



EMODnet Thematic Lot n° I – Biology
CINEA/EMFAF/2022/3.5.2/SI2.895681
Start date of the project: 10/05/2023
(24 months)

Centralisation Phase

Quarterly Progress Report (QR26)
Reporting Period: 01/07/2023 – 30/09/2023

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1. Highlights in this quarter

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

During the reporting period, the first Phase V data harvest was carried out, bringing 15 new and 4 updated datasets into EMODnet Biology from both partners and ad-hoc data providers. This data harvest increased the EMODnet Biology occurrence data holdings in more than 230 thousand new records distributed around the Atlantic and Arctic Oceans and the Mediterranean and North Seas with a temporal coverage ranging between 1880 and 2020 and covering primarily mammals and reptiles and, to a lesser extent, (macro)algae, fish, phytoplankton and zooplankton. A list of the published datasets and their details is available in the Annexes and the maps with the distribution per functional group and sea region are included in Figure 1 and the geographic distribution of all occurrences published during the reporting period is in Figure 2, also in the Annexes.

Work is ongoing for the 'EMODnet Biology Autumn Data School', to be held in November, which will include two Workshops, one on the use of Zooniverse for data digitisation through citizen science (Deliverable D2.4.1) and the other on Data training workshop for Mediterranean organisations (and Deliverable D2.4.2). The Mediterranean focused workshop is an in-presence, by invitation only workshop and the citizen science workshop will be held as an open hybrid event.

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

WP3 successfully organized the planned internal workshop between WP3 and WP4 (Deliverable D.3.1.1 minutes are available via the [link](#)). The main goal was to facilitate cross-WP collaboration and awareness of previous work done by WP3 and WP4, as well as to discuss the best possible ways of how EMODnet Biology can support Regional Sea Convention (RSC) needs in the future. One of the main measures of success of this Workshop was the joint discussion and subsequent co-created outcomes regarding the EMODnet stakeholder questionnaire developed by WP4 (Deliverable D.4.2.2 which will be implemented as a survey during the next quarter).

In addition, WP3 held their internal second community call in which progress towards ongoing data product development was presented and discussed. All partners have developed concrete plans for products in this phase and are on track perusing these. In addition to the ongoing product work stated in previous quarterly progress report, one additional product will focus on the community temperature index (CTI) for macroalgae in the North Sea and another will build on the OSPAR pilot assessment of feeding guilds, assigning species (fish) trait information (body size) and produce fish size distribution maps.

Efforts are undergoing to attempt a collaboration with seabird and mammal experts, e.g. by offering to host any products they might have created that address the impact of coastal human infrastructures in migrating species. Updates will be given in future reports.

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

Multiple tasks were performed during this quarter, including:

- Remove legacy tables and scripts from the old EMODnet Biology portal: this decreased the PostgreSQL data indexing time considerably
- Fix time out bug(s) for large (>1M) downloads via the GeoServer API (used by the Central Portal)

- Upgrade IPT to 2.7.6 (latest at the time of writing)
- Optimised Events/Occurrence links & primary keys in EurOBIS PostgreSQL tables
- Continued work on fitness for use
- Fixed several bugs related to IPT harvest web application, triggered by a PHP Symfony update begin 2023
- Upgrade Geoserver to 2.23.2 (latest at the time of writing) and changed some settings to prevent crashes and improve performance
- Improved technical docker setup of the EurOBIS ERDDAP

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

Multiple actions were performed during this quarter, including:

- Data from the last harvest, completed in late September 2023, made available through the Central Portal viewer (EurOBIS database observations layer) as well as associated webservices.
- The connectivity map update, using the HighCharts application, was done as a support action to WP4 (see Task 5).
- Continued work on MetaGIS product layers metadata sync to Geonode to provide a CSW endpoint, which is then harvestable by the Central Portal
- Started work on the data metadata records, stored in IMIS (VLIZ' catalogue system), synchronisation to the Central Portal metadata catalogue. Currently on hold, due to unforeseen complexity: the GeoNetwork software cannot harvest the metadata records in EML format via the OAI-PMH protocol, by default. Conversations ongoing with Lifewatch ERIC who extended GeoNetwork to learn from their experience and implement a solution for the thematic lot.

