



**EMODnet**



European Marine  
Observation and  
Data Network

# **EMODnet Thematic Lot n°2 – Seabed Habitats**

**CINEA/EMFAF/2022/3.5.2/SI2.900370**

**Start date of the project: 25/09/2023 (24 months)**

**Operational Phase**

**Quarterly Progress Report (8)**

**Reporting Period: 01/07/2025 – 30/09/2025**



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### Disclaimer

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## 1. Highlights in this quarter

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

The final scheduled data delivery by partners was slightly delayed, and some datasets requiring additional corrections could not be included in the last bulk upload, but these data are now ready and will be uploaded with the next batch. Some map and point datasets were delayed due to the unavailability of the data, as they had not yet been collected and/or processed by the data owners. The remaining datasets will be handled during the 2025–2027 project phase. Some other datasets were discarded, e.g. because the data acquired were deemed unsuitable for the project's purposes. In Q3 two point datasets were correctly uploaded on EurOBIS via IPT and 16 were uploaded on the IPT instance but lack recognised vocabularies. These 16 have now instead been uploaded and made available via the ESH point database. At the end of the ESH 2023–2027 phase, a total of 254 datasets were standardised, more than 90% of which were uploaded on IPT, EMODnet portal or EurOBIS. Furthermore, with respect to the QuantityOfData table in the tender proposal, more than 30 additional datasets were found, collated and managed during this project phase and we consider deliverables D2.01 to D2.08 completed.

### 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

Work on EUSeaMap focused on preparing and incorporating the input substrate data, including the EMODnet Geology substrate layer, UK substrate layer from JNCC as well as the biogenic substrate layer produced in WP3. Work is in progress but due to receiving some of the input data later than anticipated, deliverables D1.01 to D1.05 are delayed and expected to be completed in early Q4.

First draft version of the Coastal Wetlands translation table from the older EUNIS to the Ramsar classification was produced and circulated within the consortium for comments from regional experts.

In WP3 (Composite products), deliverables 3.02, 3.03, 3.04, 3.05, 3.07, 3.08 and 3.10 were delivered in Q3. In D3.09 one layer (coralligenous composite product) was delivered but the layer on Habitats Directive (HD) marine habitats in the HELCOM area has been delayed as the HD Article 17 reporting is still ongoing and data is not yet available. We estimate the data to be available at the end of Q4-2025 and the deliverable ready in Q1-2026. As the delay is due to outside factors, we consider D3.09 completed and will deliver the HELCOM product as part of the D3.09 of the 2025–2027 contract renewal phase. Deliverables 3.06, 3.11, 3.12, 3.13, 3.14 and 3.16 are being finalized and will be delivered during first month of Q4-2025.

For the 2025–2027 contract renewal we have discussed possible data products with some of the RSCs. Producing a new light availability layer for HELCOM, covering the Baltic Sea, based on satellite data was investigated but it turned out to require extensive effort not fully in the scope of and significantly outside the budget limits of WP1. Instead, Stockholm University (SU) as our subcontractor will investigate possibilities to update the current light layer(s). In the Caribbean SAERI will investigate collating historical *Sargassum* occurrence data for the SPAW-RAC.

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

A bulk upload of data from WP2 to the portal consisting of 10 new point datasets, 50 individual seabed habitat and coastal wetland maps, and 2 external composite products was carried out in September. Additionally, two new composite products and five updated composite products created under WP3 were also uploaded to Geoserver in September. Deliverable D4.04 - *A publicly available list of all new data and products collected*

and created under WP1, WP2 & WP3 that have been published by EMODnet Seabed Habitats in year 2 has also been created and will be made available via the central portal imminently.

#### **Task 5: Contributing static content to dedicated spaces in the Central Portal**

Yearly news stories are on schedule and within the specifications as agreed with the CP comms team. The most recent news item focused on the distribution of EMODnet Seabed Habitats Data Holdings across the sea basins and the important role of data providers. The four Story Maps prepared during this phase and published previously in EMODnet newsletters have now been added to the Seabed Habitats page on the Central Portal. These comprise infographics illustrating the spatial distribution, resolution and availability of ESH product and data holdings (D5.02), and Infographics on viewing, accessing and downloading ESH product and data holdings (D5.03).

