



EMODnet Thematic Lot n° VI – Biology

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Start date of the project: 18/04/2021 (24 months)

Centralisation Phase

Quarterly Progress Report (QR23)

Reporting Period: 01/10/2022 – 31/12/2022



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1. Highlights in this quarter

Task 1: Maintain and improve a common method of access to data held in repositories

In the reporting period, one data harvest cycle took place, resulting in the publication of 18 new datasets and updates of three pre-existing datasets. This harvest represents a growth of almost 106.000 occurrence records. A list of the published datasets and their details, as well as a map with the geographical distribution and images representing the number of occurrences per year and sub-theme and per year and marine regions are available in the Annex.

Deliverable [D2.3 Report on efforts undertaken in rescuing historical data through citizen science](#) was published and made available in the EMODnet Biology portal. The work described in this document focused on historical data, in need of transcription from publications, to help fill identified gaps in space and time within European marine waters. Even though it was a successful trial, with two datasets swiftly being digitised and published via EMODnet Biology, future activities need to be carefully considered and planned. Future digitisation efforts via citizen science platforms, should be pursued only through one of the platforms used in this exercise. The Zooniverse platform, as indicated in the introduction of this report, is a very potent and interactive tool for citizen science initiatives. It should be highlighted though, that datasets as big and as homogenous (structured in tables) as possible will be preferred for future citizen science digitisation efforts. Based on work done in the previous phase, the number of historical datasets provided by the Biodiversity Heritage Library (BHL), that concern marine species and include at least 100 taxa is 1627. Emphasis should be given on evaluating these datasets -or any other potential dataset that fulfils the aforementioned criteria (size and homogeneity) - at the time of prioritising future digitisation activities.

D2.4 At least 3 linkages with initiatives outside of the original Consortium, resulting in extra data/information available via the Portal. During Phase IV, several possible collaborations have been explored, leading to some new data flows within the project. Over the last months, collaboration with INBO has led to the mobilisation of the European Seabirds at Sea (ESAS) dataset as a DarwinCore Archive, so it can be published and made available within EMODnet Biology. This work is in its final stages, and the ESAS dataset will be available in the next quarter. Similarly, interactions with PANGAEA, Oceans Past Initiative (OPI), OBIS SeaMap, the Caribbean OBIS node and European GBIF nodes are leading to new and renewed data flows. As these organisations are voluntarily collaborating with EMODnet Biology, the pace of interactions and actual data flow is lower, when compared to the official project partners. In any case, several datasets from these organisations (ESAS, PANGAEA, OPI, OBIS SeaMap, OBIS Caribbean and GBIF nodes) will be available by the end of Phase IV. Through a link to taxonomy and species traits information, the AlgaeTraits initiative was launched within the WoRMS context, initiative led by VLIZ, which will result in the availability of several marine macro-algae traits, being made available via EMODnet Biology.

Regarding the D2.5: Feasibility study for recognition of specific ecological traits and/or sampling devices/methodologies in text, several text mining tools were tested, and finally *spaCy* was

selected as it uses the latest and best algorithms, as well as performing better in most of the text mining processing procedures. To produce an annotated corpus for training, development and testing, related abstracts were collected from marine species traits literature. As next steps will be the corpus enrichment with papers (full texts), the dictionaries enrichment from Fishbase (<https://www.fishbase.se/search.php>) and combining model classification.

Task 2: Construct products from one or more data sources that provide users with information about the distribution and quality of parameters in time and space

The WP3 community call took place on 2022-10-20. This included discussions of how best to serve large products that need to be split in order to work with ERDDAP. A solution was agreed and is in the process of being implemented. Phase III Biology products are now CF compliant and are served via the new viewer, including with download options and links to metadata. Progress continues in development of the latest suite of products, with a delivery timeline agreed in the first quarter of 2023. Additional resources have been provided to the WP3 products team, including training on using *renv* to enhance reproducibility in product development (<https://maelle.github.io/renv-demo/#/>), further development of the EMODnetWCS package (<https://emodnet.github.io/EMODnetWCS/>) to access geographic raster data from across all EMODnet lots, and provision of detailed instructions for producing products in NetCDF format (<https://emodnet.github.io/EMODnet-Biology-products-erddap-demo/>).

Task 3: Develop a complete and robust machine to machine (M2M) interface to transfer data and products in bulk, which is easily accessible for other machines and initiatives

In order to publish images associated with biological occurrences, changes had to be implemented in the database, data harvesting and publishing procedures. Testing was ongoing and is expected to be finalised in the next quarter when the first image datasets will be published

The Biology Drupal redirects were prepared to cater for the portal shutdown in mid January. For this, a number of HTTP 301 redirect lines were added to the Apache webserver configuration, with the aim to redirect incoming emonet-biology.eu links to their Central Portal counterpart.

The Geo stack has been upgraded to their latest versions: Geoserver 2.21 and PostGreSQL 14. A Geoserver cluster was also created, which reduces the downtime to a minimum. And finally, proper monitoring of these components was put in place, via an internal Grafana dashboard. The software upgrades were followed by an intensive testing and verification process of about one month. During this period, a number of issues were fixed, which resulted in a much more stable and robust system (that the previous setup). The EurOBIS & EMODnet IPT instance was also upgraded to the latest version (2.6.3).

Task 4: Contribute data, data products and content to a central portal that allows users to find, view and download data and data products

No significant changes, other than those already summarise in this and previous reports, occurred during the reporting period. The thematic lot has completed all required changes to allow for the portal shutdown in January 2023.

