



# EMODnet



European Marine  
Observation and  
Data Network

## EMODnet Thematic Lot n° V - Biology

**EASME/EMFF/2017/1.3.1.2/02/SI2.789013**

**Start date of the project: 19/04/2019 - (24 months)**

### **EMODnet Phase III – Quarterly Progress Report (15)**

**Reporting Period: 01/10/2020 – 31/12/2020**



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## Disclaimer

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# 1. Highlights in this quarter

Status of the Milestones and Deliverables listed in the workplan				
Milestone/Deliverable	WP	Date due	Status (Delivered/Delayed)	If Delayed: reason for delay and expected delivery date
QR14 report	WP1	15/10/2020	Delivered	
D3.7. Scientific document on the design of the workflow of text mining technologies in data archaeology	WP3	31/10/2020	Delivered on 09/12/2020	
D5.5. Transatlantic data integration and product development workshop	WP5	30/06/2020	Delivered on 09/10/2020	

## Task1: Data access to marine biological data and Data archaeology and rescue

At the end of 2020, a new harvest cycle was completed. This brought 34 new datasets to the EurOBIS database and EMODnet Biology Portal, with an additional update of 4 previously available datasets. A list of datasets is included in the Annex.

Next to datasets from WP2-partners, this harvest cycle included the first datasets from the 2019/2021 data grants (4 datasets), 2 datasets that came through EMODnet Ingestion and 1 dataset from WP3.

While with the previous harvest – September 2020 – we passed the mythical milestone of 1,000 online available datasets, this harvest reached a new milestone, as we now have more than 25 million occurrence records available. EMODnet Biology has 1,056 datasets available, representing 25,066,516 occurrence records. Again, we are able to keep the quality of the records at a steady level of 88%. Records not passing the fixed quality control procedures mostly relate to the fact that the taxa have either not been identified to genus or species level, or the taxon name is not (yet) available within the World Register of Marine Species (WoRMS). The size of a dataset – i.e the number of available records – can vary significantly, depending on the original scope and framework in which the data were collected. There is no limit to the size of a dataset to be ingested into EMODnet Biology: a dataset with just a few observations is just as valuable as a dataset with thousands of observations. Updates to already available datasets can either lead to an increased number of records – e.g. time series where data from a new year were being added – or can lead to a decrease in number of records, e.g. due to a more thorough quality control on the provider-end, leading to the removal of erroneous records.

Adding to the 38 datasets incorporated in the database and mentioned above, two new datasets (submitted via EMODnet Ingestion) were added to the catalogue with links for direct data download. The datasets will not be incorporated in the database as they are not of the correct type. A link to these two records was added in the Annex under Task 1 datasets list.

The main activity for WP3 during the reporting period was the completion of “D3.7. Scientific document on the design of the workflow of text mining technologies in data archaeology”. The document introduces the importance, challenges and curation aspects related to archaeological data and then proceeds with a description of the assessment of various curation tools and a summary on the findings and future challenges. This work will be continued until the end of phase III and a scientific publication is also to be expected in the coming months. The document can be accessed via the link: [https://www.emodnet-biology.eu/sites/emodnet-biology.eu/files/public/documents/EMODnet\\_Biology\\_III/Deliverables/D3.7.pdf](https://www.emodnet-biology.eu/sites/emodnet-biology.eu/files/public/documents/EMODnet_Biology_III/Deliverables/D3.7.pdf)

One dataset was harvested during this reporting period, concerning various benthic taxa from the Cyclades plateau (Central Aegean Sea, Greece) sampled in 1986.

Data digitisation was completed for the "Report on the Mollusca and Radiata of the Aegean Sea" by Forbes (1843), which includes historical records (1841-1842) of Mollusca, Cnidaria, Ctenophora and Echinodermata from the Aegean Sea (Eastern Mediterranean). However, taxonomy for several taxa requires validation from taxonomic experts (e.g. old synonyms, species names which are not registered in the WoRMS). This process has been scheduled for the next reporting period.

In parallel, data digitisation and processing are ongoing for other priority datasets (e.g. macroalgae from the eastern Mediterranean Sea) and will continue during the next reporting period.

A collaboration between OGS and NIMRD resulted in the automated transformation of NIMRD spreadsheets (Black Sea) to source files ready to be easily imported to the IPT, as has done for OGS datasets. IPT will easily recognise the files (DwC headers) and their internal relations.

## Task 2: Data product creation

During the reporting period, WP4 focused on finishing and publishing the data products. For each of the products prepared earlier, a publication strategy was adopted involving a description of the product story and background, a description (at generic and at code level) 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.

Some of the products, e.g. the distribution maps of benthos and phytoplankton, have been split in two. The basic product involves the calculated raster maps, whereas the DIVA-interpolated maps are described separately as a twin product. In this way, the additional workflow needed for the interpolation can be dealt with in sufficient detail, without the need to include the preceding steps. Also, the procedure guarantees that intermediate products without interpolation are also available.

WP4 contributed significantly to the international (intercontinental) workshop with North American colleagues, organized by WP5. Some of the products prepared from EMODNET biology were used as examples to focus the discussion on how to expand the approach beyond European waters.

There were some delays in the completion of a number of data products due to COVID 19 constraints, some partners fell ill or had caring responsibilities that did not allow them to spend as much time completing their work as initially envisaged.

## Task 3 & 4: Technical update EMODnet biological portal & machine to machine connections

An internal tool that automates the reporting on the number of downloads per quarter has been developed. An email is automatically sent to the biology lot team on the 1st day of new quarter, with a CSV file attached that lists the details of the downloads. This information is used for the indicator's spreadsheet.

The implementation of the EurOBIS QC procedures described in the paper Vandepitte et al. (2015) <https://doi.org/10.1093/database/bau125> has been initiated. The QC procedures were only partially implemented in the past, while this project aims to consider all (first 20) steps. This is an open source project written in Python and compatible with the OBIS implementation. It enables us to assign fitness for use labels to each event and/or occurrence record within the EurOBIS database and users will eventually be able to query the data based on these labels.

A technical knowledge transfer was performed due to the replacement of an IT staff member. Due to the complexity of the EurOBIS system and related tools (data portal, geo-viewer, indexing process, QC, ...) this was essential for the continuation of the EMODnet biological portal.

The Brexit disclaimer has been removed on request of DG MARE.

A Python client for harvesting the biological data within SeaDataNet portal (filtered for Biological records) is being developed. It is awaiting feedback from SeaDataNet/MARIS in order to be finalised.

