



EMODnet



European Marine
Observation and
Data Network

EMODnet Thematic Lot n° VI – Biology

EMFF/2019/1.3.1.9/Lot 6/SI2.837974 - EMODnet Biology

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

EMODnet Phase IV

**Deliverable 2.2: Technical implementation of data flows
for the new project partner(s)**



Disclaimer¹

The information and views set out in this report are those of the author(s) and do not necessarily reflect the official opinion of the EASME or of the European Commission. Neither the EASME, nor the European Commission, guarantee the accuracy of the data included in this study. Neither the EASME, the European Commission nor any person acting on the EASME's or on the European Commission's behalf may be held responsible for the use which may be made of the information.

Document info

Title [ref]*	D2.2. Technical implementation of data flows for the new project partner(s)
WP title [ref]*	WP2: Access to marine biological data
Task [ref]*	Task 1: Maintain and improve a common method of access to data held in repositories.
Authors [affiliation]	Leen Vandepitte (VLIZ) leen.vandepitte@vliz.be Dimitra Mavraki (HCMR) dmavraki@hcmr.gr
Dissemination level	Public
Submission date	27/10/2021
Deliverable due date	29/10/2021

¹ [The disclaimer is needed when the document is published](#)

Contents

D2.2: Technical implementation of data flows for the new project partner(s).....	4
1 General data flow	4
2 New data partners.....	6
2.1 Instituto de Hidráulica Ambiental de la Universidad de Cantabria (IH Cantabria).....	6
2.2 IOC Project Office for IODE.....	6
2.3 Ukrainian Scientific Center of Ecology of Sea (UkrSCES).....	6
3 Changes in the WP ‘Access to marine biological data’ partnership compared to the previous project phase.....	7
3.1 Hellenic Centre for Marine Research (HCMR).....	7
3.2 National Institute for Marine Research and Development (NIMRD).....	7
4 Summary overview of all WP2 partners & their data delivery mechanism(s).....	8

D2.2: Technical implementation of data flows for the new project partner(s)

During the first six months of EMODnet Biology Phase IV, the data management teams at VLIZ and HCMR have been in contact with all data partners involved in WP2, to discuss the data flow to VLIZ, for integration into EurOBIS and EMODnet Biology.

1 General data flow

The schematic presentation of the general data flow within EMODnet Biology is shown in Figure 1. A large part of the data preparation is done by each of the EMODnet Biology data partners, where they format the data according to DarwinCore OBIS ENV format. During formatting, they also follow the defined quality control and standardization steps, after which the data are uploaded to the Integrated Publishing Toolkit (IPT). Once the data are in IPT, the EMODnet Biology data management team is informed, and final checks are made, issues arising during this step are resolved in collaboration with the data partners. These final checks are done through the LifeWatch & EMODnet Biology Quality Control (QC) tool (<https://rshiny.lifewatch.be/BioCheck/> and <https://github.com/EMODnet/EMODnetBiocheck>), accessible to the data partners, who are recommended to run their data through this tool, to identify any issues and resolve them before final submission. Once the data pass the integrity, format and visual checks, they are uploaded into EurOBIS, the data infrastructure behind EMODnet Biology. Once the data are added to the EurOBIS database, they will be made available to the users through EMODnet Biology. Data are also shared with the Ocean Biodiversity Information System (OBIS) and the Global Biodiversity Information Facility (GBIF), which represent alternative ways for users to access (part of) the data.

EMODnet Biology users are recommended to access the data through the EMODnet Biology services, as this gives access to the most complete version of the data. Some partners do not use the IPT route, but deliver their data through web services. Although data arrive through a different route, the quality control and standardization steps remain similar.

