



EMODnet



European Marine
Observation and
Data Network

EMODnet Thematic Lot n° V - BIOLOGY

EASME/EMFF/2016/1.3.1.2- Lot 5/SI2.750022 – Biology

Start date of the project: 19/04/2017- (24 months)

EMODnet Phase III – Quarterly Progress Report (7)

Reporting Period: 01/10/2018 – 01/01/2019



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1 Highlights during the reporting period

*Provide a short summary of the key achievements and/or events of interest to a wider audience within this reporting period you wish to highlight. **Please make sure that progress in each of the tasks specified in Section 1.4.1 of the Tender Specifications is covered. For those tasks not experiencing significant progress, please state so.** In addition, you can (but not required) also consider the indicators or any other of the reporting sections.*

Task 1: a common method of access to data held in repositories (WP2; WP3)

On 17 October 2018, EMODnet Biology launched the online course on the IODE Oceanteacher platform on how to contribute data to EMODnet Biology. This course is an introduction to the EMODnet Biology and EuroBIS data format that guides you through all the necessary processing steps, from dataset describing to publishing and quality checking. The online qc tool has been powered by the Lifewatch Marine VRE. The associated data partners participated in the online training course at <https://classroom.oceanteacher.org/course/view.php?id=328>. One webex meeting was hosted 2018-10-15 to explain the course setup to all partners and two follow up webex meetings were held on 2018-10-16 and 2018-10-18 to provide assistance.

Together with the course, EMODnet Biology launched an online QC tool for biological datasets published through During this phase important improvements were made to the QC tool available at <http://rshiny.lifewatch.be/BioCheck/> and <https://github.com/EMODnet/LifeWatch-EMODnet-Biology-QC-tool>. including the additions of new features (include tree hierarchy, taxonomical overview, add preferred units to parameter overview).

at:

The December 2018 data harvest gave access to 7 new datasets one one updated dataset:

New datasets

- Mesozooplankton in the South Adriatic Sea (MEDGES Experiment) in March 2013 (239 occurrence records - OGS)
- Macrobenthos monitoring in the Mar Piccolo of Taranto in June 2013 and April 2014 (179 occurrence records - OGS)
- Macrobenthos collected in the Po River Delta - North Adriatic Sea (RITMARE Project) in December 2014 (215 occurrence records - OGS)
- Zooplankton monitoring in the Trieste harbour, North Adriatic Sea (Port Authority) in March 2015 (195 occurrence records - OGS)
- Macrobenthos monitoring in the Trieste harbour, North Adriatic Sea (Port Authority) in June 2013 and March 2015 (352 occurrence records - OGS)
- Incidental sightings of marine mammals (31081 occurrence records - IMR)
- Finnish Baltic Sea zooplankton monitoring (47636 occurrence records - Syke)

Update

- Finnish Baltic Sea benthic monitoring, POHJE database (+5000 occurrence records - SYKE)

These newly harvested data will become available for download when the new version of the download toolbox is launched. They are already available through the geoserver WFS service.

This harvest completes the data delivery from OGS, delivery by NIMRD was completed earlier. Other providers have been prompted to not meet the data delivery deadline.

Task 2: products constructed from one or more data sources (WP4)

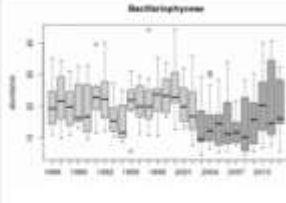
EMODnet Biology unveiled a new and innovative showcase of exemplar marine biological data products. Launched on 19 December 2019, the European Atlas of Marine Life presents a range of data products including tools, models and maps, illustrating the diverse range of outputs that can be generated from EMODnet Biology hosted data. The available data and products are structured around the biological Essential Ocean Variables (EOVs) facilitating global interoperability and contributing to the aims of UN Sustainable Development Goal 14, the relevant Aichi Biodiversity Targets of the Convention on Biological Diversity and the activities focused around the UN Decade of Ocean Science (2021-2030).

