



**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)**

**Phase V**

**Quarterly Progress Report (2)**

**Reporting Period: 01/01/2024 – 31/03/2024**



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### Disclaimer

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## Highlights in this quarter

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

WP2:

Deliverable D2.04 - Webinars, tutorials or other forms of training material on the EMODnet Seabed Habitats (ESH) data submission process has been delivered. The guidance materials were reviewed and the document *WP2 Data Submission and QC Procedure* was updated to reflect the agreed procedures and responsibilities of Phase V of the project. During the update it was noted that the map validation tool designed to support the data preparation by partners requires further development. The current R code for the tool is already available on GitHub and we will assess whether further development of the tool can be done in the current phase or needs to be designated for the possible continuation phase of the project.

In May ISPRA will contact and arrange meetings with data providing partners to support planned data submissions.

### 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

Planning for EUSeaMap improvements continued with work on a seabed substrate data layer and confidence maps for EUSeaMap for all marine regions as well as the methods to spatially simplify EUSeaMap (D1.03). GEUS, SU and Syke discussed and agreed on the specific tasks that SU will perform as a subcontractor in WP1.

The Deliverable D3.01 - *A list of products to be created or updated and product specifications* was delivered. The work in WP3 has focused on building the Essential Fish Habitats (EFH) and Coastal wetlands maps. Partners have been requested to actively pursue these types of datasets, and guidance and templates for them have been provided. We have also begun searching EFH datasets from France, Greece, Norway and UK from North Sea.

MI, Syke and other partners have been promoting ESH products via EMODnet news, Twitter and LinkedIn to ensure that potential users are aware of them.

MI were a co-ordinating partner of the Remote Hydrography Conference 2024 (Dublin Castle) and engaged with stakeholders present to raise awareness of EMODnet in the International hydrographic community and identify potential data providers. MI also engaged with stakeholders at Oceanology International 24 (London).

### Task 3: Develop procedures for machine-to-machine connections to data and data products

Nothing to report.

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

In March we carried out our first bulk updates of data to the portal. A summary of the new data and products available is provided here: eight classified EFH model datasets and six EFH maps; 16 new individual habitat maps from surveys (seabed habitats and coastal wetland); and four new survey sample point datasets including one submitted to EMODnet Biology. Of these datasets six of the maps and all the point datasets were sourced from EMODnet Ingestion. We have also created a new GeoServer layer that summarises (using bounding boxes) all the modelled maps of specific habitats that are available via EMODnet Seabed habitats.

This layer will be added to the central viewer in due course and is designed to signpost users to where they can access the associated web services, downloads and metadata.

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

We continue to work closely with the Central Portal (CP) team to facilitate up to date and relevant information relating to ESH on the CP. The update of the ESH content to reflect the status of the current phase was commenced in Q1. It is anticipated to be completed during Q2.

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

Syke has participated in planning the HELCOM Habitat Mapping Products Workshop (to be held on 15–16<sup>th</sup> May 2024) and attended the HELCOM Annual Reception, where habitat data issues were discussed with HELCOM and stakeholders. Syke has also discussed with HELCOM the possibilities to use HELCOM Red List data for ESH Essential Ocean Variables (EOV) products.

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

We have developed a list of our key datasets and attributes to feed into the EDITO project infrastructure.

Syke presented EMODnet's work on open data at ZAFIRI (Zanzibar Fisheries and Marine Resources Management Institute) in a training session as a part of the BLUE-ZAN project (Increasing climate resilience of Zanzibar with integrated marine management) funded by the Institutional Cooperation Instrument (ICI) of the Government of Finland.

Representing Finland, Syke has taken part in TG Seabed meetings. The TG Seabed draft workplan for 2024–2027 includes a task on *better integration of biological data and improving data flows from national to EU level to improve EMODnet's seabed maps, including EUSeaMap*.

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

We continue to respond promptly in response to user feedback received directly and via JIRA and raised cross thematic issues at the technical working group in March for discussion. The new modelled map summary layer highlighted under task 4 was created in direct response to user feedback. On the old Seabed Habitats portal all models were available on the viewer, and since they are not on the central viewers users think they have been removed. Since it isn't feasible to show all the models on the central viewer (100+) we hope that this summary layer will help advertise the data to users and allow them to continue utilising it.