#### **Task 6: Ensure the involvement of regional sea conventions**

Syke attended the recent HELCOM EG BENTHIC meeting to discuss collaboration and possible future data products for HELCOM and has discussed attending future HELCOM BioDiv meeting(s) with EMODnet Biology.

MI engaged directly with the Coastal Zone Management Unit of Barbados as part of MI work to map that countries EEZ. The benefits of providing data to EMODnet were presented as well as current plans for the UN Ocean Decade Data Sharing Programme. Ongoing development of ESH products in the region was discussed and future engagement with the consortium was encouraged, via ancillary meetings and future planned workshops in 2026.

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

As a partner in the Horizon project OBAMA-NEXT, Syke has continued to facilitate the collation and ingestion of data produced in the project by initiating discussions with the Flow Cytometry data producers and EMODnet Biology.

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

We continue to respond promptly to user feedback received directly and via JIRA. During Q3 we only has one helpdesk query relating to EUSeaMap input data which we responded to promptly explaining what data had been used and sign posting to other useful sources of information. We also resolved an issue with some viewer layers by updating some cascaded service layer endpoints. During this quarter we have also finished setting up a new AWS server and associated infrastructure which should improve the performance of the EMODnet Seabed Habitats web services. Data migration into this new infrastructure will happen next quarter.

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
<b>D1.01: Modified substrate data product including biogenic substrate and data not possible to include in EMODnet Geology product, but which would improve the broad-scale seabed habitat map for Europe (EUSeaMap) [dependent on new product from Geology]</b>	WP1	26/07/2025	Delayed		Late arrival of the input data. Work is in progress and will be completed during first month of Q4.
<b>D1.02: Confidence layer for modified substrate data product published</b>	WP1	26/09/2025	Delayed		Late arrival of the input data. Work is in progress and will be completed in Q4.
<b>D1.03: Tool to spatially simplify EUSeaMap</b>	WP1	26/05/2025	Delayed		Coding and testing the tool is progressing alongside the EUSeaMap modeling and will be delivered with D1.04 in Q4.
<b>D1.04: Updated broad-scale seabed habitat map</b>	WP1	26/09/2025	Delayed		Late arrival of the input data. Work is in progress and will be completed in Q4.
<b>D1.05: Confidence assessment for updated broad-scale seabed habitat map, in all considered classifications</b>	WP1	26/09/2025	Delayed		Late arrival of the input data. Work is in progress and will be completed in Q4.
<b>D2.01: An expanded library of maps of communities, biocenoses, biotopes and habitats for all of Europe and Caribbean Sea ingested and converted to a standard format, with metadata for every map</b>	WP2	26/08/2025	Delivered	24/09/2025	
<b>D2.02: An expanded collation of point records</b>	WP2	26/08/2025	Delivered	24/09/2025	

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
of communities, biocenoses, biotopes and habitats for all of Europe and Caribbean Sea ingested and converted to a standard format, with metadata for every dataset					
<b>D2.03: Updated and integrated templates for habitat map data exchange formats, if needed</b>	WP2	26/11/2023	Delivered	26/11/2023	
<b>D2.04: Webinars, tutorials or other forms of training material on the EMODnet Seabed Habitats data submission process</b>	WP2	26/01/2024	Delivered	26/01/2024	
<b>D2.05: An expanded library of modelled maps of specific habitats for all of Europe ingested and converted to a standard format, with metadata for every dataset</b>	WP2	26/08/2025	Delivered	24/09/2025	
<b>D2.06: Controlled vocabulary lists for classification systems published on NERC Vocabulary Server, as required</b>	WP2	26/08/2025	Delivered	24/09/2025	
<b>D2.07: An Expanded library of maps of Essential Fish habitats maps for major fish species in the North Sea, Macaronesia, Eastern Mediterranean Sea and, where possible, other European basins, ingested and converted to a standard format,</b>	WP2	26/08/2025	Delivered	24/09/2025	

