



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 (5)

Reporting Period: 01/10/2022 – 31/12/2022



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1. Highlights in this quarter

[List 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 and status. Max 2 pages]

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

- We refined the process for uploading point habitat data directly to EurOBIS/EMODnet Biology and presented this to the consortium at the all partners meeting in December 2022. All partners undertook a training exercise at the meeting and discussed any potential areas of difficulty. This enables us to refine the methodological guidance document for uploading point data ensuring a streamlined flow of information to EurOBIS/EMODnet Biology and onwards to the central portal.

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

- For the next update to EUSeaMap (WP1):
 - Good progress has been made in the Caspian Sea. The broad habitat types (D1.05), the input data to be used and the thresholds for classifying the input data (D1.10) were agreed at a workshop in Bucharest (2-3 November 2022). The broad habitat types will be the same as those used in EUNIS 2022, except that the bathyal will not be divided into upper/lower due to lack of knowledge and data to identify community changes within the bathyal. Based on the literature, we have identified 2 biogenic habitats, one in the infralittoral (*Mytilaster lineatus*), and one in the circalittoral (*Dreissena grimmi*).
 - For the Caribbean Sea, the broad seabed habitat types have been defined based on existing EUNIS-like classifications (D1.06). The biological zones used are infralittoral, circalittoral, bathyal and abyssal. The biogenic habitats will be coral reefs.
 - We have produced Python scripts that allow users to prepare raster data products on the hydrodynamic conditions at the seabed, using hydrodynamic models from CMEMS and the digital elevation model from EMODnet Bathymetry as inputs, for an area and time period of interest (D1.14).
- For the second-year product construction (WP3):
 - We have finalised the list of the composite data products that we plan to produce, and/or have the capacity to produce.
 - The sources of data for updating EOVs layers of corals (3.02), seagrasses (D3.03) and macroalgae (3.04) and create new ones for mangrove cover and composition (D3.06) were discussed.
 - Several ideas about Wetland type map products were discussed among partners showing potential ways of dealing with existing data. Coastal lagoons, estuaries and other important marine interface areas are a priority in a pan-European map that differs and complements existing ones (e.g., RAMSAR) (D3.05)

- New composite product based on EFH were designed and proposed at the Manchester General meeting in December. A case study for the Baltic Sea was presented with the overlapping of several EFHs, giving good indications for future work. (D3.07).

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

- We have finalised the method for indirect cascading of problematic external web services to ensure the data is integrated into the thematic data holdings and accessible to users going forward.

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. All the the highest priority layers have been transferred to the central portal.

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

- We continue to work closely with the CP team to ensure that all static content is transferred from the ESH website to the relevant pages on the central website.

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

- Finalised the updated review (D5.02) of the needs of the Regional Sea Conventions (RSC) regarding EMODnet Seabed Habitats (ESH) project outputs.
- We have continued to provided support to the OSPAR data call for threatened and/or declining habitats.

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.
- We have received several pieces of feedback through our web form and always respond and resolve any issues promptly (see User Feedback table).

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

- We have continued to maintain the existing thematic web portal for even longer than 6 months.
- Good progress has been made in preparation for the thematic portal shut down and launch of the central portal. We have planned and submitted our proposed re-direct links to the central team and tested and refined the layers on the viewer to optimise the user experience.

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
D4.09: Internal database of unpublishable habitat data for use in WP1 and to aid public discoverability	4	25/09/2021	Delivered	9/25/2021	
D4.01: A web portal including a digital map, facilities for downloading data, metadata search and technical information	4	25/09/2021	Delivered	9/25/2021	
D4.05: A set of data schema standards for the provision of habitat data, built upon international standard.	4	25/09/2021	Delivered	9/25/2021	
D4.14: Website liaison and training node between lot partners/content creators and central portal team.	4	25/09/2021	Delivered	9/25/2021	
D4.18: Tracked issues and suggestions regarding the portal and services, and improvements made as a result.	4	25/09/2021	Delivered	9/25/2021	
D4.23: Provision of Matomo (or similar as steered by secretariat) web analytics information to secretariat for reporting	4	25/09/2021	Delivered	9/25/2021	
D4.21: Live operation of help desk 9-5, Mon-Fri	4	25/10/2021	Delivered	9/25/2021	
D6.01: Project management plan and project initiation document	6	25/10/2021	Delivered	11/30/2021	
D4.24: Statistics from OGC webservice usage - to be guided by secretariat.	4	25/12/2021	Delivered	31/09/2021	
D2.03: Updated and integrated templates for habitat map data exchange formats	2	25/11/2021	Delivered	6/30/2022	