Task 5. Contributing static content to dedicated spaces in the Central Portal

During the reporting period, several items, from news to project deliverables, were made available through the Central Portal. Below is a short summary of all contributions:

- Published on 2023-08-23: [EMODnet Biology concludes new data harvest and plans data training workshops](#)
- Published on 2023-09-21: [EMODnet Biology summer data harvest](#)
- Published on 2023-09-21: [EMODnet Biology Autumn Data School - Data rescue via citizen science platforms](#)
- [EMODnet Biology Autumn Data School-Mediterranean organisations](#) in-presence, by invitation only, event to be held from 2023-11-13 to 2023-11-14
- [EMODnet Biology Autumn Data School - Data rescue via citizen science platforms](#) hybrid event to be held on 2023-11-15
- Published on 2023-09-11: Biology: [D3.1.1 Internal WP3-WP4 workshop \(Phase V\)](#)
- Updated on 2023-09-28: [EMODnet Biology connectivity map](#) (included under the partnership section)

The connectivity map was updated following an internal questionnaire and information that wasn't added to the map, as it would make it quite complicated to navigate and understand, is included in a table in the Annexes.

Task 6: Ensure the involvement of Regional Sea Conventions (RSC)

A set of preparatory actions have been carried out to involve RSCs:

- preparation of an internal engagement plan to propose an efficient approach to ensure a successful involvement
- identification in the stakeholder community of interest to the thematic lot
- mapping between the data and products for each RSC
- design of a survey aimed to raise awareness of EMODnet and to collect feedbacks and needs from RSCs
- organisation of internal meetings to agree on approaches and share responsibilities

These actions will contribute to the planning of a workshop involving invited experts from the various RSC, which will take place in early 2024.

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

An analysis of the needs of EU legislations in terms of data and products is ongoing to better guide the thematic lot's activities towards fit-for-purpose open data and data products. Additionally, input from the EDITO-INFRA project is expected to help the consortium improve the data products in terms of reproducibility and also provide input on what the EU DTO users might require.

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

Four user enquiries were received during the reporting period and a first reply was sent within a day of reception for all except one which took 5 days. Final resolution for each request was variable as some required expert knowledge from colleagues that were absent due to holidays, however 75% were resolved in less than 2 working days.

The monitoring of the lot's webservices is done with the GeoHealthCheck tool. As it is not possible to select the reporting period in this tool, therefore the period between 2022-10-01 and 2023-10-02 is given in Figure 3.

Status of the Milestones and Deliverables listed in the workplan					
Milestone/Deliverable in numerical order	WP	Date due	Status (To do/ Delivered/ Delayed)	Date delivered	If Delayed: reason for delay and expected delivery date
1.1.1 Quarterly Progress reports	WP1	2023-07-15	Delivered	2023-07-14	
		2023-10-15	Delivered	2023-10-13	
		2024-01-15			
		2024-04-15			
		2024-07-15			
		2024-10-15			
		2024-01-15			
		2025-01-15			
		2025-04-15			
1.1.2 Interim report	WP1	2024-05-10			
1.1.3 Final Report	WP1	2025-05-09			
1.2.1 Update of EMODnet Biology data products via the EMODnet CP catalogue	WP1	2024-05-10			
		2025-05-09			
1.3.1 Monitoring user feedback via EMODnet JIRA	WP1	2023-05-10 to 2025-05-09			
1.3.2 Operation of the EMODnet CP helpdesk	WP1	2023-05-10 to 2025-05-09			
1.4.1 Minutes from the three project meetings (kick off, annual and final)	WP1	2023-06-10	Delivered	2023-06-30	
		2024-05-10			
		2025-05-09			
1.5.1 Participation in the EMODnet Steering Committee meetings	WP1	2023-05-10 to 2025-05-09			
1.5.2 Participation in the EMODnet Open Conference	WP1	2023-05-10 to 2025-05-09			
1.6.1 Appropriate mechanisms and guidelines for handover	WP1	2025-05-09			
2.1.1 Maintenance of adequate mechanisms to ensure data are interoperable	WP2	2023-05-10 to 2025-05-09			
2.1.2 Report on the standardisation and integration of datasets published during the Phase	WP2	2025-05-09			

