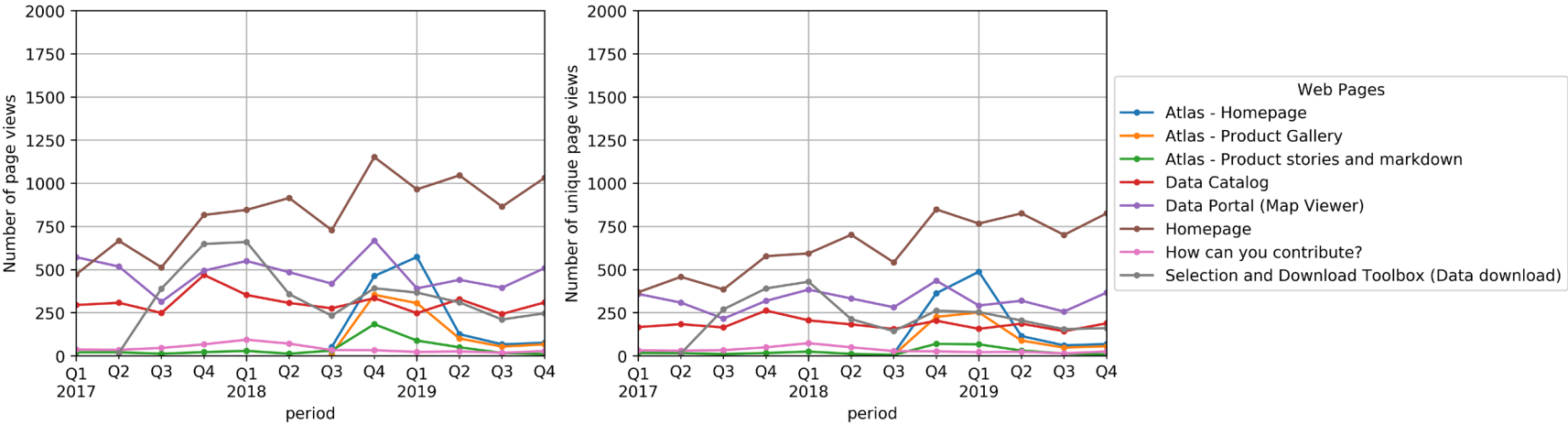## Indicator 11: Visibility & Analytics for web sections on BATHYMETRY

