



# EMODnet Thematic Lot n°3 – Seabed Habitats

**EASME/EMFF/2020/3.1.11/Lot3/SI2.843624**

**Start date of the project: 25/09/2021 (24 months)**

**Centralisation Phase**

**Quarterly Progress Report (7)**

**Reporting Period: 01/04/2023 – 30/06/2023**

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### Disclaimer

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# 1. Highlights in this quarter

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*[List the quarterly progress for each of the tasks specified in Section 1.4.1 of the Tender Specifications; provide an explanation for any tasks in which progress has not been noted. Provide in the table a list of all Milestones and Deliverables as from the technical workplan in numerical order, the date due, status and date delivered. Max 2 pages]*

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

We have provided training and created a draft habitat point submission guidance document to facilitate the submission of partner habitat point data to EMODnet Biology (D2.12/D4.08). This is currently being tested using an initial batch of data and will be refined following feedback from partners and EMODnet biology. The next step once data is submitted will be to ensure access to seabed habitats data from EMODnet biology using web services (D4.07).

## **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**

The preparation of data for EUSeaMap has progressed well. Bathymetry and all environmental datasets have been produced, which allowed to produce a draft version of habitat descriptor layers (e.g. biological zones, energy at the seabed). Next step is to produce the seabed substrate layer. On 30 June, EMODnet Geology provided us with an unofficial copy of the product that they will officially deliver in September. This is a draft version, and there are imperfections that we will have to correct. These corrections, alongside the integration of our own data on seabed substrate (e.g. biogenic substrate polygons from our habitat maps from survey), will be carried out over the summer. EUSeaMap 2023 will be delivered the 24th of September 2023.

New combined, harmonized data products showing the best evidence for the extent of wetland type and Mangroves have been created and are currently being reviewed. The biogenic substrate layer has also been updated ready for use in the EUSeaMap 2023 update.

## **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 a central portal that allows users to find, view and download data and data products**

We continue to work closely with the CP team to facilitate the optimum display of ESH data and products on the CP map viewer, finding solutions to issues as they arise in a timely manner. During this quarter we have worked with the CP team to implement a secondary layer grouping on the central viewer, to add two new data layers to the viewer (essential fish habitats and Ramsar habitat maps) and to address user feedback via JIRA to enable users to find data products post centralisation. In April we carried out our third of four six-monthly bulk updates of data to the ESH portal (D4.13). A summary of the new data and products available is provided here: 15 classified essential fish habitat model datasets; 42 new individual habitat maps from surveys (seabed habitats and coastal wetland), including five coastal wetlands maps in the Ramsar classification; 9 new survey sample point datasets (4167 points); and 3 composite products.

**Task 5: Contribute content to dedicated spaces in the Central Portal**

Nothing to report

**Task 6: Ensure the involvement of regional sea conventions (RSC)**

We have continued to provide support to the OSPAR data call for threatened and/or declining habitats. Our subcontractor SAERI has also begun engagement with the Specially Protected Areas and Wildlife Regional Activity Centre (SPA-W-RAC) as part of the work in the Caribbean Sea. We support SAERI directly, ensuring they have visibility of the methodology we use to engage with the RSCs across the consortium.

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

Nothing to report

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

We receive instant alerts about web performance problems and resolve them as necessary. During this quarter we upgraded our Geoserver in response to a high priority critical bug raised by the central team. We have received several pieces of feedback through our inbox and via the JIRA helpdesk and have always respond and resolve any issues promptly. For example, we have refreshed several of our download products to update metadata links and replace corrupted data in direct response to user feedback on issues when downloading data.

**Task 9: Maintain the existing thematic web portal for a maximum of 6 months from the start of the project**

Nothing to report

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</b>	1	05/25/23	Delayed		We assumed that we would receive the seabed substrate data from EMODnet Geology in May 2023. We received it in July 2023. So the delivery date is postponed to 31/07/2023. There