In order to facilitate discovery and usage of OGC Web services (WMS, WFS, WCS), the INSPIRE metadata fields (pointing to an xml end-point record) and data url (pointing to predefined download link) should be

filled. We plan to support INSPIRE Compliant CSW in 2021 and we are working on a solution to provide richer metadata than the currently provided in the EMODnet Biology geoserver WMS/WFS. The metadataURLs can be found in the inspire\_dls:ExtendedCapabilities element, this work refers to the JIRA 33 as identified in the table A of chapter 2.

### **Task 5: Uptake and outreach**

This reporting period saw the successful running of Deliverable 5.5, the Transatlantic Data Products Workshop which took place on the 9th October 2020.

With 23 participants representing 17 European, Global, USA and Canadian organisations (Figures 6 and 7), the event demonstrated a subset of the data products developed within the activities of WP4, and initiated the dialogue with potential key partners for activities within the next phase of EMODnet Biology and the coordinating activities evolving to support the UN Decade of Ocean Science for Sustainable Development. The workshop discussed the challenges around accessing and integrating open data, and identified some key opportunities for future Transatlantic collaboration, including shared code-sprints and knowledge sharing on standards and best practices. The full workshop report is available on the EMODnet Biology website ([https://www.emodnet-biology.eu/sites/emodnet-biology.eu/files/public/documents/Workshops/WP5 Transatlantic Data Product/D5.5 Transatlantic Data Product Workshop Report.pdf](https://www.emodnet-biology.eu/sites/emodnet-biology.eu/files/public/documents/Workshops/WP5%20Transatlantic%20Data%20Product/D5.5%20Transatlantic%20Data%20Product%20Workshop%20Report.pdf)).

Work also commenced on the final deliverable of this phase of EMODnet Biology, Deliverable 5.6, the “End User Showcase” event. Following discussions with the other Work Package leaders and the coordinator, and given the ongoing COVID-19 situation it was agreed that this event will take the form of an online webinar. The online delivery has the advantage of being able to potentially reach a much wider audience and broaden the participation across the globe.

### **Tasks 7 & 8: Monitor performance and deal with user feedback and operate a help desk offering support to users**

During the reporting period there was a total of 2,517 visits to the EMODnet Biology portal that added 5,597 unique pageviews, as can be seen in Figures 8 and 9 in the Annex. Of the total visits, 64.1% were from various European countries, 16.3 from North America, 14.3% from Asia and the remaining from the other world's regions. In terms of countries, the United States amounted for 15.2% of the total visits, followed by the United Kingdom with 13.2% and Belgium and France with 8.5% and 8.1% respectively. Visits from other countries contributed less significantly to these numbers.

The GeoHealthCheck tool implemented to monitor the webservices reported a 100% operationality with 99.6% reliability (Figure 10). Please note that this tool does not yet allow for the selection of a specific period, so it contains all data collected since it was implemented, in March 2020, until the end of the reporting period.

Additionally to the portal and services monitoring, a number of resources and information were provided, following requests from the Secretariat:

- Contribution to EMODnet pdf for the IODE's International data sharing workshop for non-UN IGOs, Global and Regional organisations and projects, NGOs and private sector
- Contribution to EMODnet TWG meeting: feedback from thematic portal

## 2. Identified issues: status and actions taken

<b>A. Priority issue(s) identified and communicated by EASME/ DG MARE/ SECRETARIAT</b>				
Priority issue	Status (Pending/Resolved)	Action(s) taken / remaining actions planned	Date due	Date resolved
<b>Create Terms of use page</b>	Resolved	Page created and text adapted to EMODnet Biology's requirements ( <a href="https://www.emodnet-biology.eu/terms-use">https://www.emodnet-biology.eu/terms-use</a> )	QR14	QR15
<b>Assessment of performance</b>				
<b>Portal specifies the schedule for publication of the products</b>	Pending	Provisional dates were agreed and setup with partners however it was not possible to keep them and no product was published in QR15 as initially envisaged.  Most delays were due to COVID19 related consequences, with some partners falling ill or having added caring responsibilities that were not envisaged when the workshop took place and the initial deadlines were set	QR15	QR16
<b>Task 5: The EMODnet Secretariat recommends that the Thematic Coordinator is asked on whether the task can be fully achieved (i.e. contact with al RSCs)</b>	Resolved	No delays are envisaged for any Phase III task or deliverables.	QR15	QR15
<b>Portal provides a status update of Deliverable</b>	Resolved	D5.5- Transatlantic workshop was held on October 9 <sup>th</sup> as communicated on QR14 report. Workshop report is available via the website (link included in the narrative for Tasks 5 & 6)	QR15	QR15
<b>Observations in view of Section 1.7 of the Tender Specifications on Performance and Quality Requirements</b>				
<b>Indicator 1</b>	Resolved	<ul style="list-style-type: none"> <li>- The decrease in records due to the update of the CPR dataset is accounted for in the narrative. The map figures show only the data harvested during the reported period</li> <li>- Total volume in GB is not available as data are held in a database and files are compiled on the fly as data are requested and downloaded.</li> <li>- The difference in the number of downloads is due to the fact that they refer to different items. The value 70 refers to the number of downloads from the various pages of the Biology portal as reported by Matomo. The value 225 refers to the number of data (unique) downloads as reported by the monitoring systems linked to the download toolbox.</li> </ul>	QR15	QR15

		- Webservices trends are not reported as there is no system in place to obtain this information		
<b>Indicator 2</b>	Resolved	- Considering the changes that will occur in phase IV, it is considered that performing such changes are not a good use of the time/resource as it would involve a number of technical developments on the download toolbox which, after 6 months will be deprecated	QR15	QR15
<b>Indicator 5 &amp; 6</b>	Pending	- Sum of European countries added for QR15 indicators. It was not included in QR14 due to an omission  - The statistics collected on the number of use cases viewed each quarter show that they do spark a big interest with our users (be it through the Biology or the Central portals). The project's coordination board will discuss whether the time/resource required to produce such use cases will result in an increase of their uptake	QR15	QR16
<b>Indicator 8</b>	Resolved	Due to an omission the statistics for acquisitions were not included in the QR14 report.	QR15	QR16
<b>Indicators 9, 10 &amp; 11</b>	Resolved	As referred by the Secretariat, a bug in the figures for QR14. The figures for QR15 (which also include the previous quarter) indicate that decrease was not as accentuated as it appeared. Also note that the QR14 reporting period covered the summer months in a year where research (field work) was severely limited due to COVID	QR15	QR15
<b>Summary of the data and data products available should be included in the portal</b>	Pending	Updates to the portal will be required due to phase IV funding and this summary can be included in this work	QR15	QR17
<b>Progress solving identified issues</b>				
<b>Persistent issue with JIRA Issue 33</b>	Pending	All actions have taken place and links added where possible. Pending final assessment from EMODnet Secretariat.	QR15	QR16
<b>Other technical recommendations/advice</b>				
<b>Organisation of the web-services</b>	Pending	Further clarification is requested as this feedback is not clear.  The page <a href="https://www.emodnet-biology.eu/emodnet-biology-api">https://www.emodnet-biology.eu/emodnet-biology-api</a> was updated in early June, ahead of the WP4 workshop.  Even though the Secretariat reported timeouts, the tools monitoring the webservices operability and reliability indicate that the portal is consistently above 99.5% reliability, so the instances found could have been due to glitches and not reflective of the portal's performance.	QR15	QR16