D2.04: Webinars, tutorials or other forms of training material on the EMODnet Seabed Habitats data submission process	2	25/12/2021	Delivered	3/31/2022	
D2.07: Translation tables for coastal wetland types into one or more standard classifications	2	25/01/2022	Delivered	9/30/2022	
D2.08: A data submission process and protocol for coastal wetlands types maps and points	2	25/01/2022	Delivered	6/30/2022	
D2.11: A data submission process and protocol for Essential Fish Habitats maps	2	25/01/2022	Delivered	6/30/2022	
D5.09: Communications plan	5	25/01/2022	Delivered	3/31/2022	
D6.03: Consortium Agreement	6	25/10/2021	Delivered	3/31/2022	
D6.02: Project quality management plan and project audit document	6	25/10/2021	Delivered	6/30/2022	
D3.01: A list of products to be created or updated and product specifications	3	25/03/2022	Delivered	10/19/2022	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.
D4.17: A direct data link to the ICES VME database, providing access to vulnerable marine ecosystem data	4	25/03/2022	Delivered	3/31/2022	
D5.08: Minutes of meeting(s) with EMODnet biology	5	25/03/2022	Delivered	3/31/2022	
D5.14: ESRI story maps / Infographics	5	25/03/2022	Delivered	12/31/2021	
D6.06: Progress meeting 1 - WP leads	6	25/03/2022	Delivered	3/31/2022	
D5.02: Updated review of RSC needs	5	25/01/2022	Delivered	12/16/2022	

D6.07: Minutes & actions from progress meeting 1	6	Within 1 month of meeting	Delivered	3/31/2022
D4.16: Direct link to the HELCOM Mapping and Data Service, and similar services from other Regional Sea Conventions where feasible	4	25/03/2022	Delivered	6/30/2022
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	25/05/2023	To do	
D5.03: Liaise with ICES in advance of annual WG meetings to ascertain products they require for reporting on ToRs	5	25/05/2022, 25/05/2023	Delivered	8/31/2022
D4.19: Abstracts submitted for annual INSPIRE conference and participation in community forum where relevant.	4	depends on conference dates	To do	
D4.11: A plan of action for the provision of key habitat datasets as attributed raster data	4	25/08/2022	Delivered	26/09/2022
D4.04: Ad hoc changes to website and visual identity, as requested by Secretariat	4	25/10/21-25/03/22	Delivered	30/09/2022
D4.15: Transfer of key habitat mapping resources from the thematic portal to the central portal	4	25/09/2022	Delivered	25/09/2022
D1.02: Confidence layer for modified substrate data product published	1	25/05/2023	To do	
D1.03: A ready-to-use DTM for EUSeaMap	1	25/05/2023	To do	
D2.12: Formal protocol for data sharing and identification of relevant	2	25/09/2022	Delivered	10/3/2022

benthic data between EMODnet Biology and EMODnet Seabed Habitats				
D2.14: A standard transformation between OSPAR T&D data schema and OBIS Schema to enable import into OBIS, including a test pilot run using the 2022 OSPAR T&D database	2	25/09/2022	Delayed	2022 OSPAR T&D database won't be published until 2023 Q2. 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.
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	5	25/01/22-25/09/23	Delivered	9/30/2022
D5.11: A prominent summary of the data and data products available from EMODnet seabed Habitats web services	5	25/09/2022	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.
D6.11: Interim report	6	25/09/2022	Delivered	24/10/2022
D6.12: Submission of the invoice for the interim payment	6	25/09/2022	Delivered	23/11/2022

D1.04: Confidence layer for the DTM product published	1	25/05/2023	To do	
D1.05: EUNIS-style habitat classification in the Caspian Sea for broad-scale habitat mapping	1	25/09/2022	Delivered	31/12/2022
D1.06: EUNIS-style habitat classification in the Caribbean Sea for broad-scale habitat mapping	1	25/12/2022	Delivered	31/12/2022
D1.07: Environmental layers for the Caspian Sea ready for EUSeaMap	1	25/12/2022	Delivered	30/09/2022
D4.06: Method for indirect cascading of problematic external services prior to onward publication	4	25/12/2022	Delivered	11/11/2022
D4.20: Publication of relevant products, datasets and services through EOSC and EUODP	4	25/12/2022	Delayed	Partially delayed. Publication workflows through EUODP are already achieved. Awaiting input from the Secretariat on how we should proceed with interactions with EOSC
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	25/01/2023	To do	
D5.04: Tutorials for creating new maps from existing data	5	25/03/2023	To do	
D5.05: Promotion of simple procedural guidelines for creating alternative data formats from existing data formats	5	25/03/2023	To do	
D5.06: Tutorial on how to format habitat maps using templates and to simplify the data submission process.	5	25/03/2023	Delivered	31/03/2022 Delivered in advance of original planned date due to dependency with D2.04
D6.08: Progress meeting 2 - whole consortium	6	25/03/2023	Delivered	14/12/2022
D3.05: A combined, harmonized data product showing the best evidence for the extent of wetland type in	3	25/04/2023	To do	