(EUSeaMap) [dependent on new product from Geology]					will be no implication on EUSeaMap delivery date
<b>D1.02: Confidence layer for modified substrate data product published</b>	1	05/25/23	Delayed		We assumed that we would receive the seabed substrate data in May 2023. We received it in July 2023. So the delivery date is postponed to 31/07/2023. There will be no implication on EUSeaMap delivery date
<b>D1.03: A ready-to-use DTM for EUSeaMap</b>	1	05/25/23	Delivered	31/03/2023	
<b>D1.04: Confidence layer for the DTM product published</b>	1	05/25/23	Delayed		The layer is ready. However, we feel that publishing it now on its own (i.e. while EUSeaMap is not yet published) would not make sense and would confuse the user.
<b>D1.05: EUNIS-style habitat classification in the Caspian Sea for broad-scale habitat mapping</b>	1	09/25/22	Delivered	31/12/2022	
<b>D1.06: EUNIS-style habitat classification in the Caribbean Sea for broad-scale habitat mapping</b>	1	12/25/22	Delivered	31/12/2022	
<b>D1.07: Environmental layers for the Caspian Sea ready for EUSeaMap</b>	1	12/25/22	Delivered	30/09/2022	

<b>D1.08: Environmental layers for the Caribbean Sea ready for EUSeaMap</b>	1	12/25/22	Delivered	31/12/2023	
<b>D1.09: Halocline layer for the Baltic Sea ready for EUSeaMap</b>	1	05/25/22	Delivered	25/08/2022	
<b>D1.10: Thresholds for Caspian, Caribbean, Baltic, and Mediterranean Seas</b>	1	05/25/23	Delivered	31/03/2023	
<b>D1.11: Broad-scale seabed habitat map for Europe, Caribbean Sea, and Caspian, in EUNIS 2019 and MSFD broad habitat classifications, including a column that describes the habitat descriptor classes</b>	1	09/25/23	To do		
<b>D1.12: Confidence assessment for updated broad-scale seabed habitat map in all considered classifications</b>	1	09/25/23	To do		
<b>D1.13: Confidence associated to all environmental layers published</b>	1	09/25/23	To do		
<b>D1.14: A R script automating the calculation of environmental layers at the seabed from a CMEMS product archives</b>	1	09/25/22	Delivered	25/10/2022	
<b>D1.15: Technical report published</b>	1	09/25/23	To do		

<b>D1.16:</b> Well-documented R code and ArcGIS models used to construct the broad-scale seabed habitat map	1	09/25/23	To do		
<b>D1.17:</b> For Swedish waters, a modelled habitat map based on Geology's novel type of seabed substrate map for habitat modelling [dependent on applicability if this new type of map to habitat modelling]	1	12/25/22	Cancelled	NA	Cancellation of this deliverable accepted by CINEA and DG MARE on 14 September 2022.
<b>D2.01:</b> An expanded library of maps of communities, biocenoses, biotopes and habitats for all of Europe, Caribbean Sea and Caspian Sea ingested and converted to a standard format, with metadata for every map	2	25/2/22-25/8/23	To do		
<b>D2.02:</b> An expanded collation of point records of communities, biocenoses, biotopes and habitats for all of Europe, Caribbean Sea and Caspian Sea ingested and converted to a standard format, with metadata for every dataset	2	25/2/22-25/8/23	To do		
<b>D2.03:</b> Updated and integrated templates	2	11/25/21	Delivered	06/30/22	

for habitat map data exchange formats					
<b>D2.04: Webinars, tutorials or other forms of training material on the EMODnet Seabed Habitats data submission process</b>	2	12/25/21	Delivered	03/31/22	
<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>	2	25/2/22-25/8/23	To do		
<b>D2.06: Evidence of use of the EMODnet Ingestion and safe-keeping of marine data facility for ingesting data points, maps and models from third parties</b>	2	09/25/23	To do		
<b>D2.07: Translation tables for coastal wetland types into one or more standard classifications</b>	2	01/25/22	Delivered	09/30/22	
<b>D2.08: A data submission process and protocol for coastal wetlands types maps and points</b>	2	01/25/22	Delivered	06/30/22	
<b>D2.09: Controlled vocabulary lists for classification systems published on NERC Vocabulary Server, as required</b>	2	25/12/21-25/08/23	To do		



<b>D2.10: A library of maps of Essential Fish habitats maps for major fish species in the Mediterranean, North East Atlantic and Baltic Sea ingested and converted to a standard format, with metadata for every map</b>	2	25/2/22-25/8/23	To do		
<b>D2.11: A data submission process and protocol for Essential Fish Habitats maps</b>	2	01/25/22	Delivered	06/30/22	
<b>D2.12: Formal protocol for data sharing and identification of relevant benthic data between EMODnet Biology and EMODnet Seabed Habitats</b>	2	09/25/22	Delivered	10/03/22	
<b>D2.13: Updated data model and guidance for benthic point data</b>	2	09/25/23	To do		
<b>D2.14: A standard transformation between OSPAR T&amp;D data schema and OBIS Schema to enable import into OBIS, including a test pilot run using the 2022 OSPAR T&amp;D database</b>	2	09/25/22	Delayed		2022 OSPAR T&D database was only delivered in 2023 Q2 so we will be looking into this in Q3. In addition, there are plans to overhaul the schema of the OSPAR T&D database to better align it with other schemas, which is not due to be completed before the end of this project. Therefore it may not be