<b>B. Issues / challenges identified by the thematic assembly group itself</b>				
Priority issue / challenge	Status (Pending/Resolved)	Action(s) taken / remaining actions planned	Date due	Date resolved
<b>Improvements to EMODnet Biocheck tool</b>	Pending	Feature requests to make the tool more user friendly.  Development started in QR15 and will continue in QR16		
<b>Issues with MACROBEL, POHJE and NSBS datasets</b>	Pending	Data management team will analyse each dataset and assess the work required.  There were no issues with the data, but the datasets are in Occurrence Core and not Event core and don't have eMoFs. These are the updates required and datasets were added to the workplan to be updated and reformatted		
<b>Removing data from a DOI-ed dataset</b>	Resolved	Clarified with partner what procedures could be done, when they could be done and when they would be in place. Also clarified the rules for a dataset DOI	QR15	
<b>Partner request for team to disclose dates when data are harvested so they can adjust their work patterns</b>	Pending	Data management team will assess all pros and cons with the release of exact dates. At present, an email is sent to all partners one month ahead of the data harvest process so they can submit any datasets they have been working on	QR15	
<b>Data download toolbox does not retrieve all parameters when they are not linked to occurrences</b>	Pending	As download toolbox will be deprecated once the Biology portal ceases to exist, it is unlikely that this issue will be addressed within QR16 or subsequent months		
<b>Data product gallery not easy to find</b> ( <a href="https://www.emodnet-biology.eu/data-products">https://www.emodnet-biology.eu/data-products</a> )	Pending	Solution proposed is to merge this page with <a href="https://www.emodnet-biology.eu/toolbox/en/gallery/">https://www.emodnet-biology.eu/toolbox/en/gallery/</a>		
<b>Setup of a Python client for SeaDataNet API</b>	Pending	Initial development started in QR15 and testing will commence in QR16	QR16	
<b>QC flag implementation</b>	Pending	QC steps to be implemented in the database which will allow users to select the data based on the fitness for purpose. These checks are consistent with the ones implemented in OBIS.  Initial development started in QR15	QR16	



### 3. User feedback (Contact Us form, online chat & other communication means)

Overview of user feedback and/or requests received in this quarter							
Date	Organisation	Type of user feedback (e.g. technical, case study, etc.) and short description of the feedback received	Means of contact	Response time	Status of user query: resolved/pending	Measures taken to resolve the query	Status: if not (yet) resolved/pending, explain reason why and expected timeline
2020-10-01	Academic/Research	Request for clarification on species information	email	1 day	Resolved	Provided an explanation on how to query the data in the download toolbox and briefly explained how species are added to the various taxonomic catalogues	
2020-10-08	Commercial	Information for Poseidon Pipelines	Contact form	1 day	Resolved	Directed to Human Activities as this was most likely within their remit	
2020-11-04	Private	Delete Profile Picture from the OpenSeaLab 2019	email	1 day	Resolved	GDPR guidance followed, action completed	
2020-12-01	Private	EMODnet Biology workshop on data formatting QC & publishing	email	1 day	Resolved	Directed user to online training course available through the Ocean Teacher platform	
2020-12-03	Academia/Education	Arctic Shipping Datasets	Contact form	1 day	Resolved	Directed user to various possible sources	

							information including the Vessel density layer in the Central Portal	
<b>2020-12-11</b>	Academia/Education	SOCIB request	Sharing data	email	Ongoing	Pending	Directed user to information on the portal and more questions were asked about the data file submission during the Christmas break, these were replied in January	Pending more questions from user before setting this query to resolved

## 4. Meetings/events held/attended & planned

A. Meetings/events organised and attended					
Date	Location	Type event (internal or external meeting, training/workshop)	Indicate if a ppt was given (yes/no + short description)	Meeting attended (A) / organised (O)	Short description and main results (# participants, agreements made, etc.)
2020-09-30 and 2020-10-01	Online	Meeting (internal)	Yes: presentation on work done over previous year, information merged with other Belgium partners	A	- EMODnet Ingestion meeting
2020-10-09	Online	Workshop (internal)	Yes: presentation on EMODnet Biology and on EMODnet Biology data products	A/O	- WP5 Transatlantic Data Product workshop - 24 participants from various international organisations - Details can be found in workshop report via this <a href="#">link</a>
2020-10-12	Online	Workshop (external)	Yes: EMODnet Biology scope, standardisation procedures, available resources  collated by the EMODnet secretariat with information from other lots	A	- International data sharing workshop for non-UN IGOs, Global and Regional organisations and projects, NGOs and private sector
2020-10-20/21	Online	Meeting (external)	No	A	- Marine Data in Support Aquaculture in the North Atlantic
2020-11-9/10	Online	Meeting (internal)	Yes:	A	- 13 <sup>th</sup> EMODnet Steering Committee meeting
2020-11-12/13	Online	Meeting (internal)	Yes	A/O	- 8 <sup>th</sup> EMODnet Technical Working Group meetings
2020-11-19	Online	Seminar (external)	No	A	- EMB Science Webinar - Marine Citizen Science
2020-11-	Online	Conference (external)	Yes	A	- EVOLMAR: 1 <sup>st</sup> Italian conference on

23/24/25					<p>Marine Evolution</p> <ul style="list-style-type: none"> <li>- Oral session where a presentation on "How can EMODnet Biology be used for marine biodiversity studies?" was given</li> <li>- Book of abstracts can be accessed via the <a href="#">link</a></li> <li>- Social media presence in both Twitter and Facebook</li> <li>- 200+ participants</li> </ul>
2020-11-24	Online	Meeting (internal)	No	A	<ul style="list-style-type: none"> <li>- Discussed how we are going to address Genomics data</li> <li>- Included not only VLIZ but also OBIS colleagues (10 participants)</li> <li>- Coordinated approach within VLIZ so we align with the work OBIS is also doing in this area</li> </ul>
<b>SUM</b>				<b>O</b>	<b>Total # of meetings organised = 2</b>
<b>SUM</b>				<b>A</b>	<b>Total # of meetings attended = 9</b>