Hosted on the EMODnet Biology website (<http://www.emodnet-biology.eu/about-atlas>) the products are the result of two years of focussed activity within Phase 3 of EMODnet Biology. Through an iterative process of end-user engagement and focussed technical workshops the initial 14 data products (<http://www.emodnet-biology.eu/toolbox/en/gallery/>) represent a wide-range of demand-led data products, that help to answer fundamental and policy-driven questions related to managing the natural and anthropogenic impacts in European waters.

Immediately available on the release of the Atlas will be a number of products, including abundance maps and trends for Atlantic Copepods, fish, birds, mammals, zooplankton and phytoplankton species, traits-based maps of macrobenthic and fish functional groups, an analysis of thermal niches occupied by marine species groups, and maps showing the occurrence of marine invasive species in European waters, along with many more. This gallery of products will continue to be added to, as new and novel analyses take place by EMODnet Biology partners and the wider community.

EMODnet Biology is committed to supporting the FAIR principles (Findable - Accessible - Interoperable - Reusable) through the data and resulting products. As such all data is open and code and methodologies used in the creation of the data products are hosted in the EMODnet shared software repository (<https://github.com/EMODnet>), from this site the data product's code can be accessed and shared with the community, ensuring transparency in the creation process and increasing trust in the resulting products.

The volume of data and range of products accessible through the Atlas of European Marine Life will continue to grow. The next two years will see a continuation of the EMODnet Biology project, and further engagement with key stakeholders in the 'triple helix' of academia, industry and the policy sectors. This ongoing, collaborative approach will ensure the relevance of key products to address societal challenges and support sustainable blue growth both within Europe and globally.

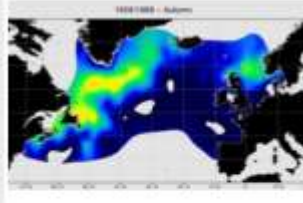


Bacteriophage

Phytoplankton community analysis in the Northern Adriatic

Source: EMODnet Biology, OGS & Deltaris

[Visualize](#)

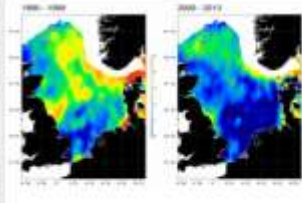


1980-1985 - Atlantic

Gridded abundance maps of most common Atlantic Copepod species

Source: EMODnet Biology, VLIZ, Ulg And MBA

[Visualize](#)

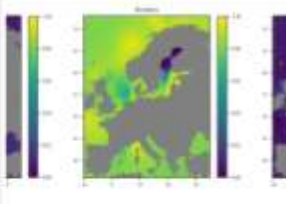


1980-1989 **2000-2013**

Trends in abundance of fish species in the North Sea

Source: EMODnet Biology, ICSS

[Visualize](#)

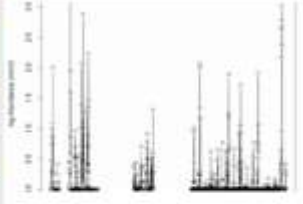


Macrobenthos

Distribution of macrobenthos living modes in European seas

Source: EMODnet Biology

[Visualize](#)




Zooplankton

Long term zooplankton time series analysis from the West Med Sea

Source: CHR5, Deltaris

[Visualize](#)

