



**EMODnet**



European Marine  
Observation and  
Data Network

# **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 (2)**

**Reporting Period: 01/01/2022 – 31/03/2022**



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### Disclaimer

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# 1. Highlights in this quarter

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

In this quarter we have taken the following steps to assist consortium members through the WP2 data submission process:

- Created tutorial videos for every step in the process.
- Produced an updated guidance document providing more detail than the online guidance, e.g. within-project deadlines, roles and responsibilities.
- Produced a mature draft of a new guidance document for the submission of essential fish habitat maps.
- Produced a mature draft of a translation table between Ramsar wetlands and Habitats Directive Annex I habitat types.
- Held a webinar between all partners to introduce the guidance and timetable.

In the Caspian Sea – a new region – we have continued to investigate where to find data on seabed habitats and/or environmental layers that may be useful inputs for EUSeaMap. We have identified some available environmental layers that we expect to be useful for EUSeaMap.

## 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 majority of the products will be produced in the second year of the phase under WP1 (**EUSeaMap**) and WP3 (**Composite data products**). In the meantime, we have:

- Produced a new product for OSPAR, which covers the northeast Atlantic and includes individual habitat maps from surveys where they exist, and EUSeaMap elsewhere, is currently being used by OSPAR to assess the extent of physical damage to the seabed as part of its 2023 Quality Status Report.
- Produced an update to the **Biogenic substrate in Europe** composite data product, which was originally published at the end of Phase 3. This update does not change the extent of the original product but provides more information about the provenance of each polygon.

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

In the previous phase we develop with EMODnet Biology a process for submitting point observations of habitats to the database used by EMODnet Biology for species observations – EurOBIS. This will enable species and habitat observations from the same samples to be linked together. Next step is to develop a process to extract the relevant habitat information from EurOBIS in a standard way. Working with EMODnet Biology we have identified an issue with the existing data extraction toolsets, which are currently designed around species occurrence extraction. The EMODnet Biology team are actively working towards making the technical amendments necessary to accomplish this in a streamlined manner.

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

- In this quarter we have prepared the following datasets, which are ready to be published: 9 new and 1 updated **Individual habitat maps from surveys**, 9 new and 3 updated **Survey sample point datasets**.
- We have attended monthly meetings with the EMODnet central portal team to discuss the technical implementation of incorporating Seabed Habitats into the central portal. We have carried out all

agreed actions so far, including providing feedback on developing map viewer and providing a detailed inventory of the layers we publish.

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

We have worked in close collaboration with the EMODnet Secretariat to ensure that the static content of the Seabed Habitats portal is appropriately incorporated into the central portal. This has involved meetings as well as interactions via the JIRA system.

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

We have created an internal document outlining to partners how to approach the RSCs and what issues to discuss with each of them. Our dedicated partners tasked with RSC liaison have now begun to reach out to their relevant RSC to gain feedback about existing products and services, and discuss options for new products and ways of working that could benefit the RSCs. The outcomes of this will be summarised in a public report and will influence the development of **Composite data products** and **EUSeaMap**.

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

Consortium members have been involved in various meetings, workshops and conferences to achieve this aim, including:

- Four project members have been accepted onto a new European Marine Board Working Group on Marine Habitat Mapping, which will produce a Future Science Brief in 2023, outlining recommendations on the future of habitat mapping in Europe.
- Demonstrating how EMODnet Seabed Habitats uses 'FAIR' data principles at the MEDIN Open Meeting in the UK.
- Promoting the availability of our composite data products at the Ocean Data Science Conference.

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

- Our support team is available Monday to Friday 9-17:00 to respond to queries and feedback
- All user feedbacks, communication assets and meetings / events are tracked in dedicated Logs, which are owned by the WP5 leader, MI.
- For monitoring web performance, we have been proactive in providing suggestions regarding reporting regions, categories and units for summarising seabed habitat data in a streamlined, logical and useful way.

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

- We are continuing to update the Seabed Habitats portal in terms of data and static content until told otherwise by the central portal team.
- In terms of functionality, we have updated the download page to provide additional groupings for individual habitat maps in the Barcelona Convention and HELCOM Underwater Biotopes classifications. These were previously only accessible under the 'Other' heading.