## B. Meetings/events planned in the future

Date	Location	Type event (meeting, training (workshop), etc.)	Meeting to be attended (A) / organised (O)	Short description and main expected outcomes
2020-01-26/27	Online	Meeting (external)	A	<ul style="list-style-type: none"> <li>- Copernicus Marine Services general Assembly</li> <li>- Updates on CMEMS and EMODnet collaboration</li> </ul>

## 5. Communication assets

<b>A. Communication products</b>				
Date	Communication material	Short description (of the material, title, ...) of the asset	Main results	Name of event at which material was disseminated (if applicable)
<b>QR15</b>	Twitter	Various tweets from the @EUROBIS_VLIZ account (used as dissemination media for EMODnet Biology activities)	74 tweets ~61K impressions 45 new followers from QR14 to QR15	
<b>QR15</b>	Twitter	Tweets from various user accounts tagging EMODnet Biology	9 Tweets	
<b>2020-10-02</b>	News item	EMODnet Biology WP5 transatlantic data products Workshop ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8516">https://www.emodnet-biology.eu/news?p=show&amp;id=8516</a> )	Communication about future workshop	
<b>2020-10-13</b>	News item	WP5 Transatlantic Data Product workshop complete ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8537">https://www.emodnet-biology.eu/news?p=show&amp;id=8537</a> )	Communication on completion of WP5 workshop	
<b>2020-11-03</b>	News item	Last harvest/ingestion cycle of 2020 ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8556">https://www.emodnet-biology.eu/news?p=show&amp;id=8556</a> )	Information for all partners and data providers to submit their data for the last harvest of 2020	
<b>2020-11-18</b>	News item	Last data ingestion procedure of the year has started ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8580">https://www.emodnet-biology.eu/news?p=show&amp;id=8580</a> )	Announcement of the start of last harvest	
<b>2020-11-24</b>	News item	Quarterly Report (01/07/2020 –30/09/2020) published ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8583">https://www.emodnet-biology.eu/news?p=show&amp;id=8583</a> )	Publication of QR14 report	
<b>2020-12-09</b>	News item	WP3 Deliverable on text mining is now published ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8615">https://www.emodnet-biology.eu/news?p=show&amp;id=8615</a> )	Publication of WP3 deliverable on text mining	
<b>2020-12-10</b>	News item	EMODnet Biology annual meeting report is published ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8621">https://www.emodnet-biology.eu/news?p=show&amp;id=8621</a> )	Publication of the EMODnet Biology annual meeting report	
<b>2020-12-11</b>	News item	Last data harvest of the year complete! ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8623">https://www.emodnet-biology.eu/news?p=show&amp;id=8623</a> )	Information on the completion of the last data harvest of 2020	
<b>2020-12-11</b>	News item	WP5 Transatlantic Data Product Workshop ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8624">https://www.emodnet-biology.eu/news?p=show&amp;id=8624</a> )	Publication of the WP5 workshop report)	
<b>SUM</b>				<b># tweets= 83</b>
<b>SUM</b>				<b># News items= 8</b>

Your Tweets earned **60.2K impressions** over this **91 day** period

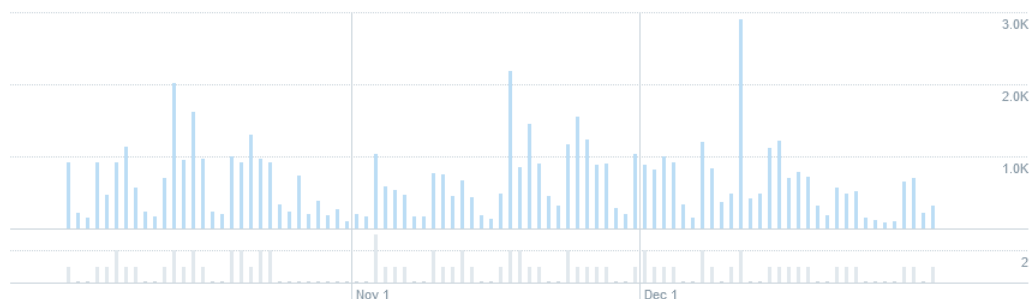


Figure 1. QR15 impressions (# times users saw the tweet on twitter). Information collated from Twitter analytics

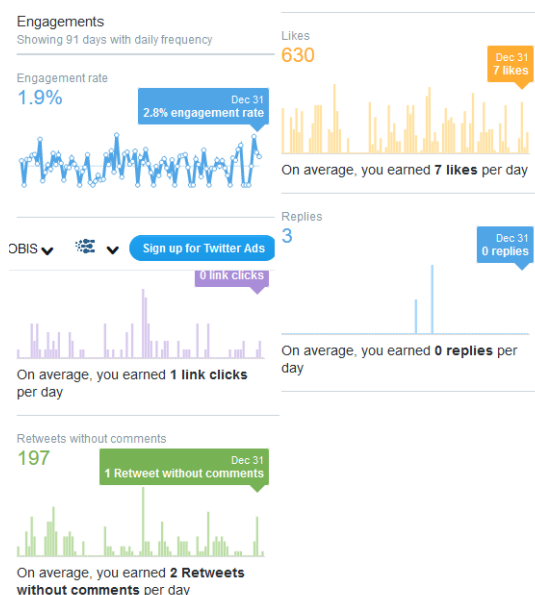


Figure 2. QR15 engagements (# times users interacted with a tweet). Information collated from Twitter analytics

B. Planned communication products			
Date	Communication material	Short description (of the material, title, ...) and/or link to the asset	Main results expected
QR16	Tweets	Highlight datasets available online since last harvest 2020, news about phase IV, events the project partners attend and/or organise, data products, general data management information	Increase visibility and # followers, engagements and users of our data
QR17	News items	Highlight participation and/or organisation of events, data products release	Increase visibility, disseminate project's activities