2.2.1 Summary on consortium data flows	WP2	2023-11-10			
2.3.1 Plan to optimise procedures to make restricted data available to users	WP2	2023-05-10 to 2025-05-09			
2.4.1 Workshop on use of Zooniverse for data digitisation through citizen science	WP2	2023-11-10			
2.4.2 Data training workshop for Mediterranean organisations	WP2	2023-11-10			
2.4.3 Report on the availability of data following the workshops	WP2	2025-03-10			
2.5.1 Guidance for data management practices applied to omics data	WP2	2023-05-10 to 2025-05-09			
3.1.1 Internal WP3 and WP4 Workshop	WP3	2023-09-10	Delivered	2023-09-11	
3.2.1 Quarterly community calls	WP3	2023-08-10 2023-12-10 2024-03-10 2024-05-10 2024-08-10 2024-12-10 2025-03-10	Delivered Delivered	2023-06-08 2023-09-14	
3.3.1 Liaison with external entities targeting seabird and cetacean migration outputs	WP3	2023-05-10 to 2025-05-09			
3.3.2 Data product creation	WP3	2023-05-10 to 2025-05-09			
4.1.1 Update connectivity maps and identification of stakeholder community	WP4	2023-09-10	Delivered	2023-09-28	
4.1.2 Informative material based 4.2.2 published in the EMODnet CP	WP4	2024-05-10			

4.1.3 Informative material based on the 4.2.3 outcomes	WP4	2024-07-10			
4.1.4 Informative material based on the 4.3.1 outcomes	WP4	2025-05-09			
4.1.5 Publication of four Use Cases	WP4	2023-11-10 2024-05-10 2024-11-10 2025-05-10			
4.1.6 Publication of written documents	WP4	2023-05-10 to 2025-05-09			
4.2.1 Engagement plan for each RSC	WP4	2023-11-10			
4.2.2 Questionnaire to inform about what data & products EMODnet Biology offers and to collect stakeholder needs	WP4	2023-11-10			
4.2.3 Workshop with RSCs to understand major needs	WP4	2024-05-10			
4.2.4 Report on progress for the publication of fisheries survey data	WP4	2025-05-09			
4.3.1 Workshop with representatives of major recent and current European Research Projects and initiatives to share experience and knowledge in biodiversity monitoring and assessment and in data, tools and services	WP4	2024-11-10			
4.3.2 Participation in TG DATA meetings	WP4	2023-05-10 to 2025-05-09			
4.4.1 Ensure compatibility with INSPIRE Directive (data, metadata, data products)	WP4	2023-05-10 to 2025-05-09			
4.4.2 Report on the activities to support	WP4	2025-05-10			

EU Member States regarding their reporting obligations					
5.1.1 Streamlining semantic interoperability	WP5	2023-05-10 to 2025-01-10			
5.1.2 Integration of omics data into the data model	WP5	2024-09-10			
5.1.3 Roadmap for marine biodiversity data	WP5	2025-05-09			
5.2.1 M2M communication plan and solutions	WP5	2023-05-10 to 2025-05-09			
5.3.1 Operational web services	WP5	2023-05-10 to 2025-05-09			
5.3.2 Technology stack upgrades	WP5	2025-05-09			
5.3.3 Technical maintenance of procedures for ingestion of data from the data providers	WP5	2023-05-10 to 2025-05-09			
5.3.4 Development and implementation of procedures to publish omics data	WP5	2025-05-09			
5.4.1 Synchronisation of all data and data products metadata to the EMODnet CP catalogue (GeoNetwork)	WP5	2023-05-10 to 2025-05-09			
5.4.2 All data and products available through the EMODnet CP	WP5	2023-07-10 to 2025-05-09			
5.4.3 Participation in the EMODnet TWG meetings	WP5	2023-05-10 to 2025-05-09			
5.4.4 Maintenance and development of API used to query EMODnet Biology layers available via the EMODnet CP viewer	WP5	2023-05-10 to 2025-05-09			

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
Assessment of Performance (from last Phase IV QR)				
Task 2: Phase V position paper	Ongoing	Paper due to be submitted in late 2023	QR27	
Observations in view of Section 1.7 of the Tender Specifications on Performance and Quality Requirements				
Indicator 1: Status/Volume and coverage of total available acquired data	Pending	Clarification to what is required in practical terms		
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		
EM523: EMODnet Biology Phase IV layers for European Atlas of the Sea	Pending	Ticket created by Coordinator, was considered low priority due to centralisation work and subsequently the end of Phase IV and start of Phase V		End of Phase V
EM524: IUCN red list Near Threatened category layer	Pending	Ticket created by Coordinator, was considered low priority due to centralisation work and subsequently the end of Phase IV and start of Phase V		End of Phase V
EM577: Update of zooplankton layers in the European Atlas (if available)	Pending	Ticket created by the EMODnet Secretariat, was considered low priority due to centralisation work and subsequently the end of Phase IV and start of Phase V		End of Phase V

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
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 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.	Phase V	
Delays due to situation in the Ukraine	Ongoing	The partner in questions, UkrSCES is based in Odessa and contributes to WP4. 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	See Task 4	QR24	
Users do not have access to extended measurements and facts data	Pending	Due to centralisation users querying the EurOBIS observations layer only have access to occurrence data and no associated parameters.		