					possible or, at least, sensible, to complete this internal deliverable. If not, then it would also impact D2.15. However, these two deliverables were additional 'bonus' activities proposed by the consortium and are therefore not considered to be essential for the delivery of the tasks dictated by the technical specification.
<b>D2.15: Agree a protocol with the OSPAR commission for the continued archiving of the public database within the OBIS network, pending success of D2.14</b>	2	09/25/23	To do		
<b>D2.16: List of point datasets, maps and models available via machine-to-machine connections</b>	2	25/11/21-25/8/23	To do		
<b>D2.17: Progress log for the ingestion of point data, maps and models</b>	2	25/10/21-25/09/23	Delivered	10/31/22	
<b>D3.01: A list of products to be created or updated and product specifications</b>	3	03/25/22	Delivered	10/19/22	The list has been continuously updated in function of stakeholders needs. Our major concern was about

					the biogenic layer, but since we had access to the script produced by JNCC, work is progressing smoothly and a new deadline for the associated deliverable was set to May 2023.
<b>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, with metadata (updated)</b>	3	08/25/23	To do		
<b>D3.03: A combined, harmonized data product showing the best evidence for extent and distribution of the Essential Ocean Variable "Seagrass cover" in Europe, with metadata (updated)</b>	3	08/25/23	To do		
<b>D3.04: A combined, harmonized data product showing the best evidence for extent and distribution of the Essential Ocean Variable "Macroalgal canopy coral cover" in Europe, with metadata (updated)</b>	3	08/25/23	To do		
<b>D3.05: A combined, harmonized data product showing the best evidence for the</b>	3	04/25/23	Delivered	05/23/23	

extent of wetland type in Europe, Caspian Sea and the Caribbean, with metadata (new)					
D3.06: Data contributed to a harmonized data product showing the best evidence for extent and distribution of the Essential Ocean Variable "Mangrove cover and composition", with metadata (new, if required)	3	08/25/23	To do		
D3.07: Evaluation of EFH approaches to determine map suitability to combine into products useful for fisheries management and biodiversity conservation	3	05/25/23	Delivered	06/30/23	
D3.08: 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	08/25/23	To do		
D3.09: An updated combined, harmonized data product showing the best evidence for the extent of biogenic substrate in all regions, with metadata (updated)	3	05/31/23	Delivered	06/12/23	

<b>D3.09: An updated combined, harmonized data product showing the best evidence for the extent of biogenic substrate in all regions, with metadata (updated)</b>	3	01/25/23	Delayed		The OSPAR data used to create this product won't be available until April 2023. Delaying will also allow the new data uploaded in April 2023 to be integrated into the product.
<b>D3.10: Report detailing the construction of the biogenic habitat data product (updated)</b>	3	05/25/23	Delayed		Report in progress due to late delivery of biogenic substrate layer
<b>D3.11: Report(s) detailing the construction of the data products defined by stakeholder needs (new)</b>	3	09/25/23	To do		
<b>D3.12: Report detailing the construction of the Essential Ocean Variable data products (updated)</b>	3	09/25/23	To do		
<b>D4.01: A web portal including a digital map, facilities for downloading data, metadata search and technical information</b>	4	09/25/21	Delivered	09/25/21	
<b>D4.02: Contribute to EMODnet Technical Working Group as necessary</b>	4	As necessary	To do		
<b>D4.03: Minutes &amp; actions from Technical Working Group within 1 month of meeting</b>	4	Within 1 month of each meeting	Delivered	01/00/00	