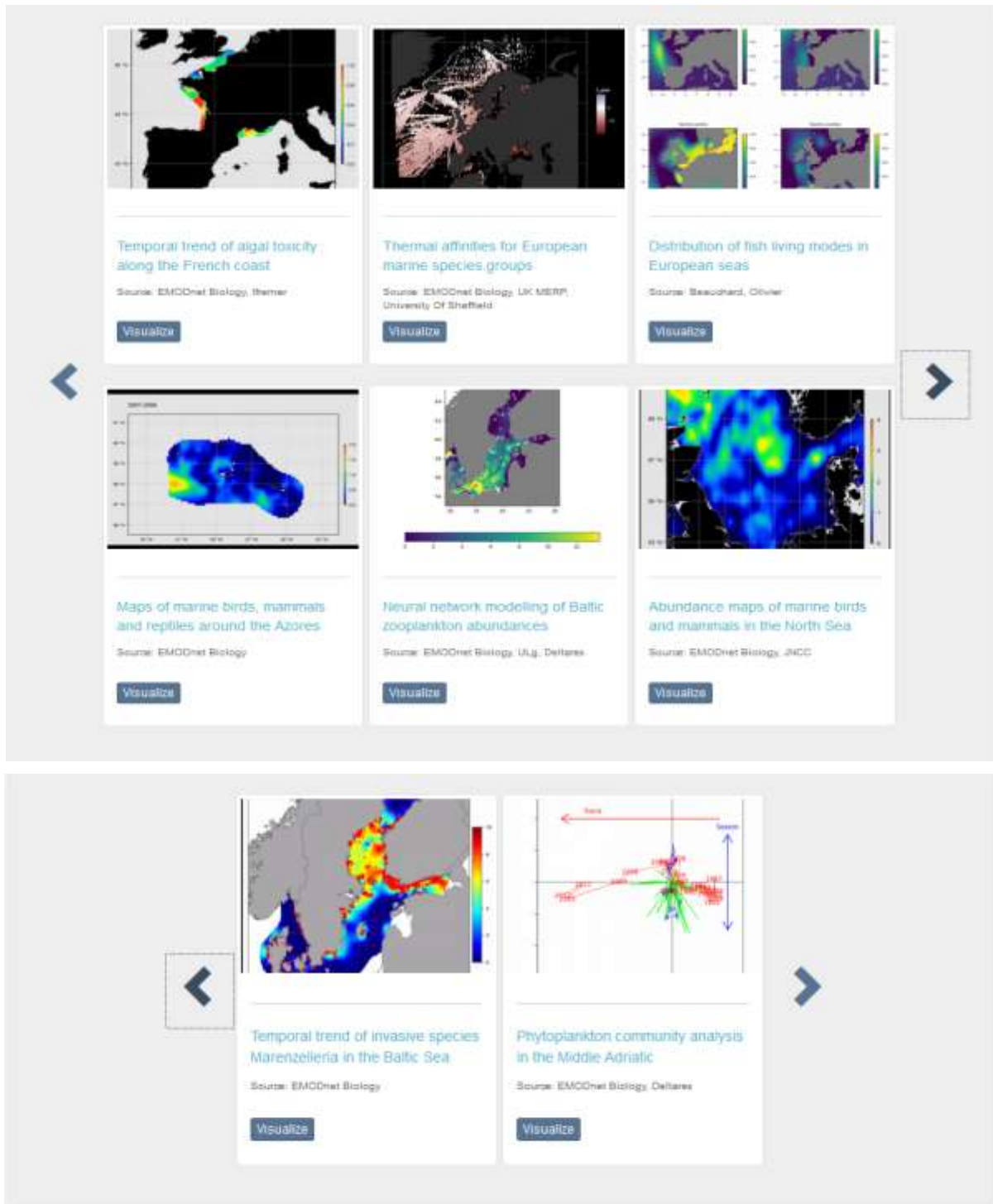


Invasive Species

Invasive marine species occurring in European marine harbours

Source: EMODnet Biology

[Visualize](#)



Product Gallery EMODnat Atlas of Marine Life: <http://www.emodnet-biology.eu/about-atlas>

Task 3: Machine-to-machine connections (WP6)

- Within this reporting period, significant content has been published on the EMODnet Github repository.

<https://github.com/search?q=topic%3Abiology+org%3AEMODnet+fork%3Atrue>

This repository contains free access to the code on how to create the Atlas Data Products.