		Technical developments are needed to ensure that the Central Portal viewer replicates the same functionalities and provides access to the same data as via the Biology portal		
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3. Communication assets

A. (Co-)Authoried peer-reviewed publications in the quarter					
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No
10/07/2023	paper	Montanyès, M., Weigel, B. and Lindegren, M. (2023), Community assembly processes and drivers shaping marine fish community structure in the North Sea. <i>Ecography</i> e06642.		https://doi.org/10.1111/ecog.06642	yes
08/09/2023	Conference abstract	Perez Perez R, Beja J, Vandepitte L, Lipizer M, Weigel B, Vanhoorne B (2023) EMODnet Biology: Unlocking European marine biodiversity data. <i>Biodiversity Information Science and Standards</i> 7: e112147. https://doi.org/10.3897/biss.7.112147		https://doi.org/10.3897/biss.7.112147	yes

B. Other/non-peer reviewed types of publications (co-)authoried in the quarter					
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No
24/08/2023	Conference abstract	Ramos, E., Guinda, X., de la Hoz, C.F., Puente, A., Juanes, J.A. KEYNOTE “Macroalgal monitoring challenges under the climate-driven community changes”. https://epc8.sciencesconf.org/data/pages/EPC8_BOOK_of_ABSTRACTS_2.pdf			Yes

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

4. 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	<i>In-house systems</i>	Overall there was an increase in the data holdings for most sub-themes. A marked increase for reptiles and mammals due to the republication of several OBIS SEAMAP datasets (this OBIS node deals with data from these two groups of animals). The slight decrease in the holdings for fish and phytoplankton is due dataset updates. The updates to existing datasets can be of a diverse nature, addition or removal of records, improve interoperability or the quality of the existing data. To note that Caribbean datasets are reported in the Atlantic region.
What is your opinion on the data coverage within EMODnet for your thematic?	<i>NA</i>	A continuous effort is being made to republish data from the Caribbean (OBIS Caribbean) and on mammals and reptiles (OBIS SeaMap). Only data that fit the QC criteria implemented by the thematic lot are republished. We have identified several datasets that require updates, a report was shared with the OBIS node managers and it's on their workplan. Data will be republished as and when it becomes available. Efforts are being made (through the organisation of a workshop in QR27) to encourage Mediterranean countries to submit their data to EMODnet Biology.
B) Usage of data in this quarter	<i>NA</i>	There are no systems in place to collect metrics on data usage, therefore the only information we are able to provide is the total volume of data available for download (in number of records)
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	<i>In-house systems</i>	There was no change in the coverage of available data products as no new products were published since the last report

B) Usage of data products in this quarter	NA	There are no systems in place to collect metrics on data products usage
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	<i>In-house systems</i>	Data originated from submissions from consortium members, ad-hoc providers and also from two OBIS nodes that were approached. All except the ad-hoc providers submitted the data via web services
5.1 Daily number of page views of EMODnet Thematic entry page	Europa Analytics	The number of page views has slightly decreased in this quarter, when compared to the previous one. This could be due to the fact that the reporting period covered the European summer holiday period. On average, the thematic lot entry page had 8 page views per day
5.2 Quarterly total number of visitors, page views, unique page views and percentage of returning visitors	Europa Analytics	The number of returning visitors increased by 11.9% during the quarter, when compared to the previous one. All other metrics exhibit a decrease during the reporting period.

