

# 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 (QR16)**

**Reporting Period: 01/01/2021 – 31/03/2021**



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## Disclaimer

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# 1. Highlights in this quarter

<b>Status of the Milestones and Deliverables listed in the workplan</b>				
Milestone/Deliverable	WP	Date due	Status (Delivered/Delayed)	If Delayed: reason for delay and expected delivery date
Maintenance of help desk	WP1	18/04/2019 - 18/04/2021	Delivered	
Quarterly progress reports	WP1	various dates	Delivered	
Interim report	WP1	18/04/2020	Delivered	
Final report	WP1	18/04/2021	Delivered	
Evaluation and definition of partner-specific data flows	WP2	31/10/2019	Delivered	
Technical implementation of partner-specific data flows, for those partners belonging to group 1	WP2	31/10/2019	Delivered	
Hands-on workshop on data formatting, QC and publishing	WP2	30/04/2020	Delivered	Was delayed and moved to an online event from 08/06/2020 - 19/06/2020 due to COVID impacts
Report on data standardization of proposed new and update datasets	WP2	18/04/2021	Delivered	
Prioritization report based on data gaps analysis and WP4 feedback	WP3	30/11/2019	Delivered	
Workshop on digitization, data entry and QC	WP3	30/04/2020	Delivered	Was delayed and moved to an online event from 08/06/2020 - 19/06/2020 due to COVID impacts
Scientific document on the design of the workflow of text mining technologies in data archaeology	WP3	31/10/2020	Delivered	Was delayed to 09/12/2020 due to COVID impacts
General report on data entry	WP3	18/04/2021	Delivered	
Report with proposed list of data packages and underlying datasets with specific recommendations on (meta)data gaps	WP4	30/09/2019	Delivered	
Data product workshop	WP4	30/06/2020	Delivered	Held as an online event from 15/06/2020 - 19/06/2020

Update Atlas of Marine Life	WP4	18/04/2021	Delivered	
Recommendations report from stakeholder workshop May 2019	WP5	31/07/2019	Delivered	
Transatlantic data integration and product development workshop	WP5	30/06/2020	Delivered	Was delayed and moved to an online event on 09/10/2020 due to COVID impacts
End user showcase event - Demonstration of Phase 3 achievements, and agenda setting for future development	WP5	18/04/2021	Delivered	Delayed and moved to online event on 24/03/2021 Agenda and presentations available in <a href="https://www.emodnet-biology.eu/workshops">https://www.emodnet-biology.eu/workshops</a>
Portal operational	WP6	18/04/2019 - 18/04/2021	Delivered	
Maintenance of Portal	WP6	18/04/2019 - 18/04/2021	Delivered	

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

At the end of EMODnet Biology Phase III, a new harvest cycle was completed. This brought 23 new datasets to the EurOBIS database and EMODnet Biology portal, with an additional update of 14 previously available datasets. A list of these datasets is included in the Annex.

This harvest contained datasets from WP2 partners, the 2019/2021 data grants, from WP3 and datasets retrieved through EMODnet Ingestion. The total number of available datasets is now 1,077, representing 26,1 million occurrence records. This is an increase of more than 1 million occurrence records compared to the previous harvest cycle in December 2020. The number of associated Measurement or Facts (eMoF) records is now at 30,698,089, which is slightly lower compared to the previous reporting. The decrease in numbers is a consequence of the re-organisation of the format of a number of datasets. Through this eMoF reformatting, this information was re-located to other fields in the database, thus decreasing the number of eMoF records but ensuring that no information was lost.

The quality of the available records is currently at 86%. Records not passing the fixed quality control checks 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).

More and more data partners are adhering to the EventCore format, and are investing time in mapping their data with BODC vocabularies. This largely improves its interoperability and FAIRness. Currently, 266 of the available datasets are in EventCore.

The partners of 16 data grants have delivered all their metadata, and the majority of the agreed datasets have already been submitted through IPT. As was expected, some data grant holders have experienced delays in the final delivery of their data, largely due to the global COVID-pandemic as this has impacted e.g. hiring and training of staff. For each of the delayed datasets, the data grant holders have clearly communicated to the project coordinator and the Data Management Team and new delivery dates have been agreed upon, ensuring that all datasets will be delivered even if after the end of Phase III.

Within WP3, major activities were undertaken for the Mediterranean Sea and the Black Sea, together with extra activities within this WP. More specifically:

### Mediterranean Sea

One of the main activities for this reporting period was the quality control of the historical dataset "Report on the Mollusca and Radiata of the Aegean Sea" by Forbes (1843). Curation of this document proved to be extremely challenging and several unscheduled actions were required in order to resolve the emerging issues. Taxonomy for several taxa, that either did not match in WoRMS or were not distributed in the Mediterranean Sea, required validation from two experts on Mollusca. After the WoRMS taxon match tool, a further crosscheck was conducted with the use of recent scientific documents (PhDs) specialised in the Bivalvia and Gastropoda of the Eastern Mediterranean Sea. Personal communication with experts on these taxa has been of great assistance and is still ongoing in order to reassure the accuracy of the taxonomy and the quality of the dataset before final publication.

Data digitisation and processing are ongoing for three prioritised historical datasets (datasets #5, #6 and #10 listed in Deliverable "3.5: Prioritization report based on data gaps analysis and WP4 feedback"), concerning marine Algae and Ostracoda of the Eastern Mediterranean Sea. In these datasets, challenges regarding the coordinates of the sampling stations/events have emerged, so their process will continue during phase IV.