Task 5: Contributing content to dedicated spaces in Central Portal

A use case was due to be published during the quarter however due to technical constraints, see Task 3, it had to be delayed to QR24. This use case is meant to highlight the procedures required to publish image data associated with species occurrences. The dataset in which the use case is based on was due to be published in December, however this was not finalised due to the testing involved and a number of issues that required fixing. A decision was made to delay the publication of the use case until the issues could be resolved, which is expected to happen in the first half of the next quarter.

EMODnet Biology has contributed with one item to the October EMODnet newsletter, more specifically, [Citizen Scientists rescue two historical marine datasets through an EMODnet Biology initiative](#)

Task 6: Ensure the involvement of regional sea convention (WP4)

In a previous reporting period key EMODnet Biology partners that represented existing Regional Sea Convention engagement, as identified through D4.2 were mobilised. These EMODnet Biology Ambassadors continued with their review of planned and upcoming RSC events to ensure the targeted engagement was effective and able to achieve the highest impact. A close-of-phase review is planned with lessons learned to be taken forward and applied into the next phase of EMODnet Biology.

Task 7: Contribute to the implementation of EU legislation and broader initiatives for open data (WP4)

The final deliverable (D4.5), due next quarter, is focused on the coordination of activities around the establishment of European Marine Biodiversity Observation Network (EU MBON). Since the drafting of this deliverable, in mid-2021, the landscape has developed with a number of key actors and the establishment of the MBON Secretariat at the Atlantic International Research Centre in the Azores. Using input from D4.2 and previous stakeholder engagement activities we aim to work with relevant parties to elucidate and advance the aims of an EU MBON, understand and capture the interactions with terrestrial and thematic BON networks within Europe and develop a roadmap for driving forward this vital piece of coordination.

Task 8: Monitor quality/performance and deal with user feedback

EMODnet Biology's OGC webservices are continuously monitored via the OGC Health check implemented by VLIZ for the Central Portal. An analysis of Figure X indicates that the lot's services were always within INSPIRE guidance, with a 100% operationality and 99.4% reliability. We note that due to not being able to select a specific time range, the information present covers the period from 2022-02-09 to 2023-02-02.

Website usage was also continuously monitored using Matomo. Over the last quarter, there was a 29.2% increase in the number of visitors, resulting from an average of 33 users per day. The Figures supporting the analysis above are included in the Annex.

Three user enquiries were received by the lot during the reporting period and were all addressed within one working day.

Task 9: Maintain the existing thematic web portal for a maximum of six months from the start of the projects

No change since the previous quarter. The thematic portal was operational throughout the quarter.

Status of the Milestones and Deliverables listed in the workplan					
Milestone/Deliverable	WP	Date due	Status (Delivered/Delayed)	Date delivered	If Delayed: reason for delay and expected delivery date
D1.1: Help desk operational and contact details published online (M3)	WP1	QR17 (30 Jun 2021)	Delivered	30/06/2021	
D1.2 Quarterly progress reports (scheduled defined in the tender) (M3-M24)	WP1	QR17 (15 Jul 2021) QR18 (15 Oct 2021) QR19 (15 Jan 2022) QR20 (15 Apr 2022) QR21 (15 Jul 2022) QR22 (15 Oct 2022) QR23 (15 Jan 2023) QR24 (15 Apr 2023)	Delivered Delivered Delivered Delivered Delivered Delivered Delivered Delivered Delayed	15/07/2021 15/10/2021 15/01/2022 15/04/2022 15/07/2022 14/10/2022 15/02/2023	Due to EMODnet centralisation
D1.3 First interim report after phase (M12)	WP1	19/04/2022	Delivered	17/06/2022	
D1.4 Final report (M24)	WP1	19/04/2023			
D1.5 Attend Steering Committee and Technical Working Group meetings (M0-M24)	WP1	Sep 2021 Apr 2022 Sep 2022 Nov 2022	Delivered Delivered	08/09/2021 26-28/04/2022 21-22/09/2022 07-08/11/2022	

		TBC 2023	Delivered Delivered		
D2.1 Inventory of possible historical data resources within the consortium (M6)	WP2	29/10/2021	Delivered	18/11/2021	
D2.2 Technical implementation of data flows for the new project partner (M6)	WP2	29/10/2021	Delivered	18/11/2021	
D2.3 Report on efforts undertaken in rescuing historical data through citizen science (M18)	WP2	15/10/2022	Delivered	01/12/2022	
D2.4 At least 3 linkages with initiatives outside of the original Consortium, resulting in extra data/information available via the Portal (M20)	WP2	31/12/2022	Delivered	31/12/2022	
D2.5 Feasibility study for recognition of specific ecological traits and/or sampling devices/methodologies in text (M22)	WP2	25/02/2023			
D2.6 Report on the standardisation and integration of the proposed new and updated datasets (M24)	WP2	19/04/2023			

D3.1 Quarterly WP3 community calls; call leader or other nominated team member to produce summary report of each call for publication on EMODnet website (M3-M24)	WP3	Call QR17 (30 Jun 2021) Call QR18 (30 Sep 2021) Call QR19 (31 Dec 2021) Call QR20 (31 Mar 2022) Call QR21 (30 Jun 2022) Call QR22 (30 Sep 2022) Call QR23 (31 Dec 2022) Call QR24 (31 Mar 2023)	Delivered Delivered Delivered Delivered Delivered Delayed Delayed	18-19/05/2021 22/09/2021 10/12/2021 Week of 28/02/2022 Week of 02/05/2022 + 18/07/2022 20/10/2022 QR24	
D3.2 Annual intensive workshops, in person with online participation options. Workshops involve collaborative product development on one or more targeted themes derived from WP4 user needs questionnaire (M12-M22)	WP3	Workshop 1 (19 Apr 2022) Workshop 2 (28 Feb 2023)	Delivered	Week of 28/02/2022	
D3.3 Publish R package to link EMODnet biology data with data from other EMODnet sources (M12)	WP3	19/04/2022	Delivered		
D3.4 Develop method to use Phase III presence-absence maps to display time series of distribution change (M12)	WP3	19/04/2022	In progress		