<b>D4.04: Ad hoc changes to website and visual identity, as requested by Secretariat</b>	4	25/10/21-25/03/22	Delivered	30/09/2022	
<b>D4.05: A set of data schema standards for the provision of habitat data, built upon international standard.</b>	4	09/25/21	Delivered	09/25/21	
<b>D4.06: Method for indirect cascading of problematic external services prior to onward publication</b>	4	12/25/22	Delivered	11/11/22	
<b>D4.07: Habitat ground-truthing data from EurOBIS extracted via web services</b>	4	12/25/21	Delivered	06/20/23	As explained in the previous quarter; progress is pending some changes to the EurOBIS toolsets, but we are on track for the revised delivery date of 2023 Q3.
<b>D4.08: IPT (or alternative) infrastructure for the publication of habitat data into EurOBIS</b>	4	08/25/23	Delivered	09/30/22	
<b>D4.09: Internal database of unpublishable habitat data for use in WP1 and to aid public discoverability</b>	4	09/25/21	Delivered	09/25/21	
<b>D4.10: A GeoServer web-server for the provision of OGC spatial web-services (WMS, WFS, WCS)</b>	4	09/25/21	Delivered	09/25/21	

<b>D4.11: A plan of action for the provision of key habitat datasets as attributed raster data</b>	4	08/25/22	Delivered	26/09/2022	
<b>D4.12: A GeoNetwork INSPIRE-compliant metadata instance with OGC CSW capabilities</b>	4	09/25/21	Delivered	09/25/21	
<b>D4.13: Publication to the central portal of relevant data and products collected and created under WP1 and WP2</b>	4	25/03/22 with updates at least every 6 months	To do		
<b>D4.14: Website liaison and training node between lot partners/content creators and central portal team.</b>	4	09/25/21	Delivered	09/25/21	
<b>D4.15: Transfer of key habitat mapping resources from the thematic portal to the central portal</b>	4	09/25/22	Delivered	25/09/2022	
<b>D4.16: Direct link to the HELCOM Mapping and Data Service, and similar services from other Regional Sea Conventions where feasible</b>	4	03/25/22	Delivered	06/30/22	
<b>D4.17: A direct data link to the ICES VME database, providing access to vulnerable marine ecosystem data</b>	4	03/25/22	Delivered	03/31/22	
<b>D4.18: Tracked issues and suggestions regarding the portal</b>	4	09/25/21	Delivered	09/25/21	

and services, and improvements made as a result.					
<b>D4.19: Abstracts submitted for annual INSPIRE conference and participation in community forum where relevant.</b>	4	depends on conference dates	To do		
<b>D4.20: Publication of relevant products, datasets and services through EOSC and EUODP</b>	4	12/25/22	Delivered	30/06/2023	
<b>D4.21: Live operation of help desk 9-5, Mon-Fri</b>	4	10/25/21	Delivered	09/25/21	
<b>D4.22: Collated anonymous questions and answers published on the portal and through RSS (or alternative mechanism after portal retirement).</b>	4	10/25/21	Delivered	NA	JNCC Map for OSPAR
<b>D4.23: Provision of Matomo (or similar as steered by secretariat) web analytics information to secretariat for reporting</b>	4	09/25/21	Delivered	09/25/21	
<b>D4.24: Statistics from OGC webservice usage - to be guided by secretariat.</b>	4	12/25/21	Delivered	31/09/2021	
<b>D5.01: Evidence of efforts to ensure maximum coherence with data delivery to</b>	5	09/25/23	To do		



and from regional sea conventions					
<b>D5.02: Updated review of RSC needs</b>	5	01/25/22	Delivered	12/16/22	
<b>D5.03: Liaise with ICES in advance of annual WG meetings to ascertain products they require for reporting on ToRs</b>	5	25/05/2022, 25/05/2023	Delivered	08/31/22	
<b>D5.04: Tutorials for creating new maps from existing data</b>	5	03/25/23	Delivered	26/03/2023	
<b>D5.05: Promotion of simple procedural guidelines for creating alternative data formats from existing data formats</b>	5	03/25/23	Delivered	26/03/2023	
<b>D5.06: Tutorial on how to format habitat maps using templates and to simplify the data submission process.</b>	5	03/25/23	Delivered	31/03/2022	Delivered in advance of original planned date due to dependency with D2.04
<b>D5.07: Evidence of engagement with relevant working groups and expert groups to gather feedback and needs of habitat data requirements and products that will help Member States to fulfil reporting obligations</b>	5	25/01/22-25/09/23	Delivered	09/30/22	
<b>D5.08: Minutes of meeting(s) with EMODnet biology</b>	5	03/25/22	Delivered	03/31/22	