**List of known publications using EMODnet data or data products**

Date	Type and name of journal, conference, ...	Publication title including DOI (if known)	Author(s)	Organisation(s)
<b>2020-08</b>	Reports of the Finnish Environment Institute 26/2020	Meriseurannan tiekartta – SYKEN ylläpitämien ja koordinoimien meren tilaseurantojen nykytila ja kehittäminen <a href="http://hdl.handle.net/10138/320467">http://hdl.handle.net/10138/320467</a>	Attila, Jenni; Dahlbo, Kim; Kaitala, Seppo; Kallio, Kari; Kankaanpää, Harri; Karvinen, Ville; Kauppila, Pirkko; Knuuttila, Seppo; Koponen, Sampsa; Korpinen, Samuli; Kotamäki, Niina; Kremp, Anke; Kuosa, Harri; Lehtinen, Sirpa; Lehtiniemi, Maiju; Lehtonen, Kari; Lepistö, Ahti; Malve, Olli; Mannio, Jaakko; Nygård, Henrik; Pajala, Jukka; Piepponen, Hanna; Pitkänen, Heikki; Pyhälähti, Timo; Raateoja, Mika; Räike, Antti; Seppälä, Jukka; Setälä, Outi; Spilling, Kristian; Suikkanen, Sanna; Tamminen, Timo; Tattari, Sirkka; Uusitalo, Laura	SYKE, Finland
<b>2020-10-09</b>	Biodiversity Information Science and Standards 4: e58938	Genomics Observatory Use-Case: The challenge to standardise image and sequence data to Darwin Core format doi: 10.3897/biss.4.58938 (EMODnet Biology acknowledged; data were not used for this paper)	Katrina Exter <sup>1</sup> , Cedric Decruw <sup>1</sup> , Marc Portier <sup>1</sup> , Vasilis Gerovasileiou <sup>2</sup> , Christina Pavloudi <sup>2</sup> , Matthias Obst <sup>3</sup>	1 Flanders Marine Institute, Oostende, Belgium 2 Hellenic Centre for Marine Research, Heraklion, Crete, Greece 3 Göteborg University, Gothenburg, Sweden
<b>2020-11-02</b>	Philosophical transactions of the Royal Society B	Linking dimensions of data on global marine animal diversity doi: <a href="https://doi.org/10.1098/rstb.2019.0445">https://doi.org/10.1098/rstb.2019.0445</a>	Thomas J. Webb <sup>1</sup> and Bart Vanhoorne <sup>2</sup>	1 Department of Animal and Plant Sciences, University of Sheffield, United Kingdom 2 Flanders Marine Institute, Oostende, Belgium
<b>2020-11-27</b>	Frontiers in Marine Science	Exploring the Trophic Spectrum: Placing Mixoplankton Into Marine Protist	Lisa K. Schneider <sup>1,2</sup> , Kevin J. Flynn <sup>3</sup> , Peter M. J. Herman <sup>1,4</sup> ,	1 Deltares, Delft, Netherlands



		Communities of the Southern North Sea doi: <a href="https://doi.org/10.3389/fmars.2020.586915">https://doi.org/10.3389/fmars.2020.586915</a>	Tineke A. Troost <sup>1</sup> , Willem Stolte <sup>1</sup>	2 Laboratoire d'Ecologie des Systèmes Aquatiques, Université Libre de Bruxelles, Bruxelles, Belgium 3 Plymouth Marine Laboratory, Plymouth, United Kingdom 4 Faculty CITG, Delft University of Technology, Delft, Netherlands
<b>2020-12-09</b>	BICEpS Colloquium	Towards open science products for ecosystem science (EMODnet Biology acknowledged; data were not used for this paper)	Lennert Schepers <sup>1</sup> , Lennert Tyberghein <sup>1</sup>	1 Flanders Marine Institute, Oostende, Belgium

## 6. Monitoring indicators

QR15 overview can be found via the link: <https://grafana-emodnet.trust-it-services.dev/d/koz4-8rZz/emodnet-biology?orgId=1&from=1555624800000&to=1609455599000> (restricted access)

Comments on the progress indicators in the excel template		
Progress indicator	Means of collecting figures	Comment
1. Current status and coverage of total available thematic data A) Volume and coverage of available data	Matomo	Compared to the previous quarter there was a slight decrease in the total number of available records. This is due to dataset updates that although contain fewer records, they are of better quality (e.g. taxa information at species level, rather than family or above). This decrease was observed in Benthos, Phytoplankton, and Zooplankton sub-themes. As we store records in our database, instead of data files, it is not easy to assess the volume of data for each sub-theme, therefore the information is not available. Most data added to each region was from the Fish, Phytoplankton and Zooplankton sub-themes.
B) Usage of data in this quarter	Matomo	After an accentuated decrease in the number of downloads in Q14, the last quarter of 2021 saw a 28% increase in the number of data downloads
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Matomo	The number of products currently available in the portal has not changed since the last quarterly report. New products will be published in the coming months until the end of phase III. It is not yet possible to assess the volume and coverage of the available data products.
B) Usage of data products in this quarter	Matomo	Similar to the trend observed in the data downloads, the data product downloads also had an increase from the last quarter. No information is available for webservices downloads
3. Organisations supplying/approached to supply data and data products within this quarter	Matomo	Most datasets provided were from project partners and data grant holders. Two datasets were submitted via EMODnet Ingestion

4. Online 'Web' interfaces to access or view data	Matomo	No change was observed since the previous quarter. All data and products are freely and openly available for download through the portal.
5. Statistics on information volunteered through download forms	Matomo	The analysis excludes all VLIZ users that reported that they downloaded the data for testing purposes. It also excludes instances when errors were detected and data were not downloaded (mostly due to user non-responsiveness). The majority of users are from a research/academia organisation and the main purpose of the data use is for research. Emodnet Biology's users are mostly from European countries.
6. Published use cases	Matomo	No use cases were viewed in both the Biology and Central portals
8.1. Technical monitoring	Matomo	Response time just over 700ms and 100% uptime during the reporting period in
8.2. Portal user-friendliness (Visual harmonization score)	Matomo	Adjustments will be implemented over QR16
9. Visibility & Analytics for web pages	Matomo	There were no significant changes in the number of views since the last quarter. Even though there was an increase in the number of data products downloaded, the product mapper page has not had significant views.
10. Visibility & Analytics for web sections	Matomo	The main page users are accessing is the download toolbox
11. Average visit duration for web pages	Matomo	No significant change in visit duration since last quarter, with the product mapper page being the one with the least amount of time spent on

*The monitoring numbers reported as part of the progress monitoring of EMODnet performance are collected through Matomo. In some cases, numbers from other monitoring systems may also be reported (e.g. Awstats, Google Analytics), and if so, must be reported in the table above. Each system uses different technical approaches and therefore has its strengths and shortcomings. Therefore, results are indicative and care should be taken when interpreting absolute numbers or comparing results from different tools. It is often more sensible to consider trends over time collected by the same monitoring tool.*