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

5. Annex: Other documentation attached

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

Dataset title	New/Update	Phase	Organisations	License
Loggerhead satellite tracking data from Rethymno, Crete, Greece	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution-NonCommercial (CC BY-NC)
Northern Cyprus 2004: Loggerhead & Green Turtles	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution-NonCommercial (CC BY-NC)
Northern Cyprus 2005: Loggerhead Turtles	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution-NonCommercial (CC BY-NC)
Northern Cyprus 2006-08: Loggerhead Turtles	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution-NonCommercial (CC BY-NC)
Grey seals GPS telemetry in Molene Archipelago	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution-NonCommercial (CC BY-NC)
Harbour seals GPS telemetry in Baie de Somme	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution-NonCommercial (CC BY-NC)
Harbour seals GPS telemetry in Baie des Veys	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution-NonCommercial (CC BY-NC)
Harbour seals GPS telemetry in Baie du Mont Saint-Michel	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution-NonCommercial (CC BY-NC)
OceanCare cetacean sightings in Sicily, Italy 2016-2019	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution-NonCommercial (CC BY-NC)
Satellite tracking of rehabilitated juvenile loggerhead, green, and Kemp's ridley turtles in the northeastern USA	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution-NonCommercial (CC BY-NC)
Aerial sightings of beluga in the Russian Arctic seas 2010	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution (CC BY)
Long-Distance Movement of a Sei Whale in the North Atlantic, 2005	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution (CC BY)
Plankton Diversity Along the Portuguese Coast in the 1970s	new	IV	Partner(IPMA)	Attribution-NonCommercial (CC BY-NC)
Acoustic detections in Northeast and South Atlantic	new	NA	Ad-hoc(OBIS-SEAMAP)	Attribution-NonCommercial (CC BY-NC)
Albunea paretii	new	V	Ad-hoc(OBIS Caribbean)	Attribution-NonCommercial (CC BY-NC)
ICES Vulnerable Marine Ecosystems	update	IV	Partner(ICES)	Attribution (CC BY)

Dataset title	New/Update	Phase	Organisations	License
Satellite-tracking of loggerhead sea turtles tracked from western Mediterranean	update	NA	Ad-hoc(Technical University of Valencia)	CC 0 (No Rights Reserved)
Status and occurrence of the non-indigenous <i>Mulinia lateralis</i> (Say, 1822) in the central Wadden Sea (southern North Sea)	update	NA	Ad-hoc(Senckenberg)	Attribution (CC BY)
SHARK - National marine environmental monitoring of Bacterioplankton in Sweden since 1989	update	V	Partner(SMHI)	CC 0 (No Rights Reserved)

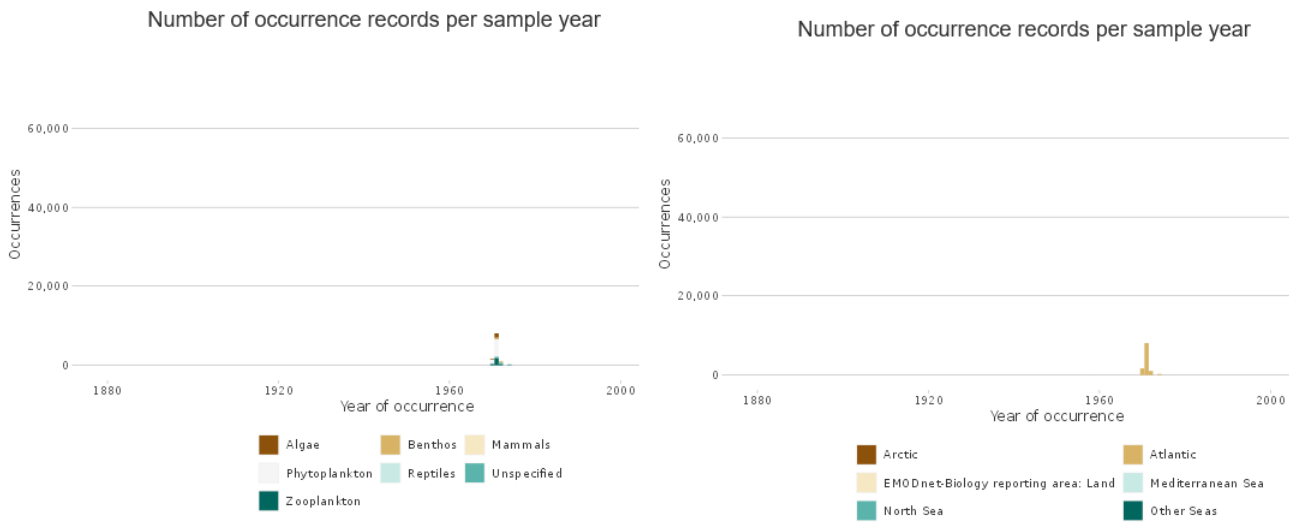


Figure 1. Occurrence distributions, for data published during the reporting period, per year of occurrence for the Functional group (Left image) and Sea region (Right image).

