Technical Update EMODnet Biology

Joana Beja, VLIZ

16th EMODnet Technical Working Group
8 October 2024

Status update (on thematic)
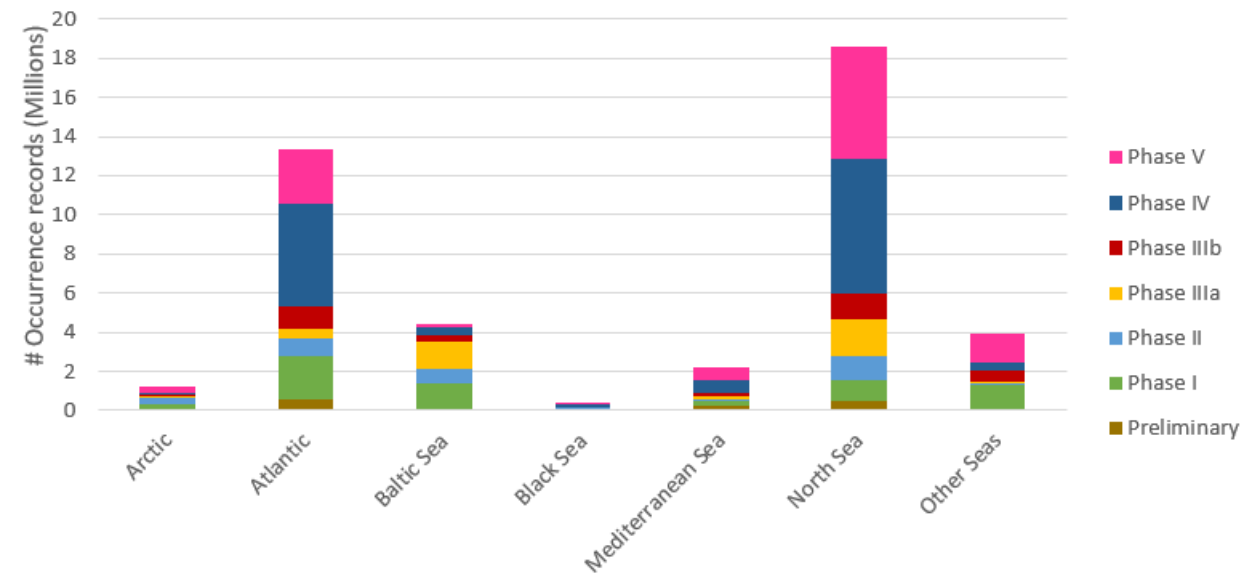## Data publication

- 1 data harvest per quarter (2 since last TWG)
  - # occurrence records increased from 40.7M to 41.8M
  - # datasets with published data increased from 1325 to 1413
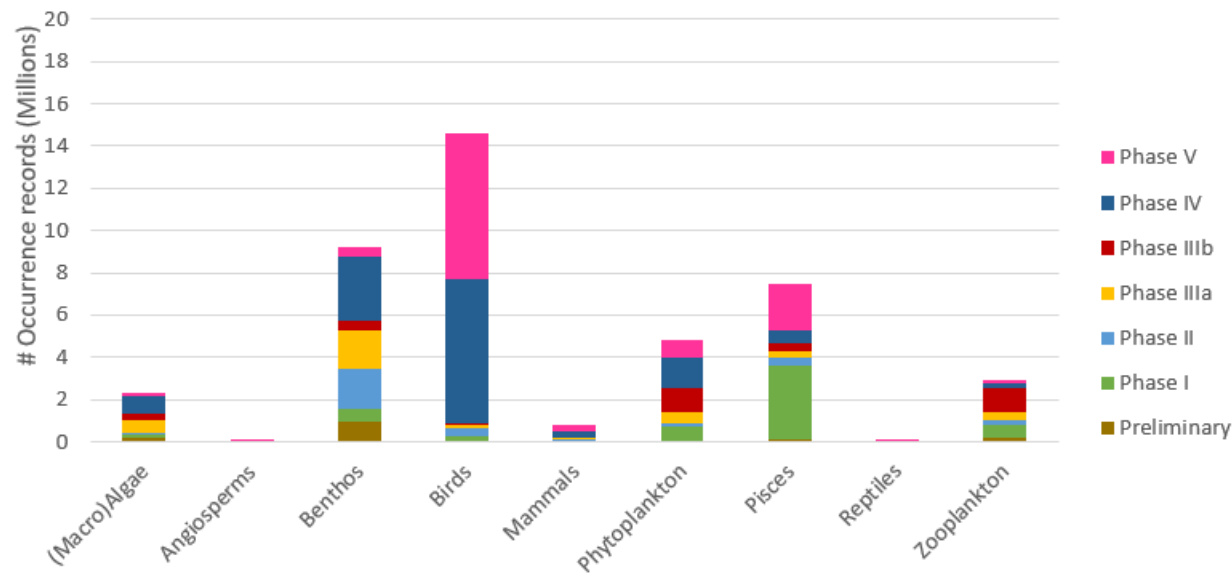
Status update (on thematic)
Data Products