## 7. Annex: Other documentation attached

### Task1: Data access to marine biological data and Data archaeology and rescue

Inventory of datasets harvested during the reporting period (in alphabetical order):

- [Abundance, density and biomass of Copepoda Harpacticoida on brown algae of the genus Cystoseira sampled at Calvi Bay \(Corsica\) in September 1982](#)
- [Active meso- and meiofauna in the nature reserve "Het Zwin" \(Knokke\) in 1969](#)
- [Benthic algae of the pier of Zeebrugge \(1977-1978\)](#)
- [Benthic bycatch data from non-native Crepidula fornicata dredge surveys in Belfast Lough from 2013-2017.](#)
- [Dutch long term monitoring of phytoplankton in the Dutch Continental Economical Zone of the North Sea](#)
- [Dutch long term monitoring of phytoplankton in the Dutch Continental Economical Zone of the North Sea \(2000-2018\)](#)
- [Fish and crustacean community in the Western Scheldt \(Doel nuclear power station\) during winter season 1991-1992](#)
- [Fishing with motorized boats in the Belgian littoral area in 1932](#)
- [Free-living nematodes of the Mar Piccolo of Taranto \(Ionian Sea\), 2013-2014](#)
- [Gulf of Riga Larval Fish Survey](#)
- [Interstitial and parasitic Platyhelminthes from the coast of the Seychelles in 1992 and 1993](#)
- [Kyklades](#)
- [Macrobenthos monitoring in the Trieste harbour, North Adriatic Sea \(Port Authority\) in June 2013 and March 2015](#)
- [Macrobenthos of the Western Scheldt estuary in September 1978](#)
- [Meiobenthos of the Dutch Continental Shelf in spring 1991](#)
- [Meiofauna monitoring in the Trieste harbour, northern Adriatic Sea \(Port Authority\), 2013 and 2015](#)
- [Meiofauna of the Mar Piccolo of Taranto \(Ionian Sea\), 2013-2014](#)
- [MEP-NSW Fish community: Fish community surveys for the Monitoring and Evaluation Programme of the North Sea OWEZ wind park between 2003 and 2011](#)
- [Monitored bycatch of Mustelus mustelus, Squalus acanthias, Myliobatis aquila, Pteroplatytrygon violacea and Caretta caretta in mid-water pair trawl in the northern Adriatic Sea, from 2006-2017](#)
- [Multi-decadal shifts in fish community diversity across a dynamic biogeographic transition zone](#)
- [Non-indigenous \(NIS\) and cryptogenic species in European regional seas and adjacent areas](#)
- [PecesCCV: Fish observations delivered by "Canarias por una Costa Viva" project](#)
- [Phytoplankton studies in the North Sea and the Northeast Atlantic Ocean between 1968 and 1970](#)
- [Plankton community in Bongo net \(300µm\), Tara Oceans cruise](#)
- [Plankton community in Multinet \(300µm\), Tara Oceans cruise](#)
- [Predation of Crangon crangon by Agonus cataphractus in Belgian coastal waters between 1973 and 1977](#)
- [Rügen Herring Larvae Survey](#)
- [Seasonal fluctuation of Macropipus holsatus in front of the Belgian Coast between 1973 and 1981](#)
- [SeaWatch-B: citizens monitoring the Belgian North Sea from the beach \(2014-2018\)](#)
- [Spatial distribution of meiobenthos in the Voordelta \(October 1988\)](#)
- [Spatial distribution of the macrozoobenthos on the 'Slikken van Vianen' \(Oosterschelde\) in 1979](#)
- [Study of epibenthos and demersal fish in and around the aniline discharge area of the Belgian Continental Shelf \(1982-1984\)](#)

- [Study of harpacticoid copepods in two North Sea estuaries in relation to pollution \(1976-1980\)](#)
- [The importance of fouling in the port of Ostend in 1964](#)
- [Type locality distributions from the World Register of Marine Species](#)
- [Type locality records of Polycystididae species in the world](#)
- [Vegetation and ecology of tidal marshes in the Zwin \(Knokke-Heist, West-Vlaanderen\)](#)
- [Vertical distribution of the free-living Plathelminthes \(Turbellaria\) from the sandy beaches of the Belgian coast in 1985 and 1986](#)

Additional datasets submitted via EMODnet Ingestion, with data access done via the EMODnet Biology catalogue and not via the download toolbox or other webservices:

- [Raw EK60 echosounder data: Swart seamount, British Indian Ocean Territory 2015](#)
- [Details of Studies of marine biodiversity in areas of high ecological value in the Andalusian Littoral](#)