- An R package to download and process the EMODnet Biology observation data is currently being developed
- A new version of the download toolbox is currently being finalized. The new features will be:
 - Select by data precision (Taxonomic rank, Data precision, Coordinate uncertainty, Instrument information present)
 - Use parameter filters (Administration and dimensions, Biota Descriptors, Biota Quantifications, Currents, sea level and waves, Dissolved gases, Gravity, magnetics and bathymetry, Meteorology, Optical properties, Rock and sediment physical properties, Water column temperature and salinity)
 - Possibility to download data including:
 - Basic Occurrence Data
 - Full Occurrence Data
 - Full Occurrence Data and Parameters (include all available measurements)
 - The data will be available in one flattened table where additional measurements are added as extra columns. Users will receive an email with a link to the location where the dataset will be available for download

Task 5: coherence with efforts of regional sea conventions (WP5)

The second end user workshop will take place in Cultural Centre de Belém, Lisbon, Portugal on the 15th May 2019. Representatives from all the different regional sea commissions will be invited to attend this one day End-User Event, entitled: Essential Biological Data Products - A Showcase for the European Atlas of Marine Life An EMODnet Biology. There will be presentation on the Atlas products, how input from the regional seas was incorporated and what futures priorities would be in relation with the biological data products.

EMODnet Biology, and its link with INSPIRE has been presented during the TGDATA Meeting (December 2018). The result of this meeting was to propose DwC as a good practice to manage biodiversity data. That can then be endorsed by INSPIRE and member states would be able to adopt DwC to publish MSFD datasets. In parallel, we could further investigate on how to map Darwin Core encodings with O&M (Observation and Measurements).

Task 6: interoperability with non EU organizations (WP5)

Outreach and uptake activity within Work Package 5 progressed during this period, however there were no specific deliverables during this period. Work Package 5 members participated in the Data Products workshop held in Oostende which was led by WP4. The development of the demonstration products for the inclusion of the Atlas of Marine Life was informed by the WP5 London workshop and subsequent WP5 activities. This approach and further detail have been captured in Deliverable D5.2 which will be submitted for publication at the end of February 2019. Whilst the delay to this deliverable is unfortunate, it has ensured we can produce a higher quality paper that provides specific rationale and approach in the development of the data products.

WP5 also participated in the European Ocean Observing System conference, held in Brussels in November 2018. This presented an opportunity to ensure biological observations and the underlying infrastructures that support EMODnet Biology are represented and integrated into a future pan-European ocean observing programme.

Finally the paper for the Ocean Obs 2019 conference was finalised and submitted, featuring EMODnet Biology contributions, alongside the lots for Chemistry and Physics, demonstrating the capabilities and outputs of the network.

Task 7: monitor performance (WP1)

The monitor indicators are provided during the reporting cycle and usage of both website (using Matomo) and data downloads is being monitored. We noticed an increase with almost 30% of visitors, after the launch of the Atlas of European Marine Life.

Task 8: help desk (WP1)

The help desk stayed online and operational throughout this reporting period.

2 Challenges encountered during the reporting period

Provide an overview of the main challenges encountered during the reporting period and the measures taken to address them, including those related to technical and data provision issues.

[Please, provide information in the table.]

Main challenge	Measures taken
No specific challenges	

3 User Feedback

List any useful feedback you received on your portal, your activities or those of other EMODnet projects/activities. Also provide any suggestions you have received for EMODnet case studies and/or future products/activities/events.

[Please, provide information in the table. If you wish to include the full user feedback in the report you can attach it in Annex.]