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	25/05/2023	To do		
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		
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	To do		
D1.06: EUNIS-style habitat classification in the Caribbean Sea for broad-scale habitat mapping	1	25/12/2022	To do		
D1.07: Environmental layers for the Caspian Sea ready for EUSeaMap	1	25/12/2022	To do		
D1.08: Environmental layers for the Caribbean Sea ready for EUSeaMap	1	25/12/2022	To do		
D1.09: Halocline layer for the Baltic Sea ready for EUSeaMap	1	25/05/2022	To do		

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		
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	To do		
D1.15: Technical report published	1	25/09/2023	To do		
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	To do		
D2.01: An expanded library of maps of communities, biocenoses,	2	25/2/22-25/8/23	To do		

biotopes and habitats for all of Europe, Caribbean Sea and Caspian Sea ingested and converted to a standard format, with metadata for every map					
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		
D2.03: Updated and integrated templates for habitat map data exchange formats	2	25/11/2021	Delayed		We have come to the conclusion that there are multiple changes that could and, arguably should be made to the data exchange format in order to make it fit for use. As a result, the scope of the task has grown, which inevitably takes longer and will involve a period of peer review. It would be much less confusing, and therefore better adopted, to make all these changes at once rather than to publish a small change, and another a few months later. Therefore we have postponed the target completion date for this task. Expected due date 3/6/22
D2.04: Webinars, tutorials or other forms of training material on the EMODnet Seabed Habitats data submission process	2	25/12/2021	Delivered	25/12/2021	Delivered
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		
D2.06: Evidence of use of the EMODnet Ingestion	2	25/09/2023	To do		

and safe-keeping of marine data facility for ingesting data points, maps and models from third parties					
D2.07: Translation tables for coastal wetland types into one or more standard classifications	2	25/01/2022	Delayed		We have produced a mature draft of a translation table between Ramsar wetlands and Habitats Directive Annex I habitats. This is accompanied by explanatory notes and justifications. This now needs to be reviewed by project partners before it can be published. Expected due date 3/4/22
D2.08: A data submission process and protocol for coastal wetlands types maps and points	2	25/01/2022	Delayed		We decided that the protocol for submitting maps and points for coastal wetlands should not differ from the protocol for other seabed habitats. Rather, they should be treated just like any other classification system for seabed habitats. However, we are in the process preparing a guidance document for partners to clarify which additional classes and classification schemes are now permitted into EMODnet Seabed Habitats, taking into account the expansion into coastal wetlands. Expected due date 3/4/22
D2.09: Controlled vocabulary lists for classification systems published on NERC Vocabulary Server, as required	2	25/12/21-25/08/23	To do		
D2.10: 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		
D2.11: A data submission process and protocol for	2	25/01/2022	Delayed		We have produced a mature draft of the data submission



Essential Fish Habitats maps					process and protocol for Essential Fish Habitat maps, which has been reviewed by project partners. The final adjustments are now being made before it is published. Expected due date 3/4/22
D2.12: Formal protocol for data sharing and identification of relevant benthic data between EMODnet Biology and EMODnet Seabed Habitats	2	25/09/2022	To do		
D2.13: Updated data model and guidance for benthic point data	2	25/09/2023	To do		
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	To do		
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	2	25/09/2023	To do		
D2.16: List of point datasets, maps and models available via machine-to-machine connections	2	25/11/21-25/8/23	To do		
D2.17: Progress log for the ingestion of point data, maps and models	2	25/10/21-25/09/23	Delivered	25/11/2021	Delivered
D3.01: A list of products to be created or updated and product specifications	3	25/03/2022	Delayed		This is dependent on the completion of D5.2 (review of stakeholder needs), which has an expected due date of 31/5/22. Expected due date 3/6/22
D3.02: A combined, harmonized data product showing the best	3	25/08/2023	To do		

evidence for extent and distribution of the Essential Ocean Variable "Live hard coral cover" in Europe, with metadata (updated)					
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		
D3.05: A combined, harmonized data product showing the best evidence for the extent of wetland type in Europe, Caspian Sea and the Caribbean, with metadata (new)	3	25/04/2023	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		
D3.07: 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		