In addition, an already published dataset (Benthic communities and environmental parameters in three Mediterranean ports (Sardinia, Crete, Tunisia), Benthic communities and environmental parameters in three Mediterranean ports (Sardinia, Crete, Tunisia) was updated, by resolving issues regarding coordinates (e.g. geodetic Datum and coordinate uncertainty in meters) and null fields.

### Black Sea

NIMRD had digitised Black Sea datasets saved in spreadsheets and with OGS's support, the following was provided to NIMRD:

- converting (QC included) from old OBIS format spreadsheets and metadata to IPT source files ready for auto-mapping. It was done using a software application written (Java) by OGS.
- using IPT for creating DwGA file
- QC using EMODnet Biology's QC tool

NIMRD, with VLIZ's support, corrected the files and sent them again to OGS for another QC. Due to several issues (e.g. duplicates, COVID impacts), only one of the datasets has passed all steps for publishing in this quarter:

- Macrozoobenthos data collected in the Northern part of the Romanian littoral (Danube mouths) between 2000 and 2010

However, the following three datasets are due to be published in the first few months of Phase IV:

- Romanian Black Sea Phytoplankton data from 1981 to 1990
- Romanian Black Sea Phytoplankton data from 1961 to 1970
- Romanian Black Sea Phytoplankton data from 1975 to 1980

The last two datasets from Phase III are planned to be processed soon and will also be made available during Phase IV:

- Romanian Black Sea Zooplankton data from 1956 to 1960

- Romanian Black Sea Zooplankton data from 1961 to 1969

### Other activities

Deliverable “D3.7: Scientific document on the design of the workflow of text mining technologies in data archaeology” was modulated and further developed into a manuscript, entitled “Automating the curation process of historical biodiversity data using image processing and text mining technologies: comparison of curation tools and a new workflow” and was submitted for publication in a peer-review scientific journal. In this work, a new scientific workflow -DECO- was created to overcome digitisation challenges and assist biodiversity (historical) data curators. Besides that, the preparation of the “D3.8: General report on data entry” is in progress and was delivered before the end of phase III (see status of milestones and deliverables listed in the workplan table).

### **Task 2: Data product creation**

In WP4, emphasis was placed on the finalisation and publication of the data products initially developed in the data product’s workshop in June 2020. For each data product, a complete package consisting of the rationale behind the product, the description of the data used, the code used to generate the product and the final maps, tables and files produced was published.

During the reporting period, the following products were published:

- Data product numerical abundance of benthic macroinvertebrates in North Sea and Baltic Sea
- Presence/Absence maps of phytoplankton in the Greater Baltic Sea
- ‘Proof of concept’ product: Fraction of mixoplankton (photo-phagotrophic) species in the Greater North Sea and Celtic Seas

A tool to query and download EMODnet’s thematic lots WFS services has also been developed and published during this period:

- EMODnetWFS: Access EMODnet Web Feature Service data through R

The remaining products will be published before the end of Phase III and will be listed in the next quarterly report.

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

A Python tool was developed to fully implement and automate QC checks on the database and assign a score per record in event and occurrence. The code is open source and can be found at <https://github.com/lifewatch/eurobis-qc/>. The quality control procedures were originally developed by OBIS and extended by EurOBIS to include further checks.

After every harvest cycle the script will calculate the QC value for every record. From the 27 QC checks defined by OBIS, 18 were selected for implementation, more info on the QC checks can be found in Vandepitte et al., 2014 (Fishing for data and sorting the catch: assessing the data quality, completeness and fitness for use of data in marine biogeographic databases, <http://www.vliz.be/imisdocs/publications/ocrd/268089.pdf>).

The work was funded by LifeWatch but due to EMODnet Biology using the EurOBIS database as its backbone, it fully benefits from this implementation. The completion of this work will take place in QR17.

Following the publication of new data products, a tidying up of the Geoserver was done and now all layers start with the acronym "EMODnet" which will strengthen the EMODnet brand.

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

This reporting period saw the successful planning and running of Deliverable 5.6, the 'End user showcase event - Demonstration of Phase 3 achievements, and agenda setting for future development' which took place on the 24th March 2021.

Originally scheduled as an in-person event, the meeting took place virtually which added the benefit of wider potential participation. Recognising these additional benefits, the decision was made to run 2 identical sessions to capture participation from different time zones.

Over 80 colleagues joined the 2 sessions from across Europe and North America. Pre-recorded presentations were prepared to minimise the risk of technical difficulties. These presentations covered a general introduction to EMODnet Biology, background to the data infrastructure and data rescue work packages and an overview of the current range of data products plus an outline of the future direction to be taken in the next phase.

Following the presentations, the meeting was opened to a free-form question and answer session, with representatives of all the EMODnet Biology Work Packages being present to respond. Additionally, all registered participants were asked for feedback following the event.

The team will capture the discussions, suggestions and comments and use the feedback to inform the development in the next phase. The full meeting report will be available on the EMODnet Biology website in due course.

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

During the first three months of 2021, the portal received 2,845 visits, corresponding to 6,599 unique pageviews, as can be seen in Figures X and X in the Annexes. Analysing the user's IP addresses, 41.9% were located in the United States and 42.8% in various European countries, with the United Kingdom leading the way with 14.3% of visitors.

An analysis of the GeoHealthCheck tool implemented to monitor the webservices reveals an 100% operationality with 99.5% reliable services, as can be seen in Figure 8 in the Annexes. Please note that this tool does not yet allow for the selection of a specific period, so it contains all data collected since March 2020, until April 2<sup>nd</sup> 2021.