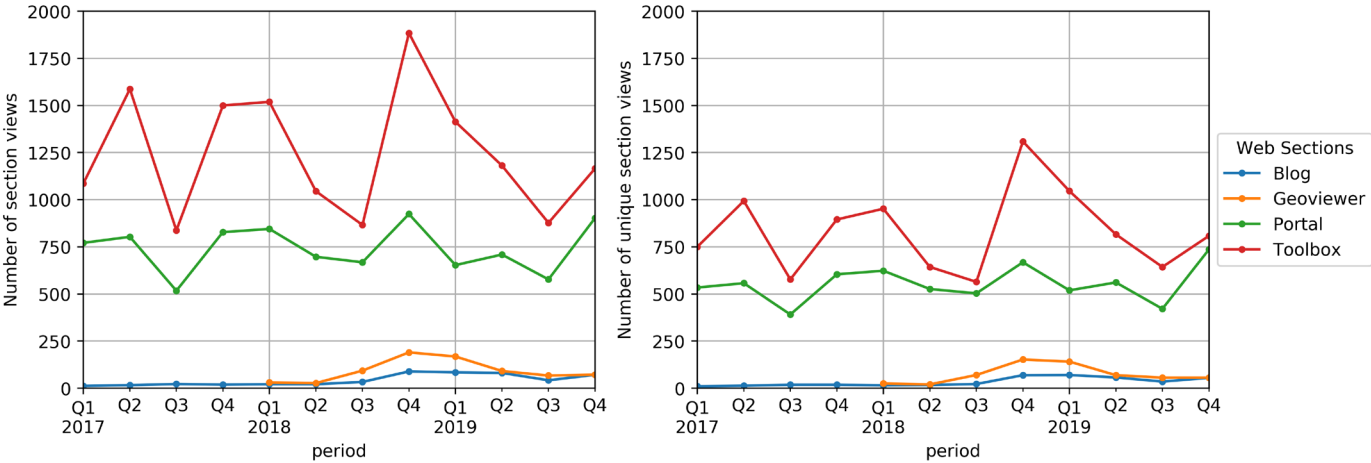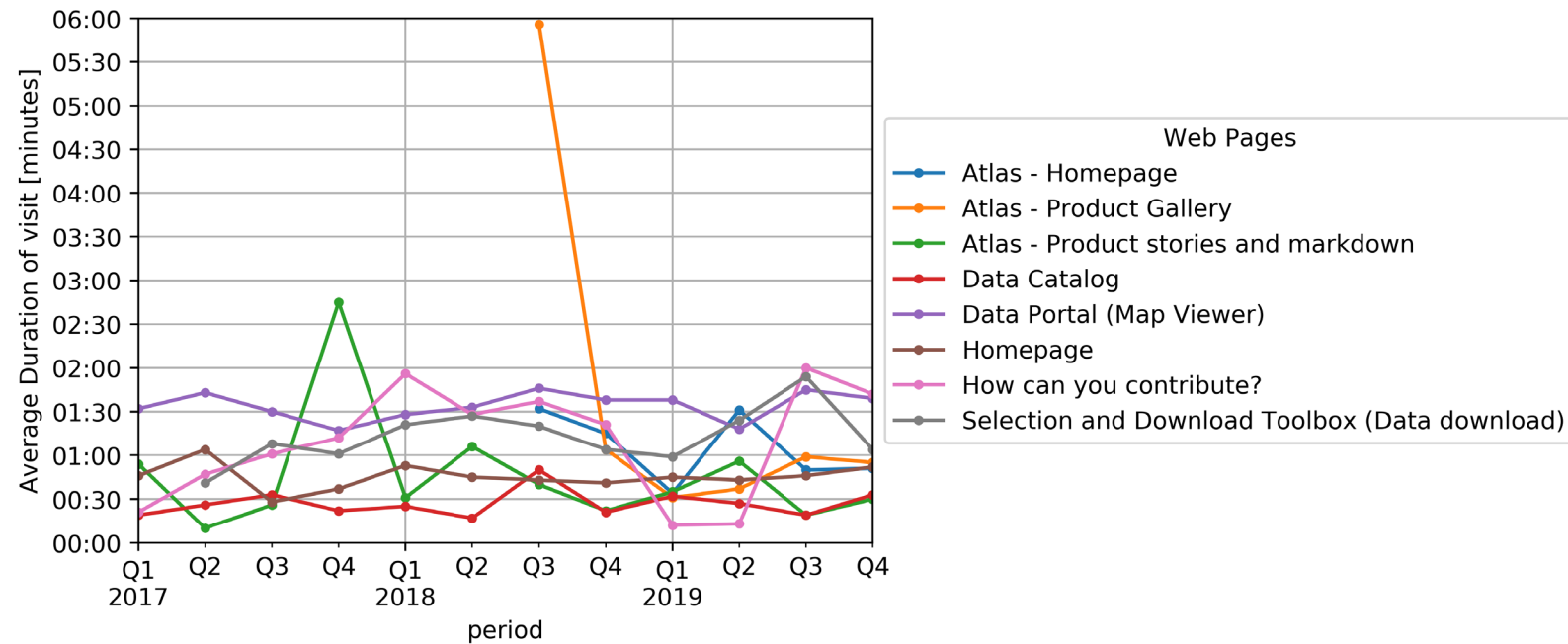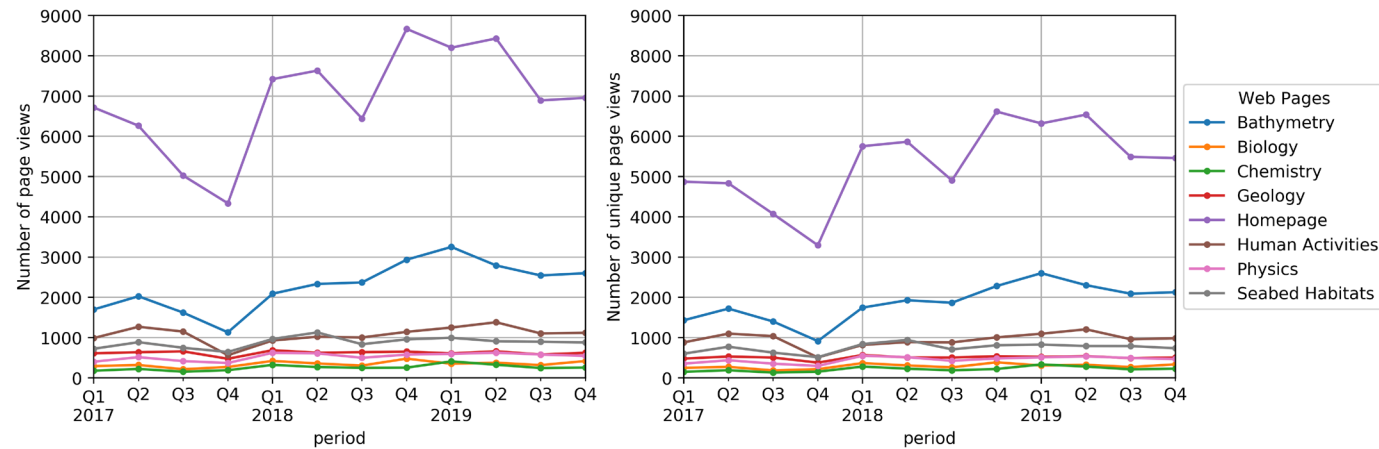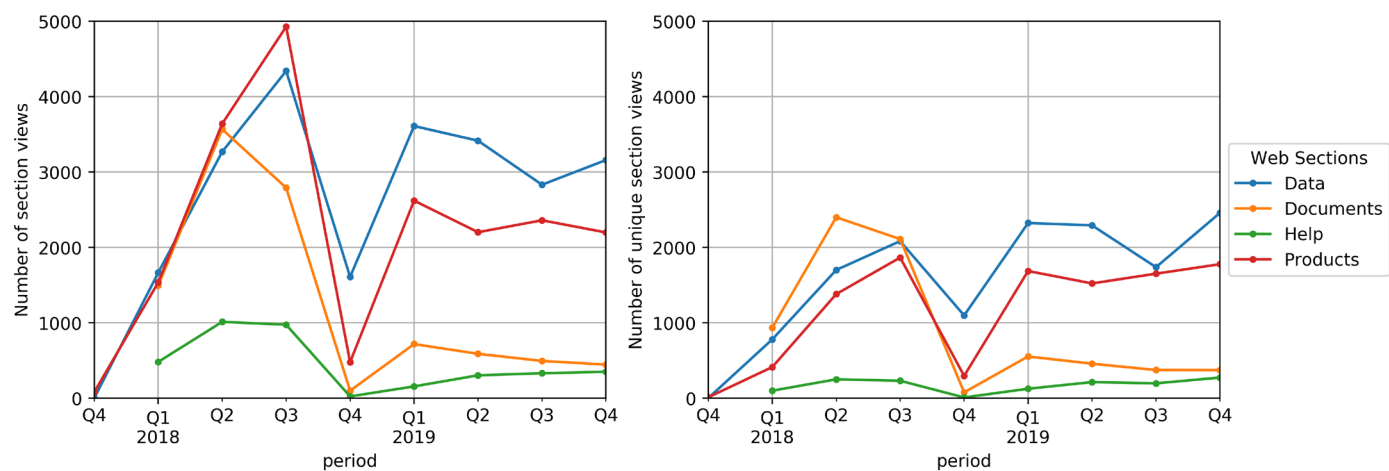