



EMODnet Thematic Lot n° V – Biology

CINEA/EMFAF/2022/3.5.2/SI2.895681

Start date of the project: 10/05/2023 (24 months)

Centralisation Phase

Quarterly Progress Report (QR29)

Reporting Period: 01/04/2024 – 30/06/2024



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1. Highlights in this quarter

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

Between April and June, the second data harvest of 2024 was carried out, resulting in 16 new datasets, as well as 12 updates from partners and ad-hoc dataset submissions into EMODnet Biology. These data harvest has increased the EMODnet Biology occurrence data holding by approximately 300 thousand new records, bringing the total holding to 41 million biodiversity occurrences. Meanwhile, the available measurement or facts records are nearing 100 million (currently: 97 million).

Comparable to previous harvests, also this harvest was very heterogeneous in terms of temporal, spatial and taxonomic coverage. Machine-derived data are becoming more frequent in the harvests, stressing the importance of new observation techniques, their integration and wide acceptance into the marine biodiversity research domain, but above all the capability of data systems such as EurOBIS-EMODnet Biology's data infrastructure- to deal with them. Additionally, the team is working on finetuning the data infrastructure to include genetics data. This is a rather complex task, as it involves elaborate communication with the genomics community as well as GBIF, to make sure that all infrastructures and standards are compatible and can become widely accepted and used throughout the marine biodiversity community.

The work done towards improving FAIRness of the metadata records is ongoing and currently all metadata records have a description of the parameters that can be found in the data. These have, when applicable, a link to the controlled vocabulary to which they are mapped to. Further work will allow for improvements in the taxonomic coverage as well as inclusion of instruments used to collect and/or analyse the data. Further updates will be given in future reports.

The collaboration between EurOBIS and the GBIF network was taken to a next level, as EurOBIS has participated in the GBIF Europe and Central Asia Nodes meeting 2024 (26-29 May), as an observer. This has led to many new contacts and insights, which will benefit the EurOBIS data management team, and consequently EMODnet Biology, in the long run.

Continuous efforts are being made to mobilise data from the Caribbean area both from the OBIS and GBIF networks. This requires contact and follow-up with the Caribbean OBIS-node and the respective data providers within this node network. Progress on the actual data ingestion is a slow process, although the datasets of interest have already been identified and documented. During the reporting period, no Caribbean datasets were published.

A list of the published datasets and their details is available in the Annex, 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 Annex.

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

Throughout the reporting period, WP3 successfully organised an online cross-thematic lot meeting with EMODnet Geology, as planned in the previous period. The focus of the meeting was on discussing the development of new joint data products to be created during the upcoming phase. Initial project ideas were discussed, and both lots agreed to advance this joint initiative. Consequently, WP3 will organize a half-day online workshop in the first quarter of 2025 to take concrete steps toward a joint case study with the aim of linking geological sediment features with zoobenthic species trait distributions.

During the EMODnet Biology’s annual meeting in Constanta, Romania, in mid-April, WP3 held their fifth community call in which the progress of ongoing data products was discussed after being presented in the plenary of the meeting. All eight original data products under development have made significant progress and are on track to be finalised as planned. The community call also served as a platform to collaboratively explore the possibilities for implementing the visualisation of certain products in the Central Portal viewer. The ongoing products include; distribution maps of the Community Temperature Index (CTI) for approximately 100 macrophyte species, potentially including species-specific thermal affinities along the northern coast of Spain; spatio-temporal extensions of the existing phytoplankton biodiversity product; addition of zooplankton biodiversity and distribution maps in the Baltic Sea; linking seabed habitat maps to benthic species distribution across European seas (a cross-thematic lot product); an extended spatial and species-specific distribution of reef-building species in the North Sea; and fish trait distribution maps in the North Sea.

As back-to-back event after the annual meeting, EMODnet Biology hosted a workshop for Regional Sea Conventions (RSC), to which WP3 contributed by presenting a link between existing EMODnet Biology products and MSFD needs, i.e., highlighting different types of available products and mapping them to MSFD descriptors to support RSC work.

In May, members of WP3 attended the Scientific & Technical Workshop of the Digital Ocean Forum 2024 for the beta testing of EDITO Infra.