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
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]	1	26/07/2025	To do		
D1.02 : Confidence layer for modified substrate data product published	1	26/09/2025	To do		
D1.03 : Tool to spatially simplify EUSeaMap	1	26/05/2025	To do		
D1.04 : Updated broad-scale seabed habitat map	1	26/09/2025	To do		
D1.05 : Confidence assessment for updated broad-scale seabed habitat map, in all considered classifications	1	26/09/2025	To do		
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	2	26/08/2025	To do		
D2.02 : An expanded collation of point records 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	2	26/08/2025	To do		
D2.03 : Updated and integrated templates for habitat map data exchange formats	2	26/11/2023	Delivered	26/11/2023	

D2.04 : Webinars, tutorials or other forms of training material on the EMODnet Seabed Habitats data submission process	2	26/01/2024	Delivered	26/01/2024	
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	2	26/08/2025	To do		
D2.06 : Controlled vocabulary lists for classification systems published on NERC Vocabulary Server, as required	2	26/08/2025	To do		
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, with metadata for every map	2	26/08/2025	To do		
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	2	26/08/2025	To do		
D3.01 : A list of products to be created or updated and product specifications (New)	3	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)	3	26/05/2025	To do		
D3.03 : A combined, harmonized data product showing the best evidence for extent and distribution of the	3	26/06/2025	To do		

Essential Ocean Variable “Seagrass cover” in Europe and Caribbean Sea, with metadata (Updated and new)					
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)	3	26/07/2025	To do		
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)	3	26/08/2025	To do		
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)	3	26/05/2025	To do		
D3.07 : Evaluation of EFH approaches to determine map suitability to combine into products useful for fisheries management and biodiversity conservation (Update and new)	3	26/05/2025	To do		
D3.08 : Create a harmonised map of potential VMEs and potential degraded habitats (New)	3	26/08/2025	To do		
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)	3	26/08/2025	To do		

D3.10 : An updated combined, harmonized data product showing the best evidence for the extent of biogenic substrate in all regions, with metadata (Update)	3	26/01/2025	To do		
D3.11 : Report detailing the construction of the Essential Ocean Variable data products (Update)	3	26/08/2025	To do		
D3.12 : Report detailing the construction of the biogenic habitat data product (Update)	3	26/05/2025	To do		
D3.13 : Report detailing the construction of the coastal wetlands habitats data product (Update)	3	26/05/2025	To do		
D3.14 : Report(s) detailing the construction of the data products defined by stakeholder needs (New)	3	26/09/2025	To do		
D3.15 : Report detailing the construction of the Essential Fish Habitat data products (New)	3	26/09/2025	To do		
D3.16 : Report detailing the construction of the harmonisation of Vulnerable Marine Ecosystems (VME) and other priority habitats (New)	3	26/09/2025	To do		
D4.01 : GeoServer OGC spatial web-services (WMS, WFS, WCS) and a GeoNetwork INSPIRE-compliant metadata instance	4	25/09/2023	Delivered	25/09/2023	
D4.02 : Access all unrestricted habitat ground-truthing data from the EMODnet Biology database via web services	4	24/09/2025	To do		
D4.03 : A publicly available list of all new data and products collected and created under WP1, WP2 & WP3 that have been	4	24/09/2024	To do		



published via EMODnet Seabed Habitats in year 1					
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.	4	24/09/2025	To do		
D4.05 : Direct link to services from the Regional Sea Conventions where feasible	4	24/09/2024	To do		
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	5	26/09/2023 – 26/09/2025	To do		
D5.02 : Infographics illustrating the spatial distribution, resolution and availability of ESH product and data holdings	5	26/09/2024	To do		
D5.03 : Infographic on viewing, accessing and downloading ESH product and data holdings	5	26/11/2024	To do		
D5.04 : Promotion of data provider contributions in co-operation with the Central Portal via, news items and social media.	5	26/09/2023 – 26/09/2025	To do		
D5.05 : Use cases on the EMODnet Central Portal.	5	26/09/2023 – 26/09/2025	To do		
D5.06 : Updated prominent summary of the data and data products available from EMODnet Seabed Habitats on the CP (with WP4)	5	26/09/2024	To do		
D6.01 : Progress reports to CINEA, DG MARE and EMODnet Secretariat	6	15th of Jan, Apr, Jul & Oct each year	Delivered	15/04/2024	
D6.02 : Interim report	6	26/09/2024	To do		
D6.03 : Final report	6	26/09/2025	To do		

## Identified issues: status and actions taken

[Provide an **overview of issues** identified by CINEA/ DG MARE/ Secretariat (Table A) in the past quarter - new as well as pending ones, the status of those issues, and actions taken to address them and/or roadmap with remaining actions planned to resolve the issues. In Table B, provide information about any issues and challenges identified by yourself.]