D3.08: 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		
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		
D3.10: Report detailing the construction of the biogenic habitat data product (updated)	3	25/05/2023	To do		
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		
D4.01: A web portal including a digital map, facilities for downloading data, metadata search and technical information	4	25/09/2021	Delivered	25/09/2021	Delivered
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		
D4.04: Ad hoc changes to website and visual identity, as requested by Secretariat	4	25/10/21-25/03/22	To do		

D4.05: A set of data schema standards for the provision of habitat data, built upon international standard.	4	25/09/2021	Delivered	25/09/2021	Delivered
D4.06: Method for indirect cascading of problematic external services prior to onward publication	4	25/12/2022	To do		
D4.07: Habitat ground-truthing data from EurOBIS extracted via web services	4	25/12/2021	Delayed		<p>UK database of marine habitats and species (Marine Recorder) is now within EurOBIS. However, a subsequent bulk extract of data requires modification to the EMODnet Biology download toolbox and EurOBIS toolsets, which are currently designed around species occurrence extraction.</p> <p>Seabed Habitats lot is continuing to liaise with and work alongside Biology to progress this novel approach to marine biodiversity data. The Emodnet Biology team are actively working towards making the technical amendments necessary to accomplish this in a streamlined manner.</p> <p>Until technical amendments are made, Seabed Habitats cannot continue with the data extract trial. It should be noted that while data could technically be downloadable via EurOBIS IPT on a per-dataset basis, but this is not the intent of the deliverable, and as such it is treated as delayed until a fully streamlined extract is possible.</p> <p>Remains on course for revised delivery date (25/9/223)</p>
D4.08: IPT (or alternative) infrastructure for the publication of habitat data into EurOBIS	4	25/08/2023	To do		

D4.09: Internal database of unpublishable habitat data for use in WP1 and to aid public discoverability	4	25/09/2021	Delivered	25/09/2021	Delivered
D4.10: A GeoServer web-server for the provision of OGC spatial web-services (WMS, WFS, WCS)	4	25/09/2021	Delivered	25/09/2021	Delivered
D4.11: A plan of action for the provision of key habitat datasets as attributed raster data	4	25/08/2022	To do		
D4.12: A GeoNetwork INSPIRE-compliant metadata instance with OGC CSW capabilities	4	25/09/2021	Delivered	25/09/2021	Delivered
D4.13: Publication to the central portal of relevant data and products collected and created under WP1 and WP2	4	25/03/22 with updates at least every 6 months	To do		
D4.14: Website liaison and training node between lot partners/content creators and central portal team.	4	25/09/2021	Delivered	25/09/2021	Delivered
D4.15: Transfer of key habitat mapping resources from the thematic portal to the central portal	4	25/09/2022	To do		
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	Delayed		HELCOM WFS endpoint cannot be identified - requires workshop with HELCOM data managers,
D4.17: A direct data link to the ICES VME database, providing access to vulnerable marine ecosystem data	4	25/03/2022	Delivered	25/03/2022	Delivered
D4.18: Tracked issues and suggestions regarding the portal and services, and	4	25/09/2021	Delivered	25/09/2021	Delivered

improvements made as a result.					
D4.19: Abstracts submitted for annual INSPIRE conference and participation in community forum where relevant.	4	depends on conference dates	To do		
D4.20: Publication of relevant products, datasets and services through EOSC and EUODP	4	25/12/2022	To do		
D4.21: Live operation of help desk 9-5, Mon-Fri	4	25/10/2021	Delivered	25/10/2021	Delivered
D4.22: Collated anonymous questions and answers published on the portal and through RSS (or alternative mechanism after portal retirement).	4	25/10/2021	Cancelled	25/10/2021	It was agreed with CINEA in the previous phase that this was no longer required
D4.23: Provision of Matomo (or similar as steered by secretariat) web analytics information to secretariat for reporting	4	25/09/2021	Delivered	25/09/2021	Delivered
D4.24: Statistics from OGC webservice usage - to be guided by secretariat.	4	25/12/2021	Delivered	25/12/2021	Delivered
D5.01: Evidence of efforts to ensure maximum coherence with data delivery to and from regional sea conventions	5	25/09/2023	To do		
D5.02: Updated review of RSC needs	5	25/01/2022	Delayed		Delayed Engagements with RSC due to limitations on availability of comms opportunities and restricted resources/meetings due to Covid/Ukraine Crisis. Expect Delivery 3/6/222
D5.03: Liaise with ICES in advance of annual WG meetings to ascertain products they require for reporting on ToRs	5	25/05/22, 25/05/23	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	To do		
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	To do		
D5.08: Minutes of meeting(s) with EMODnet biology	5	25/03/2022	Delivered	25/03/2022	Delivered
D5.09: Communications plan	5	25/01/2022	Delivered	25/01/2022	Delivered
D5.10: New use cases on the EMODnet central portal	5	25/10/21-25/09/23	To do		
D5.11: A prominent summary of the data and data products available from EMODnet seabed Habitats web services	5	25/09/2022	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		