Three external products were published in late June. The first, developed by a team at AZTI, focuses on the [3D habitat suitability of commercial fish species from the Atlantic Ocean](#). This product covers a broad geographic area, including the eastern Atlantic, Arctic Ocean, and the Baltic, Mediterranean, and North Seas. It provides probability of occurrence data for 30 species at various depths in the water column. The two other products, created by a team at CEFAS, are a [Modelled projection of habitats for commercial fish around north western Europe under climate change scenarios from 2020 to 2060](#) and [Modelled projections of habitat for fish species feeding guilds around North-western Europe under climate change, 2010 to 2095](#). These products offer probability of occurrence data based on different timestamps and climate change scenarios (A1B, RCP4.5, or RCP8.5). All products are accessible via the EMODnet viewer, ERDDAP, and GeoServer instances, as well as the EMODnet catalogue.

Furthermore, the Phase IV manuscript by WP3 authors entitled *“Realising the potential of interoperable data products to improve the outlook for marine biodiversity: lessons from the European Marine Data and Observation Network”*, has now been finalised and submitted for peer review to the journal Marine Policy.

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

During the reporting period, a number of technical developments that contribute to improve the M2M transfer of data or products took place. These developments are listed below, alongside a short summary:

- Work started on defining adequate data and dataset statistics to include in the EMODnet CP
- An upgrade Geoserver to version 2.25.2 was performed to address a vulnerability in the previous version
- Upgraded IPT to version 3.0.4 which resolved two issues. This tool is developed and managed by GBIF and is used as a biodiversity community data sharing tool
- Upgraded the EurOBIS dataportal to Symphony 6.4, used as an API back-end for filtering the EurOBIS layer in the EMODnet CP viewer and download tool

- Fixed several issues in the Darwin Core (DwC) harvester application
- MetaGIS: added a number of fields related to EMODnet Biology and fixed issues that had been previously identified
- Ongoing discussion on which eDNA fields to include in the data infrastructure and how they should be included. As mentioned in Task 1 this work is done in line with discussions with GBIF and the wider biodiversity community to ensure that the data are using the same standards and are interoperable with those available from other aggregators.

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

The EurOBIS data layer filter has been expanded to reinstate the options that were available in the Biology portal before the centralisation:

- species traits
- start/end year
- dataset
- MeasurementOrFacts

The dependency from the Blue Cloud 2026 CSW service to publish metadata to the Central Portal was removed. The thematic lot is now using IMIS/marineinfo.org, with its INSPIRE view to ensure that all metadata records are available through the CP catalogue. This also exposes a more complete list of data layers, data product and datasets than before this sync was implemented.

A fix was implemented to ensure the display of individual metadata records in the Central Portal GeoNetwork catalogue is adequate (required UUID format + maximum one contacts)

The remaining developments were done on CP systems but they also affect the EMODnet Biology data/products therefore are included in the report.

A set up of a formal development environment for the EMODnet Central Portal (and Biology products): Geoserver, PostGreSQL and ERDDAP was created in order to test implementation ahead of final publication, thus preventing issues with the production instances of these systems.

A fix on the WMS/WFS cache clean-up script of the EMODnet CP viewer and an installation of the monitoring plugin on Geoserver was done. This plugin, once implemented will allow EMODnet Biology to capture usage information on the data/products exposed through the CP.

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

During the reporting period, two news items were published in the Central Portal, more specifically:

- On April 29th [EMODnet Biology Annual Meeting and Workshop with the Regional Sea Conventions](#)
- On May 31st [EMODnet Biology reflects on one year of Phase V](#)

Input was also provided for the June newsletter, published after the reporting period.

Alongside with these news items, four deliverables were published:

- [D1.4.1. Phase V Annual meeting minutes](#)
- [D4.1.2. Informative material based 4.2.2- stakeholder questionnaire \(Phase V\)](#)

- D4.1.6 Publication of written documents: Four leaflets with information targeted to the different Regional Sea Conventions, which can be found via the link <https://emodnet.ec.europa.eu/en/biology#Communication>
- [D4.2.4. Report on progress for the publication of fisheries survey data \(Phase V\)](#)

Work is ongoing to provide users with statistical information regarding the published data and datasets they originate from. Further updates will be given in future reports.