D3.5 Produce position paper outlining questions that can be addressed using EMODnet data, together with remaining gaps, and strategies for filling these (M24)	WP3	19/04/2023			
D3.6 Add/update data product metadata in the EMODnet Biology catalogue (M24)	WP3	19/04/2023			
D4.1: Questionnaire to inform cross-lot product development (M3)	WP4	30/07/2021	Delivered	06/09/2021	
D4.2: EMODnet Biology connectivity 'map' of projects, institutes, initiatives and networks to inform targeted engagement (M12)	WP4	19/04/2022	Delivered		
D4.3 EMODnet Biology participation in each of the RSCs to inform and advise of available data products and mechanisms to access and influence the development of data, products, tools and services (M12)	WP4	19/04/2022	Delivered		
D4.4 "Launch" of the European MBON node (M24)	WP4	19/04/2023			

D4.5 Creation of engaging and informative use-cases for EMODnet Biology to illustrate uptake and utility of data products across a range of stakeholders across the quadruple helix of engagement (M6, M12, M18, M24)	WP4	Use case 1 (29 Oct 2021) Use case 2 (19 Apr 2022) Use case 3 (15 Oct 2022) Use case 4 (19 Apr 2023)	Delivered Delivered Pending	31/01/2022 01/04/2022 QR24	See explanation in Task 5
D5.1 User portal operation and maintenance (M0-M6)	WP5	19/10/2021	Delivered		
D5.2 Webservices operation and maintenance (M0-M24)	WP5	19/04/2023			
D5.3 Technology stack upgraded (M12)	WP5	19/04/2022	Delivered		
D5.4 Evaluation and implementation of bulk data transfer technologies (M24)	WP5	19/04/2023			

2. Identified issues: status and actions taken

A. Priority issue(s) identified and communicated by CINEA/ DG MARE/ SECRETARIAT				
Priority issue	Status (Pending/ Resolved)	Action(s) taken/ remaining actions planned	Date due	Date resolved
Including in metadata records online resources (This will be provided as part of the comprehensive metadata review, planned for end 2022. This will however require a CSW service that provided access to the Portal's metadata records)	Pending	No changes since the last QR	QR24	
Including data and metadata URL in web services of data products	Ongoing	No changes since the last QR	QR18	
Progress solving identified issues				
EM-83 - Biology - Web Services MetadataUrl and DataUrl	Pending	Resolution is planned to take place in the second half of 2021 or early 2022		
EM-78 - Biology to report on status or plans to support INSPIRE Compliant CSW	Ongoing	Customised GeoNetwork (DCAT and INSPIRE compliant) upgrade in progress. Fixing and debugging is almost complete, however the Log4j bug that was identified worldwide at the end of 2021 also needs to be addressed for this piece of software		
EM-143 – Biology Quality of Service Monitoring	Resolved	Upon investigation, it is believed that the cause of the issue was the VLIZ firewall migration		

A. 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

Users do not have access to absence occurrences	Ongoing	Species' absence in surveys can provide invaluable information for data product creation and overall ecosystem knowledge. Within the thematic lot, there are several datasets where data providers have reported true absences (species were looked for but not found) or derived absences (i.e a list of species was defined for the project and systematically used throughout. When a species is absent from the data submitted, we know that this is because such individuals were absent from the samples). Work is underway to allow for these data to be available to users	QR22	
Users do not have access to image data associated with occurrence records	Ongoing	As part of Phase IV proposed work, changes to the Database and data publishing procedures are necessary to allow users to obtain images associated to the taxa occurrence records.	QR24	QR24
Users do not have access to genomics data	Ongoing	In the Phase IV workplan it was stated that the thematic lot would endeavour efforts to implement procedures to handle and publish genomics data. This work is not meant to be done in isolation with the international community therefore most actions have been limited to accompanying the situation and internally assessing what changes need to occur in the DB so that these data can be properly managed.		
Delays due to situation in the Ukraine	Ongoing	The partner in questions, UkrSCES is based in Odessa and contributes to WP2. Situation is being followed up within the project. The ongoing conflict might mean that the partner is unable to supply the data within the project's deadlines, as initially agreed		
Thematic lot metadata records not in the EMODnet catalogue	Ongoing	Due to centralisation, the lot will lose its catalogue, where users can search and download data. Work is ongoing to allow for a sync between the lots' catalogue (hosted by VLIZ) and the EMODnet GeoNetwork instance to ensure all metadata remain FAIR	QR24	

3. User feedback

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
2022-11-25	Private	Phytoplankton data in North Iceland: base for the research and guidelines which would allow for information we might obtain to be integrated into EMODnet	Portal contact form	Within 1 working day	Resolved	Provided information on how to search and download the data using the available filters and also instructions on how to submit data and directing user to the EMODnet Biology course	
2022-10-26	CEFAS	Requested overview of all CEFAS datasets that we hold/publish	email	Within 1 working day	Resolved	Extracted information from the DB and sent it to user	
2022-10-21	Marine Ireland Institute	Enquiry on whether we accept plankton data from imaging of flow data and plankton metabarcoding data	Portal contact form	Within 1 working day	Resolved	Emailed user to inform that work is ongoing to publish data with associated images and genomics data	