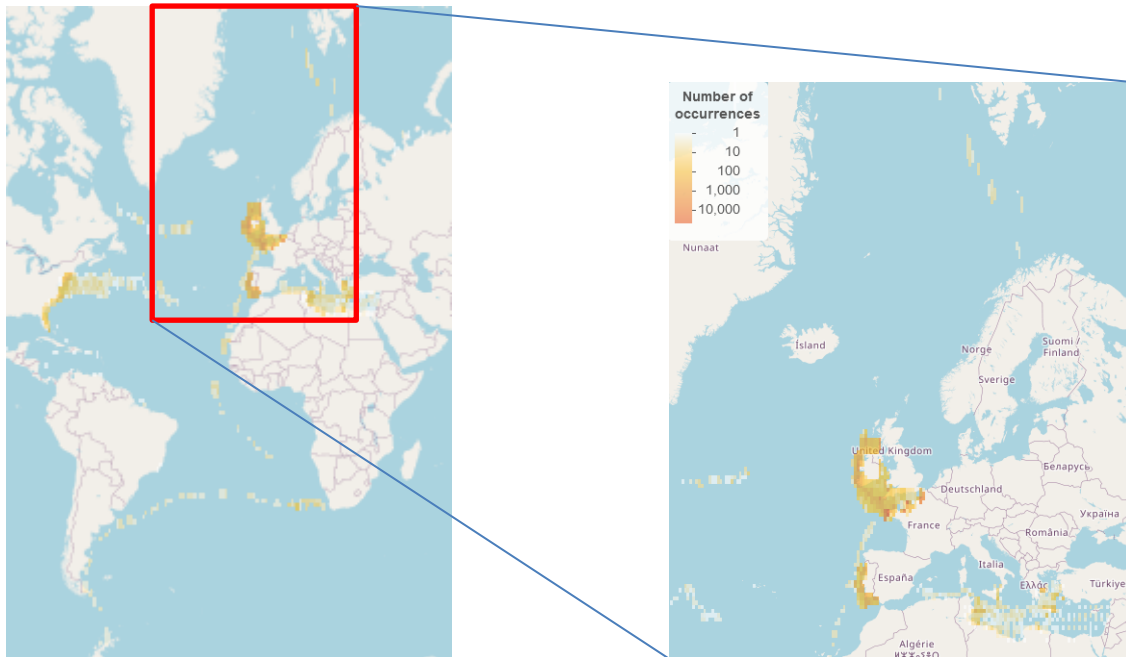


Figure 2. Occurrences distribution for data published during the reporting period. The map on the left includes all data and the one on the right is zoomed in for the European seas

Task 5. Contributing static content to dedicated spaces in the Central Portal

The table below captures information provided by the consortium members for the update of the connectivity map (see Task 5). It was decided to keep the map as simple as possible so that information was easy to understand, however the internal survey captured a wealth of information that is summarised and shared below. It includes a mapping of the members to TDWG (Biodiversity Information Standards), initiatives like SeaDataNet/SeaDataCloud, EuroGOOS/GOOS, LifeWatch ERIC and EMBRC ERIC as well as those that have connections with the European Environment Agency, European Technical groups and ICES Working groups. Note that the table includes only the organisations that provided information for the listed initiatives and that, despite guidance, some colleagues provided information at a personal level (groups they are involved in) and other at organisation level. A description of the acronyms used is included after the table for clarification purposes.

Partner	TDWG	SeaDataNet/ SeaDataCloud	EEA	EuroGOOS/ GOOS	LifeWatch ERIC	EMBRC ERIC	EU Technical groups	ICES Working Groups
Aarhus		Y						
CEFAS								DIG WGBIODIV WGECO
Deltares		Y	Y	Y	Y			
HCMR					Y	Y		

Partner	TDWG	SeaDataNet/ SeaDataCloud	EEA	EuroGOOS/ GOOS	LifeWatch ERIC	EMBRC ERIC	EU Technical groups	ICES Working Groups
ICES		Y	Y	Y			WGDIKE TGDATA TGNOISE TGSEABED	WGDEC WGBYC WGALES DIG SIPG ACOM SCICOM WGQUALITY WGRDBESGOV WGTAFGOV WGDG WGTFID WGMLEARN WGML WGSFDGOV
IEO				Y			MSFD CIS Expert Network on Pelagic Habitats	
IH Cantabria					Y			
ILVO							TG Seabeds	BEWG WGFBIT BIODIV
INRAE								WGCOMEDA WGIAB
IODE	Y			Y				
IPMA		Y		Y				WGZE WGIMT SCICOM SIPG AFWG BEWG IBTSWG MCWG JWGBIRD MGWG NWWG WGACEGG