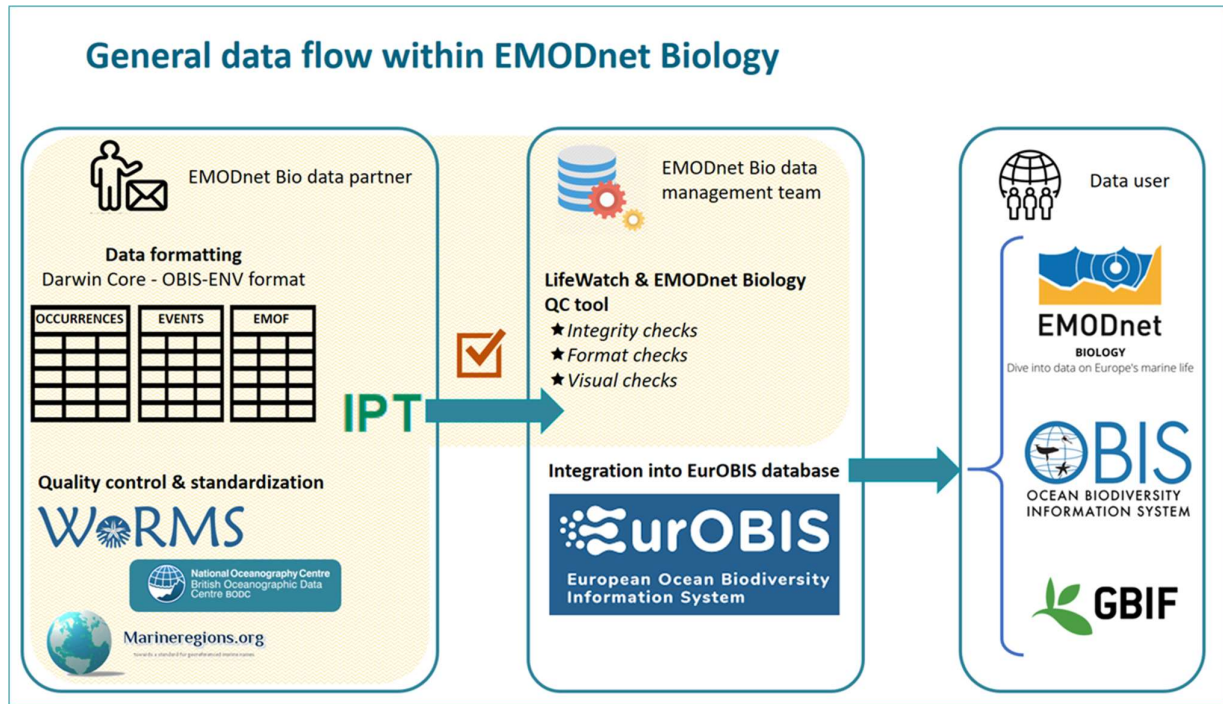


Figure 1: Generalized Data Flow Presentation. The highlighted area represents the area of collaboration between the EMODnet Biology data partner and the data management team. From within the EuroOBIS database, data are made available to EMODnet Biology, OBIS & GBIF simultaneously, although visibility of the data in OBIS and GBIF depends on their harvesting-cycles.

In the change from Phase III to Phase IV, three new data partners were added to WP2 - Access to marine biological data: Instituto de Hidráulica Ambiental de la Universidad de Cantabria (IH Cantabria), the IOC Project Office for IODE (International Oceanographic Data and Information Exchange) and the Ukrainian Scientific Center of Ecology of Sea (UkrSCES).

None of these partners are completely new to EMODnet Biology, nor to data management and how access to marine biological data can be accomplished and improved. They have all been involved in one or more of the previous EMODnet Biology Phases.

For all other partners involved in WP2, the established data flow mechanisms of the previous Phase(s) are continued, and - where relevant or needed - will be fine-tuned in the course of this Phase. Information on the data flow of these partners can be found in [D2.4: Evaluation, definition and implementation of partner-specific data flows](#) published in Phase III. The majority of the partners now deliver data through the Integrated Publishing Toolkit (IPT), one of the preferred and most automated and quality-controlled ways to make data available in EuroOBIS and accessible through EMODnet Biology.

2 New data partners

This section lists the institutes/organizations which are new partners within the work related to data delivery and accessibility within Phase IV of the EMODnet Biology project, identified as WP2 - Access to marine biological data.

2.1 Instituto de Hidráulica Ambiental de la Universidad de Cantabria (IH Cantabria)

IH Cantabria has previously received a data grant in EMODnet Biology Phase III (data grant call of 2018-2019). Within this data grant, two datasets were delivered through IPT. During their data grant work, this team got acquainted with the DarwinCore format and the quality control steps required, prior to submitting data to EMODnet Biology.

During Phase IV, IH Cantabria will deliver a total of three new datasets, following the same data flow mechanisms as during their data grant work.

2.2 IOC Project Office for IODE

The IOC Project Office of the International Oceanographic Data and Information Exchange (IODE) programme is also the host institute of the Ocean Biodiversity Information System (OBIS). As the Flanders Marine Institute (VLIZ) is the host institute of the European node of OBIS (EurOBIS) and the project coordinator of EMODnet Biology, there is a long standing, close collaboration between VLIZ and IODE.

Through this partnership, support is given to “OBIS core system” activities by the EurOBIS and EMODnet Biology Data Management Team at VLIZ, enhancing the overall collaboration and data flows. IODE will - through its OBIS network - continue to inform VLIZ on potentially relevant datasets which might not yet be on the data management team’s radar. VLIZ on the other hand ensures a continuous data flow, to OBIS, of the data made accessible by the EMODnet Biology data partners, through means of IPT.

2.3 Ukrainian Scientific Center of Ecology of Sea (UkrSCES)

As IH Cantabria, the Ukrainian Scientific Center of Ecology of Sea (UkrSCES) has received a data grant in EMODnet Biology Phase III (data grant call of 2019-2021). Through this data grant, twenty-eight datasets were proposed for delivery. Due to the COVID-19 pandemic, the submission of some of these datasets was delayed beyond the end of Phase III, but is - at the time of the writing of this report - were all finalized and available via EMODnet Biology.