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

- Contribution to EMODnet January and March newsletters
- For EMOD-PACE: 'short qualitative and quantitative description of the data / data products content of your thematic portal and possibly URLs to the specific catalogues, which NMDIS can query.'
- Contribution to 2020 EMODnet Activity report
- Contribution to 2020 EMODnet Annual report
- Contribution to the EMODnet/CMEMS product portfolio focusing on the Baltic Sea
- Contribution to the drafting of the EMODnet Technical Working Group meeting (to be held in mid April)
- EMODnet Chemistry: contribution to the EMODnet/CMEMS Baltic Sea product portfolio

## 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>Tasks specified in Section 1.4.1 of the Tender Specifications</b>				
In addition to the links for the two new datasets listed in the catalogue, it would be useful to have the name and a brief description under Task 1	Resolved	Adding this information will not only use up the space required for communicating other relevant information but also highlight only one data flow (via EMODnet Ingestion), ignoring all others. We will include a note on indicator 3 to identify the datasets that were submitted via the Ingestion services	QR16	QR16
Information on how a data set is identified as a 'priority' is lacking	Resolved	The priority datasets are the ones included in the Phase III proposal's data inventory and submitted by the project's partners and data grant holders. Those are the focus of WP2 and WP3.  All other datasets submitted on an ad-hoc basis (including those from EMODnet Ingestion) are not considered a high priority and are dealt as and when the team has resources available.		
The Secretariat recommends that Jira is used to follow each new data product and that a dedicated person is appointed per Lot	Resolved	This is already being done internally to better manage the work and using the EMODnet JIRA instance and would mean a duplication of work. For the next Phase we are planning on having a schedule for product publication, which will hopefully assist both us and the Secretariat in keeping the work better organised	QR16	QR16
It is recommended that the Portals own 'Publication Strategy' aligns with the Secretariat's process for	Resolved	The publication strategy has been done in coordination with the EMODnet Secretariat for all products released in	QR16	QR16



promotion of data products		QR16.		
It is important to define what a 'download' is, and provide a description, as per comment made in Task 1 concerning occurrence records	Resolved	A download, as included in Indicator 1.B, refers to data requests made via the download toolbox. Each dataset has different (occurrence) records. The number of data requests is presented and compared to the previous quarter and the total volume of records downloaded is also included		
Information is not provided on any aspects of collaboration with the RSCs	Pending	No information/progress is available at this stage	QR16	
<b>Observations in view of Section 1.7 of the Tender Specifications on Performance and Quality Requirements</b>				
Explanation as to why trends for web service requests cannot be provided	Resolved	The trends for web services requests cannot be provided as no usage statistics were implemented on OGC services. As the Biology thematic lot is due to migrate to the Central Portal within the next six months, it was deemed unnecessary to implement this at this point as such statistics will be collated from the central Portal's OGC webservices monitoring.	QR16	QR16
Could you clarify the number '315' provided in the associated excel sheet, cell D8	Resolved	QR15 saw 315 users requesting/downloading data from the website. The total number of users that provided information (288) does not include VLIZ user tests and those requests where errors were identified and no data were actually downloaded. This information was included in the indicator 5 explanation of the trends and statistics	QR16	QR16
The Secretariat encourages the creation of use cases, as they are considered to be powerful instruments for both showcasing the impact of EMODnet on target stakeholders as well as to inspire users how to make use	Resolved	Phase IV envisages the creation of use cases on a regular basis, as included in the proposal, therefore no action is deemed necessary at this point	QR16	Work to be completed throughout Phase IV

of data products and services developed by EMODnet Thematics.				
<b>Progress solving identified issues</b>				
Updated evaluation on the INSPIRE metadata and data URL issue (previously JIRA ISSUE 33) is provided in <a href="#">JIRA ISSUE- 14</a>	Resolved	<p>MetadataURL's for the coverages exposed in the Data Product Web Coverage Services (WCS) issue was resolved in QR16.</p> <p>If possible it is requested that evaluation by the secretariat on this (and other JIRA tickets) is done ahead of the report submission, in order to better be able to report on the progress during the appropriate quarter</p>	QR16	QR16
<b>Proposed specific issues to be addressed</b>				
Implementation of an INSPIRE compliant discovery (CSW) service for the data and data products offered by the portal. The portal has already indicated they are planning to address this in <a href="#">JIRA ISSUE-78</a>	Pending	This is a development planned for Phase IV, therefore no action taken at this stage	QR16	Work to be completed during Phase IV
<b>Other technical recommendations/advice</b>				
One of the portal's download services (WFS) did not meet the minimum response time of 10 second for 90% of the time as specified by INSPIRE guidelines.	Resolved	<p>This issue was identified/reported to Biology on QR16 but by then, the issue that had caused this delay in the response time, had already been resolved, making it difficult to assess the causes.</p> <p>If possible, EMODnet Biology would like to request that such issues are reported as soon as they are detected so we can promptly act on them.</p>	QR16	QR16

## B. Issues / challenges identified by the thematic assembly group itself

Priority issue / challenge	Status (Pending/Resolved)	Action(s) taken / remaining actions planned	Date due	Date resolved
COVID impact: the pandemic has affected several partners and data grant holders. The	Pending	The WP leaders where the consequences of the delays were more		