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	
EM-88 (Sub-task) Seabed Habitats - Web Services MetadataUrl and DataUrl fields	pending	All metadata url issues resolved. No current outstanding problems but issue remains open as regular checks occur.	none		
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.	pending	substantial work has gone into investigating the causes of the performance issues and the development of a solution (the so-called 'self-healing' GeoServer. However, this solution is relatively novel as has come across several hurdles. Our next steps are to instigate a data cleansing process to find and eliminate any geometry issues and to add an additional Geoserver instance to help share the load.	none		
EM-391 (Sub-task) SBH review of the new CP Map Viewer	pending	tasks complete to date but this issue remains open for future requests for SBH to review the CP	none		
EM-644 (Sub-task) Seabed Habitats to provide input to the Tools & Guidelines section	pending	Tools and guidelines have been added to the central portal. Report uploads are in progress	none		
EM-665 (Task) TWG12 - CP & SBH to investigate if CP viewer can deal with layer group styles	pending	We have investigated this but it does not resolve the duplicated legend issue for group layers in	none		

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
		the central portal. A temporary solution has been proposed and work is underway.		
EM-905 (Bug) High - Geoserver 2x Server Side Request Forgery issues (CVE-2023-43795 & CVE-2023-41339)	Resolved	SBH GeoServer updated on 04/01/2024.	none	23/02/2024

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
EM-412 (New Feature) In the layer catalogue on new central portal, indicate which layer groups contain active layers	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	
EM-513 (New Feature) In the layer catalogue, add the ability toggle entire layer groups on or off	pending	This is a issue/suggestion that SBH made related to the functionality of the CP	none	
EM-515 (New Feature) Ability to filter habitat layers by habitat type or map ID	Resolved	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. The ticket has been closed as the issue is being pursued in EM-666.	none	30/1/2024
EM-666 (New Feature) TWG12-Advanced filter option	pending	This is a issue/suggestion that SBH made related to the functionality of the CP. The majority of the filters	none	

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
		have been enabled but still missing a gui freetext filter.		
EM-621 (Improvement) manual sorting of layers, rather than alphabetically	pending	This is a issue/suggestion that SBH made related to the functionality of the CP	none	
EM-623 (Improvement) improve access to metadata and download	pending	This is a issue/suggestion that SBH made related to the functionality of the CP. This was discussed at the TWG meeting in March and the changes are being implemented.	none	
EM-798 (Task) Products catalogue - metadata not updated	Resolved	Issue flagged by SBHs whereby changes we implement to our metadata are not being carried through to the products catalogue. The metadata have now been updated.	none	13/12/2023
EM-916 (Bug) products catalogue without filter options	Pending	Links will need to be changed in the static content pages so ensure they use the correct data products catalogue link.	none	
EM-936 (Task) EMODnet Seabed Habitats static content update	Pending	Materials for the static content have been prepared and will be delivered through the ticket in early Q2.	none	
EM-943 (Task) Updated tools and guidance for Seabed Habitats	Pending	Updates will be made by central team in April and will be reviewed by SBH in early Q2.	none	
We have found a problem with the new version of the EMODnet DTM. There are areas, typically bays and estuaries, with depth values that are too high to a sometimes surprising degree. It appears that in all these areas GEBCO 2022 is used. This problem will lead to classification errors in EUSeaMap, and we cannot publish EUSeaMap with such	pending	We have reported the problem to EMODnet Bathymetry and discussed it with them. Their view is that the problem should be solved by GEBCO first, and as a result future versions of the EMODnet DTM will de facto be corrected.  As instructed in the assessment for the 2023-Q4		

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
classification errors (they cover too large an area).		progress report, we will submit this issue as a JIRA ticket assigned to Bathymetry.		
We have submitted a number of habitat point datasets to EMODnet Biology during this phase, however since this lacks occurrence data it requires significant technical updates to the EMODnet Biology systems to facilitate the display of this data through their web services. Until this is done we cannot progress our plan to submit the habitat point data via this route.	pending	Seabed Habitats and Biology have had a number of discussions about this and will continue work on this in 2024. 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 that has a short name. This is the case for most BODC collections (P01 being one of them), however it does mean that they are unable to publish the records mapped to EUNIS codes. We will continue to work on this so we can make all data available as expected.		