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
with metadata for every map					
D2.08: An expanded library of coastal wetlands habitats for all of Europe ingested and converted to a standard format, with metadata for every dataset	WP2	26/08/2025	Delivered	24/09/2025	
D3.01: A list of products to be created or updated and product specifications (New)	WP3	26/03/2024	Delivered	26/03/2024	
D3.02: A combined, harmonized data product showing the best evidence for extent and distribution of the Essential Ocean Variable “Live hard coral cover” in Europe and Caribbean Sea, with metadata (Update and new)	WP3	26/05/2025	Delivered	26/09/2025	
D3.03: A combined, harmonized data product showing the best evidence for extent and distribution of the Essential Ocean Variable “Seagrass cover” in Europe and Caribbean Sea, with metadata (Updated and new)	WP3	26/06/2025	Delivered	26/09/2025	
D3.04: A combined, harmonized data product showing the best evidence for extent and distribution of the Essential Ocean Variable “Macroalgal canopy cover” in Europe, with metadata (Update and new)	WP3	26/07/2025	Delivered	26/09/2025	

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
<b>D3.05: A combined, harmonized data product showing the best evidence for extent and distribution of the Essential Ocean Variable “Mangrove cover” in Caribbean, with metadata (Update and new)</b>	WP3	26/08/2025	Delivered	25/09/2025	
<b>D3.06: A combined, harmonized data product showing the best evidence for the extent of coastal wetland type in Europe and the Caribbean, with metadata (Update and new)</b>	WP3	26/05/2025	Delayed		Completion was waiting for new data and will be finished in early Q4.
<b>D3.07: Evaluation of EFH approaches to determine map suitability to combine into products useful for fisheries management and biodiversity conservation (Update and new)</b>	WP3	26/05/2025	Delivered	22/05/2025	
<b>D3.08: Create a harmonised map of potential VMEs and potential degraded habitats (New)</b>	WP3	26/08/2025	Delivered	26/09/2025	
<b>D3.09: Combined, harmonized data products showing the best evidence for extent and distribution of habitats defined in other classifications in all regions, with metadata, depending on stakeholder needs (New)</b>	WP3	26/08/2025	Delivered	26/09/2025	Coralligenous habitats layer has been completed but the Habitats Directive layer for HELCOM is waiting data and will be moved to next phase (Q1-2026).

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
<b>D3.10: An updated combined, harmonized data product showing the best evidence for the extent of biogenic substrate in all regions, with metadata (Update)</b>	WP3	26/01/2025	Delivered	29/06/2025	
<b>D3.11: Report detailing the construction of the Essential Ocean Variable data products (Update)</b>	WP3	26/08/2025	Delayed		Work is underway and will be finished in Q4 (31/10/2025).
<b>D3.12: Report detailing the construction of the biogenic habitat data product (Update)</b>	WP3	26/05/2025	Delayed		Work is underway and will be finished in Q4 (31/10/2025).
<b>D3.13: Report detailing the construction of the coastal wetlands habitats data product (Update)</b>	WP3	26/05/2025	Delayed		Work is underway and will be finished in Q4 (31/10/2025).
<b>D3.14: Report(s) detailing the construction of the data products defined by stakeholder needs (New)</b>	WP3	26/09/2025	Delayed		Work is underway and will be finished in Q4 (31/10/2025).
<b>D3.15: Report detailing the construction of the Essential Fish Habitat data products (New)</b>	WP3	26/09/2025	Delivered	10/07/2025	
<b>D3.16: Report detailing the construction of the harmonisation of Vulnerable Marine Ecosystems (VME) and other priority habitats (New)</b>	WP3	26/09/2025	Delayed		Work is underway and will be finished in Q4 (31/10/2025).
<b>D4.01: Geoserver OGC spatial web-services (WMS, WFS, WCS) and a GeoNetwork INSPIRE-compliant metadata instance</b>	WP4	25/09/2023	Delivered	25/09/2023	