One use case focusing on [Modelling the distribution of marine mammals for conservation action](#) was published during the reporting period, this use case was delayed as information was requested from external parties to the project.

The thematic lot also provided information for the publication of another use case that covers three thematic lots (Bathymetry, Human Activities and Seabed Habitats), but not Biology. The use case [Using EMODnet marine data to correlate underwater sound with other environmental parameters](#) was published on 2024-05-21.

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

A workshop dedicated to: promote the awareness of EMODnet Biology data, tools and products and to collect information on how EMODnet can support Regional Sea Conventions activities related to environmental status assessment at sea basin scale was organized as hybrid (online and physical) event on the 18th April 2024. The workshop was attended by 35 participants, including representatives of Directorate-General for Maritime Affairs and Fisheries (DG MARE), Directorate-General for Environment (DG ENV), of all Regional Sea Conventions (OSPAR, HELCOM, Black Sea Commission, UNEP-MAP) and of EMODnet Seabed Habitats, beside EMODnet Biology. The workshop report is being jointly prepared by the partners of WP4 and will be published in the next reporting period.

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

In order to support open and FAIR data initiatives, the partnership has started the organization of the workshop dedicated to EU research projects to train different organizations in data management according to consolidated standard protocols.

During the reporting period, the thematic lot participated in the May 14th TG DATA meeting, the agenda is available via [this link](#). The thematic lot was also involved in the workshop on the state of Marine Biodiversity Harmonisation Monitoring. This event took place over 2.5 days in early June and counted with a number of experts from various EU funded projects, as well as European institutions.

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

No user enquiries or feedback was received during the period included in this report.

The continuous monitoring done on the Biology webservices, included in Figure 3 in the Annexes, allows for the conclusion that the services were 100% operational and reliable.

| 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 | Delivered | 2023-01-15 | |
| | | 2024-04-15 | Delivered | 2024-04-15 | |
| | | 2024-07-15 | Delivered | 2024-07-15 | |
| | | 2024-10-15 | | | |
| | | 2024-01-15 | | | |
| | | 2025-01-15 | | | |
| | | 2025-04-15 | | | |
| 2025-07-15 | | | | | |
| 1.1.2 Interim report | WP1 | 2024-05-10 | Delivered | 2024-06-28 | Extension requested to capture all activities |
| 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 and 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 | Delivered | 2024-05-09 | |
| | | 2025-05-09 | | | |
| 1.5.1 Participation in the EMODnet Steering Committee meetings | WP1 | 2023-05-10 to 2025-05-09 | Delivered Delivered | 2023-12-01 2023-04-29/30 | Other dates to be confirmed |
| 1.5.2 Participation in the EMODnet Open Conference | WP1 | 2023-05-10 to 2025-05-09 | Delivered | 2023-11-29/30 | |
| 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 | Delivered | 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 | Delivered | 2023-11-15 | |
| 2.4.2 Data training workshop for Mediterranean organisations | WP2 | 2023-11-10 | Delivered | 2023-11-13/14 | |
| 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 | Delivered Delivered | 2023-06-08 2023-09-14 | |
| | | 2023-12-10 | Delivered | 2023-12-04 | |
| | | 2024-03-10 | Delivered | 2024-03-04 | |
| | | 2024-05-10 | Delivered | 2024-04-16 | |
| | | 2024-08-10 2024-12-10 2025-03-10 | | | |
| 3.3.1 Liaison with external entities targeting seabird and cetacean migration outputs | WP3 | 2023-05-10 to 2025-05-09 | Ongoing | | |
| 3.3.2 Data product creation | WP3 | 2023-05-10 to 2025-05-09 | Ongoing | | |
| 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 | Delivered | | See Task 5 |
| 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 | Delivered | | See Task 5 |
| 4.1.5 Publication of four Use Cases | WP4 | 2023-11-10 2024-05-10 2024-11-10 2025-05-10 | Delivered Delivered | 2023-11-27 2024-05-28 | See Task 5 |