Europe, Caspian Sea and the Caribbean, with metadata (new)				
D6.09: Minutes & actions from progress meeting 2	6	Within 1 month of meeting	Delivered	14/12/2022
D1.08: Environmental layers for the Caribbean Sea ready for EUSeaMap	1	25/12/2022	Delivered	31/12/2023
D1.09: Halocline layer for the Baltic Sea ready for EUSeaMap	1	25/05/2022	Delivered	25/08/2022
D1.10: Thresholds for Caspian, Caribbean, Baltic, and Mediterranean Seas	1	25/05/2023	To do	
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	1	25/09/2023	To do	
D1.12: Confidence assessment for updated broad-scale seabed habitat map in all considered classifications	1	25/09/2023	To do	
D3.07: Evaluation of EFH approaches to determine map suitability to combine into products useful for fisheries management and biodiversity conservation	3	25/05/2023	To do	
D3.10: Report detailing the construction of the biogenic habitat data product (updated)	3	25/05/2023	To do	
D2.09: Controlled vocabulary lists for classification systems published on NERC Vocabulary Server, as required	2	25/12/21-25/08/23	To do	
D2.16: List of point datasets, maps and models available	2	25/11/21-25/8/23	To do	

via machine-to-machine connections				
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)	3	25/08/2023	To do	
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)	3	25/08/2023	To do	
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)	3	25/08/2023	To do	
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	25/08/2023	To do	
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	25/08/2023	To do	
D4.08: IPT (or alternative) infrastructure for the publication of habitat data into EurOBIS	4	25/08/2023	Delivered	9/30/2022
D1.13: Confidence associated to all environmental layers published	1	25/09/2023	To do	

D1.14: A R script automating the calculation of environmental layers at the seabed from a CMEMS product archives	1	25/09/2022	Delivered	25/10/2022
D1.15: Technical report published	1	25/09/2023	To do	
D2.01: 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	
D2.02: 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	
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	25/2/22-25/8/23	To do	
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	2	25/2/22-25/8/23	To do	
D4.02: Contribute to EMODnet Technical Working Group as necessary	4	As necessary	To do	
D4.03: Minutes & actions from Technical Working Group within 1 month of meeting	4	Within 1 month of each meeting	To do	
D4.10: A GeoServer web-server for the provision of	4	25/09/2021	Delivered	9/25/2021

OGC spatial web-services (WMS, WFS, WCS)						
D4.12: A GeoNetwork INSPIRE-compliant metadata instance with OGC CSW capabilities	4	25/09/2021	Delivered	9/25/2021		
D4.13: Publication to the central portal of relevant data and products collected and created under WP1 and WP2	4	25/03/22	To do			with updates at least every 6 months
D6.04: Participation in EMODnet SC meetings as necessary	6	As necessary	To do			
D6.05: Minutes & actions from Steering Committee meetings within 1 month of meeting	6	Within 1 month of each meeting	To do			
D4.07: Habitat ground-truthing data from EurOBIS extracted via web services	4	25/12/2021	Delayed			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.
D1.16: Well-documented R code and ArcGIS models used to construct the broad-scale seabed habitat map	1	25/09/2023	To do			
D1.17: 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	25/12/2022	Cancelled	NA		Cancellation of this deliverable accepted by CINEA and DG MARE on 14 September 2022.
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	2	25/09/2023	To do			
D2.13: Updated data model and guidance for benthic point data	2	25/09/2023	To do			
D2.15: Agree a protocol with the OSPAR commission for the continued archiving of the	2	25/09/2023	To do			