<p>consequences were a delay in completion of tasks (e.g. data submission by data grant holders) and a decrease in the activity and response by some partners. Communication was established with all partners and data grant holders to ensure that no technical issues were impacting their work</p>		<p>visible have been made aware and new plans forged as deemed appropriate, in order to ensure that the project is finalised with all deliverables complete.</p>		
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### 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
05/01/2021	EOSC WP4 partner	Requested examples of the categorisation of sensitive data and resources	Email	1 day	Resolved	provided information on best practises used within the Biological community, included examples of datasets where data are considered sensitive and clarified how the matter was approached	
25/01/2021	Commercial	Request to fill in a survey to assist with options to replace JNCCC's Marine recorder	Email	1 week	Resolved	Survey filled in	
26/01/2021	Commercial	Requested information on associated parameters for a dataset accessible via OBIS	Email	1 day	Resolved	Clarified how additional information could be retrieved if available	
10/02/2021	International organisation	Requested information on news, courses,	Email	1 day	Resolved	Clarified that such information is	

		workshops and other activities				available via the website, Twitter and also the EMODnet news digest	
01/03/2021	International organisation	Feedback related to the "Data solutions for a changing Ocean" event	Email	1 day	Resolved	User participated in the event, which took place on March 24th and questions were answered. A future follow up on this feedback is planned	
01/03/2021	Government agency	Forwarded by OBIS secretariat. requested information on data submitted to GBIF would flow to OBIS	Email	1 day	Resolved	Clarified how the OBIS network works and how data can flow from GBIF to the OBIS nodes and then OBIS	

## 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.)
18-29/01/2021	Online	External (conference)	No	A	<p>ASSEMBLE Plus 2021: Marine biological research at the frontier</p> <p>Pursuit of collaborations for marine biological data sharing</p> <p>Presentation of Interuniversity Institute for Marine Sciences (EMBRC Israel): 58 participants</p> <p>Presentation of National Institute for Biology (Slovenia): 28 participants</p> <p>Presentation of IOPAS (Poland): 25 participants</p> <p>Technology demonstrations</p> <p>Presentation of the Alfred-Wegener-Institut für Polar-und Meeresforschung - Biologische Anstalt Helgoland Helgoland, Germany: 37</p>
27/01/2021	Online	External (workshop)	No	A	Workshop on integrating an ecosystem-based approach into maritime spatial planning
26-27/01/2021	Online	External (conference)	No	A	Copernicus Assembly
09/02/2021	Online	External (meeting)	No	A	5th EMODnet-CMEMS coordination meeting
10/02/2021	Online	External (Seminar)	No	A	MASTS Seminar: Subsea power cable electromagnetic fields and effects on marine species
19/02/2021	Online	External (meeting)	Yes	A	<p>EMODnet and Nature</p> <p>Presentation on EMODnet Biology and Seabed Habitats lots. Discussion on how data relevant for Nature Directives can be integrated in the EMODnet system</p>
23/02/2021	Online	External (webinar)	No	A	SEArca: Sharing responsibility-

					a coherent approach to European ocean observation 100 + participants
03/03/2021	Online	External	No	A	VLIZ Marine Science Day
24/03/2021	Online	External (workshop)	Yes	O	Data Solutions for a Changing Ocean  The event had 65 participants split in two sessions (morning and afternoon). Brief presentations of EMODnet Biology, data management and flow and data products were done followed by a discussion with the participants on how we can best support their activities in terms of developing new products and/or services
24-25/03/2021	Online	External (Workshop)		A	Marine Data for Aquaculture, Mediterranean and Black Sea
<b>SUM</b>				<b>O</b>	<b>Total # of meetings organised = 1</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
12-14/04/2021	Online	Conference	A	IMDIS 2021- International Conference on Marine Data and Information Systems
19/04/2021	Online	Meeting	O	EMODnet Steering committee
20-21/04/2021	Online	Meeting	A/O	EMODnet Technical Working Group
17/05/2021	Online	Meeting	O	EMODnet Biology end of Phase III meeting
18 and 21/05/2021	Online	Meeting	O	EMODnet Biology Phase IV kick off
14-18/06/2021	Online	Conference	A	EMODnet Open Conference and Jamboree





## 5. Communication assets

A. Communication products				
Date	Communication material	Short description (of the material, title, ...) of the asset	Main results	Name of event at which material was disseminated (if applicable)
QR16	Twitter	Various tweets from the @EUROBIS_VLIZ account (used as dissemination media for EMODnet Biology activities)	68 tweets ~85K impressions 53 new followers from QR15 to QR16	
QR16	Twitter	Tweets from various user accounts tagging EMODnet Biology	11 tweets	
01/02/2021	News	EMODnet WFS R Package ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8662">https://www.emodnet-biology.eu/news?p=show&amp;id=8662</a> )	Announcement of R package release	
05/02/2021	News	Last harvest/ingestion cycle of EMODnet Biology Phase III ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8666">https://www.emodnet-biology.eu/news?p=show&amp;id=8666</a> )	Communication of deadlines for data submission	
08/02/2021	News	Data Solutions for a Changing Ocean online event ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8670">https://www.emodnet-biology.eu/news?p=show&amp;id=8670</a> )	Communication about future online event	
08/02/2021	News	Data product: Numerical abundance of benthic macroinvertebrates in North Sea and Baltic Sea ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8671">https://www.emodnet-biology.eu/news?p=show&amp;id=8671</a> )	Announcement of product publication	
09/02/2021	News	Quarterly Report (01/10/2020 – 31/12/2020) published ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8673">https://www.emodnet-biology.eu/news?p=show&amp;id=8673</a> )	Communication of Quarterly report publication	
08/03/2021	News	Data product: Presence/Absence maps of phytoplankton in the Greater Baltic Sea ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8701">https://www.emodnet-biology.eu/news?p=show&amp;id=8701</a> )	Announcement of product publication	
19/03/2021	News	Last data harvest for EMODnet Biology Phase III ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8713">https://www.emodnet-biology.eu/news?p=show&amp;id=8713</a> )	Communication of start of last harvest for Phase III	
26/03/2021	News	EMODnet Biology Stakeholder Event-Data Solutions for a Changing Ocean ( <a href="https://www.emodnet-biology.eu/news?p=show&amp;id=8715">https://www.emodnet-biology.eu/news?p=show&amp;id=8715</a> )	Communication of the outcomes of the online event	