4. Meetings/events held/attended & planned

A. Meetings/events organised and attended in the quarter					
Date	Location	Type event (internal or external meeting; training/ workshop)	Was a presentation given? (yes/no + short description)	Meeting attended (A) / organised (O)	Short description and main results (# participants, agreements made, etc.)
2022-11-08	Hybrid	External Conference		A	2022 EuropaBON Conference in collaboration with Biodiversa+
2022-11-07 to 2022-11-08	Online	External Meeting	Yes	A	EMODnet Steering Committee meeting Agenda and meeting notes available via https://webgate.ec.europa.eu/maritimeforum/en/node/7500
2022-11-02 to 2022-11-04	Online	External workshop		A	<p>Mediterranean Biodiversity Protection Community (MBPC) project Final Event, entitled “The Mediterranean leading the way - a cooperative framework to strengthen area-based nature conservation actions</p> <p>The talks on the first day of the online event (3rd of November), were policy oriented. They discussed for the need of regional cooperation especially regarding the aspects of plastic free islands (the Network of Islands) and climate change mitigation. In addition, they referred to other actions such as the Charter of Commitment for Mediterranean Posidonia Beaches (touristic sector) and the Wetland and Forest Contract. In this framework, Carole Martinez (MedPAN, https://medpan.org/about/), made a brief reference to the Marine Protected Areas.</p> <p>On the 4th of November discussions were focused on marine policy (SESSION 1: Area-based nature conservation actions and the review of marine and maritime EU</p>

					<p>policies). From the DG ENV the talk referred to the importance of fisheries resources and the Review of the Marine Strategy. Special mention made to the habitat types and the Marine Protected Areas (target of 30%), as well as the need of improving data collection. Mr Eduardo Carqueijeiro, Policy Officer, DG R&I, referred to the European Green Deal and the necessity of synergies between the Horizon Projects and the Regional Development Fund Programmes. He also referred to the mission Ocean and Wastes (pesticides, microplastics, noise pollution) and the mission Implementation Charter. Finally, Mrs Celine Frank from DG MARE, emphasized on Maritime Spatial Planning and nature conservation with mentions to Examples of MSP plans in EMODnet- Human Activities.</p> <p>Another mention to EMODnet was by Mrs Dania Abdul Malak (reference to habitat change and shipping lanes).</p> <p>Event details can be found via https://biodiversity.uma.es/mbpctoolscatalogue/the-mediterranean-leading-the-way/#program</p>
2022-10-20/21	Online	External workshop	Yes	A	<p>EMODnet for Business Workshops: Marine data for and from the Offshore energy sector- Mediterranean and Black Sea (https://emodnet.ec.europa.eu/en/emodnet-business-workshop-marine-data-and-offshore-energy-sector-mediterranean-sea-and-black-sea and https://webgate.ec.europa.eu/maritimeforum/en/node/7383)</p> <p>> 80 participants</p> <p>Main objectives were: facilitate cross-sectoral dialogue and share experiences from key offshore energy stakeholders regarding their in-situ data needs, the potential for developing targeted data products, tools and methodological approaches that can support the sector</p>
2022-10-17	Online	External Workshop	No	A	<p>DASSH user requirements workshop</p> <p>Small workshop targeting specific organisations/initiatives to contribute to DASSH's future developments. DASSH is the Archive for Marine Species and Habitats Data, hosted by the Marine Biological association</p>

2022-10-11	Online	External Workshop	Yes Shared presentation with EMODnet Seabed Habitats where the topics covered were: <ul style="list-style-type: none">• EMODnet• EMODnet Biology (data, products, services and tools)• EMODnet Seabed Habitats (data, products, services/tools)	A	Copernicus workshop on Biodiversity and coastal ecosystems (https://www.copernicus.eu/en/events/events/copernicus-biodiversity-coastal-ecosystems-workshop) 150 participants Showcase Copernicus outputs in relation to biodiversity and coastal ecosystems and address knowledge gaps, EBVs and new 2030 policy requirements
2022-10-03 to 2022-10-04	Brussels, Belgium	External Forum	No	A	EU-Canada Ocean Partnership Forum (https://oceans-and-fisheries.ec.europa.eu/news/1st-eu-canada-ocean-partnership-forum-experts-cooperate-ocean-observation-2022-10-10_en) 40 participants Main objective was to identify opportunities for collaboration, including closing existing knowledge gaps and ensuring availability of ocean observation data
SUM				O	Total # of meetings organised = 0
SUM				A	Total # of meetings attended = 6

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
TBC	TBC	Meeting	O	EMODnet Biology Phase IV final meeting
12-13/04/2023	Cyprus	Meeting	A	EMODnet Ingestion annual meeting
20-21/03/2023	Online	Conference	A	IODE Ocean Data Conference Pre-recorded presentation titled: 'EMODnet Biology developments contribute to increasing access to published marine biodiversity data'
09/03/2023	Online	Meeting	A	EMODnet Chemistry
22/02/2023	Online	Workshop	A	Designing Essential Biodiversity Variable (EBV) - Define workflows and how they can be implemented at the European scale
16/2/2023	Online	Webinar	A	EMODnet centralisation publica webinar
08/02/2023	Brussels	Workshop	A	OSL3 workshop - Organisation - Hackathon process

5. Communication assets

A. Communication products developed				
Date	Communication material	Short description (of the material, title, ...) of the asset	Main results	Name of event at which material was disseminated (if applicable)
QR23	Tweets	33 tweets on published datasets, data management tips and activities by the EMODnet Biology team	Increase exposure to activities and outputs Outreach	NA
QR23	News	News articles not longer available due to the shutdown of the thematic lot's portal. 2022-10-25 https://emodnet.ec.europa.eu/en/citizen-scientists-rescue-two-historical-marine-datasets-through-emodnet-biology-initiative	Increase exposure to activities and outputs Outreach	NA