Date	Organisation	Type of user feedback (e.g. technical, case study, etc.)	Response time
11/10/2018	University, in Melbourne (Australia).	My name is Martino Malerba and I am a postdoctoral research at Monash. I am working on a literature review where I summarise the available information on fouling biomass in marine environments around the world. I was wondering if any of your datasets could provide information on biomass density for invertebrate fouling communities. If so, are these information available to the public?	2 days
20/11/2018	AFBI	I have been advised to contact you regarding some data issues I have come across on EMODnet Biology. I recently downloaded records of <i>Arctica islandica</i> however in the column "observedIndividualCount" there appear to be decimal values. I assumed these may be densities rather than counts but when I downloaded the extra data file to look at the measurement units, there were no identification records linking columns in both data sets. So in the additional information sheet I can see some records are in m2, m3, wet mass etc. but I cannot see a way of linking this across to the count data records	3 days
19/12/2018	Great Lakes Observing System (GLOS)	Replying to @EMODnet New! Launch #EMODnet' Atlas of European Marine Life: Beautiful collaboration. Inspiring to our efforts in the U.S!	
8/11/2018	Stockholm University	After searching for a genus in dataportal I clicked the little grid to the right to Show data, then I clicked the Action Get webservice URL and thought I should get the shown dataset. I entered this in QGIS as a WFS but when I use it I get a large list start with "10 meter elevation line". I don't know how to proceed or how to find the actual observations of the genus Haploops that I want to plot on a map. Can you help me to go further?	10 days

4 Meetings held/attended since last report

List here the internal and external meetings held/participated by the contractant (e.g. meeting, conference, training (workshop), etc.) since the last quarterly report. Please add a short description on the meeting as well as the nature and volume of the audience. At the bottom of the table, provide the total number of events organised and events participated.

Table: Meetings organised and attended.

Date	Location	Type event (meeting, training (workshop), etc.)	Attended (A) / Organised (O)	Short description and main results (# participants, agreements made, etc.)
1-2/10/2018	DGMARE, Brussels	EMODnet Technical Working Group	Attended	Participated in TWG EMODnet, presenting technical progress of EMODnet Biology
8-10/10/2018	VLIZ, Oostende	EMODnet Data Product workshop	Organised	From 8-10 October, the EMODnet biology data product experts will meet to discuss new dataproducts and to finalize the first version of the upcoming Atlas of Marine Life. 13 participants
15-18/10/2018	Remote meeting	EMODnet data management training course for associated data partners	Organised	From 15 till 18 October 2018, a remote training course was organised to train the EMODnet biology associated data partners how to format, quality control and contribute biological data to EMODnet. They made use of the training platform Oceanteacher (IODE-IOC) 8 associated data partners contributed
23/10/18	Remote meeting	Data product meeting to discuss products on EMODnet Atlas of Marine Life	Organised	A remote meeting to discuss progress on the product creation 6 participants
5-7/11/2018	IMDIS Conference, Barcelona, Spain	Presentation Unlocking European marine biodiversity under EMODnet Biology data using the FAIR principles,	Attended	Presentation of EMODnet Biology project >200 participants
12-16/11/2018	ICES, Copenhagen	Working Group on Fisheries Benthic Impact and Trade-offs	Attended	Discussed EMODnet biology approach to calculate benthic vulnerability maps
19-20/11/2018	DGAGRI, Brussels	EMODnet Steering Committee Meeting	Attended	Presenting progress EMODnet Biology project
21-	The EGG,	EOOS Conference	Attended	Organised information booth:

23/11/2018	Brussels			from marine biological observation to data, from data to products
3-4/12/2018	EEA, Copenhagen	TGDATA Meeting	Attended	Presenting EMODnet biology and its linkages with INSPIRE. Discuss possible way forward to make DwC adopted by INSPIRE
SUM			0	Total # of meetings organised = 3
SUM			A	Total # of meetings attended = 6

5 Outreach and communication activities

Please list all the relevant communication/outreach activities or products you have developed/executed during this period (including presentations, lectures, trainings, demonstrations, workshops, etc., and development of communication materials such as brochures, videos, press releases, newsletters, etc.). At the bottom of the table, provide a total number for every type of communication activity you have developed/executed (e.g. total # of press releases, total # of presentations given, etc.).

[Please, provide information in the table.]

Table: Communication activities.