public database within the OBIS network, pending success of D2.14				
D2.17: Progress log for the ingestion of point data, maps and models	2	25/10/21-25/09/23	Delivered	10/31/2022
D3.11: Report(s) detailing the construction of the data products defined by stakeholder needs (new)	3	25/09/2023	To do	
D3.12: Report detailing the construction of the Essential Ocean Variable data products (updated)	3	25/09/2023	To do	
D5.01: Evidence of efforts to ensure maximum coherence with data delivery to and from regional sea conventions	5	25/09/2023	To do	
D5.10: New use cases on the EMODnet central portal	5	25/10/21-25/09/23	To do	
D5.12: Co-ordinated and sustained online presence: news stories, blogs, tweets, etc.	5	25/10/21-25/09/23	To do	
D5.13: Presentations and posters at conferences and cross-cutting meetings	5	25/10/21-25/09/23	To do	
D5.15: Record of all promotion and outreach activities	5	25/10/21-25/09/23	To do	
D6.10: Quarterly progress report to EASME, DG-MARE and EMODnet Secretariat	6	15 Jan, 15 Apr, 15 Jul & 15 Oct each year	To do	
D6.13: Final report	6	25/09/2023	To do	
D6.14: Submission of the invoice for the final payment	6	25/09/2023	To do	

2. Identified issues: status and actions taken

[Provide an **overview of issues** identified by CINEA (Table A) - 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	status according to JIRA: In Progress	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. We are now in talks with a company who may be able to provide GeoServer support and hosting on behalf of JNCC. This company has more experience and resources available to devote to solving the problem.	status according to JIRA: In Progress	none
EM-339 (Sub-task) Collect names of Portal editors	resolved		status according to JIRA: Done	none
EM-347 (Sub-task) Collect fields/forms used on Seabed Habitats Thematic Portal	resolved		status according to JIRA: Done	none
EM-350 (Bug) Missing attribute in eusm2019_full_800 layer of Seabed Habitat WMS service	resolved		status according to JIRA: Done	none

EM-363 (Sub-task) Seabed Habitats to report on number and volume of downloaded data and data products by 29th of October 2021	resolved		status according to JIRA: Done	none
EM-383 (Task) SBH Grafana dashboard stopped tracking webpage Search Metadata	resolved		status according to JIRA: Done	none
EM-384 (Sub-task) SBH to produce an inventory of products	resolved		status according to JIRA: Done	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	status according to JIRA: In Review	none
EM-422 (Sub-task) Log4Jshell Update from SBH	resolved		status according to JIRA: In Progress	none
EM-495 (Sub-task) Seabed Habitats to report on number and volume of downloaded data and data products	resolved		status according to JIRA: Done	#####
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	status according to JIRA: In Review	none
EM-539 (Task) Seabed Habitats products' centralisation	pending	almost complete	status according to JIRA: In Progress	none
EM-543 (Task) Adding Seabed Habitats' layers to metaGIS	resolved		status according to JIRA: Done	#####
EM-558 (Bug) Seabed Habitats Catalogue no longer has any public records	resolved		status according to JIRA: Done	none

EM-570 (Sub-task) Feedback on CP Main Menu	resolved		status according to JIRA: Done	#####
EM-591 (Task) SBH Layers in the Map Viewer Content Management System	pending	working on the final numbers whilst migrating layers to the central portal	status according to JIRA: In Review	#####
EM-611 (Task) Centralisation Checklist for review	resolved	JNCC completed this checklist for SH.	status according to JIRA: In Review	none
EM-639 (Sub-task) Standardise the navigation menu on left hand side of page	resolved	JNCC responded to this on behalf of SH, so consider this to be resolved.	status according to JIRA: To Do	none
EM-644 (Sub-task) Seabed Habitats to provide input to the Tools & Guidelines section	pending	Tools and guidelines provided to the central team. Waiting on central to upload them.	status according to JIRA: To Do	none
EM-652 (Sub-task) Seabed Habitats to review layer legends and add units where they are missing	resolved		status according to JIRA: Done	none
EM-664 (Task) TWG12-SBH to report on which filters are still required	pending	reported missing filters to the central team. Need to follow-up to get these enabled		none
EM-665 (Task) TWG12 - CP & SBH to investigate if CP viewer can deal with layer group styles	pending	To look into		none
EM-666 (Task) TWG12-Advanced filter option	pending	awaiting information on whether free text filters are an option		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
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EM-316 (Improvement) reorder EMODnet Themes on Reports page to force the 'active' themes to the top of the list	resolved	This is a issue/suggestion that SBH made related to the functionality of the CP	none	16/09/2021
EM-317 (Improvement) 'Seabed Habitats' missing from list of Topics on Newsroom	pending	This is a issue/suggestion that SBH made related to the functionality of the CP	none	
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	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-514 (Improvement) Return custom feature/pixel information when user clicks on a feature/pixel in the map	resolved	This is a issue/suggestion that SBH made related to the functionality of the CP	none	15/09/2022
EM-515 (New Feature) 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	
EM-620 (Improvement) Introduce text wrapping in Catalogue pane	pending	This is a issue/suggestion that SBH made related to the functionality of the CP	none	
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-622 (Task) 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
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	none	
EM-688 (Improvement) 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.	none	
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	pending	Pending approval from CINEA, we now plan to subcontract another MAERI partner, SAERI, who are better set up for contracts such as these - both with the	31/10/2022	