D5.14: ESRI story maps / Infographics	5	25/03/2022	Delivered	25/03/2022	Delivered
D5.15: Record of all promotion and outreach activities	5	25/10/21-25/09/23	To do		
D6.01: Project management plan and project initiation document	6	25/10/2021	Delivered	25/10/2021	Delivered
D6.02: Project quality management plan and project audit document	6	25/10/2021	Delayed		The purpose of this deliverable is to ensure the new products to be developed in this phase go through the required quality control processes to produce a good quality output. The majority of this work will be in year 2, while the first six months of the project has required a lot of time to be spent on data collation, gathering user requirements, portal centralisation work and other management tasks. Therefore this task has been postponed until the next quarter.
D6.03: Consortium Agreement	6	25/10/2021	Delivered	25/10/2021	Delivered
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		
D6.06: Progress meeting 1 - WP leads	6	25/03/2022	Delivered	25/03/2022	Delivered
D6.07: Minutes & actions from progress meeting 1	6	Within 1 month of meeting	Delivered		Delivered
D6.08: Progress meeting 2 - whole consortium	6	25/03/2023	To do		
D6.09: Minutes & actions from progress meeting 2	6	Within 1 month of meeting	To do		
D6.10: Quarterly progress report to EASME, DG-	6	15 Jan, 15 Apr, 15 Jul	To do		



MARE and EMODnet Secretariat		& 15 Oct each year			
D6.11: Interim report	6	25/09/2022	To do		
D6.12: Submission of the invoice for the interim payment	6	25/09/2022	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

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-539 (Task) Seabed Habitats products' centralisation</b>	pending	This is a rather large task to help the central portal team to understand the seabed habitat data products and how they can be mapped across to the central portal map viewer. We have provided a list of products and summarised which are used in the map viewer. The central portal have just sent us something to review. status according to JIRA: In Progress	none	
<b>EM-531 (Task) SBH - EMODnet Catalogue Tags</b>	pending	We asked a question related to this issue and are waiting for a reply before progressing. status according to JIRA: In Progress	none	
<b>EM-354 (Task) statistics for downloads and visitors for the whole EMODnet party for the last 12 months (per month)? &gt; EM-495 (Sub-task) Seabed Habitats to report on number and volume of downloaded data and data products</b>	resolved	JNCC provided the required statistics. status according to JIRA: Done	09/02/2022	09/02/2022
<b>EM-420 (Task): Log4jShell Critical Bug &gt; EM-422 (Sub-task): Log4jshell Update from SBH</b>	pending	Secretariat has raised a critical security issue affecting all portals. JNCC is looking into it. Marked as 'In Progress' on JIRA.	none	
<b>EM-389 (Task): Please review the new CP map viewer &gt; EM-391 (Sub-task): SBH review of the new CP Map Viewer</b>	resolved	JNCC provided feedback on the new CP Map Viewer. Resolved as far as JNCC is concerned, although still marked as 'To Do' on JIRA.	none	01/12/2021
<b>EM-384 (Task): SBH to produce an inventory of products</b>	resolved	JNCC provided a inventory of products. Resolved as far as JNCC is concerned, unless the Secretariat have further questions. Marked as 'In Review' on JIRA.	none	30/11/2021
<b>EM-383 (Task): SBH Grafana dashboard stopped tracking webpage Search Metadata</b>	resolved	the page URL had changed. JNCC confirmed the URL of the new page. marked as 'In Progress' on JIRA at time of writing this.	none	06/01/2021