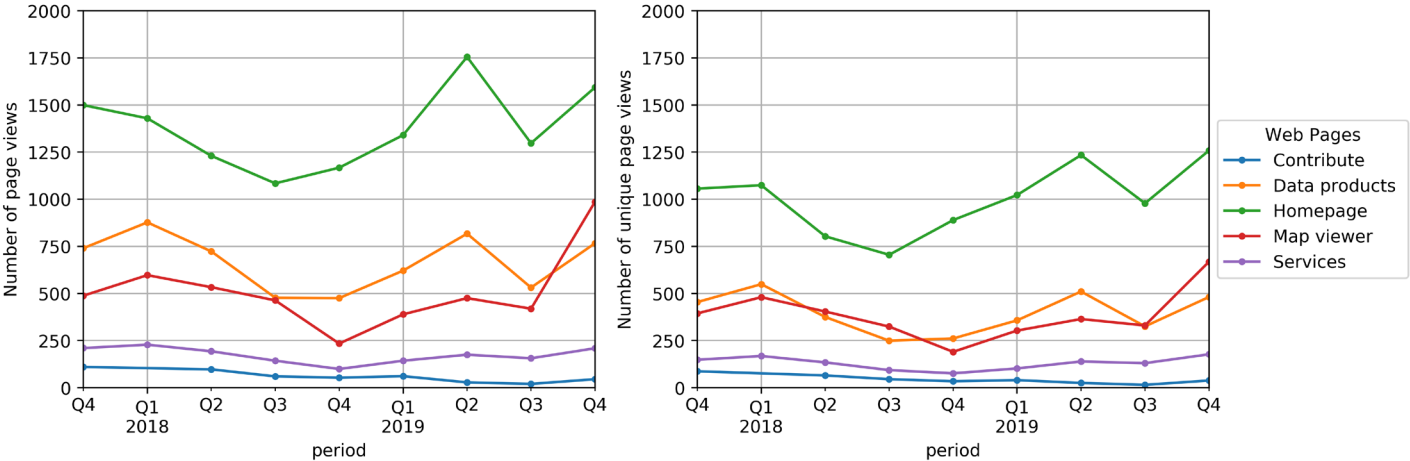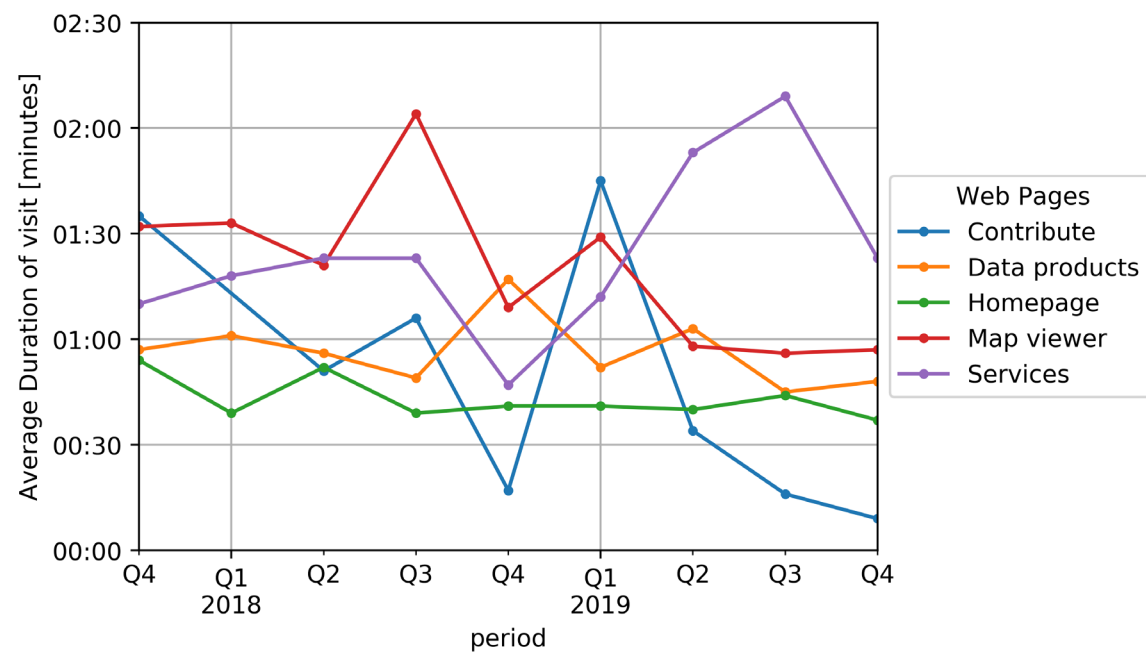## Indicator 12: Average visit duration for web pages on BATHYMETRY