## Communication assets

[In Table A, list peer reviewed publications directly (co-)authored by consortium and project partners in the reporting period. In Table B, list all non-peer reviewed publications (co-)authored. In all cases, indicate the type of publication, provide the full reference incl. title, volume and issue etc., and whether the publication is open or closed access.]

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
31/01/2024	Paper	Menabit, Selma & Lavin, Paris & Begun, Tatiana & <b>Muresan, Mihaela &amp; Teaca, Adrian</b> & Purcarea, Cristina. (2024). First screening of bacteria assemblages associated with the marine polychaete <i>Melinna palmata</i> Grube, 1870 and adjacent sediments. <i>Frontiers in Marine Science</i> , Volume 163, 2024.		<a href="http://dx.doi.org/10.3389/fmars.2023.1279849">http://dx.doi.org/10.3389/fmars.2023.1279849</a>	Yes
05/02/2024	Paper	Scacco, Umberto & Battistoni, Alessia & Garibaldi, Fulvio & Raicevich, Saša & Rondinini, Carlo & Serena, Fabrizio & <b>Tunesi, Leonardo</b> & Vacchi, Marino & Fortibuoni, Tomaso. (2024). Tracking IUCN extinction risk at sub-regional scale: lessons from comparing Italian Red List assessments for cartilaginous species within a decade (2013–2022). 2. 1356358. 10.3389/frish.2024.1356358.		<a href="http://dx.doi.org/10.1134/S003294522470005X">http://dx.doi.org/10.1134/S003294522470005X</a>	Yes
13/02/2024	Paper	Romain Jatiault, Pierre Henry, Lies Loncke, Mahrez Sadaoui, <b>Dimitris Sakellariou</b> . Natural oil seep systems in the Aegean Sea, <i>Marine and Petroleum Geology</i> , Volume 163, 2024.		<a href="http://dx.doi.org/10.1016/j.marpetgeo.2024.106754">http://dx.doi.org/10.1016/j.marpetgeo.2024.106754</a>	Yes

20/02/2024	Paper	Giakoumi, Sylvaine & Hogg, Katie & Di Lorenzo, Manfredi & Compain, Nicolas & Scianna, Claudia & Milisenda, Giacomo & Claudet, Joachim & Damalas, Dimitrios & Carbonara, Pierluigi & Colloca, Francesco & Evagelopoulos, Athanasios & Isajlovic, Igor & Karampetsis, Dimitrios & Ligas, Alessandro & Marčeta, Bojan & Nenciu, Magda & Niță, Victor & Panayotova, Marina & Sabatella, Rosaria & <b>Valentina Todorova</b> & Di Franco, Antonio. (2024). Deficiencies in monitoring practices of marine protected areas in southern European seas. Journal of Environmental Management. 355. 120476. 10.1016/j.jenvman.2024.120476.	<a href="http://dx.doi.org/10.1016/j.jenvman.2024.120476">http://dx.doi.org/10.1016/j.jenvman.2024.120476</a>	Yes
21/02/2024	Paper	Hipólito C, Lopes F, <b>Gonçalves J</b> , Calado H. A Critical Approach to Existing Management Perspectives in Scuba Diving: A Step in Defining Ecological Carrying Capacity. Sustainability. 2024; 16(5):1762.	<a href="https://doi.org/10.3390/su16051762">https://doi.org/10.3390/su16051762</a>	Yes
11/03/2024	Paper	Laforge, Diane & Carré, Aurélien & Laigle, Idaline & de Bettignies, Thibaut & La Rivière, Marie. (2024). La restauration écologique en mer : analyse sémantique, concepts associés et stratégies d'intervention.	<a href="https://mnhn.hal.science/mnhn-04486091v2">https://mnhn.hal.science/mnhn-04486091v2</a>	Yes
27/03/2024	Paper	Giusti, Michela & Angiolillo, Michela & Consalvo, I. & Di Lorenzo, Bianca & Enrichetti, F & Toma, Margherita & Pazzini, Alfredo & Caro, A & <b>Tunesi, Leonardo</b> . (2024). Distribution and in vivo Observations of the Boa Dragonfish <i>Stomias boa</i> (Stomiidae) in Deep-Sea Canyon Ecosystems of the Northwestern Mediterranean Sea. Journal of Ichthyology.	<a href="http://dx.doi.org/10.1134/S003294522470005X">http://dx.doi.org/10.1134/S003294522470005X</a>	Yes