<b>D5.09: Communications plan</b>	5	01/25/22	Delivered	03/31/22	
<b>D5.10: New use cases on the EMODnet central portal</b>	5	25/10/21-25/09/23	To do		
<b>D5.11: A prominent summary of the data and data products available from EMODnet seabed Habitats web services</b>	5	09/25/22	Delayed		We have already published a summary of our data products for the ESH portal, the plan from our proposal was to expand on this to better highlight some of our products. With the portal centralisation we decided to put this on hold in case a more coordinated approach was developed that would highlight prominent data and products across all lots. Expected due date: 2023 Q3.
<b>D5.12: Co-ordinated and sustained online presence: news stories, blogs, tweets, etc.</b>	5	25/10/21-25/09/23	To do		
<b>D5.13: Presentations and posters at conferences and cross-cutting meetings</b>	5	25/10/21-25/09/23	To do		
<b>D5.14: ESRI story maps / Infographics</b>	5	03/25/22	Delivered	12/31/21	

<b>D5.15: Record of all promotion and outreach activities</b>	5	25/10/21-25/09/23	To do		
<b>D6.01: Project management plan and project initiation document</b>	6	10/25/21	Delivered	11/30/21	
<b>D6.02: Project quality management plan and project audit document</b>	6	10/25/21	Delivered	06/30/22	
<b>D6.03: Consortium Agreement</b>	6	10/25/21	Delivered	03/31/22	
<b>D6.04: Participation in EMODnet SC meetings as necessary</b>	6	As necessary	To do		
<b>D6.05: Minutes &amp; actions from Steering Committee meetings within 1 month of meeting</b>	6	Within 1 month of each meeting	To do		
<b>D6.06: Progress meeting 1 - WP leads</b>	6	03/25/22	Delivered	03/31/22	
<b>D6.07: Minutes &amp; actions from progress meeting 1</b>	6	Within 1 month of meeting	Delivered	03/31/22	
<b>D6.08: Progress meeting 2 - whole consortium</b>	6	03/25/23	Delivered	14/12/2022	
<b>D6.09: Minutes &amp; actions from progress meeting 2</b>	6	Within 1 month of meeting	Delivered	14/12/2022	
<b>D6.10: Quarterly progress report to EASME, DG-MARE and EMODnet Secretariat</b>	6	15 Jan, 15 Apr, 15 Jul & 15 Oct each year	To do		
<b>D6.11: Interim report</b>	6	09/25/22	Delivered	24/10/2022	

<b>D6.12: Submission of the invoice for the interim payment</b>	6	09/25/22	Delivered	23/11/2022	
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## 2. 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
<b>EM-146 (Sub-task) Seabed Habitats Quality of Service Monitoring:</b> 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	
<b>EM-339 (Sub-task) Collect names of Portal editors</b>	resolved		none	29/11/2021
<b>EM-347 (Sub-task) Collect fields/forms used on Seabed Habitats Thematic Portal</b>	resolved		none	26/01/2022
<b>EM-350 (Bug) Missing attribute in eusm2019_full_800 layer of Seabed Habitat WMS service</b>	resolved		none	07/10/2021
<b>EM-363 (Sub-task) Seabed Habitats to report on number and volume of</b>	resolved		none	21/01/2022

downloaded data and data products by 29th of October 2021				
EM-383 (Task) SBH Grafana dashboard stopped tracking webpage Search Metadata	resolved		none	14/02/2022
EM-384 (Sub-task) SBH to produce an inventory of products	resolved		none	21/06/2022
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-422 (Sub-task) Log4Jshell Update from SBH	resolved		none	07/11/2022
EM-495 (Sub-task) Seabed Habitats to report on number and volume of downloaded data and data products	resolved		09/02/2022	09/02/2022
EM-531 (Sub-task) SBH - EMODnet Catalogue Tags	resolved	we provided the requested feedback so consider this issue resolved. status according to JIRA: In Review	none	26/04/2022
EM-539 (Task) Seabed Habitats products' centralisation	resolved		none	16/03/2023
EM-543 (Task) Adding Seabed Habitats' layers to metaGIS	resolved		06/05/2022	29/09/2022
EM-558 (Bug) Seabed Habitats Catalogue no longer has any public records	resolved		none	03/05/2022