Your Tweets earned **10.2K impressions** over this **91 day period**

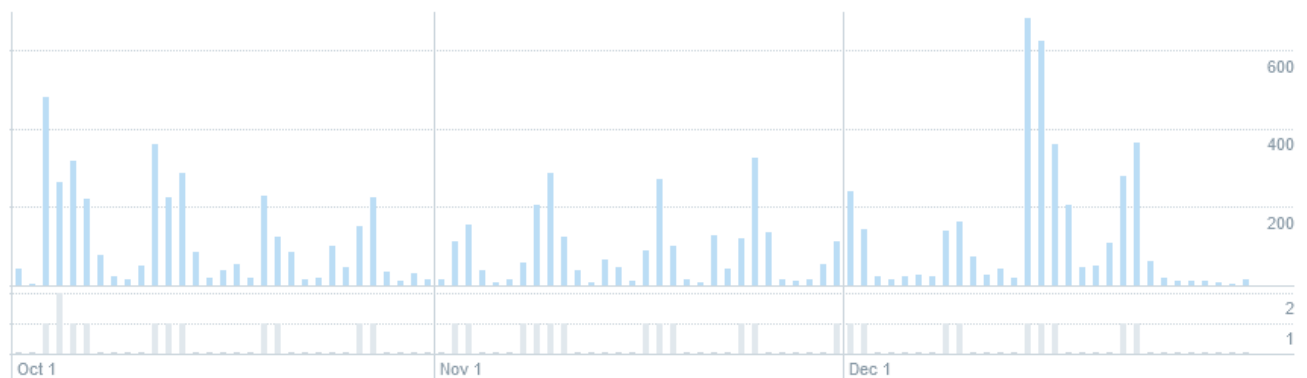


Figure 1. Twitter Impressions for @EurOBIS_VLIZ Twitter account during the reporting period

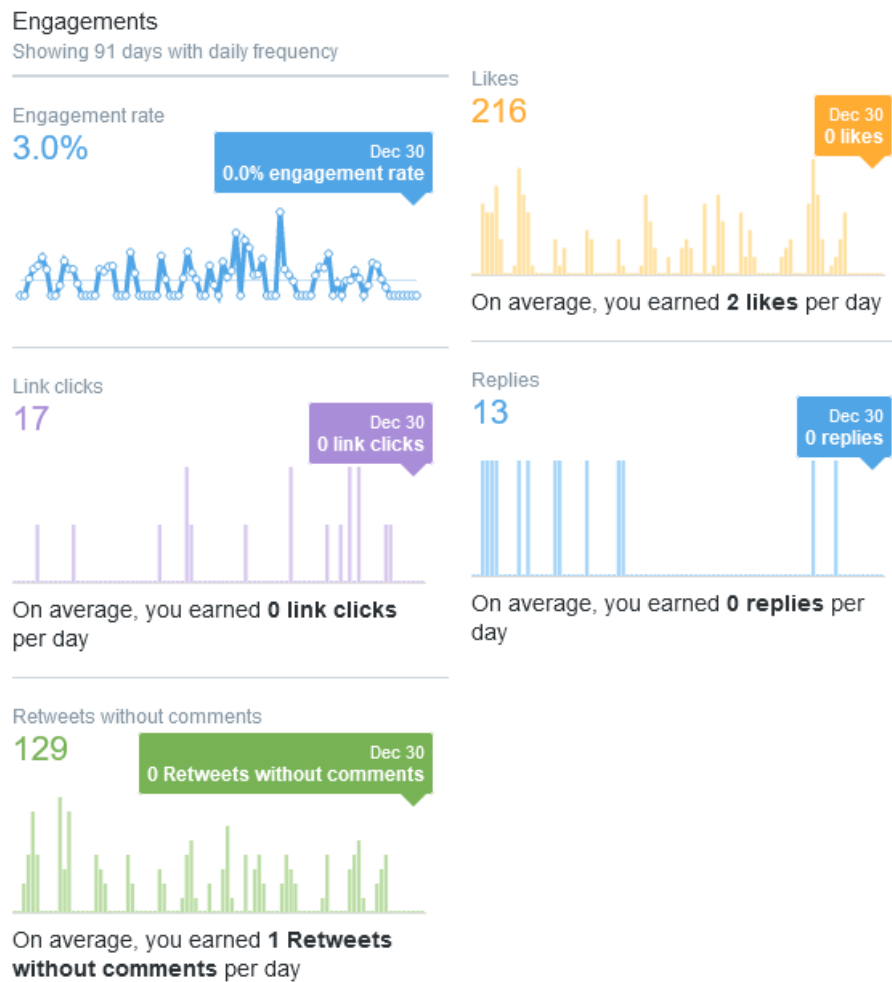


Figure 2. Twitter Engagements for @EurOBIS_VLIZ Twitter account during the reporting period

B. Planned communication products			
Date	Communication material	Short description (of the material, title, ...) and/or link to the asset	Main results expected
QR24	Tweets	Published datasets and team's activities as well as data management tips	Increase exposure to activities Outreach
QR24	News	Updates on the project, product releases, team activities	Increase exposure to activities Outreach
QR24	Use cases	Linking images to species occurrences TBD	Increase exposure to activities Outreach

A. (Co-)Authored peer-reviewed publications in the quarter					
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No
NA					

B. Other/non-peer reviewed types of publications (co-)authored in the quarter					
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No
NA					

For a compressive overview of publications referring to/making use of EMODnet data and/or data products, please consult Google Scholar.