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
<b>D4.02: Access all unrestricted habitat ground-truthing data from the EMODnet Biology database via web services</b>	WP4	24/09/2025	Delivered	26/09/2025	
<b>D4.03: A publicly available list of all new data and products collected and created under WP1, WP2 &amp; WP3 that have been published via EMODnet Seabed Habitats in year 1</b>	WP4	24/09/2024	Delivered	27/09/2024	
<b>D4.04: A publicly available list of all new data and products collected and created under WP1, WP2 &amp; WP3 that have been published by EMODnet Seabed Habitats in year 2.</b>	WP4	24/09/2025	Delivered	24/09/2025	
<b>D4.05: Direct link to services from the Regional Sea Conventions where feasible</b>	WP4	24/09/2024	Delivered	24/09/2024	
<b>D5.01: Evidence of engagement with RSCs and relevant working groups to gather feedback and needs of habitat data requirements and products that will help Member States to fulfil reporting obligations</b>	WP5	-	Delivered	24/09/2025	
<b>D5.02: Infographics illustrating the spatial distribution, resolution and availability of ESH product and data holdings</b>	WP5	26/09/2024	Delivered	26/11/2024	Published on the Central Portal in Q3.

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
<b>D5.03: Infographic on viewing, accessing and downloading ESH product and data holdings</b>	WP5	26/11/2024	Delivered	26/05/2025	Published on the Central Portal in Q3.
<b>D5.04: Promotion of data provider contributions in co-operation with the Central Portal via, news items and social media.</b>	WP5	26/09/2023 – 26/09/2025	Delivered	00/01/1900	
<b>D5.05: Use cases on the EMODnet Central Portal.</b>	WP5	26/09/2023 – 26/09/2025	Delivered	00/01/1900	Use Case 1 Submitted Q4 2024. JIRA edits required - WP5 to action. 3 More available pending approval
<b>D5.06: Updated prominent summary of the data and data products available from EMODnet Seabed Habitats on the CP (with WP4)</b>	WP5	26/09/2024	Delivered	15/11/2024	Published in November 2024.
<b>D6.01: Progress reports to CINEA, DG MARE and EMODnet Secretariat</b>	WP6	15th of Jan, Apr, Jul & Oct each year	Delivered	15/10/2024	
<b>D6.02: Interim report</b>	WP6	26/09/2024	Delivered	29/11/2024	Delivered by the end on Nov 2024 as agreed with CINEA.
<b>D6.03: Final report</b>	WP6	26/09/2025	To Do		Work underway and will be delivered in early Q4.

## 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		
<b>EM-88 (Sub-task) Seabed Habitats - Web Services MetadataUrl and DataUrl fields</b>	Resolved	All metadata url issues resolved	none	24/07/2025		
<b>EM-146 (Sub-task) Seabed Habitats Quality of Service Monitoring: Several of the services did not meet the 99% availability this quarter, and one of the WMS didn't meet the performance requirement of 5 sec.</b>	Pending	A new AWS server and Geoserver instance has been set up and the data will be transferred in the next quarter.	none			
<b>EM-644 (Sub-task) Seabed Habitats to provide input to the Tools &amp; Guidelines section</b>	Resolved	Tools and guidelines and reports have been added to the central portal.	none	14/08/2025		
<b>EM-665 (Task) TWG12 - CP &amp; SBH to investigate if CP viewer can deal with layer group styles</b>	Pending	We have investigated this but it does not resolve the duplicated legend issue for group layers in the central portal. A temporary solution has been proposed and work is underway.	none			
<b>EM-1077 (To Do) Seabed Habitats to provide deadline by when metadata records can be adapted to meet the guidelines.</b>	Pending	Syke have finished evaluating all Seabed Habitats metadata records to see what changes are needed and work will recommence in October 2025.	none			
<b>EM-1170 (Done) Habitats Directive Annex I habitat types - official 2018 reported distribution grids (EEA) layer is not working</b>	Resolved	Changes to the source of a cascading layer have been implemented in GeoServer so the layers are operational again.	none	16/09/2025		