<b>EM-354 (Task): statistics for downloads and visitors for the whole EMODnet party for the last 12 months (per month)? &gt; EM-363 (Sub-task): Seabed Habitats to report on number and volume of downloaded data and data products by 29th of October 2021</b>	resolved	JNCC provided the requested statistics. Resolved as far as JNCC is concerned, unless the Secretariat have further questions. Marked as 'In Review' on JIRA.	none	27/10/2021
<b>EM-350 (Bug): Missing attribute in eusm2019_full_800 layer of Seabed Habitat WMS service</b>	resolved	JNCC updated the styling of this layer and resolved the bug. Marked as 'Done' on JIRA	none	07/10/2021
<b>EM-340 (Task): Collect fields/forms used on Thematic Portals &gt; EM-347 (Sub-task): Collect fields/forms used on Seabed Habitats Thematic Portal</b>	resolved	a straightforward task to tell the Secretariat what forms are used on the website, which JNCC completed. Although the Secretariat have not marked it as 'Done' on JIRA yet (still 'To Do'.	none	28/11/2021
<b>EM-326 (Task): Collect names of Portal editors for a possible DG COMM training &gt; EM-339 (Sub-task): Collect names of Portal editors</b>	resolved	a straightforward task to send a list of portal editors to the Secretariat, which JNCC completed. Marked as 'Done' on JIRA	none	29/11/2021

### 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-515 (New Feature) Ability to filter habitat layers by habitat type or map ID</b>	pending	This is a feature from the SH portal that we have requested for the central portal. Actions lie with the central portal development team. status according to JIRA: To Do	none	

### 3. User feedback

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
02/01/2022	Arcadis	technical - Attempted to download the probability of coralligenous and maerl habitats in the Mediterranean but the links were broken.	web form	1 hour	resolved	sent correct link with an hour. Then set about correcting the links online	responded with the correct download link. Fixing the links online is in progress
02/02/2022	DG-ENV	request for analysis - The 11/01/2022 we sent to the EEA an excel spreadsheet with vaues for the extent (km2) of each MSFD broad habitat type per country (and per subregion if several for a country), a request made by the EEA in December 2021. in the spreadsheet, there were some significant differences between these figures and those they expected, due to projection issues.	email	10 days	resolved	calculations remade	resolved

		The calculations were remade using the expected projection (LAEA)					
03/03/2022	Jersey Marine Conservation	concern about data ownership - There was concern that the data owner was not given enough recognition in the case of data owned by Jersey Marine Conservation. This relates to the Survey sample points data layer.	web form	1 hour	resolved	a phone conversation helped to identify that the main source of the issue was that the data custodian needs to amend the data owner information before it is submitted to the national UK database, Marine Recorder, which is subsequently aggregated into the EMODnet collection. Furthermore, we will consider a new web page that lists all data providers and what they have contributed.	resolved
03/09/2022	University of Aberdeen	technical - Is looking to use the Light (PAR) at seabed data layer (accessible from EMODnet Seabed Habitat	email	15 minutes	resolved	replied that the resolution of the grid is 0.0010416667 decimal degrees,	resolved

		data portal) however is struggling to find the resolution of the layer and can only find information on the scale in ICES Metadata Catalogue. Ask to confirm the layer's resolution				corresponding to approx. 100m.	
14/03/2022	Ifremer	technical - Would need to know what the habitat is at a specific location. What is the data layer I should look at on the webGIS?	Live Chat	2h	resolved	Live guidance	resolved
23/03/2022	CGR	technical - Broken links in a metadata record	email	15 minutes	resolved	corrected the metadata record	resolved
01/04/2022	Aqualicence	technical - The user was enquiring about some missing data in the EMODnet seabed substrate layer, which they were accessing via WMS.	web form	3 hours	resolved	it transpired that they were viewing an old version of the layer, which is still available via WMS but not on the map viewer. I directed her to the latest version, which she was happy to see had the gaps filled. I also promised to rename the WMS layers to make it clear if they were not	resolved

						the most recent version. This has been added to our internal technical issues log	
08/04/2022	SHOM	technical - The user was confused about the fact that there are EUSeaMap confidence layers on the map viewer, but when they clicked the download link they were taken to a link to download the EUSeaMap map package.	web form	3 hours	resolved	explained that the confidence layer is not available to download on its own via the download page, it is zipped up with the EUSeaMap habitat map.	resolved