6. Monitoring indicators

Comments on the progress indicators in the indicators spreadsheet		
Progress indicator	Means of collecting figures	Comment
1. Current status and coverage of total available thematic data A) Volume and coverage of available data	Internal systems	Data published during the reporting period covered all European seas and most sub-themes. Note that two datasets covering the Caribbean area were also published, their coverage contributes to the Atlantic region.
What is your opinion on the data coverage within EMODnet for your thematic?		The thematic lot has been successful in establishing a data flow with the OBIS Caribbean node, which means that data from this region will be republished via EMODnet. There is a steady increase of data available for all sub-themes and regions, although some, e.g. benthos, phyto and zooplankton tend to have a higher % of data than others, e.g. angiosperms and birds. It's also worth noting that the lot has made an effort to maintain a sustained flow from EMODnet Ingestion data.
B) Usage of data in this quarter	Internal systems	There was an increase of almost 50% in data usage, with 359 manual downloads accounted for. Note that this number excludes VLIZ tests and requests that returned an error and therefore were not completed
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Internal systems	The number of products has not increased over the reporting period. The coverage therefore has not changed
B) Usage of data products in this quarter	Internal systems	Product uptake has increased considerably since the last quarter, despite the actual number of downloads being quite small.

3. Internal and external organisations supplying/approached to supply data and data products within this quarter	Internal systems	Most data published during the reporting period was submitted by EMODnet Biology partners, but also from ad-hoc submissions and datasets from EMODnet Ingestion and also from the OBIS Caribbean node, with whom EMODnet Biology has an understanding to republish data in order to comply with tender requirements.
4. Online 'Web' interfaces to access or view data	Matomo	No change since the last report
5. Statistics on information volunteered through download forms	Internal systems	The majority of users downloading data are affiliated with academia/research institutions. This is also reflected in the data usage, which is mostly for research purposes. Only 5.3% of users were based outside of Europe, with the remaining being based in 17 different countries, from these, the main users were located in France, followed by Italy and Belgium
6. Published use cases	Europa Analytics	Information for the report was extracted from the Europa Analytics and provided by the Secretariat. As the previous QR did not include information for this use case, it is not possible to ascertain the trend in terms of use case downloads.
8.1. Technical monitoring	Matomo	The portal was operational 100% of the time during the reporting period and with a response time within the threshold defined by INSPIRE
9. Visibility & Analytics for web pages	Matomo	There is no relevant increase or decrease in the number of pageviews during the reporting period.
10. Visibility & Analytics for web sections	Matomo	An observed increase in pageviews was observed for the toolbox and Portal, however not for the Geoviewer and Blog. This aligns with Indicator 1, where it is noted an increase in data downloads of almost 45%
11. Average visit duration for web pages	Matomo	There was no relevant increase or decrease in visit duration time for most pages, except for the Atlas product mapper. The average visit duration ranges from minutes to hours, depending on the page

The monitoring numbers reported as part of the progress monitoring of EMODnet performance are collected through Matomo and/or Europa Analytics, unless reported otherwise.

7. Annex: Other documentation attached

Task 1: Maintain and improve a common method of access to data held in repositories

Dataset title	New/update	Phase	Provider type	License
Abundance and Distribution of <i>Temora turbinata</i> and <i>Temora stylifera</i> in Mochima National Park, Venezuela	New	IV	OBIS Caribbean	Attribution-NonCommercial (CC BY-NC)
Abundance of <i>Diadema antillarum</i> (Echinodermata: Echinoidea) on the coast of Venezuela: 1975-2003	New	IV	OBIS Caribbean	Attribution-NonCommercial (CC BY-NC)
Assessment of Zooplankton in the area of Prestige oil tanker accident	New	IV	Partner	Attribution-NonCommercial (CC BY-NC)
Benthic Isopoda of the Aegir Ridge (Norwegian Sea) collected during the IceAGE3 (SO276 MerMet17-06) expedition in summer 2020	New	NA	Ad-hoc	Attribution (CC BY)
Characterization of sound scattering layers in the Bay of Biscay using broadband acoustics, nets and video acoustics and biological data	New	NA	EMODnet Ingestion	CC 0 (No Rights Reserved)
ClimateFish: A database to track the abundance of selected coastal fish species as candidate indicators of climate change	New	NA	EMODnet Ingestion	Attribution (CC BY)
Dutch coast monitoring - Natuurlijk Veilig: Spisula survey	New	IV	Partner	CC 0 (No Rights Reserved)
Dutch coast monitoring - Natuurlijk Veilig: Texel (J. van Dalfsen)	New	IV	Partner	Attribution-NonCommercial (CC BY-NC)
Dutch long-term monitoring of microzooplankton in the Dutch Continental Economical Zone of the North Sea (2000-2010)	New	IV	Partner	CC 0 (No Rights Reserved)
HELCOM/OSPAR Germany ports water sampling	New	NA	EMODnet Ingestion	CC 0 (No Rights Reserved)
HELCOM/OSPAR Latvia ports water sampling	New	NA	EMODnet Ingestion	CC 0 (No Rights Reserved)