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|---|-----|--------------------------|-----------|------------|-----------------------------|
| 4.1.6 Publication of written documents | WP4 | 2023-05-10 to 2025-05-09 | Ongoing | | See Task 5 |
| 4.2.1 Engagement plan for each RSC | WP4 | 2023-11-10 | Delivered | 2023-10-03 | |
| 4.2.2 Questionnaire to inform about what data & products EMODnet Biology offers and to collect stakeholder needs | WP4 | 2023-11-10 | Delivered | 2023-10-04 | |
| 4.2.3 Workshop with RSCs to understand major needs | WP4 | 2024-05-10 | Delivered | | See Task 6 |
| 4.2.4 Report on progress for the publication of fisheries survey data | WP4 | 2025-05-09 | Delivered | | See Task 5 |
| 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 | Ongoing | 2024-05-14 | Other dates to be confirmed |
| 4.4.1 Ensure compatibility with INSPIRE Directive (data, metadata, data products) | WP4 | 2023-05-10 to 2025-05-09 | Ongoing | | |
| 4.4.2 Report on the activities to support EU Member States regarding their reporting obligations | WP4 | 2025-05-10 | | | |
| 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 | Delivered | | See Task 4 |
| 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 | Ongoing | 2023-10-18 2024-03-12 | Other dates to be confirmed |
| 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 | Ongoing | | See Task 4 |

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 |
| Task 2: Phase V position paper | Pending | Paper submitted to the Marine Policy journal. Further updates will be given in future reports | | |
| Report compliance, completeness and quality | | | | |
| Task 4: the Secretariat notes the work with Blue Cloud on DCAT. Can the thematic indicate if the outcome work will be transferable to the EMODnet central services, or will Blue Cloud be the only beneficiary | Resolved | The work done was not intended to be reused nor for Blue Cloud to benefit from it. It was a temporary solution to allow for the EMODnet Biology data metadata records to be available in the CP catalogue. In QR29, a more permanent solution was implemented and is independent from the Blue Cloud services. The metadata records are now being harvested directly from the VLIZ catalogue. See Task 4 for further details | | QR29 |
| Observations in view of Section 1.7 of the Tender Specifications on Performance and Quality Requirements | | | | |
| 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 | | |
| 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 | QR22 | |

| 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 |
| | | 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 | | |
| 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 | See Tasks 1 and 3 |
| Delays due to situation in the Ukraine | Ongoing | UkrSCES is slowly picking up the work and interacting again with the planned activities, including those related with data provision. Further updates will be given in subsequent reports | | |
| Users do not have access to extended measurements and facts data | Resolved | Changes were made to the data publication procedures to allow for the inclusion of extended measurements and facts data in the downloads. | | QR29, See Task 4 |

3. Communication assets

| 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 |
| | e.g. paper; conference proceedings; book chapter; ... | | | | |

| 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 |
| 31/05/2024 | Conference Abstract | Rallis I., Loulakaki M., Mavraki D. (2024). Citizen Science Platforms facilitate the rescue and standardization process for historical marine biodiversity data. 5th International Congress on Applied Ichthyology, Oceanography, and Aquatic Environment (HydroMediT 2024), Mytilene, Greece, May 30- June 2, 2024 | NA | NA | Yes |
| 27-29/05/2024 | Conference proceedings | . EMODnet Biology: an EU service for the marine biology community and beyond | ISSN 2039-6651 | https://doi.org/10.13127/MISC/80 | Yes |

| 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 | |
| | | . A Comprehensive Approach to Marine Biodiversity Data Validation: The Biocheck Tool Available in the conference proceedings: Simoncelli, S., Vernet, M., & Coatanoan, C. (2024). International Conference on Marine Data and Information Systems - Proceedings Volume. Miscellanea INGV, 80. | | | | |