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Biology

Indicator 10: Visibility & Analytics for web pages on BIOLOGY

Web Pages
- Atlas - Homepage
- Atlas - Product Gallery
- Atlas - Product stories and markdown
- Data Catalog
- Data Portal (Map Viewer)
- Homepage
- How can you contribute?
- Selection and Download Toolbox (Data download)

Indicator 11: Visibility & Analytics for web sections on BIOLOGY

Web Sections
- Blog
- Geoviewer
- Portal
- Toolbox

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Indicator 12: Average visit duration for web pages on BIOLOGY

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Central Portal

Indicator 10: Visibility & Analytics for web pages on CENTRAL PORTAL

Indicator 12: Average visit duration for web pages on CENTRAL PORTAL

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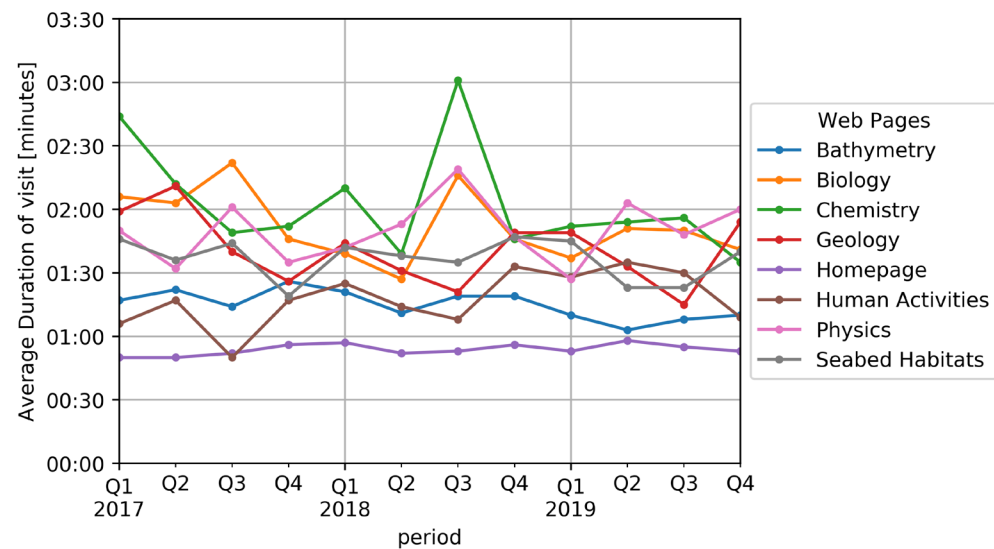
Chemistry

Indicator 10: Visibility & Analytics for web pages on CHEMISTRY

Web Pages
- Explore Marine Litter
- Help
- News & Events
- Privacy Statement on the protection of personal data
- Products
- Search Chemicals by Region
- Welcome (Homepage)
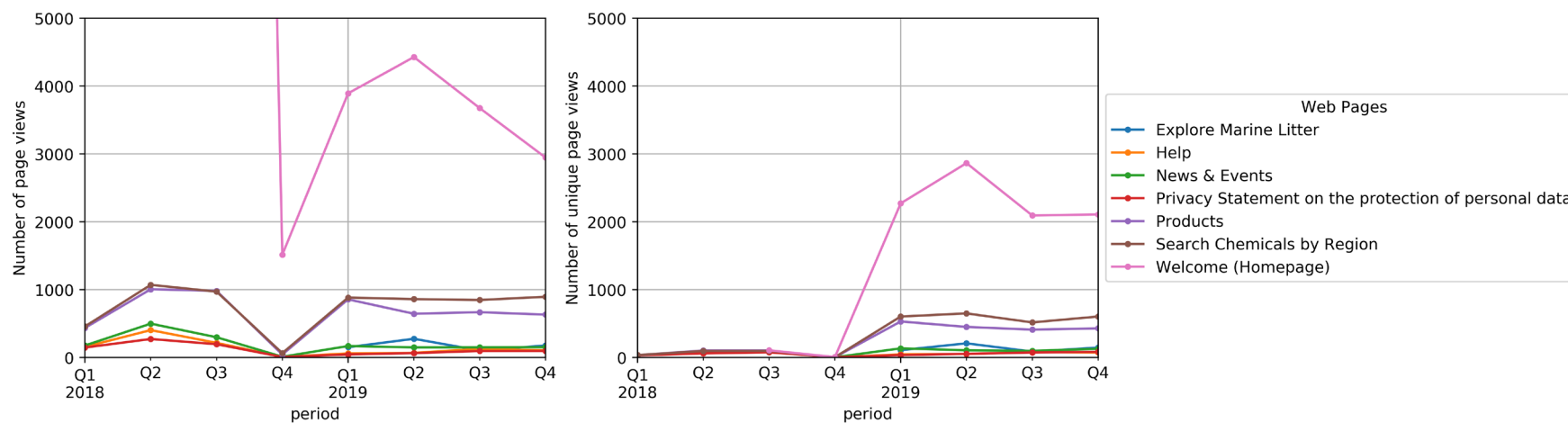
Indicator 11: Visibility & Analytics for web sections on CHEMISTRY

Web Sections
- Data
- Documents
- Help
- Products

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Indicator 12: Average visit duration for web pages on CHEMISTRY