- Phase IV paper submitted to Marine Policy journal and reveiwers comments received

- 4 external products published in the map viewer
  - 3D habitat suitability maps of the 30 main commercial fish species from the Atlantic Ocean-> Mission Atlantic product
  - Density of Loggerhead Turtles in the Mediterranean Sea-> Naval Undersea Warfare Center Division
  - Modelled projections of habitat for fish species feeding guilds around North-western Europe under climate change, 2010 to 2095 -> CEFAS
  - Modelled projections of habitat for commercial fish around North-western Europe under climate change, 2020 to 2060-> CEFAS

- Pending publication of external products:
  - Distribution maps of cetacean and seabird populations in the North-East Atlantic-> Marine Ecosystems Research Programme
  - Plankton Genomics output preparation for inclusion in EMODnet-> BlueCloud product
  - Potential catch biomass summed up along the water column for the 30 main commercial fish species from the Atlantic Ocean-> Mission Atlantic product

- External product republication request
  - Important Marine Mammal Areas (IMMAs)-> IUCN

Status update (on thematic)
Other activities

- Submitted deliverables
  - QR28
  - QR29
  - Interim report (accepted in early September)
  - D1.4.1 Phase V annual meeting minutes
  - D4.1.2: Informative material based on 4.2.2 stakeholder questionnaire
  - D4.1.3: RSC Workshop report
  - D4.2.4 Report I progress for the publication of fisheries survey data

- Ongoing work
  - QR30
  - Integration of omics data
  - D4.3.1 Workshop with representatives of major recent and current European Research Projects
  - D1.2.1 Update of EMODnet Biology data products via the EMODnet CP catalogue

Publishing DNA-derived data through biodiversity data platforms

Kessy Abarenkov · Anders F. Andersson · Andrew Bissett · Anders G. Finstad · Frode Fossøy · Marie Grosjean · Michael Hope · Thomas S. Jeppesen · Urmas Kõljalg · Daniel Lundin · R. Henrik Nilsson · Maria Prager · Pieter Provoost · Dmitry Schigel · Saara Suominen · Cecilie Svenningsen · Tobias Guldberg Frøslev – Version 1.3.0, 7 June 2023

This document is also available in PDF format and in other languages: español, français, 繁體中文.
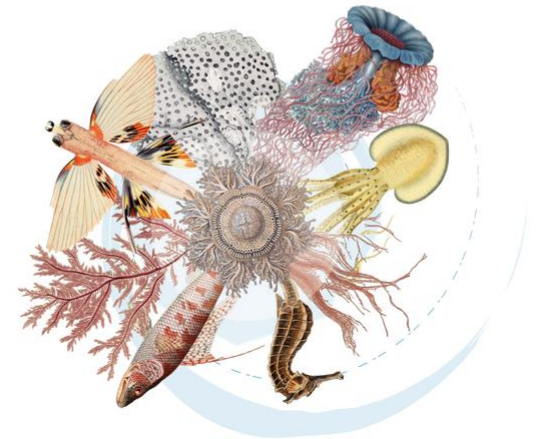
External interactions
Meetings with external stakeholders/conferences

| April	May	June	September
. EMODnet Biology annual meeting . EMODnet Biology RSC Workshop . Marco Bolo CoP meeting	. TG DATA . EMODnet-EDITO alignment meeting . Marco Bolo co-design/co-creation workshop making marine and coastal biodiversity observations policy relevant . IMDIS	. The state of Marine Biodiversity Monitoring in Europe Workshop . Digital Ocean Forum	. 11th TG DATA . Maregraph workshop . Marine Biodiversity Monitoring Harmonisation Methods meeting