<b>EM-570 (Sub-task) Feedback on CP Main Menu</b>	resolved		30/06/2022	27/04/2022
<b>EM-591 (Task) SBH Layers in the Map Viewer Content Management System</b>	resolved		04/07/2022	02/06/2023
<b>EM-611 (Task) Centralisation Checklist for review</b>	resolved		none	02/12/2022
<b>EM-639 (Sub-task) Standardise the navigation menu on left hand side of page</b>	resolved		none	24/04/2023
<b>EM-644 (Sub-task) Seabed Habitats to provide input to the Tools &amp; Guidelines section</b>	pending	Tools and guidelines have been added to the central portal. Still awaiting the addition of reports	none	
<b>EM-652 (Sub-task) Seabed Habitats to review layer legends and add units where they are missing</b>	resolved		none	11/10/2022
<b>EM-664 (Task) TWG12-SBH to report on which filters are still required</b>	resolved		none	16/03/2023
<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-666 (Task) TWG12- Advanced filter option</b>	pending	awaiting information on whether free text filters are an option	none	

<b>EM-708 (Bug) Download Broken for Several Seabed Habitats Layers</b>	resolved		none	24/01/2023
<b>EM-713 (Epic) Switch on URL redirects on Monday the 23rd of January</b>	resolved		23/01/2023	20/04/2023
<b>EM-717 (Task) EMDOnet Seabed Habitats URL direct to new EMODnet portal</b>	resolved		23/01/2023	25/01/2023
<b>EM-773 (Bug) Critical - Geoserver Remote Code Execution - CVE-2022-24816 &amp; CVE-2023-25157</b>	resolved		none	16/05/2023

#### 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-316 (Improvement) reorder EMODnet Themes on Reports page to force the 'active' themes to the top of the list</b>	resolved	This is a issue/suggestion that SBH made related to the functionality of the CP	none	16/09/2021
<b>EM-317 (Improvement) 'Seabed Habitats' missing from list of Topics on Newsroom</b>	pending	This is a issue/suggestion that SBH made related to the functionality of the CP	none	
<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	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-514 (Improvement) Return custom</b>	resolved	This is a issue/suggestion that SBH made related to	none	15/09/2022



feature/pixel information when user clicks on a feature/pixel in the map		the functionality of the CP		
<b>EM-515 (New Feature)</b> Ability to filter habitat layers by habitat type or map ID	pending	This is a issue/suggestion that SBH made related to the functionality of the CP	none	
<b>EM-620 (Improvement)</b> Introduce text wrapping in Catalogue pane	resolved	This is a issue/suggestion that SBH made related to the functionality of the CP. This specific suggestion has not been implemented but instead the layer pane can be extended to allow users to see more of the name	none	01/03/2023
<b>EM-621 (Improvement)</b> manual sorting of layers, rather than alphabetically	pending	This is a issue/suggestion that SBH made related to the functionality of the CP	none	
<b>EM-622 (Task)</b> correct layer information, metadata and download links for some SH layers	resolved	This is a issue/suggestion that SBH flagged with some of our layers on the central portal viewer. These have now been corrected	none	17/11/2022
<b>EM-623 (Improvement)</b> improve access to metadata and download	pending	This is a issue/suggestion that SBH made related to the functionality of the CP	none	
<b>EM-688 (Improvement)</b> correction to a use case	pending	This is a issue that SBH flagged with one of the use cases which had been reported by a user. CP have corrected so just needs to be reviewed by us	none	
<b>EM-723 (Task)</b> Updated download links needed for	resolved	Post thematic shut down updates were needed for some central viewer	none	25/01/2023

EMODnet Seabed Habitats layers on central		layers to ensure the downloads links were correct		
EM-796 (Task) Viewer third level menu options for Seabed Habitats	resolved	Additional third level menu option implemented for relevant SBHs layers		13/06/2023
EM-798 (Task) Products catalogue - metadata not updated	pending	Issue flagged by SBHs whereby changes we implement to our metadata are not being carried through to the products catalogue. We need to provide some examples for the central team to investigate		
EM-802 (Task) New Ramsar and EFH layers for CP viewer	pending	Mostly complete just awaiting SBHs review		
In the project proposal we proposed that we subcontract the 'Mid Atlantic Environmental Research Institute' (MAERI) to carry out data collation, preparation and outreach in the Caribbean. At the time of bidding MAERI was not an operational entity but a partnership between Anguilla Community College (ACC), Department of Natural Resources (Anguilla), South Atlantic Environmental Research Institute (SEARI) and JNCC. However, the intention was to establish MAERI as a standalone entity. Developments were hindered by the pandemic and, as such, MAERI still only exists as a partnership between these	resolved	CINEA have approved the subcontracting of another MAERI partner, SAERI, who are better set up for contracts such as these - both with the financial mechanisms in place and personnel who can be deployed immediately. Subcontract with SAERI has started.	31/10/2022	01/02/2023