For a comprehensive 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>Internal systems</i> | During the reporting period there was a data publication which contributed to a small increase in the available data for most functional groups, with only Angiosperms and Birds not having any changes. |
| What is your opinion on the data coverage within EMODnet for your thematic? | <i>Expert knowledge</i> | Data coverage trend remains similar to what was included in previous reports. The thematic lot is in communication with Caribbean providers through the OBIS and GBIF networks but data (re)publication is slow as not all data available through these aggregators comply with the EMODnet Biology quality criteria. The Data management team provides input for identified issues to be resolved, but this work needs to be done by the providers themselves. Additionally, various contacts have been established to encourage data submission from Mediterranean providers but they have mostly been unsuccessful and the consortium remains the main source of data for this area. |
| B) Usage of data in this quarter | <i>NA</i> | There are currently no systems in place to obtain this information |
| 2. Current status and coverage of total number of data products A) Volume and coverage of available data products | <i>Internal systems</i> | Three new external products were published this quarter. All products provide information on Fish distribution. The coverage assessment was not completed in time for this report, therefore table presents the information without considering the products. One product covers the Atlantic and the North Sea and the other covers all European Seas except the Black Sea as well as the Arctic and other seas (part of the South Eastern Atlantic) |
| B) Usage of data products in this quarter | <i>NA</i> | There are currently no mechanisms in place to obtain this information |

| Comments on the progress indicators in the indicators spreadsheet | | |
|--|-----------------------------|--|
| Progress indicator | Means of collecting figures | Comment |
| 3. Internal and external organisations supplying/approached to supply data and data products within this quarter | <i>Internal systems</i> | Most data submitted originated from consortium partners and a subset from external providers, including via EMODnet Ingestion. |
| 5.1 Daily number of page views of EMODnet Thematic entry page | Europa Analytics | There is no identifiable trend that can be extracted from the graphs |
| 5.2 Quarterly total number of visitors, page views, unique page views and percentage of returning visitors | Europa Analytics | There was a ~20% decrease in the number of visitors and unique page views but an increase in the number of returning visitors |

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 |
|--|------------|-------|------------------------|----------|
| 2014 Marine Biological Association (MBA) Yealm River non-native species timed search | Update | ✓ | partner (MBA) | CC-BY |
| Abundance data of planktonic cnidarians collected during the Camadas Finas III survey performed along the North Brazilian continental shelf and open ocean | New | NA | ad-hoc (IRD) | CC-BY |
| Casale Project (aggregated per 1-degree cell) | New | NA | ad-hoc (OBIS Seamap) | CC-BY-NC |
| Dutch long term monitoring of phytoplankton in the Dutch Continental Economical Zone of the North Sea (2000-2018) | Update | ✓ | partner (Deltares) | CC-0 |
| Epibenthos and demersal fish monitoring at long-term monitoring stations in the Belgian part of the North Sea | Update | ✓ | partner (ILVO) | CC-BY |
| Epibenthos and demersal fish monitoring in function of aggregate extraction in the Belgian part of the North Sea | Update | ✓ | partner (ILVO) | CC-BY |
| Epibenthos and demersal fish monitoring in function of dredge disposal monitoring in the Belgian part of the North Sea | Update | ✓ | partner (ILVO) | CC-BY |
| Epibenthos and demersal fish monitoring in function of wind energy development | Update | ✓ | partner (ILVO) | CC-BY |
| LifeWatch observatory data: Permanent Cetacean passive acoustic sensor network in the Belgian Part of the North Sea | Update | ✓ | Partner (VLIZ) | CC-BY |
| Littoral Monitoring Network of Cantabria (Fishes) | New | ✓ | partner (IH Cantabria) | CC-BY |
| Littoral Monitoring Network of Cantabria (Invertebrates) | Update | ✓ | partner (IH Cantabria) | CC-BY |
| Loggerheads in the Tyrrhenian Sea (aggregated per 1-degree cell) | New | NA | ad-hoc (OBIS Seamap) | CC-BY-NC |
| MAREANO - Base-line mapping of epifauna obtained with Beamtrawl | Update | ✓ | partner (IMR) | CC-BY |
| MAREANO - Base-line mapping of fauna obtained with grab | Update | ✓ | partner (IMR) | CC-BY |
| MAREANO - Base-line mapping of hyperbenthic crustacea fauna obtained with RP-sledge | Update | ✓ | partner (IMR) | CC-BY |
| MILZON - BENTHOS | New | ✓ | partner (Deltares) | CC-0 |
| Northern Cyprus 2010 (aggregated per 1-degree cell) | New | NA | ad-hoc (OBIS Seamap) | CC-BY-NC |
| Northern Cyprus 2012 (aggregated per 1-degree cell) | New | NA | ad-hoc (OBIS Seamap) | CC-BY-NC |
| Red king crab survey data from Finnmark Northern Norway in the period 1994 -2016 | Update | ✓ | partner (IMR) | CC-BY |
| Romanian Black Sea Phytoplankton data from 2001 to 2005 | New | ✓ | partner (NIMRD) | CC-BY |