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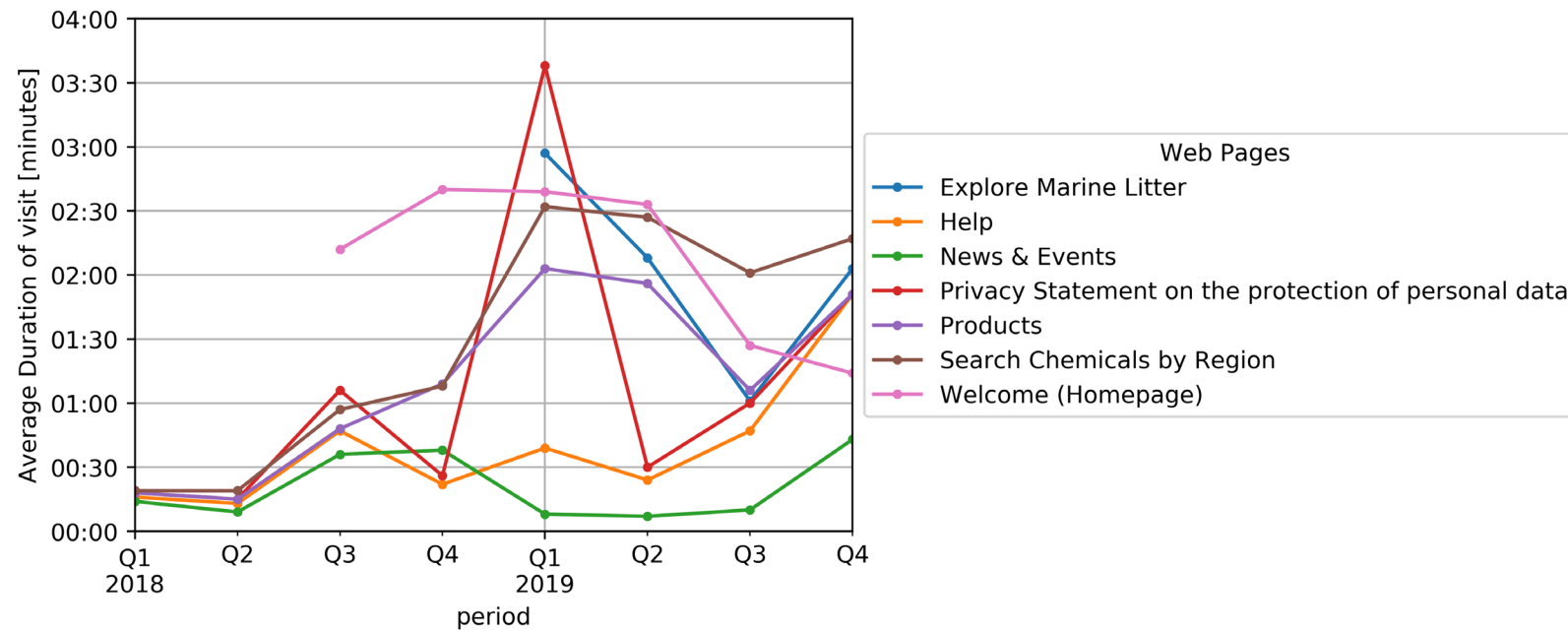
Geology

Indicator 10: Visibility & Analytics for web pages on GEOLOGY

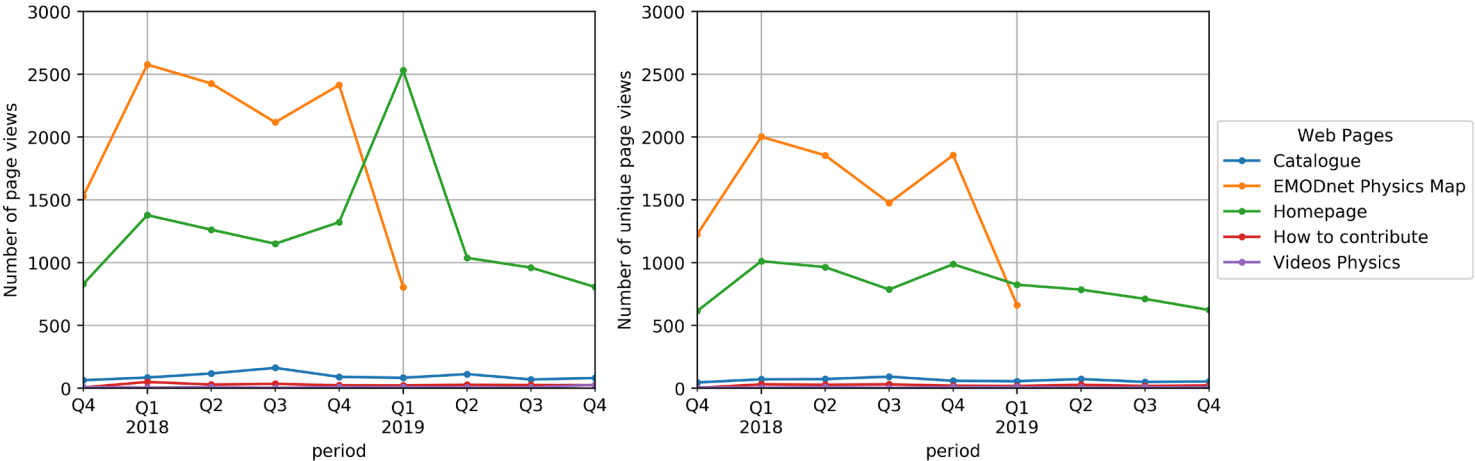## Indicator 11: Visibility & Analytics for web sections on GEOLOGY

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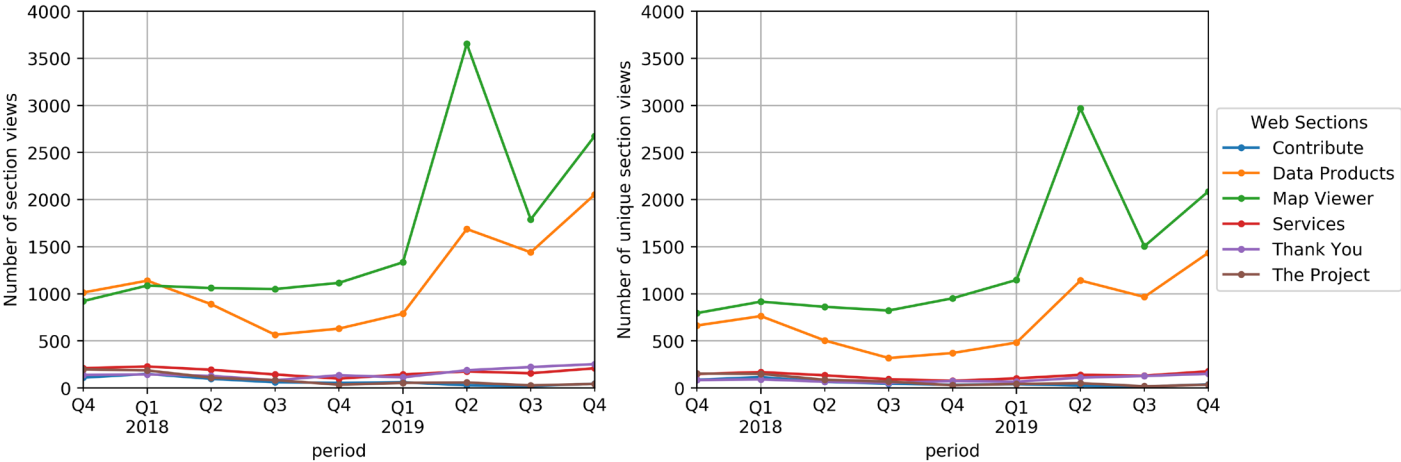
Indicator 12: Average visit duration for web pages on GEOLOGY