<p>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 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>financial mechanisms in place and personnel who can be deployed immediately. We are currently discussing the finer details. In the coming weeks we intend to seek permission from CINEA to change the Caribbean subcontractor from ACC to SEARI. A more comprehensive description of the issue and a business case can be presented to CINEA at this time if required.</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</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

able to deliver the deliverable of a broad-scale habitat map for the Caspian Sea, but its quality will not be high.				
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3. User feedback

[Provide a list of all user feedback received in the reporting period in chronological order. Indicate the type of the feedback received, a clear description of the query, and the actions undertaken to resolve the issue (e.g. update of metadata, fixing a particular issue with the map viewer). Indicate the status of the query, and if not provide an explanation why. List any feedback you received on the portal that can be used to build EMODnet use cases.]

Overview of user feedback and/or requests received in this quarter							
Date	Organisation	Type of user feedback (e.g. technical, case study, etc.) and short description of the feedback received	Means of contact	Response time	Status of user query (Resolved/ Pending)	Measures taken to resolve the query	Status: if not (yet) resolved/ pending, explain reason why and expected timeline
03/10/2022	Instituto Espanol de Oceanografia (IEO)	technical - They were responding to an offer from ESH to provide data formatting assistance to members of OSPAR who were preparing data submissions for the 2022 data call for OSPAR threatened and/or declining habitats.	email	2 days	resolved	Explained that the deadline for OSPAR data submissions had passed but that we welcome data submissions to EMODnet at any time and enquired about the volume of data available.	resolved
13/10/2022	Envision	technical - There was a problem download the Habitat point observations dataset from the download page.	web form	1 day	resolved	Sent them an alternative link and promised to resolve the problem on the download page.	resolved
11/11/2022	Plymouth Marine Laboratory	technical - Metadata catalogue was temporarily down	web form	1 hour	resolved	None needed - the issues resolved itself	resolved

23/11/2022	Central Statistics Office, Ireland	technical - request for previous versions of EUSeaMap	web form				
23/11/2022	French Office for Biodiversity	case study - Incorrect user attribution in a use case	web form	1 hour	resolved	Corrected the use case on thematic portal and submitted JIRA ticket for correction on central portal	resolved
03/10/2022	Instituto Espanol de Oceanografia (IEO)	technical - They were responding to an offer from ESH to provide data formatting assistance to members of OSPAR who were preparing data submissions for the 2022 data call for OSPAR threatened and/or declining habitats.	email	2 days	resolved	Explained that the deadline for OSPAR data submissions had passed but that we welcome data submissions to EMODnet at any time and enquired about the volume of data available.	resolved

4. Meetings/events held/attended & planned

[List organisational meetings/events held/participated (incl. presentations, lectures, trainings, demonstrations, workshops, etc.) since the last quarterly report and planned in the future. Please add a short description on the meeting as well as the nature and volume of the audience.]

When listing a meeting, please indicate whether it was an internal (i.e. within your partnership/lot) or external meeting (i.e. outside your partnership/lot).]

A. Meetings/events organised and attended in the quarter					
Date	Location	Type event (internal or external meeting; training/ workshop)	Was a presentation given? (yes/no + short description)	Meeting attended (A) / organised (O)	Short description and main results (# participants, agreements made, etc.)
03/10/2022	Brussels, BE	Meeting	No	O	Seabed Habitats-Biology common topics. 2 participants. Discuss progress on common work areas between the two projects
03/10/2022	Brussels, BE	Workshop	No	A	EU-Canada Ocean Partnership Forum. 30 participants. Supporting a Healthy and Sustainable Ocean through International Collaboration to Enhance Knowledge and Data Sharing
06/10/2022	Dingle, IE	Vessel Launch	No	A	Commissioning of RV Tom Crean. 2000 participants. EMODNet Seabed Habitat MSFD Maps displayed / Explained to minister & delegation
11/10/2022	Web	Workshop	Yes - How EMODnet biodiversity assets can	O	Copernicus Biodiversity and coastal ecosystems workshop. Promote EMODnet (SH+Biology) data and products of use for

