

10 years of EMODnet Biology: past, present & future

Joana Beja, Flanders Marine Institute (VLIZ) (Belgium), joana.beja@vliz.be
Leen Vandepitte, Flanders Marine Institute (VLIZ) (Belgium), leen.vandepitte@vliz.be
Ruben Perez Perez, Flanders Marine Institute (VLIZ) (Belgium), ruben.perez@vliz.be
Gizem Poffyn, Flanders Marine Institute (VLIZ) (Belgium), gizem.poffyn@vliz.be
Dan Lear, Marine Biological Association (MBA) (UK), dble@mba.ac.uk
Vasilis Gerovasileiou, Hellenic Centre for Marine Research (HCMR) (Greece), vgerovas@hcmr.gr
Peter Herman, Deltares (Netherlands), peter.herman@deltares.nl
Bart Vanhoorne, Flanders Marine Institute (VLIZ) (Belgium), bart.vanhoorne@vliz.be
Lennert Tyberghein, Flanders Marine Institute (VLIZ) (Belgium), lennert.tyberghein@vliz.be

EMODnet Biology consortia

EMODnet Biology is part of a network of more than 150 organisations working towards making European Marine data easily accessible and available across seven thematic disciplines. It focuses on species, distributions, species attributes, sampling methods and biological indicators data from 9 functional groups: algae, angiosperms, benthos, birds, fish, mammals, phytoplankton, reptiles and zooplankton.

The infrastructure and data flow used within EMODnet Biology is based upon that of EurOBIS (the European OBIS node), hosted at the Flanders Marine Institute (VLIZ); the fact that the two initiatives are interconnected means that any technical changes and/or tools developed in one initiative can be used by the other. Due to this symbiotic approach, EMODnet Biology data can also be seamlessly integrated with wider networks such as OBIS (Ocean Biogeographic Information System) and GBIF (Global Biodiversity Information Facility).

A first stage of preparatory actions took place from 2009-2012 and focused on building a marine biological portal, completing an inventory of existing holdings of marine data, performing a gap analysis to determine the shortcomings in data quality and geographical and taxonomic coverage and developing a sustainable strategy for the portal.

From 2013-2016 the network expanded from 10 to 23 partners and saw not only the enhancement of the portal but also the development of tools to improve data access and download.

The performance phase that ensued (2017-2019) saw the transition to the OBIS-ENV data exchange format, an expansion of Darwin Core, allowing for even greater degrees of interoperability. Eight new associated data partners also joined the consortia via a grant call. The current phase is building on the knowledge and experience acquired over the past ten years and working towards the changes due in the near future, a single point of access to data, data products and web services via the EMODnet Central Portal. The number of associated data partners in this phase has also doubled and will see the addition of 85 new datasets to the initiative. Figure 1 exhibits the number of datasets containing functional group's records before EMODnet Biology started and throughout the different phases.

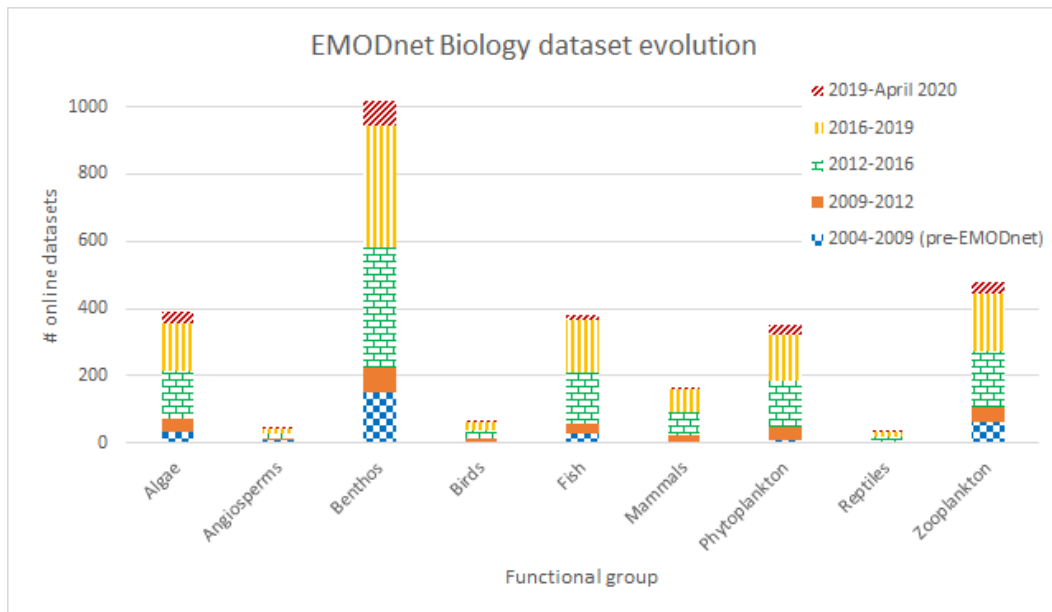


Figure 1: Number of online datasets containing functional group records (per phase from pre-EMODnet Biology implementation to April 2020)

The development of a suite of data products was framed in the context of the biological Essential Ocean Variables, illustrating the reuse value of open marine biological data to support policy development, conservation and management.

The implementation of FAIR principles has been at the core of all the work developed since 2009. By following the FAIR paradigm in making data, tools, products and services Findable, Accessible, Interoperable and Reusable, EMODnet Biology is ensuring that these unprecedented volumes of marine biological data have the highest possible utility and value to the widest range of stakeholders. Since mid-2019 EMODnet Biology is registered with FAIRsharing.org allowing not only a wider dissemination of the work done within EMODnet Biology, but also working to enable the FAIR Principles and to make Standards, Knowledge Bases, Repositories and Data Policies FAIR.

Acknowledgments

This work has been financially supported by the EC DG-MARE (EMODnet Observation and Data network – Lot⁹ V – Biology: EASME/EMFF/2016/1.3.1.2/Lot5/SI2.750022)