SUM			# tweets= 79
SUM			# News items= 8

Your Tweets earned **85.9K impressions** over this **90 day** period

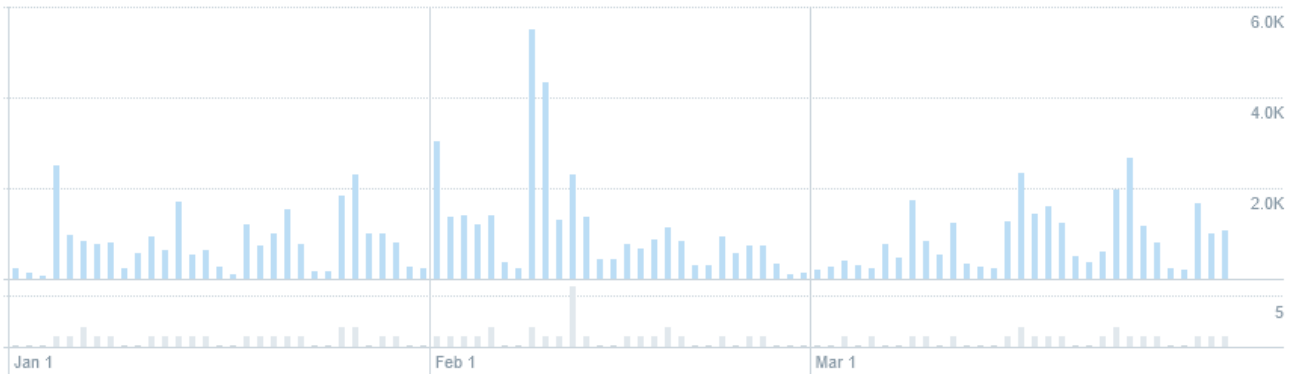


Figure 1. QR16 impressions (# times users saw the tweet on twitter). Information collated from Twitter analytics

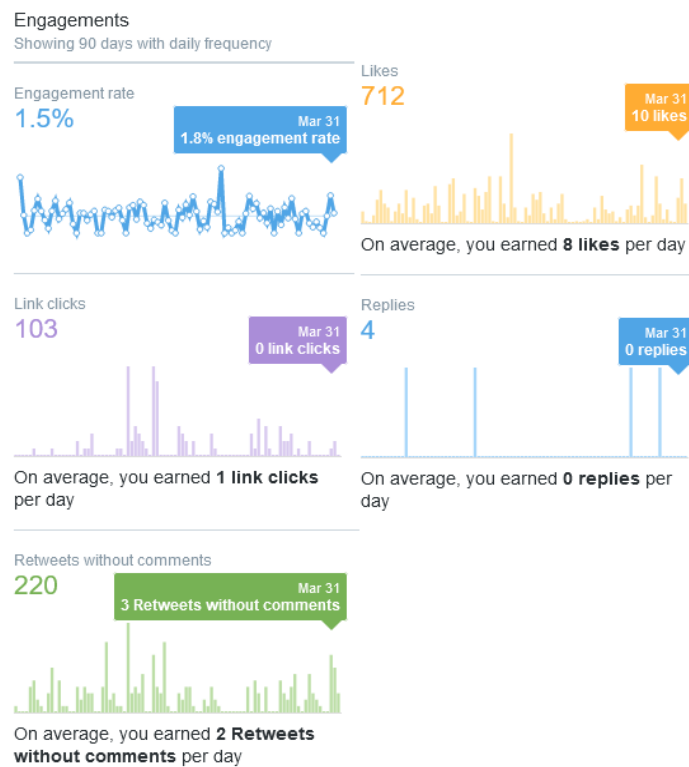


Figure 2. QR16 engagements (# times users interacted with a tweet). Information collated from Twitter analytics

B. Planned communication products			
Date	Communication material	Short description (of the material, title, ...) and/or link to the asset	Main results expected
QR17	Tweets	Datasets made available during last Phase III harvest, news about Phase IV, events where we will attend and/or organise, information on Phase III	Increase visibility and # followers, engagements and users of our data

QR17	News items	Last harvest of Phase III results, data products publication, project information	Increase visibility, disseminate project's activities
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**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>02/03/2021</b>	EuroSea Deliverable, D1.2	Map of BioEco Observing networks/capability <a href="http://dx.doi.org/10.3289/eurosea_d1.2">http://dx.doi.org/10.3289/eurosea_d1.2</a>	Lavenia Ratnarajah	EuroSea
<b>March 2021</b>	Beche-de-mer information bulletin	Norwegian red sea cucumber (Parastichopus tremulus) fishery and aquaculture north of 60°N latitude: Feasible or fictional?  ISSN 1025-4943	Gyda Christophersen <sup>1</sup> , Snorre Bakke <sup>2</sup> and Jan Sunde <sup>1</sup>	1- Møreforsking AS, PO Box 5075, N-6021 Ålesund, Norway. 2- Department of Biological Sciences, Norwegian University of Science and Technology, Larsgårdsvegen 2, N-6009 Ålesund, Norway