LifeWatch observatory data: zooplankton observations in the Belgian Part of the North Sea	Update	IV	Partner	Attribution (CC BY)
North Atlantic and Arctic Amphipoda sampled during the IceAGE project	New	NA	Ad-hoc	Attribution (CC BY)
North Sea Benthos Survey	Update	IV	Partner	Attribution-ShareAlike (CC BY-SA)
Planktonic Production Cycles and their Relationship with Fishing Resources on the Portuguese Coast	New	IV	Partner	Attribution-NonCommercial (CC BY-NC)
Polychaetes from major ports in Greece in 2020-2021	New	IV	Partner	Attribution (CC BY)
Presence of cetaceans in Sicilian waters, Ionian and Tyrrhenian Sea (records 2008-2019)	New	III	Data grant	Unrestricted after moratorium period
Satellite-tracking of loggerhead sea turtles tracked from western Mediterranean	New	NA	EMODnet Ingestion	CC 0 (No Rights Reserved)
Stranded cetaceans and sea turtles along the Sicilian coasts and waters (years 2014-2018)	New	III	Data grant	Attribution-NonCommercial (CC BY-NC)
The marine algae of Alexandria. II. A study of the occurrence of some marine algae on the Egyptian Mediterranean Coast (with 6 figures) by A. H. Nasr (1940). Notes and Memoirs No. 37	New	IV	Partner	CC 0 (No Rights Reserved)
Type locality distributions from the World Register of Marine Species	Update	IV	Partner	CC-BY



Figure 3. Map of gridded occurrences published by EMODnet Biology during the reporting period

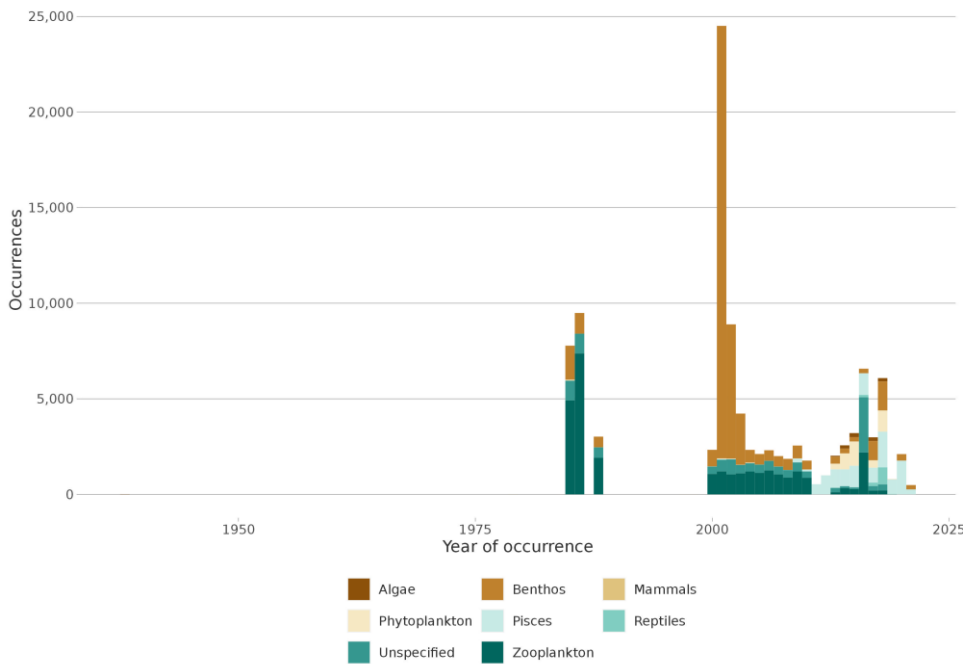


Figure 4: Number of occurrences, per year of sample and sub-theme, published by EMODnet Biology during the reporting period

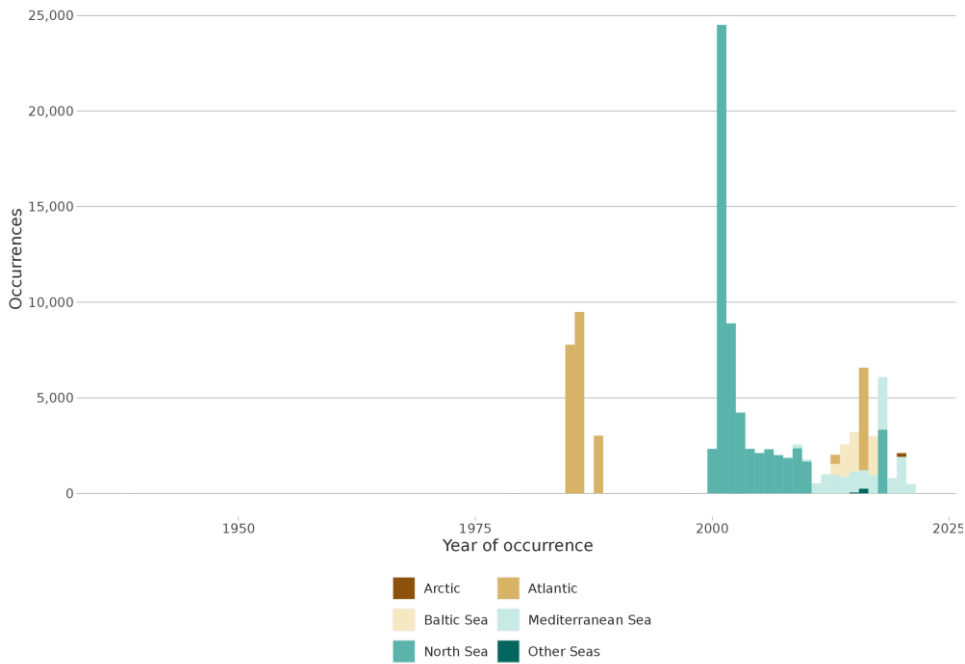


Figure 5. Number of occurrences, per sample year and marine region, published by EMODnet Biology during the reporting period