Partner	TDWG	SeaDataNet/ SeaDataCloud	EEA	EuroGOOS/ GOOS	LifeWatch ERIC	EMBRC ERIC	EU Technical groups	ICES Working Groups
								WGTIFD WGVHES WGWIDE
MARIS-SDN		Y						
NIMRD		Y	Y	Y				
NIOZ								FBIT
OGS		Y		Y		Y		WGEUROBUS WGZE
SMHI	Y	Y	Y	Y		Y		MCWG WGBIODIV WGHABD WGIPEM WGOH WGPME WGZE
SYKE			Y					SCICOM BEWG
VLIZ	Y	Y			Y	Y	TG DATA	

EU Working Groups

WGDIKE: Working Group on Data, Information and Knowledge Exchange

TG DATA: Technical Group on Data

TG NOISE: Technical Group on Underwater Noise

TG SEABED: Technical Subgroup on seabed habitats and sea-floor integrity

ICES Working Groups

DIG: Data and Information Group

WGEUROBUS: Working Group "Towards a EUROpean OBservatory of the non-indigenous calanoid copepod Pseudodiaptomus marinUS"

WGZE: Working Group on Zooplankton Ecology

WGBIODIV: Working Group on Biodiversity Science

WGECO: Working Group on the Ecosystem Effects of Fishing Activities

MCWG: Marine Chemistry Working Group

WGBIODIV: Working Group on Biodiversity Science

WGHABD: IOC Working Group on Harmful Algal Bloom Dynamics

WGIPEM: Working Group on Integrative, Physical-biological and Ecosystem Modelling

WGOH: Working Group on Oceanic Hydrography

WGPME: Working Group on Phytoplankton and microbial ecology
AFWG: Arctic Fisheries Working Group
BEWG: Benthos Ecology Working Group
IBTSWG: International Bottom Trawl Survey Working Group
JWGBIRD: Joint OSPAR/HELCOM/ICES Working Group on Seabirds
MCWG: Marine Chemistry Working Group
MGWG: Methods Working Group
NWWG: Northwestern Working Group
WGACEGG: Working Group on Acoustic and Egg Surveys for small pelagic fish in Northeast Atlantic
WGAGFA: Working Group on Application of Genetics in Fisheries and Aquaculture
WGALES: Working Group on Atlantic Fish Larvae and Eggs Surveys
WGBEC: Working Group on Biological Effects of Contaminants
WGBIE: Working Group for the Bay of Biscay and the Iberian Waters Ecoregion
WGBIOP: Working Group on Biological Parameters Joint ICES/IOC/IMO
WGBOSV: Working Group on Ballast and Other Ship Vectors
WGCATCH: Working Group on Commercial Catches
WGCEPH: Working Group on Cephalopod Fisheries and Life History
WGCOMEDA: Working Group on Comparative Ecosystem-based Analyses of Atlantic and Mediterranean marine systems Working Group on Deep-water Ecology
WGDEEP: Working Group on the Biology and Assessment of Deep-sea Fisheries Resources
WGDIAD: Working Group on Science to Support Conservation, Restoration and Management of Diadromous Species
WGEA-WESS: Working Group on Ecosystem Assessment of Western European Shelf Seas
WGECO: Working Group on Ecosystem Effects of Fishing Activities
WGEUROBUS: Working Group on Elasmobranch Fishes Working Group entitled Towards a EUROpean OBServatory of the non-indigenous calanoid copepod Pseudodiaptomus marinUS
WGFAST: Working Group on Fisheries Acoustics, Science and Technology
WGFBIT: Working Group on Fisheries Benthic Impact and Trade-offs Joint ICES/FAO
WGFTFB: Working Group on Fishing Technology and Fish Behaviour
WGHABD: Joint ICES/IOC Working Group on Harmful Algal Bloom Dynamics
WGHANSA: Working Group on Southern Horse Mackerel, Anchovy, and Sardine
WGIAZOR: Working Group on Integrated Assessment of the Azores
WGIMT: Working Group on Integrated Morphological and Molecular Taxonomy