A. 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
03/2024	Poster	Novo, Rita & Ponsoni, Leandro & Fourie, Fred & Develter, Roeland & Langedock, Kobus & <b>Beja, Joana</b> & Ribeiro, Clara & Boone, Wieter. (2024). Towards a toolbox for automating the AUV Barabas data flow embracing FAIR principles. 10.13140/RG.2.2.23667.54562.		<a href="http://dx.doi.org/10.13140/RG.2.2.23667.54562">http://dx.doi.org/10.13140/RG.2.2.23667.54562</a>	Yes
22/03/2024	Technical report	<b>O’Keeffe, E.</b> , Scally, L., Clarke, S., Pfeiffer, N., Smith, B. and Tully, O. (2024). Correlation Between Reef Terrain Variables and Species Diversity in Spiny Lobster Habitat. EMFF 2014-2020 Marine Institute Report Series. Marine Institute, Ireland		<a href="https://oar.marine.ie/handle/10793/1896">https://oar.marine.ie/handle/10793/1896</a>	Yes

For a comprehensive overview of publications referring to/making use of EMODnet data and/or data products, please consult Google Scholar.



## Monitoring indicators

[Refer to the standardised monitoring tool, i.e. Europa Analytics, to complete the indicators excel template, and provide a short explanation in the table below on the numbers and trends for each indicator when possible/applicable. Indicate clearly if monitoring was carried out using tools other than Europa Analytics.]

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	Four new point datasets uploaded via the new habitat point workflow to EMODnet biology
What is your opinion on the data coverage within EMODnet for your thematic?	N/A	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 GeoServer layers (including vocabulary keyword tagging), with python scripting, GeoServer server-side logging and data download logging	Downloads and WMS requests are much higher than in the previous quarter whilst map visualisations have remained level. Indicates users are utilising the WMS services in their own Geographic Information systems directly. WFS requests are much reduced but the reasons for this are unclear. It's possible they may be reduced if users are instead choosing to utilise the file downloads, a theory supported by the increased download figures.
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	16 new seabed habitat maps, and 14 new essential fish habitat maps and models have been uploaded this quarter. Many of these are located in the Mediterranean, North Atlantic and North Sea with one addition from EMODnet ingestion from the Baltic Sea region.
B) Usage of data products in this quarter	Custom GeoServer layers (including vocabulary	Downloads are much higher than in the previous quarter for most sub-themes particularly for the seabed and essential fish habitat maps and composite products. Map visualisations have remained level and WMS requests are slightly increased. WFS

Comments on the progress indicators in the indicators spreadsheet		
Progress indicator	Means of collecting figures	Comment
	keyword tagging), with python scripting, GeoServer server-side logging and data download logging	requests are mostly fairly level or slightly increased with the exception of composite products which have shown a decrease. In this case the WFS may be reduced if users are instead choosing to utilise the static downloads instead. The essential fish habitat maps have seen a large increase in WFS requests - this is probably because this is a relatively new sub-theme and we are seeing more interest from users as the datasets are publicised and the collation grows.
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	N/A	We have brought in data for some of our gap areas (Spain) and have identified data to be included in other gaps (Croatia). We are continuing discussions with HELCOM on how they could facilitate in bringing in data from the Baltic Sea.
4. Online 'Web' interfaces to access or view data	Tracking tables in SharePoint.	No changes since last quarter.
5.1 Daily number of page views of EMODnet Thematic entry page	Europa Analytics	Number of visitors at peaks have stayed relatively similar. However, there are fewer peaks close to 60 visitors that in last quarterly web traffic statistics.
5.2 Quarterly total number of visitors, page views, unique page views and percentage of returning visitors	Europa Analytics	Number of visitors, page views and unique page views down by 1-3%, percentage of returning visitors slightly higher.

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

## Annex: Other documentation attached

Deliverable D3.01 - *A list of products to be created or updated and product specifications.*  
[EMODnet\_Seabed\_Habitats\_List\_of\_Products\_25032024.docx]