Task 8: Monitor quality/performance and deal with user feedback

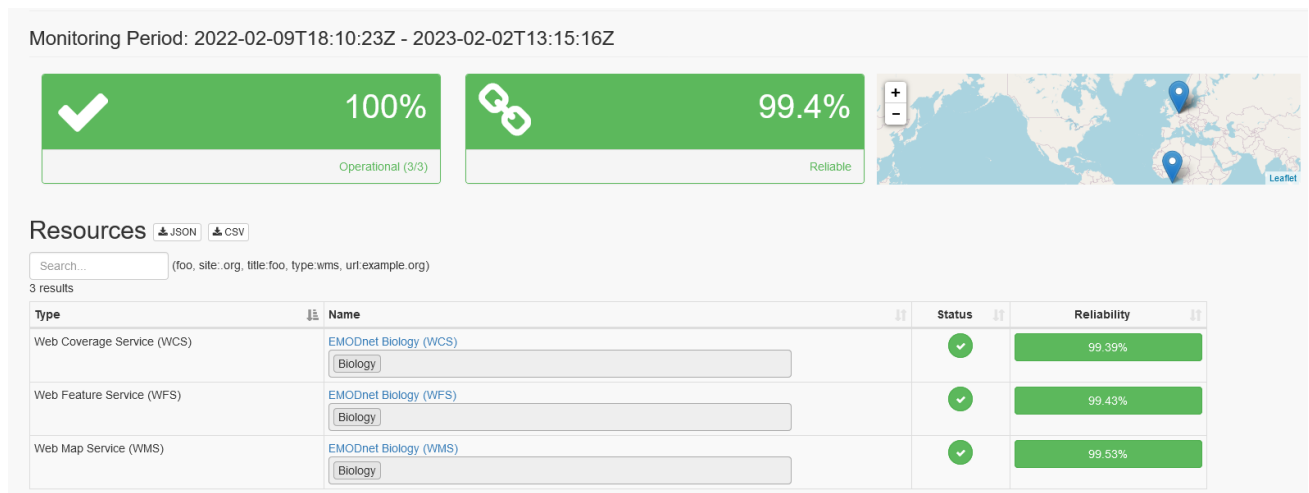


Figure 6. Overview of the OGC HealthCheck monitor for EMODnet Biology covering the period from 2022-02-09 to 2023-02-02

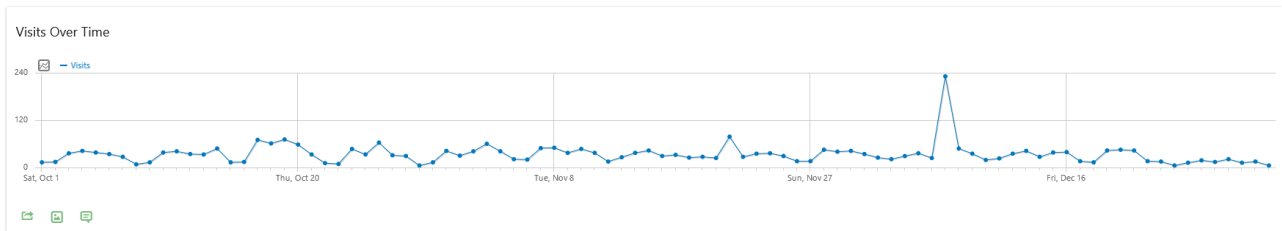


Figure 7. EMODnet Biology’s website visits over time for the reporting period

Visits Overview

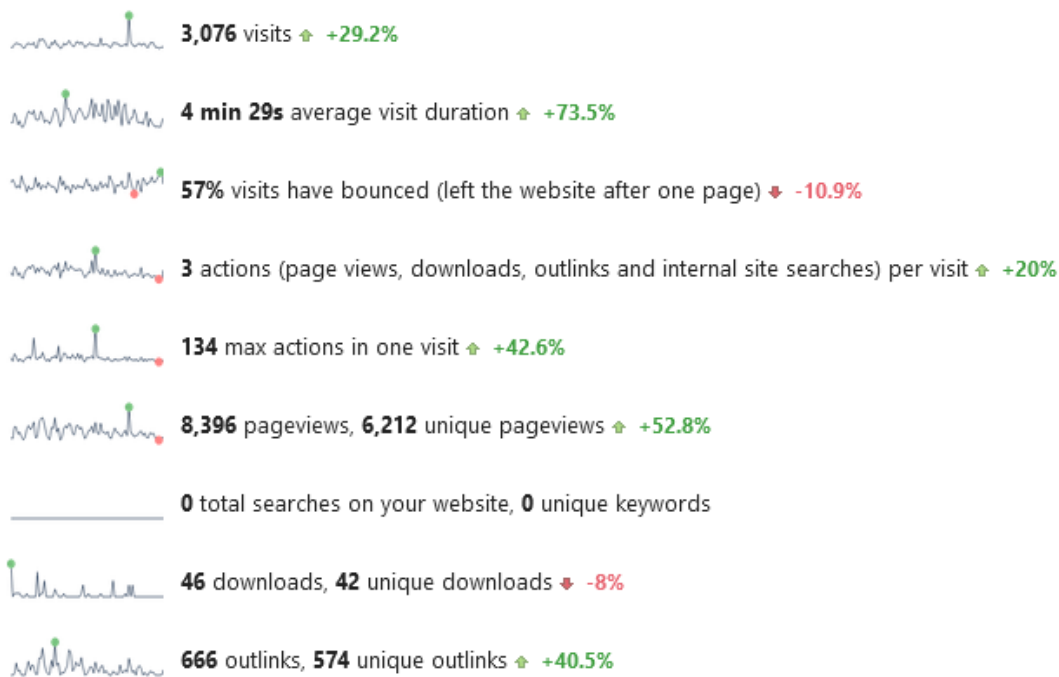


Figure 8. EMODnet Biology’s website visits overview for the reporting period