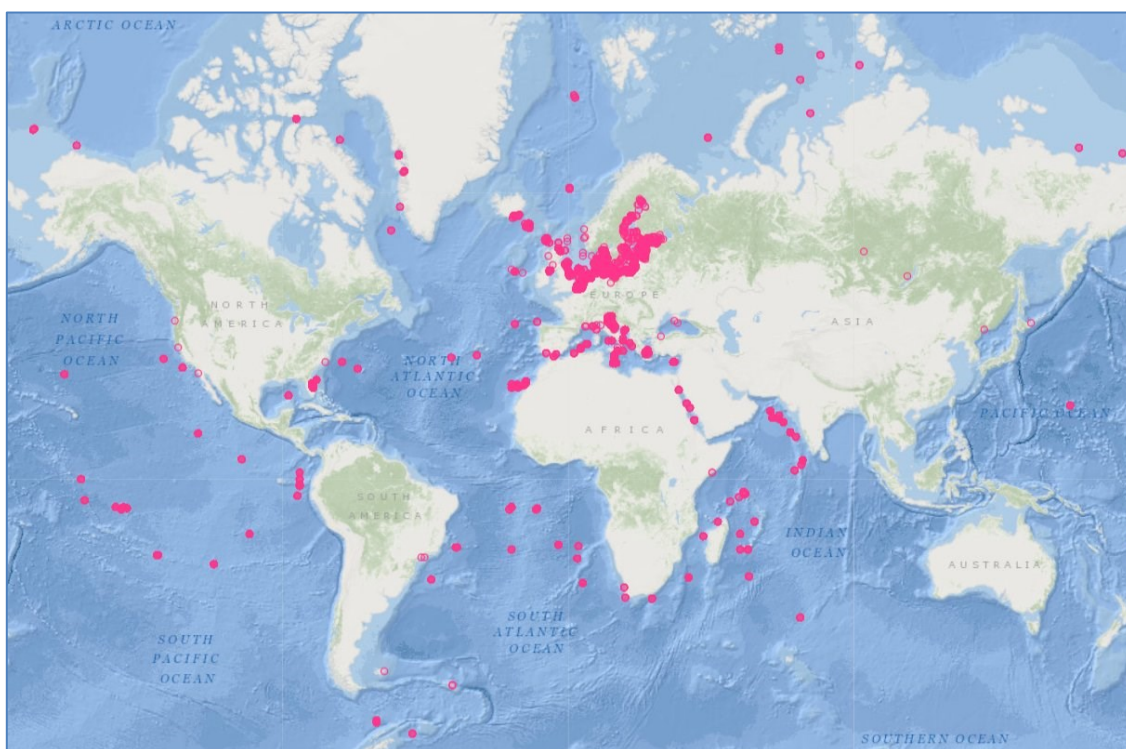


Figure 3 . Map display of gridded occurrences added to EMODnet Biology during the reporting period

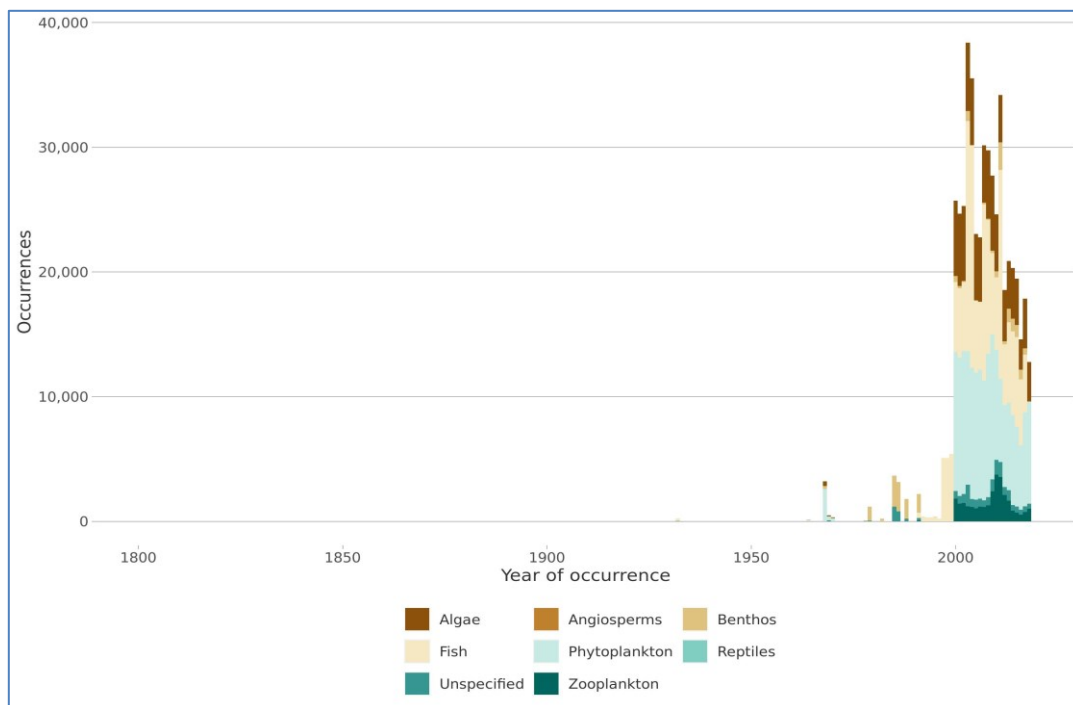


Figure 4. Number of occurrences per sample year and sub-theme added to EMODnet Biology during the reporting period

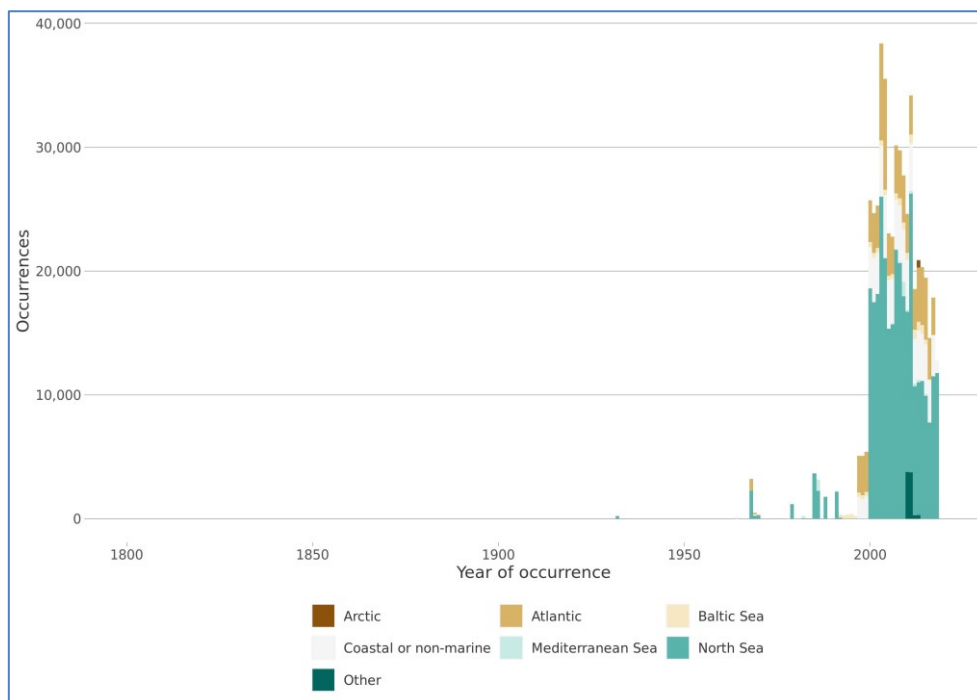


Figure 5. Number of occurrences per sample year and marine region added to EMODnet Biology during the reporting period