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
<b>EM-412 (New Feature) In the layer catalogue on new central portal, indicate which layer groups contain active layers</b>	Pending	This is a issue/suggestion that SBH made related to the functionality of the CP. As per last TWG the decision is that if SBH wants this functionality implemented, SBH does the development once the viewer code is shared. SBH will have internal discussion on how to proceed.	none	
<b>EM-513 (New Feature) In the layer catalogue, add the ability toggle entire layer groups on or off</b>	Pending	This is a issue/suggestion that SBH made related to the functionality of the CP	none	
<b>EM-666 (New Feature) TWG12-Advanced filter option</b>	Pending	This is a issue/suggestion that SBH made related to the functionality of the CP. The majority of the filters have been enabled but still missing a gui freetext filter.	none	
<b>EM-972 (Bug) GEBCO 2022 error affecting EUSeaMap (via EMODnet DTM)</b>	Pending	During the 2023 revision of EUSeaMap it was found out that an error in GEBCO 2022 affects the EMODnet DTM, causing classification errors in EUSeaMap. This was reported to Bathymetry and the view after the discussion was that this should be resolved by GEBCO. A JIRA ticket to Bathymetry has been opened and they have notified GEBCO of the issue.	none	
<b>EM-1070 (Improvement) tree testing for map viewer?</b>	Pending	Suggestion for a tool that the EMODnet team could use: "Tree testing" to help show us how users navigate the pages on the EMODnet website.	none	
<b>Issue with 2023–2025 deliverable D4.02: Access all unrestricted habitat ground-truthing data from the EMODnet Biology database via web services. The initial intention was to transfer all open habitat point datasets to EMODnet Biology during this phase but we cannot transfer those in habitat classification schemes without published vocabularies e.g. EUNIS 2022.</b>	Pending	Seabed Habitats and Biology have had a number of discussions about this. The work on making habitat data not linked to occurrences available has begun but the process is not yet finished as Biology currently have a restriction in place to only publish data that are mapped to a vocabulary, which means we cannot publish the EUNIS 2022 observation data by this method. We consider that the deliverable is satisfied by transferring the datasets it is possible to translate i.e. unrestricted in terms of open data and without technical barriers e.g. lack of vocabularies.	none	

### 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	
June 2025	Paper	Chevalier, S., Beauchard, O., <b>Teacă, A.</b> et al. A macrozoobenthic data set of the Black Sea northwestern shelf. Sci Data 12, 957 (2025)		<a href="https://doi.org/10.1038/s41597-025-05311-2">https://doi.org/10.1038/s41597-025-05311-2</a>	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	
	e.g. paper; conference proceedings; book chapter; ...					

*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	Custom PostgreSQL views and GeoServer layers including vocabulary keyword tagging) with python scripting	10 additional point datasets uploaded in this quarter in the Black Sea, Mediterranean Sea and Atlantic areas
What is your opinion on the data coverage within EMODnet for your thematic?		Overall coverage is considered good, and we continue working on filling gaps in areas where we don't have partners in the consortium.
B) Usage of data in this quarter	Custom PostgreSQL views and GeoServer layers including vocabulary keyword tagging) with python scripting	Number of manual downloads is much higher than the previous quarter and WFS usage is steady. Map visualisations and WMS are reduced - the reason is unknown but perhaps reflects that users are preferentially downloading the data.
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Custom PostgreSQL views and GeoServer layers including vocabulary keyword tagging) with python scripting	Bulk upload of data this quarter including 50 new habitat maps, 4 new composite products (2 produced by EMODnet Seabed Habitats and 2 by externals), as well as updates to other internal composite products
B) Usage of data products in this quarter	Custom PostgreSQL views and GeoServer layers including vocabulary keyword tagging) with python scripting	Number of manual downloads is much higher than the previous quarter and WFS usage is steady. Map visualisations and WMS are reduced - the reason is unknown but perhaps reflects that users are preferentially downloading the data. The essential fish habitat maps WFS usage is greatly increased - no clear reason for the spike in interest.
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	Tracking tables in SharePoint	A total of 41 data / data products were acquired in this reporting period while 5 were abandoned (mainly postponed to the next phase). Data were directly acquired via EMODnet Seabed Habitats covering 8 sea basins from 7 countries (plus cross-national datasets) and involving 14 different data owners

Comments on the progress indicators in the indicators spreadsheet		
Progress indicator	Means of collecting figures	Comment
5.1 Daily number of page views of EMODnet Thematic entry page	Europa Analytics	Similar to previous quarter.
5.2 Quarterly total number of visitors, page views, unique page views and percentage of returning visitors	Europa Analytics	Similar to previous quarter with slightly more unique page views and less returning visitors.

*The monitoring numbers reported as part of the progress monitoring of EMODnet performance are collected through Europa Analytics, unless reported otherwise.*