| | | | | |
|--|-----|----|-----------------------|----------|
| Romanian Black Sea Zooplankton data from 1981 to 2000 | New | ✓ | partner (NIMRD) | CC-BY |
| Romanian Black Sea Zooplankton data from 2011 to 2015 | New | ✓ | partner (NIMRD) | CC-BY |
| Rotterdam Harbour sampling 2nd Maasvlakte | New | ✓ | partner (Deltares) | CC-0 |
| SHARK - National marine environmental monitoring of Harbour porpoise in Sweden | New | ✓ | partner (SMHI) | CC-BY |
| SHARK - National marine environmental monitoring of Seal pathology in Sweden | New | ✓ | partner (SMHI) | CC-BY |
| WWF Italy (aggregated per 1-degree cell) | New | NA | ad-hoc (OBIS Seamap) | CC-BY-NC |
| WWF Italy - Manfredonia (aggregated per 1-degree cell) | New | NA | ad-hoc (OBIS Seamap) | CC-BY-NC |
| Zakynthos 2007: Loggerhead Turtles (aggregated per 1-degree cell) | New | NA | ad-hoc (OBIS Seamap) | CC-BY-NC |

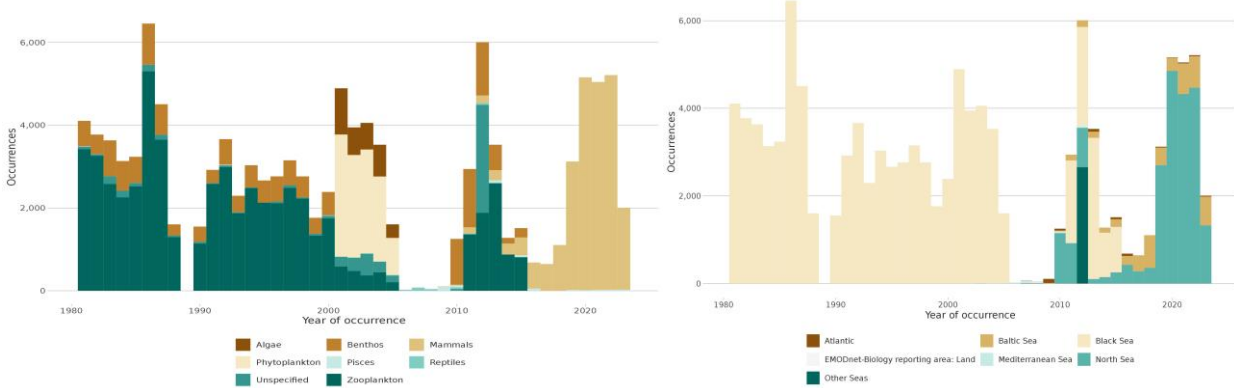


Figure 1. Occurrence distributions, for data published during the reporting period, per year of occurrence of the Functional group (left) and Sea region (right).