<p>organisations. In the bid, we proposed that ACC be the official subcontractor representing MAERI and throughout year 1 of the project we have had many exchanges with both ACC and DNR about how to arrange this subcontract. Over the summer it became apparent that there were going to be too many administrative obstacles to be able to set up a contract with ACC and get any meaningful input from them before the end of the contract and so we realised we needed another option.</p>				
<p>Lack of an EMODnet DEM in the Caspian Sea for broad-scale habitat mapping. It is well known that a vital input layer into the broad-scale habitat map (EUSeaMap) is a digital elevation model provided by EMODnet Bathymetry. However, in this phase of the project Seabed Habitats has been asked to produce a broad-scale habitat map for the Caspian Sea, while Bathymetry were not asked to produce a DEM for that sea. As a result, we are forced to use GEBCO, which is of low resolution and quality in the Caspian Sea. We will be able to deliver the deliverable of a broad-scale habitat map for the Caspian Sea, but its quality will not be high.</p>	resolved	<p>raised at the April Steering Committee meeting. It was confirmed with Bathymetry and CINEA that Bathymetry would not be producing a DEM and that ESH should use GEBCO.</p>	none	30/09/2022

<p>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 classification errors (they cover too large an area).</p>	<p>pending</p>	<p>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. Therefore, we will have to manually correct the classification errors of EUSeaMap in a post-processing step. This will take some time. However, we do not expect this to delay in the delivery of EUSeaMap.</p>		
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### 3.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
April 2023	Paper	<p>Evangelia Stroglyoudi, Evangelia Krasakopoulou, Antonia Giannakourou, Sofia Galinou-Mitsoudi, Vasiliki-Angelique Catsiki, <b>Paraskevi Drakopoulou</b>, Chara Kyriakidou, Evangelos Papathanassiou, Michael O. Angelidis,</p> <p>How environmental factors determine mussel metal concentrations? A comparative study between areas facing different pressures,</p> <p>Regional Studies in Marine Science,</p> <p>Volume 59,</p> <p>2023.</p>		<a href="https://doi.org/10.1016/j.rsma.2022.102806">https://doi.org/10.1016/j.rsma.2022.102806</a>	Yes

April 2023	Paper	GIULIA MO, SABRINA AGNESI, PIETRO LO CASCIO & BRUNO MASSA. Historical and recent data on the occurrence of the Mediterranean monk seal in the Aeolian Islands (southern Tyrrhenian Sea, Sicily).		<a href="https://doi.org/10.5281/zenodo.7657458">https://doi.org/10.5281/zenodo.7657458</a>	Yes <a href="https://www.researchgate.net/publication/369898182_DATI_STORICI_E_RECENTI_SULLA_PRESENZA DELLA FOCA MONACA NELLE ISOLE EOLIE TIRRENEE MERIDIONALE SICILIA">https://www.researchgate.net/publication/369898182_DATI_STORICI_E_RECENTI_SULLA_PRESENZA DELLA FOCA MONACA NELLE ISOLE EOLIE TIRRENEE MERIDIONALE SICILIA</a>
13/05/2023	Paper	Müller, C., Erzini, K., Dudeck, T. et al. Variability of prey preferences and uptake of anthropogenic particles by juvenile white seabream in a coastal lagoon nursery ground. Environ Biol Fish 106, 1383–1404 (2023).		<a href="https://doi.org/10.1007/s10641-023-01423-z">https://doi.org/10.1007/s10641-023-01423-z</a>	Yes
31/05/2023	Paper	Svedäng Henrik, Thunell Viktor, Pålsson Ale, Wikström Sofia A., Whitehouse Martin J. Compensatory feeding in Eastern Baltic cod ( <i>Gadus morhua</i> ): recent shifts in otolith growth and nitrogen content suggest unprecedented metabolic changes. Front. Mar. Sci., 31 May 2023.		<a href="https://doi.org/10.3389/fmars.2023.1154309">https://doi.org/10.3389/fmars.2023.1154309</a>	Yes