			contribute to coastal ecosystems' protection		coastal biodiversity protection. Overall goals of the workshop: Describe the landscape in terms of biodiversity at stake, European and international policy development in a context of climate change as well sustainable development goals, practices and needs at Member State level. Showcase examples of research, development and best practices to develop blue economy or support territorial development, implement EU policies (CFP, MSPD, MSFD, etc.) along coasts while protecting and fostering biodiversity, based on the use of space technologies combined with science and digital intelligence.
20/10/2022	Web	Workshop	Yes -	A	EMODnet for Business workshop: offshore renewable energy sector (Med & Black Sea).
21/10/2022	Web	Meeting	No	A	European Marine Board Working Group on Marine Habitat Mapping . The group is tasked with writing a Future Science Brief to highlight the science and policies needed to advance marine habitat mapping to fulfil the objectives of the European Green Deal, the EU Biodiversity Strategy for 2030, and international commitments on biodiversity and climate.

					The WG also make links to the societal outcomes of the UN Decade of Ocean Science for Sustainable Development.
24/10/2022	Web	Meeting	No	A	European Marine Board Working Group on Marine Habitat Mapping. Description of habitat mapping methodologies including broadscale predictive habitat maps (EuSeaMap).
26-27/10/2022	Constanta, Romania	Conference		A	The aim of the conference is to contribute to the protection of the Black Sea by supporting the sustainable development in a multi-disciplinary way.
2-3/11/2022	Bucharest, RO	Workshop	No	O	Workshop on "D1.05 EUNIS-style habitat classification in the Caspian Sea for broad-scale habitat mapping". 3 participants. A classification of seabed broad habitat types for Caspian Sea, a list of environmental variables that explain their occurrence and thresholds values that allow to the classify environmental variables in habitat descriptor classes
18/11/2022	Aarhus, Denmark	Conference	No	O	The theme of this year's event is "Coastal and Marine Reefs – True or False?" – a topic which attracts a lot of interest among planners and managers, but at the same time is a field where lack of knowledge of their function (as habitat and potential

					coastal protection) is evident and where no apparent consensus exists with regard to designing and management.
24/11/2022	Web	Meeting	No	A	European Marine Board Working Group on Marine Habitat Mapping . The group is tasked with writing a Future Science Brief to highlight the science and policies needed to advance marine habitat mapping to fulfil the objectives of the European Green Deal, the EU Biodiversity Strategy for 2030, and international commitments on biodiversity and climate. The WG also make links to the societal outcomes of the UN Decade of Ocean Science for Sustainable Development.
29/11/2022	Web	Meeting	Yes – EuSeaMap iterations and differences between versions	A	Ecosystems Accounts division of the Central Statistics Office are working on a marine ecosystem typology for Eurostat - European Commission for Ecosystem Extent Accounts.

12/02/2022	Web	Meeting	EMODnet Seabed habitats Products presented including the development pathways for EUSeaMap. Access via the CP discussed.	A	Hydrographic Society UK& Ireland - Ireland Branch Winter Meeting. 15 participants. EMODnet Seabed habitats Products presented including the development pathways for EUSeaMap. Access via the CP discussed.
12/12/2022	Manchester, UK	Meeting	Yes - WP updates	O	EMODnet Seabed Habitats Project Management Group Meeting. 5 participants. Updates from each WP on the current phase and identification of issues regarding the deliverables.
12/12/2022	Manchester, UK	Meeting	No	O	EMODnet Seabed Habitats WP3 planning and knowledge exchange. A more concrete plan for delivering composite data products under WP3, and transfer of knowledge/processes/scripts from JNCC to CCMAR
13-14/12/2022	Manchester, UK	Meeting	Yes - WP updates	O	EMODnet Seabed Habitats Whole Consortium Meeting. Relationship-building, better understanding of procedures and purposes, ideas for next phase
SUM				O	Total # of meetings organised = 8

SUM				A	Total # of meetings attended = 16
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B. Meetings/events planned in the future				
Date	Location	Type event (meeting, training (workshop), etc.)	Meeting to be attended (A) / organised (O)	Short description and main expected outcomes
18/01/2023	Web	Meeting	A	EMODnet Central Portal Communication Processes Meeting. ~20 participants. To discuss and finalise procedures concerning all communication actions around the EMODnet centralisation in preparation for the thematic portals going offline. Additionally, an overview of the communication campaign and actions supporting the portal unification will be presented.
23/01/2023	Web	Meeting	A	EMODnet: achievements & way forward. ~20 participants. Meeting with DG MARE, CINEA and thematic coordinators to discuss a request for feedback and reflections on the current phase and how best to gather this information from each theme.
26/01/2023	Web	Meeting	A	EMODnet Sea-basin Checkpoint (SBCP) online workshop. A Panel discussion for short reflections on the progress in EMODnet data adequacy from 2018 (end of Sea-basin Checkpoints) to 2022