## Task 5: Uptake and outreach

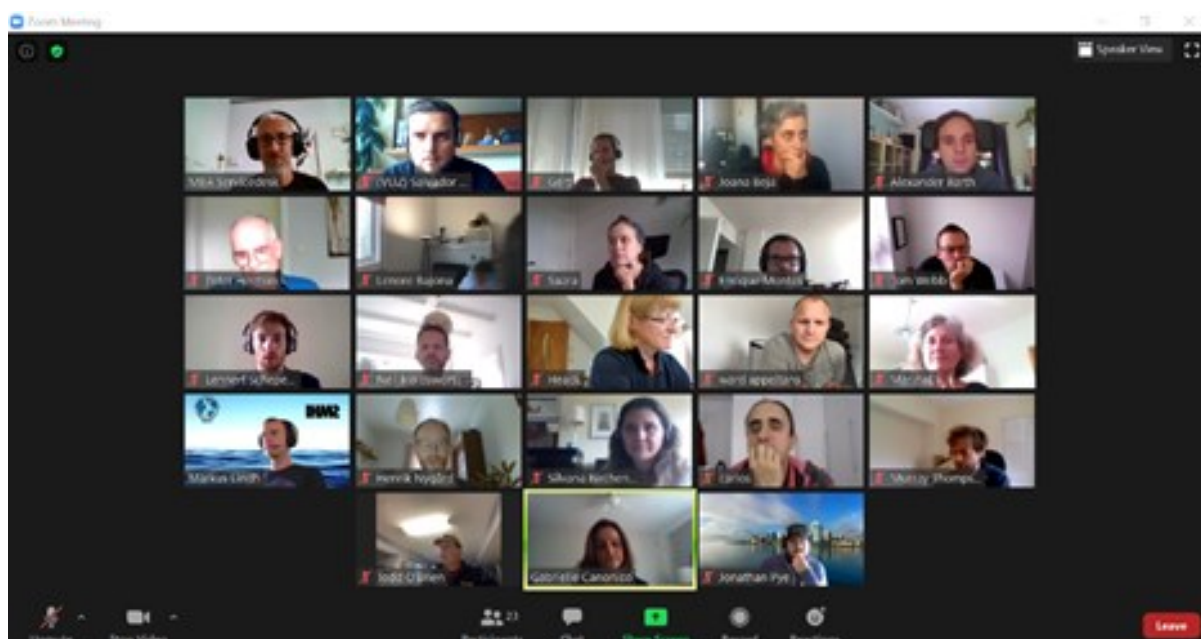


Figure 6. Screenshot of Transatlantic workshop participants



Figure 7. Logos from Transatlantic workshop participant's affiliations

## Tasks 7 & 8: Project management



#### Visits Over Time

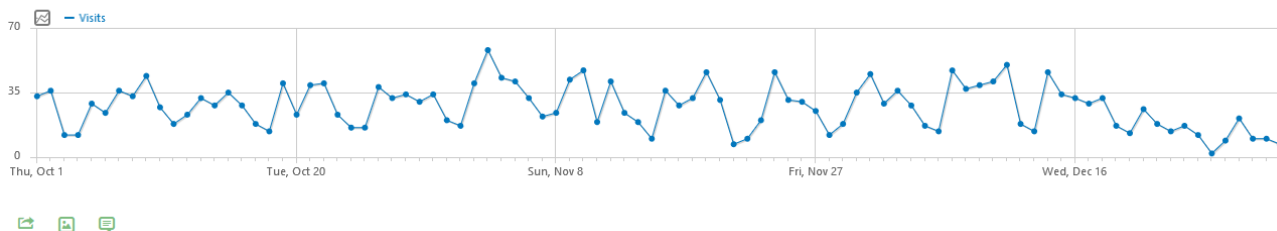


Figure 8. Visits over time during the reporting period using Matomo

#### Visits Overview

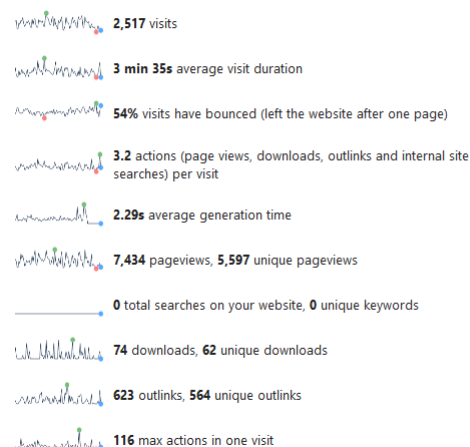


Figure 9. Overview of visits using Matomo

Monitoring Period: 2020-03-05T15:14:25Z - 2021-01-03T18:54:02Z

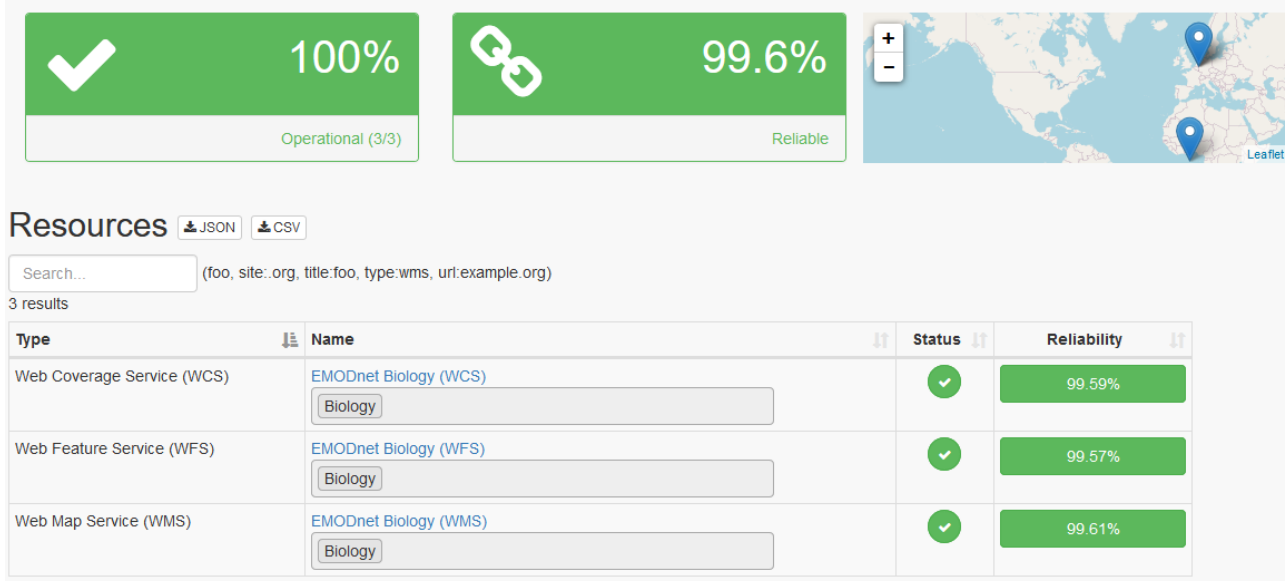


Figure 10. GeoHealthCheck webservices monitoring tool