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Human Activities

Indicator 10: Visibility & Analytics for web pages on HUMAN ACTIVITIES
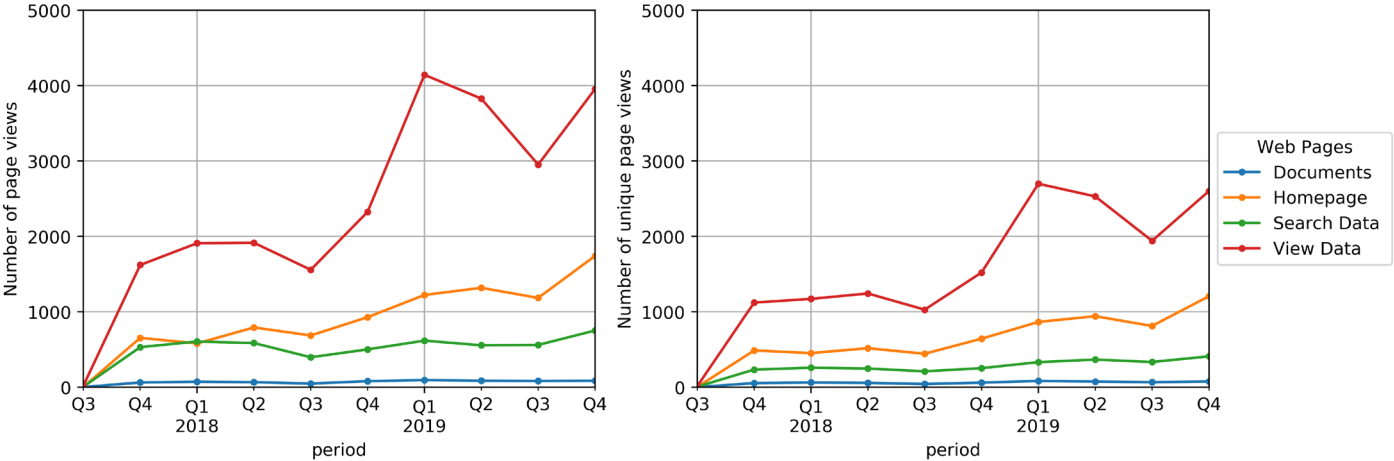
Indicator 11: Visibility & Analytics for web sections on HUMAN ACTIVITIES