		Sec. Marine Fisheries, Aquaculture and Living Resources.			
June 2023	Paper	<p>Kirsty A. McQuaid, Amelia E.H. Bridges, Kerry L. Howell, Tiago B.R. Gandra, Vitor de Souza, Jock C. Currie, Oliver T. Hogg, Tabitha R.R. Pearman, James B. Bell, Lara J. Atkinson, Diane Baum, Jarbas Bonetti, Alvar Carranza, Omar Defeo, Thomas Furey, Maria A. Gasalla, Neil Golding, Shannon L. Hampton, Sebastián Horta, Daniel O.B. Jones, Amanda T. Lombard, <b>Eleonora Manca</b>, Yamandú Marin, Stephanie Martin, Pål Mortensen, Cecilia Passadore, Nils Piechaud, Kerry J. Sink, Andrew Yool,</p> <p>Broad-scale benthic habitat classification of the South Atlantic, Progress in Oceanography, Volume 214, 2023.</p>		<a href="https://doi.org/10.1016/j.pocean.2023.103016">https://doi.org/10.1016/j.pocean.2023.103016</a>	Yes
01/06/2023	Paper	<p>Christopher J. Smith, Nadia K. Papadopoulou, Irida Maina, Stefanos Kavadas, P. Daniel van Denderen, <b>Nikolaos Katsiaras</b>, Sofia Reizopoulou, Ioannis</p>		<a href="https://doi.org/10.1016/j.ecolind.2023.110286">https://doi.org/10.1016/j.ecolind.2023.110286</a>	Yes

		Karakassis, Anastasios Tselepides, Irimi Tsikopoulou,  Relating benthic sensitivity and status to spatial distribution and intensity of trawling in the Eastern Mediterranean,  Ecological Indicators,  Volume 150,  2023.			

*[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. 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
None this quarter					



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

### 3. 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	Third of four batch updates of data onto the portal during this quarter. The increase in volume of data comes from 8 new datasets, most of which are in the Med sea but data also added in the Black Sea and Greater North Sea.
What is your opinion on the data coverage within EMODnet for your thematic?		Point data coverage is concentrated in the EEZs of countries where project partners are based. There is likely to be much more data to be found in countries like Spain, Poland, Croatia, etc., which we may be able to target with dedicated subcontracts. We will also look to improve the coverage in areas such as the Caribbean during the upload in September 2023.
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	Data downloads are increased from last quarter but not as high as the last quarter of 2022 (pre-centralisation). No clear reason for this. The process is now in place and results next quarter should be more representative. The WMS requests are higher than last quarter but the map visualisations much lower. The map visualisations now include those from the central portal, but it is unclear why they are so low compared to the numbers pre-centralisation. Reassuringly WMS requests continue to grow meaning users are still utilising the Seabed Habitats data. The WFS requests are also greatly increased this may be due to increased user numbers post centralisation.

<p>2. Current status and coverage of total number of data products</p> <p>A) Volume and coverage of available data products</p>	Custom postgresql views and geoserver layers including vocabulary keyword tagging) with python scripting	Third of four batch updates of data on the portal during this quarter. This includes the addition of 15 new essential fish habitat models, 42 new individual habitat maps from survey (including new coastal wetlands datasets) and 3 composite datasets. Notable is the addition of our first habitat map data in the Caribbean Sea region.
B) Usage of data products in this quarter	Custom geoserver layers (including vocabulary keyword tagging), with python scripting, geoserver server-side logging and and data download logging	Data downloads are mostly increased from last quarter. This is expected as the previous quarter had only partial download recording due to complications of centralisation. Downloads have returned to levels seen in the last quarter of 2022. The WMS requests are higher than last quarter but the map visualisations much lower. The map visualisations now include those from the central portal, but it is unclear why they are so low compared to the numbers pre-centralisation. Reassuringly WMS requests continue to grow meaning users are still utilising the Seabed Habitats data. The WFS requests are also greatly increased this may be due to increased user numbers post centralisation.
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	Tracking tables in sharepoint.	22 datasets and data products acquired in this quarter from 12 organisations
5.1 Daily number of page views of EMODnet Thematic entry page	Europa Analytics	Slightly reduced peaks compared to last quarter ~70 compared to over 100, but perhaps this is just settling into more regular numbers post launch. There is still a fairly regular pattern, usually over 35 views a day on week days.
5.2 Quarterly total number of visitors, page views, unique page views and percentage of returning visitors	Europa Analytics	Total number of visitors, page views and unique page views is slightly down on last quarter. However this may be just the numbers settling down into a more regular pattern post launch. The previous quarter likely had more hits as users explored the full new site. Hopefully users are now familiar with the site and

		know where to find the information they need. The % of returning visitors remains fairly consistent between the quarters.
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*The monitoring numbers reported as part of the progress monitoring of EMODnet performance are collected through Europa Analytics, unless reported otherwise.*

## 4. Annex: Other documentation attached

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*[List in Annex if you wish to provide any additional information.]*