During Phase IV, eleven new datasets will be provided.

UkrSCES is also the host institute of the Black Sea node of OBIS. This implies that all data delivery will go through IPT, conform to the procedures required on both EurOBIS/EMODnet Biology and OBIS level, ensuring thorough quality control, standardization and smooth flow of all the data.

3 Changes in the WP ‘Access to marine biological data’ partnership compared to the previous project phase

In the transfer from Phase III to Phase IV, some changes have happened in the organization of the Work Packages (WP) related to data management. The most prominent change was the merging of the WP related to the access of marine biological data in general, and the work package focussing on archaeological data.

Two partners previously linked to the Phase III WP on data archaeology have now become data partners under WP2. They are shortly described below, although they are no strangers to the EMODnet Biology project consortium.

3.1 Hellenic Centre for Marine Research (HCMR)

HCMR is the host Institute of the Mediterranean node of the Ocean Biodiversity Information System, MedOBIS. The MedOBIS data management team is thus very familiar with the general data flow from within the Mediterranean region towards EurOBIS/EMODnet Biology and OBIS, and has vast expertise in the processing, formatting and quality controlling of both recent and historical data.

During Phase III, the Hellenic Centre for Marine Research was the lead of the Work Package on Data Archaeology. With the start of Phase IV, the work dedicated to Data Archaeology was merged with the general WP2 on data access to marine biological data, introducing HCMR as co-lead of this W.P.

All data captured by HCMR through the MedOBIS network are shared with EurOBIS and EMODnet Biology through IPT. As MedOBIS is a dynamic network, collaborating with a variety of institutes and organizations within the Mediterranean area, no inventory of datasets to be expected could be provided, although it is a certainty that data will regularly flow from HCMR - MedOBIS to EurOBIS/-EMODnet Biology.

3.2 National Institute for Marine Research and Development (NIMRD)

In Phase III, the National Institute for Marine Research and Development (NIMRD) was a data partner both under WP2 (Access to Marine Biological Data) and WP3 (Data archaeology).

During Phase III, the data management work at NIMRD was heavily supported by the Hellenic Centre for Marine Research (HCMR) for the historical datasets and the Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS) for the recent datasets.

Within Phase IV, NIMRD will evolve towards more control and management of their own datasets, with an expectation that less assistance from other data partner institutes will be needed. The processing of the datasets will follow a similar approach as for the other data partners, delivery of data through IPT.

Three new datasets are to be expected from NIMRD within Phase IV.

4 Summary overview of all WP2 partners & their data delivery mechanism(s)

This table provides an overview of all current WP2 partners, the agreed data sharing mechanism and the number of new and/or updated datasets they will provide during this phase. Four partners cannot provide an exact number of datasets that will be delivered (VLIZ, HCMR, MBA & MARIS). They provide a continuous data flow to EMODnet Biology based on their own network and initiatives they are involved in. Several data partners have also indicated they might have access to more datasets than what they have currently inventorized, so the numbers in the table below should be seen as the minimum number of submissions.

Table 1: Overview of all current WP2 partners

Partner	Partner acronym	Data delivery mechanism	New datasets	Dataset updates
Suomen ympäristökeskus - Finnish Environment Institute	SYKE	web services	4	3
Institut Français de Recherche pour l'Exploitation de la Mer	IFREMER	SDN	-	5
Royal Netherlands Institute for Sea Research	NIOZ	IPT/SDN	8	-
Instituto de Hidráulica Ambiental de la Universidad de Cantabria	IH Cantabria	IPT	3	-
Havforskningsinstituttet Institute of Marine Research	IMR	IPT	-	10
National Institute for Marine Research and Development "Grigore Antipa"	NIMRD	IPT	3	-
Swedish Meteorological and Hydrological Institute	SMHI	IPT	-	12
Ukrainian Scientific Centre of Ecology of the Sea	UKRSCES	IPT	11	-
Aarhus University, DCE-Danish Centre for Environment and Energy	Aarhus University	SDN	1	2
Instituto Português do Mar e da Atmosfera	IPMA	IPT	8	5
Deltares	Deltares	IPT	6	2
International Council for Exploration of the Sea	ICES	web services	-	25

Partner	Partner acronym	Data delivery mechanism	New datasets	Dataset updates
Instituto Español de Oceanografía	IEO	IPT	-	15
Istituto Nazionale di Oceanografia e di Geofisica Sperimentale Trieste	OGS	IPT	6	1
Institute for Agricultural and Fisheries Research	ILVO	IPT	-	11
Flanders Marine Institute	VLIZ	IPT	TBD	TBD
Hellenic Centre for Marine Research	HCMR	IPT	3 + TBD	TBD
Marine Biological Association	MBA	IPT	TBD	TBD
Marine Information Service	MARIS	SDN	TBD	TBD
	Total		53	91