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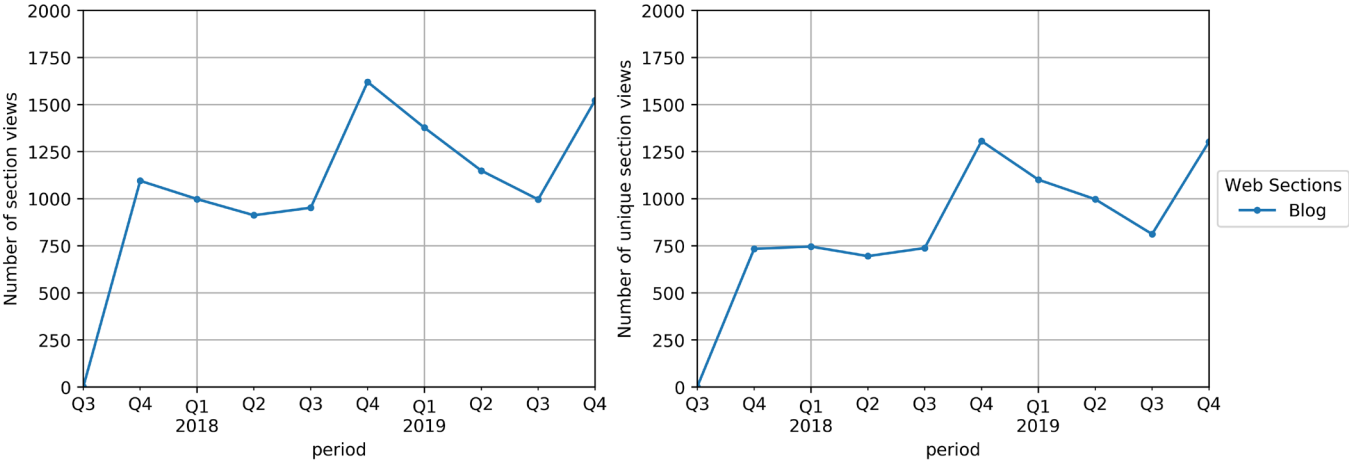
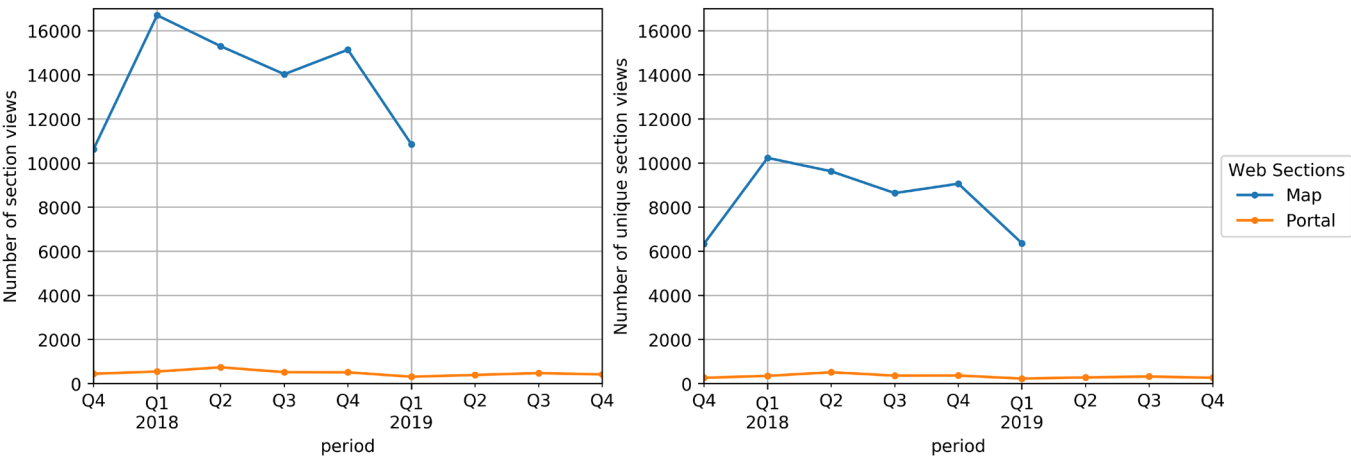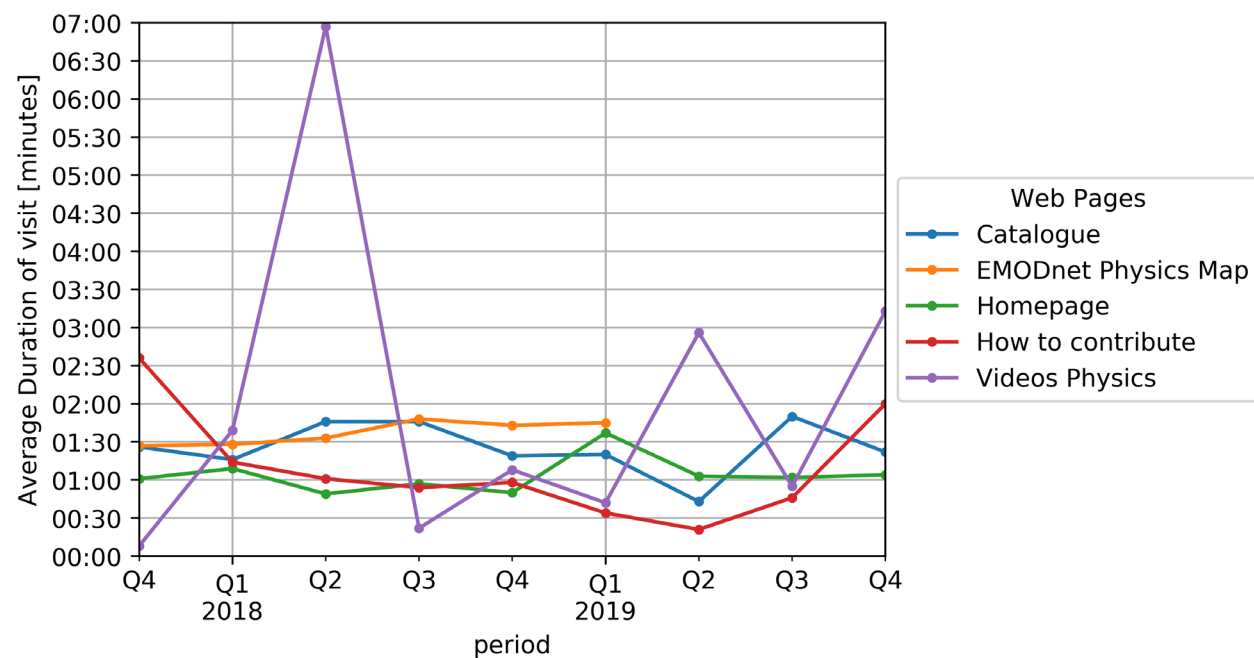Indicator 12: Average visit duration for web pages on HUMAN ACTIVITIES

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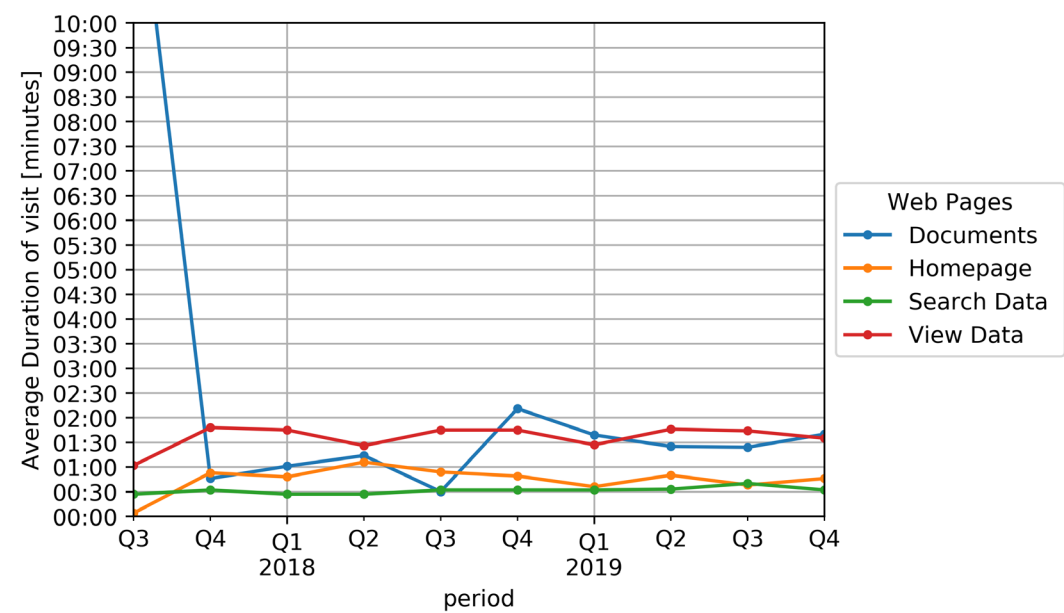
Physics