02/08/2023	Brussels, BE	Meeting	A	Open Sea Lab Hackathon training event. 2 participants. Training & Networking Day for the Coaching & Mentoring Team of OSL Hackathon 3.0. This day will be an opportunity to provide coaches and mentors with all the information that they might need to support the delivery of their role in the hackathon, including a Guide to all available resources. Also, to gear them up with useful tips & suggestions, based on past hackathon experiences.
16/02/2023	Web	Webinar	A	EMODnet Public Webinar "EMODnet Centralisation: One Ocean, One EMODnet". To share thoughts on the benefits of centralisation including reflections on the achievements of EMODnet Centralisation from the perspective the themes and answer questions from the audience.

5. Communication assets

[List all the relevant communication and dissemination products and assets you have developed in the reporting period (e.g. brochures, videos, press releases, newsletters, blogs) and are planning to do. At the bottom of the table, provide a summary from the actions on Twitter from (e.g. Twitter Analytics: number of Tweets and followers of Twitter account).]

A. Communication products developed				
Date	Communication material	Short description (of the material, title, ...) of the asset	Main results	Name of event at which material was disseminated (if applicable)
18/11/2022	Poster	Introduction to Submitting Data into EMODnet Seabed Habitats via EMODnet Ingestion	Highlight ESH activities	Danish Coastal and Marine Network (DANCORE) annual Conference

B. Planned communication products			
Date	Communication material	Short description (of the material, title, ...) and/or link to the asset	Main results expected
31/01/2023	EMODnet Newsletter item	ESH participation in development of EUNIS 2022.	Promotion of ESH. Download ESH products from CP.
15/02/2023	Story map	Story map on different iterations of EUSeaMap	Promotion of ESH. Download EUSeaMap from CP.
28/02/2023	EMODnet Newsletter item	Different iterations of EUSeaMap.	Promotion of ESH. Download EUSeaMap from CP.
15/03/2023	Video tutorial	How to create maps from existing maps	Promotion of ESH. Download ESH products from CP.
15/03/2023	Video tutorial	Maximising data	Promotion of ESH. Download ESH products from CP.
31/03/2023	EMODnet Newsletter	Promoting tutorials to educate users on how to maximise ESH data	Promotion of ESH. Download ESH products from CP.

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[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
October 2022	Journal	Adao, A.C.; Bosch, N.E.; Bentes, L.; Coelho, R.; Lino, P.G.; Monteiro, P.; Gonçalves, J.M.S.; Erzini, K. Complementary Sampling Methods to Improve the Monitoring of Coastal Lagoons. <i>Diversity</i> 2022, 14, 849		http://dx.doi.org/10.3390/d14100849	Yes
October 2022	Journal	Mureşan, M.; Motoc, R.; Menabit, S.; Teacă, A.; Begun, T. A New Species of Free-Living Nematodes (Desmodorida, Desmodoridae) in the Romanian Black Sea Waters. <i>Diversity</i> 2022, 14, 933.		https://doi.org/10.3390/d14110933	Yes
October 2022	Journal				Yes
November 2022	Journal	Mariana Cardoso-Andrade, Frederico Cruz-Jesus, Jesus Souza Troncoso, Henrique Queiroga, Jorge M. S. Gonçalves, Understanding technological, cultural, and environmental motivators explaining the adoption of citizen science apps for coastal		http://dx.doi.org/10.1016/j.gloenvcha.2022.102606	Yes