## 6. Monitoring indicators

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 an increase, for all sub-themes, of the number of available records. The most pronounced increase was for the Angiosperms and Zooplankton sub-themes. The Baltic and the Arctic did not see an addition of data and data for the Black Sea covered only the Benthos sub-theme. All other sea regions exhibit an increase in the data made available for most sub-themes
B) Usage of data in this quarter	Matomo	This quarter there was a ~30% decrease in the number of data requests, also clear from the volume of downloaded data. The information collated includes only the information for valid requests (where errors did not occur) and excluding VLIZ system tests
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Matomo	Several products have been published during the quarter as a result of the activities of WP4. The remaining products will be published until the end of Phase III and will be included in the next Quarterly Report.  Volume and sea basin coverage are not available for EMODnet Biology products. This will be an update that will be done during Phase IV
B) Usage of data products in this quarter	Matomo	There was no increase or decrease in the trend of product usage in the Biology portal
3. Organisations supplying/approached to supply data and data products within this quarter	Matomo	Apart from two datasets that were submitted via EMODnet Ingestion, all others were from project partners or data grant holders. All the data ingested are freely and openly available
4. Online 'Web' interfaces to access or view data	Matomo	The % of data and data products available through the various interfaces has not changed 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	Matomo	The majority of the portal's users are from academia/research and the main

forms		purpose is GIS analysis and mapping, visualisation and communication. From all the user's details the vast majority are from european countries. North America and Asia are the other world regions where users can be found
6. Published use cases	Matomo	There was no significant change in the uptake of use cases during the reporting period
8.1. Technical monitoring	Matomo	In general, the average response time is below 700ms and the portal has had a 100% uptime during the reporting period
8.2. Portal user-friendliness (Visual harmonization score)	Matomo	The portal is fully compliant with the harmonisation guidelines defined for EMODnet
9. Visibility & Analytics for web pages	Matomo	No significant changes are observed in this indicator when compared to the previous quarter
10. Visibility & Analytics for web sections	Matomo	There is a noticeable decrease in the number of page views over the last two quarters which could potentially be due to COVID impacting users work. It was also recently detected that the evolution graphs included in the previous report were incorrect (they showed an increase in pageviews). This has now been corrected for the report.
11. Average visit duration for web pages	Matomo	No significant changes are observed in this indicator when compared to the previous quarter

*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

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

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

- [Abundance of Posidonie species - Posidonia oceanica \(Linnaeus\) Delile, 1813 - in Mediterranean Sea](#)
- [Benthic communities and environmental parameters in three Mediterranean ports \(Sardinia, Crete, Tunisia\)](#)
- [Benthic fauna collected in the Arrábida Marine Protected Area \(SW Portugal\) from 2007 to 2009](#)
- [Benthic fauna of the Southwest Alentejo and Vicentine Coast Natural Park \(SW Portugal\) collected in August 2011](#)
- [Benthic invertebrates abundance data in ODV format from French REBENT network](#)
- [Benthic macrofauna of the Ericeira coast \(central Portugal\) collected in May 2001](#)
- [BfG - Estuary Monitoring Programme Macrozoobentos](#)
- [Biological dataset for Pagrus pagrus fished along Southern Brazil](#)
- [Broch H. 1935. The fishery grounds near Alexandria. III Cirripeds. Notes et Memoires No 10.](#)
- [Chas.H. O'Donoghue, D.Sc. & Dora de Watteville, M.A. The fishery grounds near Alexandria. XX-Bryozoa. Notes and Memoirs No 34. Hydrobiology and Fisheries Directorate, Egypt.](#)
- [CorMedNet- Distribution and demographic data of habitat-forming invertebrate species from Mediterranean coralligenous assemblages between 1882 and 2019.](#)
- [Environmental impact assessments in the eastern part of Adriatic sea - species list of benthic invertebrates and phytobenthos \(2000-2010\)](#)
- [F.M.Ghazzawi \(1939\) Plankton of the Egyptian waters. A study of the Suez Canal Plankton. Notes and Memories of the Hydrobiology and Fisheries Directorate of Egypt, No 24. \(A\) The Phytoplankton. Preliminary Report](#)
- [Hyperiid amphipod abundances from the California Current \(24-32°N\)](#)
- [Intertidal and Subtidal Macroalgae taxa data in ODV format from French REBENT Network](#)
- [Invertebrates observations delivered by "Canarias por una Costa Viva" project](#)
- [Macrobenthos data from the Doggerbank - 2000](#)
- [Macrobenthos from Copale - Authie](#)
- [Macrobenthos from English waters between 2000-2002](#)
- [Macrobenthos from the Norwegian waters](#)
- [macrobenthos in the Dutch Sector of the North Sea 1991-2001](#)
- [Macrobenthos samples collected in the Scottish waters in 2001](#)
- [Macrozoobenthos data collected in the Northern part of the Romanian littoral \(Danube mouths\) between 2000 and 2010](#)
- [Macrozoobenthos data from the southeastern North Sea in 2000](#)
- [Macrozoobenthos from the Belgian Continental Shelf, collected in 2000](#)
- [Macrozoobenthos of marine waters in mainland Portugal collected in March and September 2010](#)
- [Marine Recorder JNCC Public Offshore Snapshot 2020\\_1 – habitat data trial](#)
- [Meiobenthos of the Dutch Continental Shelf in spring 1991](#)
- [Mesozooplankton abundance from 1959-2017 in the Middle Adriatic Sea](#)