Date	Communication action/material	Short description (of the material, title, ...) and/or link to the activity	Main results (# participants, # views, # press clippings, etc.)
2/10/2018	News item	Data product workshop, VLIZ http://www.emodnet-biology.eu/news?p=show&id=6528	
11/10/2018	News item	EMODnet gridded abundance Copepod products part of the ICES Annual Report 2017 http://www.emodnet-biology.eu/news?p=show&id=6542	
17/10/2018	News item	EMODnet Biology online course and QC tool http://www.emodnet-biology.eu/news?p=show&id=6545	
19/12/2019	News item	Launch EMODnet Atlas of European Marine Life http://www.emodnet-biology.eu/news?p=show&id=6636	
08/10/2018	Main Tweet	Building the Atlas of European Marine Life: Experts gather & use #Opendata from @EMODnet to show changes in marine species, communities & functional traits over time. #marineregions #marinespecies #Eurobis #Lifewatchbelgium #imeesvliz #EMODnet https://twitter.com/EMODnet/status/1049268409752592387	16 retweets, 44 likes
19/12/2018	Main Tweet	New! Launch #EMODnet Atlas of European Marine Life: using #opendata of #marinespecies , publish a transparent methodology & workflow, create EOV-products showing changes in species, communities & functional traits over time. As #FAIR as you can get! http://www.emodnet-biology.eu/about-atlas https://twitter.com/EMODnet/status/1075303983319842816	58 retweets, 64 likes

23/11/2018	Information Booth	Come visit the joint #LifeWatch - @EMODnet #Biology exhibition booth: "From Observation to Data" at the #EOOSConference18 in Brussels (November 21-23) http://www.eoosconference2018.eu @LifeWatchERIC https://twitter.com/LifeWatchVLIZ/status/1065911669447172096	>300 participants at EOOS Conference
5-7/11/2018	Conference Presentation at IMDIS Conference	Unlocking European marine biodiversity under EMODnet Biology data using the FAIR principles	>200 participants at conference
SUM of News/ tweets			Total # of 6
SUM of presentations			Total # of 1
SUM of information booths			Total # of 1



Relevant scientific and/or popular publications (scientific papers, book chapters, conference papers, ...) you published or of which you know they have been published using/referring to EMODnet data or data products during this reporting period must also be reported here.

Table: List of known publications using EMODnet data or data products.

Date	Name of journal, conference, ...	Publication title	Authors	Organisation(s)
5-7 November, 2018 -	<i>Barcelona, Spain: Book of Abstracts. Bollettino di Geofisica Teorica ed Applicata: an International Journal of Earth Sciences</i> , 59: pp. 215-216	Unlocking European marine biodiversity under EMODnet Biology data using the FAIR principles	Claus, S.; Arvanitidis, C.; Bailly, N.; Deneudt, K.; De Pooter, D.; Herman, P.M.J.; Lear, D.; Vandepitte, L.	Giorgetti, A. <i>et al.</i> (Ed.) <i>IMDIS 2018: International Conference on Marine Data and Information Systems</i>
5-7 November, 2018 -	<i>Barcelona, Spain: Book of Abstracts. Bollettino di Geofisica Teorica ed Applicata: an International Journal of Earth Sciences</i> , 59: pp. 215-216	EMODnet Central Portal data services	Oset Garcia, P.; Claus, S.; Hernandez, F.; Vanhoorne, B.; Waumans, F.; Calewaert, J.-B.; Derycke, P.; Giorgetti, A.; Lillis, H.; Novellino, A.; Pititto, A.; Schaap, D.; Vallius, H.; Schmitt, T.	Giorgetti, A. <i>et al.</i> (Ed.) <i>IMDIS 2018: International Conference on Marine Data and Information Systems</i>

6 Annex: Other documentation attached

No annexes

7 New monitoring indicators

Please consult and fill in the designated excel template.

The monitoring numbers reported as part of the progress monitoring of EMODnet performance are collected through Matomo. In some cases, numbers from other monitoring systems may also be reported (e.g. Awstats, Google Analytics). Each system uses different technical approaches and therefore has its strengths and shortcomings. Therefore, results are indicative and care should be taken with interpreting absolute numbers or comparing results from different tools. It is often more sensible to consider trends over time collected by the same monitoring tool.