Indicator 10: Visibility & Analytics for web pages on PHYSICS

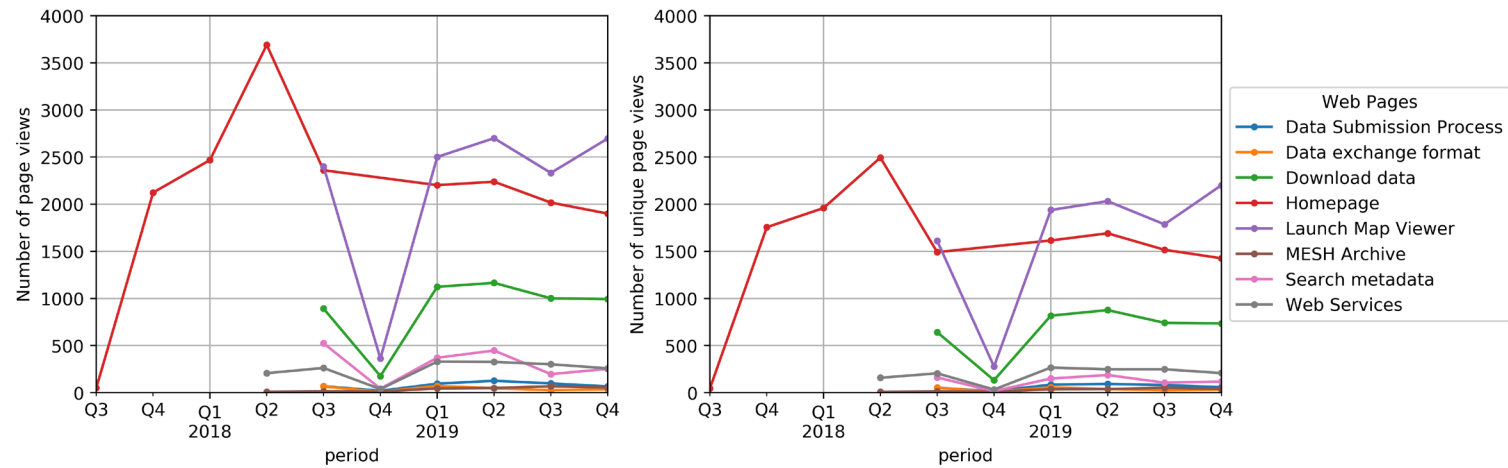### Indicator 11: Visibility & Analytics for web sections on PHYSICS

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Indicator 12: Average visit duration for web pages on PHYSICS
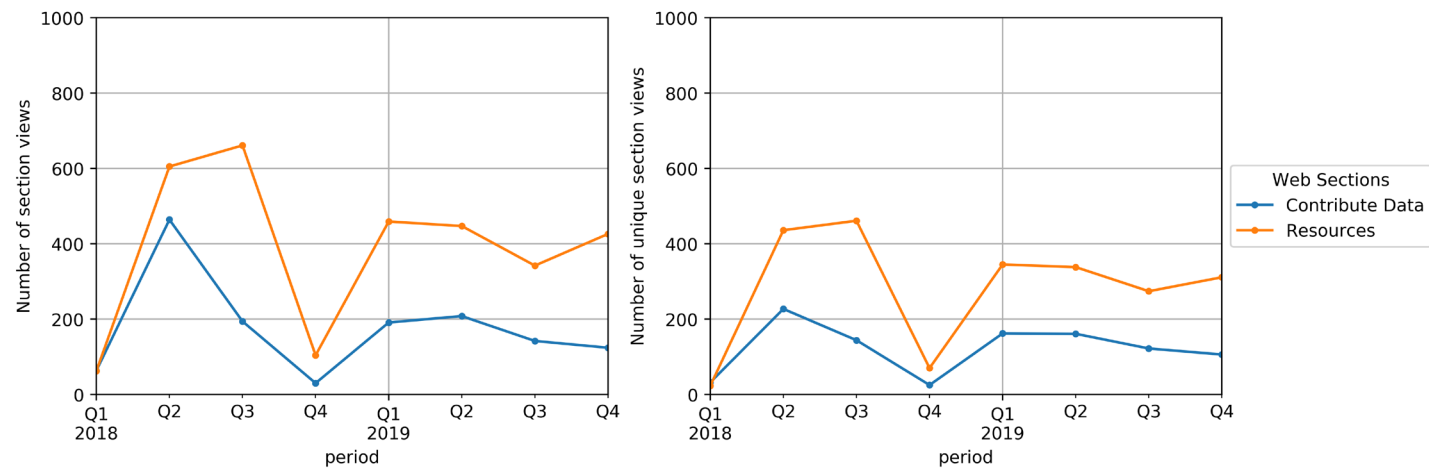
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Seabed Habitats

Indicator 10: Visibility & Analytics for web pages on SEABED HABITATS

Indicator 11: Visibility & Analytics for web sections on SEABED HABITATS

Indicator 12: Average visit duration for web pages on SEABED HABITATS

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