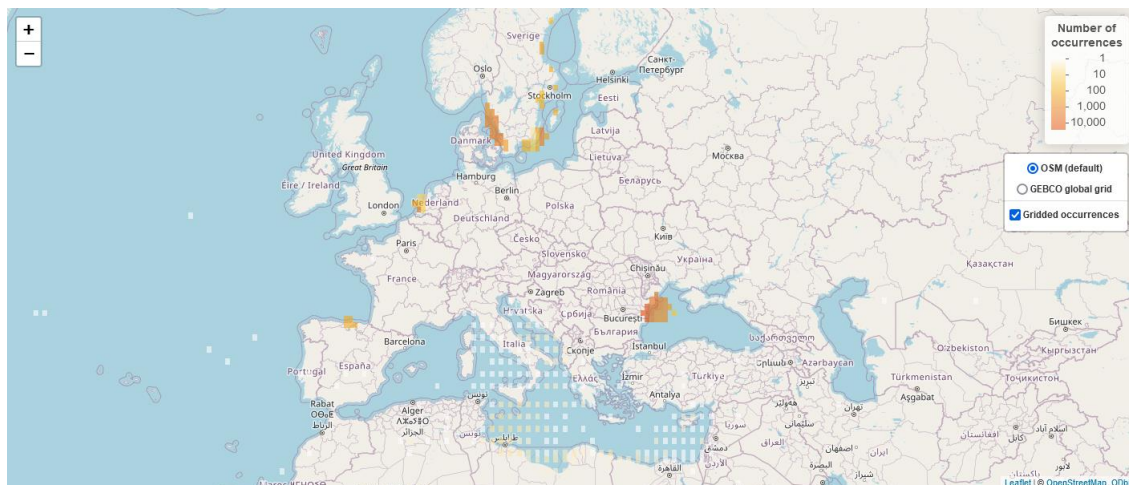


Figure 2. Occurrences distribution for data published during the reporting period. Image is centered in Europe even though published data covers other sea regions

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

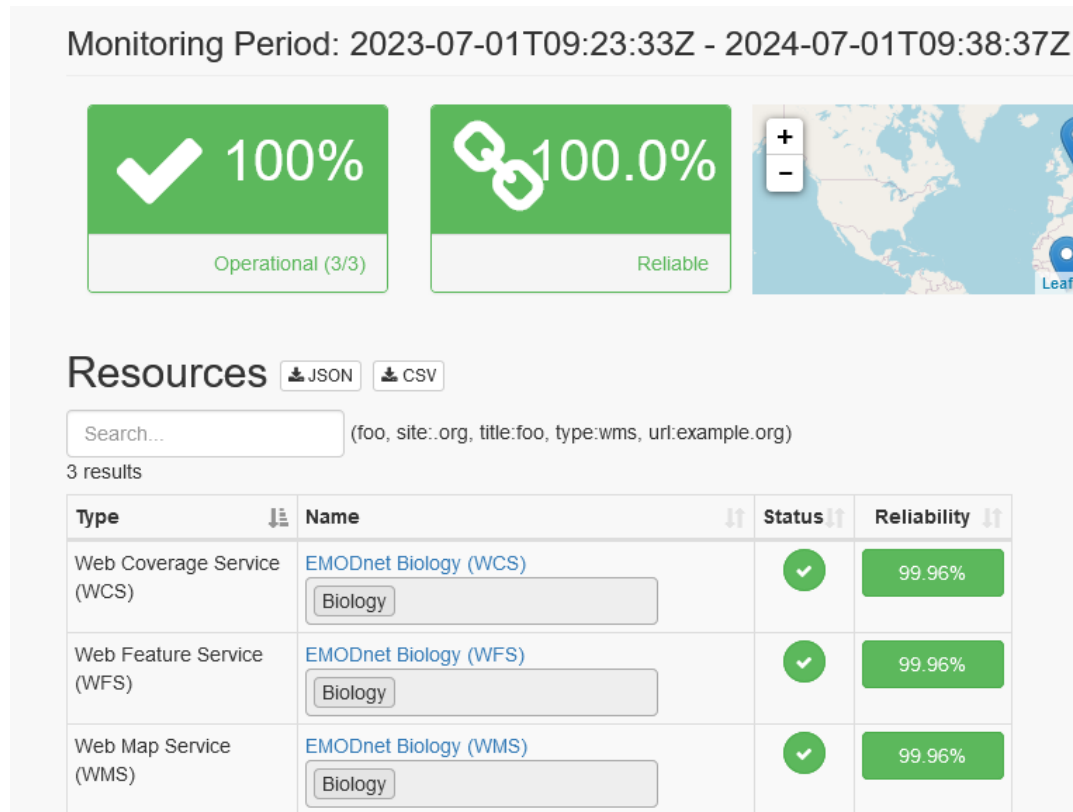


Figure 3. EMODnet GeoHealthCheck. The tool does not allow for a specific period section, therefore the image includes the monitoring from 2023-07-01 to 2024-07-01