- [Mesozooplankton abundance from 1972-1995 in the coastal Middle Adriatic Sea](#)
- [Programa Poseidon - Citizen Science Project Results](#)
- [Reef Check Med - key Mediterranean marine species 2001-2020](#)
- [SmartBuoy Marine Observational Network - UK Waters Phytoplankton Data 2001-2017](#)
- [Species list of benthic invertebrates and phytobenthos from eastern side of Adriatic Sea - Vir-Pag-Konavle 1986-2009](#)
- [Steuer A. 1939. The fishery grounds near Alexandria. XIX Mollusca. Notes and Memoirs No 33](#)
- [The Fishery Grounds near Alexandria.VII.Decapoda.By Heinrich Balss.\(1936\).Notes and memoirs No. 15](#)
- [Zostera Marina and Zostera Noltei abundance data in ODV format from French REBENT Network](#)
- [Type locality distributions from the World Register of Marine Species](#)

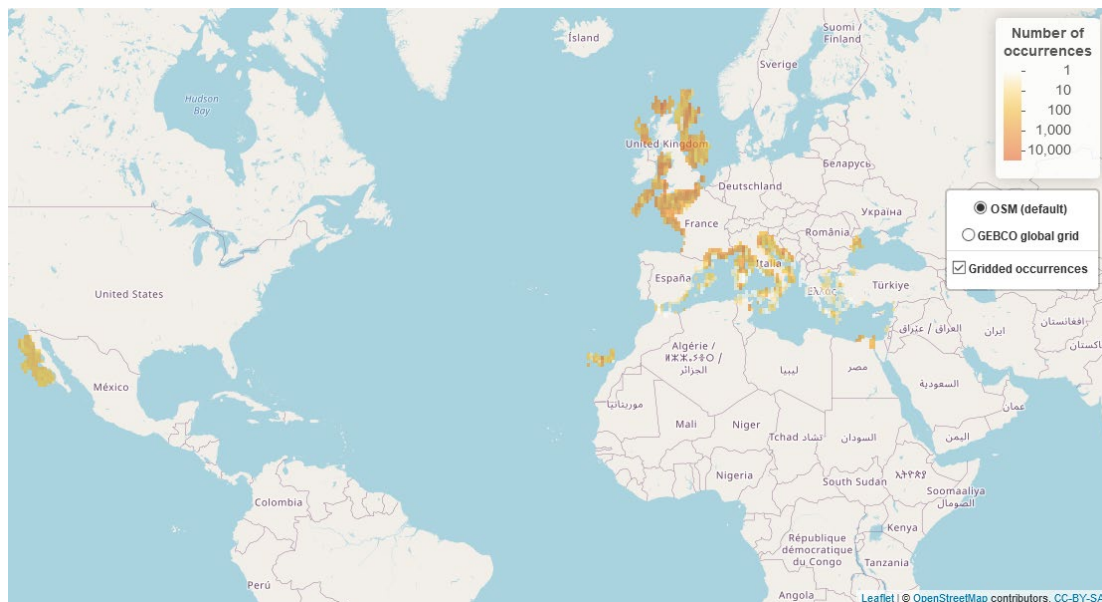


Figure 3. Map display of gridded occurrences added to EMODnet Biology during the reporting period



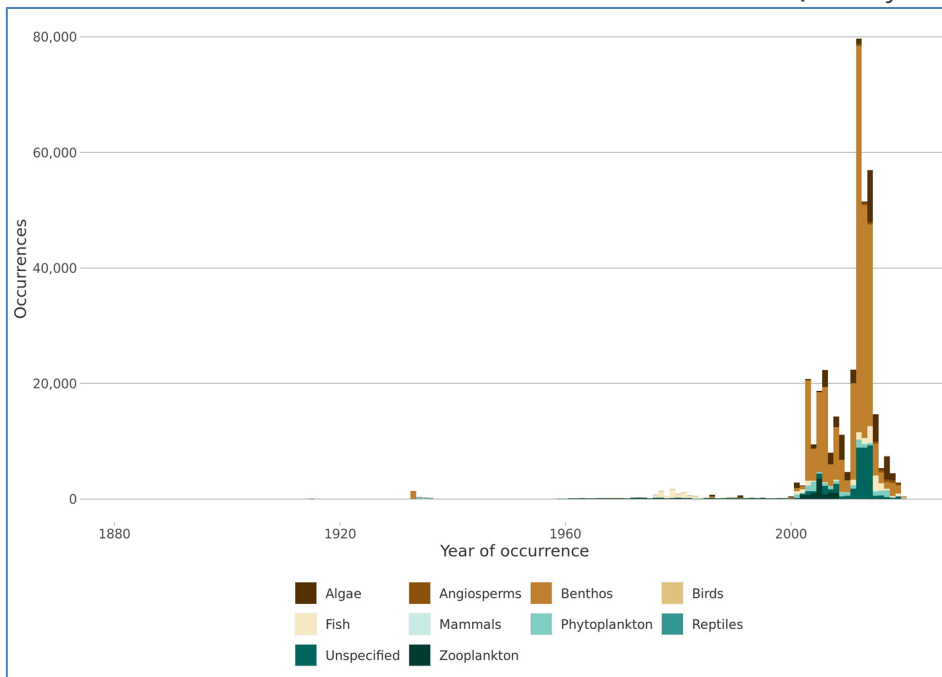


Figure 4. Number of occurrences per sample year and sub-theme added to EMODnet Biology during the reporting period