WGINOR: Working Group on the Integrated Assessments of the Norwegian Sea

Working Group on Introductions and Transfers of Marine Organisms

WGITMO: Working Group on Mackerel and Horse Mackerel Egg Surveys

WGMIXFISH-ADVICE: Working Group on Mixed Fisheries Advice

WGMIXFISH-METHODS: Working Group on Mixed Fisheries Advice Methodology

WGML: Working Group on Marine Litter

WGNARS: Working Group on the Northwest Atlantic Regional Sea

WGNEPS: Working Group on Nephrops Surveys Working Group on Operational oceanographic products for fisheries and environment

WGPDMO: Working Group on Pathology and Diseases of Marine Organisms

WGRDBESEST: Working Group on Estimation with the RDBES data model

WGRDBESGOV: Working Group on Governance of the Regional Database & Estimation System

WGSAM: Working Group on Multispecies Assessment Methods

WGSFD: Working Group on Spatial Fisheries Data

WGSMART: Working Group on SmartDots Governance

WGSPF: Joint ICES/PICES Working Group on Small Pelagic Fish

WGTIFD: Working Group on Technology Integration for Fishery-Dependent Data

WGVHES: Working Group on the Value of Coastal Habitats for Exploited Species

WGWIDE: Working Group on Widely Distributed Stocks

WGZE: Working Group on Zooplankton Ecology Benchmark

Task 8: Monitor quality/performance and deal with user feedback (WP1)

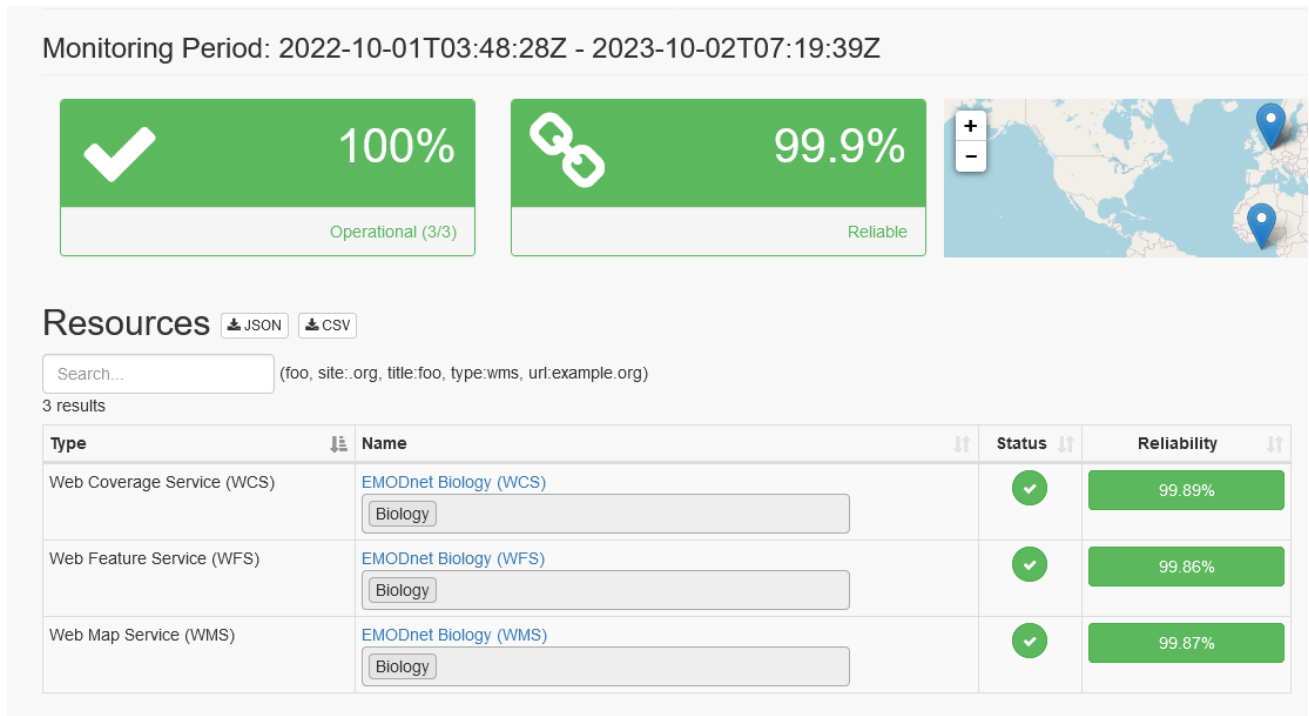


Figure 3. GeoHealthCheck monitoring for EMODnet Biology webservices. As it is not possible to select the reporting period in this tool, therefore the period between 2022-10-01 and 2023-10-02 is given.