		environment monitoring, Global Environmental Change, volume 77, 2022, 102606			
November 2022	Journal	Horta e Costa B, Guimarães MH, Rangel M, Ressurreição A, Monteiro P, Oliveira F, Bentes L, Sales Henriques N, Sousa I, Alexandre S, Pontes J, Afonso CML, Belackova A, Marçalo A, Cardoso-Andrade M, Correia AJ, Lobo V, Gonçalves EJ, Pitta e Cunha Tand Gonçalves JMS (2022) Co-design of a marine protected area zoning and the lessons learned from it. <i>Front. Mar. Sci.</i> 9:969234		http://dx.doi.org/10.3389/fmars.2022.969234	Yes
November 2022	Journal	Hansen, S.S.; Ernstsén, V.B.; Andersen, M.S.; Al-Hamdani, Z.; Baran, R.; Niederwieser, M.; Steinbacher, F.; Kroon, A. Evaluation of Boulder Characteristics for Improved Boulder Detection Based on Machine Learning Techniques. <i>Geosciences</i> 2022 , <i>12</i> , 421.		http://dx.doi.org/10.3390/geosciences12110421	Yes
December 2022	Journal	rzini, Filipe Parreira, Zineb Sadat, Margarida Castro, Luís Bentes, Rui Coelho, Jorge M.S. Gonçalves, Pedro G. Lino, Begoña Martínez-Crego, Pedro Monteiro, Frederico Oliveira, Joaquim Ribeiro, Carmen B. de los Santos, Rui Santos, Influence of seagrass meadows on nursery and fish provisioning ecosystem services delivered by Ria Formosa, a coastal lagoon in Portugal, <i>Ecosystem Services</i> , Volume 58, 12-0416		http://dx.doi.org/10.1016/j.ecoser.2022.101490	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
October 2022	Workshop report	Mediterranean–Black Sea Gateway Exchange: Scientific Drilling Workshop on the BlackGate Project Wout Krijgsman, Iuliana Vasiliev, Anouk Beniest, Timothy Lyons, Johanna Lofi, Gabor Tari, Caroline P. Slomp, Namik Cagatay, Maria Triantaphyllou, Rachel Flecker, Dan Palcu, Cecilia McHugh, Helge Arz, Pierre Henry, Karen Lloyd, Gunay Cifci, Özgür Sipahioglu, Dimitris Sakellariou, and the BlackGate workshop participants.		http://dx.doi.org/10.5194/sd-31-93-2022	Yes
October 2022	Conference paper	Assessment of the effect of Posidonia Banquettes on shoreline changes: Preliminary results from the case of Schinias-Marathon National Park, Attica, Greece. I. Kourliaptis, D. Vandarakis, V. Gerakaris, Y.			Yes

		Issaris, V. Kapsimalis, I. Panagiotopoulos, M. Salomidi			
December 2022	Project report	Manca Eleonora (2022), contributing author Vasquez Mickaël. Broad-scale habitat mapping in the Beibu Gulf, South China Sea. Final methodology report . Work-Package 4: Comparison of European and Chinese models for seabed habitat and ecosystem vulnerability. Deliverable D4.4 -M30 report .		https://emodnet.ec.europa.eu/sites/emodnet.ec.europa.eu/files/public/EMODPACE/20221208_EMODPACE_Deliverable4.4_v2.pdf	yes

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

6. Monitoring indicators

[Refer to the standardised monitoring tool, i.e. Matomo/ 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 Matomo/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	No new data uploaded during the quarter as per workplan.
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 in year 2.
B) Usage of data in this quarter	Custom geoserver layers (including vocabulary keyword tagging), with python scripting, geoserver server-side logging and data download web forms.	Overall downloads, WMS and WFS requests higher than in the previous quarter and generally more consistent with Q2. Reasons uncertain (no change in site or service), but follows trend with data products. May be just natural fluctuations in data use. We will continue to look for trends in the data in upcoming reports particularly in light of centralisation.

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	No new data added this quarter as per workplan.
B) Usage of data products in this quarter	Custom geoserver layers (including vocabulary keyword tagging), with python scripting, geoserver server-side logging and data download web forms.	Overall downloads, much higher than previous quarters particularly for the broad-scale mapping products and modelled data, which have risen significantly. The WMS and WFS requests are higher than in the previous quarter (particularly for composite products) but generally more similar to Q2. Reasons uncertain (no change in site or service). We will continue to look for trends in the data in upcoming reports particularly in light of centralisation.
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	Tracking tables in sharepoint.	15 data products acquired in this quarter from 2 organisations
4. Online 'Web' interfaces to access or view data	N/A	no changes since last quarter.
5. Statistics on information volunteered through download forms	Download data forms along with python scripting and geoserver layer tagging.	Patterns are broadly similar to previous quarters although fewer users are providing data. Marginally higher research/academic user proportion this reporting period compared to previous quarters.
6. Published use cases	Grafana dashboard	No data available in Grafana
8.1. Technical monitoring	Grafana dashboard	Acceptable response time, improved from last quarter.

9. Visibility & Analytics for web pages	Grafana dashboard	Fairly consistent
10. Visibility & Analytics for web sections	Grafana dashboard	Fairly consistent
11. Average visit duration for web pages	Grafana dashboard	Fairly consistent

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