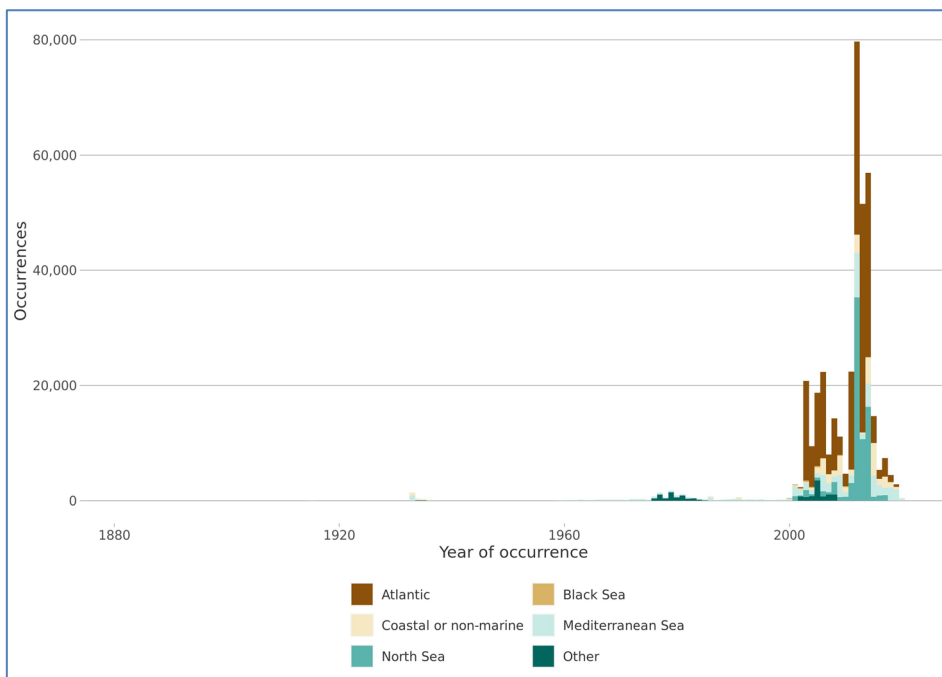


Figure 5. Number of occurrences per sample year and marine region added to EMODnet Biology during the reporting period

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



Figure 6. Visits over time during the reporting period using Matomo

### Visits Overview

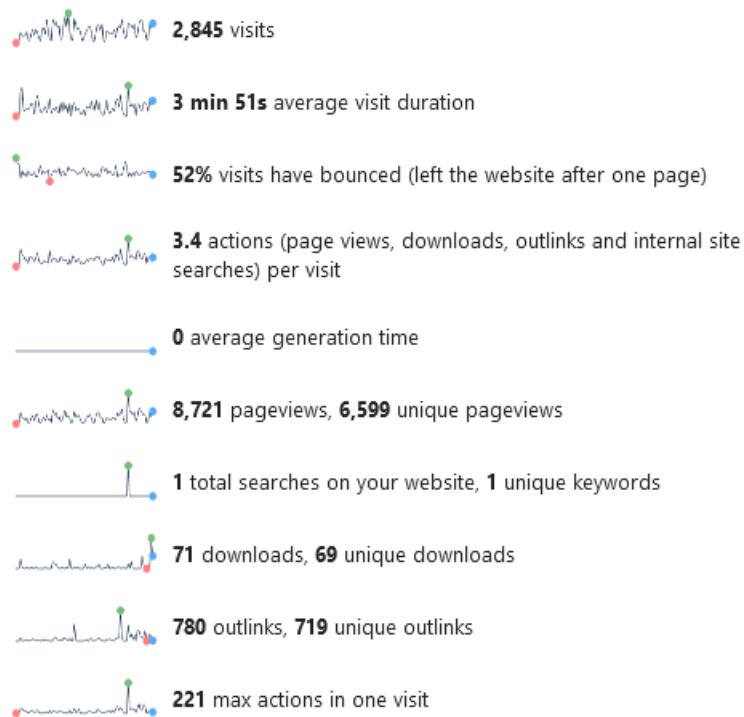
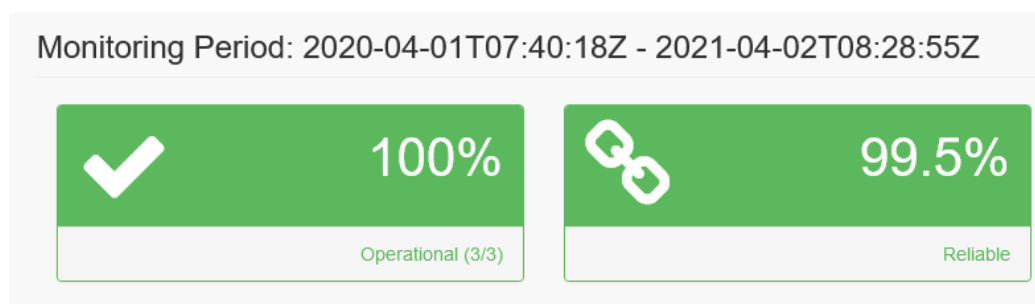


Figure 7. Overview of visits using Matomo



Type	Name	Status	Reliability
Web Coverage Service (WCS)	EMODnet Biology (WCS) Biology	✓	99.57%
Web Feature Service (WFS)	EMODnet Biology (WFS) Biology	✓	99.51%
Web Map Service (WMS)	EMODnet Biology (WMS) Biology	✓	99.56%

Figure 8. GeoHealthCheck webservices monitoring tool