Review the products usability
Products published through map viewer

- Consortium created products
  - 38 products
  - 9 published on the map viewer (products from Phase IV)
  - Phase V products will be published from January onwards
  - Product information
    - Abundance, presence/absence, probability occurrence
    - Habitat suitability
    - Ecological information such as species/communities temporal changes or species diversity

- External products (6)
  - 4 published in the map viewer
  - 3 Fish, 1 Mammals (2 layers), 1 reptiles (2 layers)
  - Products created by parties external to consortium and/or non-EMODnet funding
  - Focus on European seas (and adjacent waters) or in specific regions (e.g. Irish coast, North Sea)
  - Information included in product and available to user relies on what creator decided was relevant
    - Most products provide information on species abundance/probability of occurrence

External Product: Abundance (individuals per square kilometer)

FeatureInfo - layer name:
Loggerhead_turtles_Med/abundance

Layer name	Feature Id	Clicked latitude (x)	Clicked longitude (y)	Time	Value
Loggerhead_turtles_Med/abundance	abundance	4.983645772444918	38.66993728407342	-	35.2435
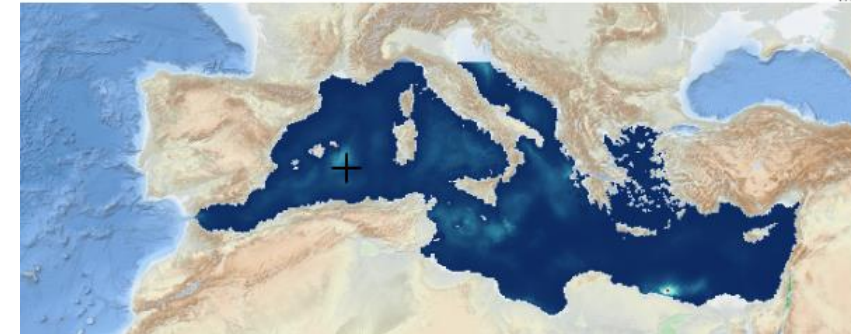
Review the products usability
Challenges and proposed approaches

- Creating biodiversity products for publication in the CP is not a straightforward task

  - Guidance defined by GeoServer and ERDDAP wasn't implemented adequately by the developers
    - Issues with dimension order
    - Issues with how taxa are described (taxon_name and taxon_lsid)
    - Issues with coordinate systems
    - File used for ERDDAP publication needs tweaking to be published through GeoServer

  - Following centralisation Biology products have been created in NetCDF format
    - Not a format used by the majority of the Biology community
    - Steep learning curve to understand this format
    - Guidance created for Biology partners and available on the EMODnet GitHub (https://github.com/EMODnet/EMODnet-Biology-products-erddap-demo)
    - A number of products are not raster but vector (e.g. species presence/absence), not ideal for this format
    - All products since Phase IV are COARDS compliant

Review the products usability
Challenges and proposed approaches

- Creating biodiversity products for publication in the CP is not a straightforward task

  - CF compliance is hard to achieve at this point as there are no standard names for biodiversity parameters (e.g abundance, probability, …)
    - Need internal procedure to request standard names to the CF governance
    - Look into using BODC vocabularies for variables as a way to better describe the data (as a complement and in absence of CF standard names)

  - Relevant to describe the workflows to generate products so users can repeat the process with other data
    - A template was created in Phase IV and all partners adhere to it (https://github.com/EMODnet/EMODnet-Biology-Project-Template)
    - Aim to have scripts/procedures reproducible

emodnet.ec.europa.eu

Stay up-to-date with
the latest news