## 4. Meetings/events held/attended & planned

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.)
19/01/2022	Web	Internal Meeting	Yes	O	EMODnet Seabed Habitats kick-off. We expect that all consortium members will gain a greater understanding of what is required in the project.
01/02/2022	Web	External Meeting	No	A	Stakeholder discussion for the "Urbanization and Climate Change Adaptation in the Caspian Sea Region" project. 50 participants. Identified the person who will be collating the spatial data for the Caspian for this UN Habitat project and reached out to her and suggested we liaise on dataset discovery in the region.
02/02/2022	Web	External Meeting	No	A	EMODnet Central Portal Technical team meeting with Seabed Habitats - meeting 3. 15 participants. Central Portal team gained a better understanding of steps needed to incorporate the contents and functionality of the Seabed Habitat portal into the Central Portal.
08/02/2022	Web	External Meeting	No	A	Meeting with EMODnet Biology to discuss future collaboration. 6 participants. A better understanding of outputs from each



					programme and any commonalities or future collaborations.
10/02/2022	Web	Internal Meeting	No	O	WP2 coastal wetlands. 3 participants. Progress meeting and discuss next steps regarding coastal wetland data and classification
10/02/2022	Web	Internal Meeting	Yes - progress updates	O	Project Management Team meeting. 5 participants. Progress meeting among WP leaders, and to discuss any issues
14/02/2022	Web	External Meeting	Yes - EMODnet Seabed Habitats: collecting habitat maps once, using many times	A	International Ocean Data Conference 2022 - The Data We Need for the Ocean We Want. More awareness of the sorts of products that EMODnet Seabed Habitats has and can produce
15/02/2022	Web	Internal Meeting	No	O	WP1 EUSeaMap in the Caspian Sea. 3 participants. Discuss possible input layers for the Caspian Sea
21/02/2022	Dublin	External Meeting	Yes - EMODNet Seabed Habitats participation & alignments with INFOMAR	O	INFOMAR National Seabed Mapping Conference. 70 participants. Seabed Mapping community in Ireland get an overview of the products and improvements planned in the next phase of EMODnet SH
03/03/2022	Web	External Meeting	Yes - How following the FAIR principles has allowed EMODnet Seabed Habitats to aggregate and combine disparate data into new products for the benefit of many	A	MEDIN Open Meeting. 100 participants. Raise awareness of EMODnet SH among the marine data community in the UK and show its commitment to FAIR data principles.

03/04/2022	Web	External Meeting	No - Live Portal Demo	O	ESH Outputs demonstrated to Ecosystem Accounts Division of Centre Statistics Office Ireland. 2 participants. ESH Outputs demonstrated to Ecosystem Accounts Division of Centre Statistics Office Ireland. ESH Resources / EUSeamap will be used by Ecosystem Accounts Division in the CSO, (Ireland) in compiling Ecosystem Accounts at national level for Ireland.
16/03/2022	Web	External Meeting	No	A	EMODnet Central Portal - static content. 4 participants. Discuss static content transfer to central portal
17/03/2022	Web	External Meeting	No	A	EMODnet Central Portal Technical team meeting with Seabed Habitats - meeting 4. 11 participants. Central Portal team gained a better understanding of steps needed to incorporate the data and functionality of the Seabed Habitat portal into the Central Portal.
23/03/2022	Web	Internal Meeting	No	O	RSC Engagement - Black Sea. 4 participants. Discussed and agreed the approach for engagement of the ESH RSC rep with the RSC for the Black Sea. Template letter drafted and reviewed.
30/03/2022	Web	Internal Meeting	No	O	RSC Engagement - Tehran Convention. 3 participants. Discussed and agreed the approach for engagement of the ESH RSC rep with the RSC for the Caspian Sea.
<b>SUM</b>				<b>O</b>	<b>Total # of meetings organised = 8</b>

<b>SUM</b>				<b>A</b>	<b>Total # of meetings attended = 7</b>
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<b>B. Meetings/events planned in the future</b>				
Date	Location	Type event (meeting, training (workshop), etc.)	Meeting to be attended (A) / organised (O)	Short description and main expected outcomes
07/04/2022	Web	External Meeting	A	European Marine Board Working Group on Marine Habitat Mapping - kick-off meeting
09/05/2022	Lisbon	Internal Meeting	O	EMODnet Seabed Habitats Steering Group Meeting
16/05/2022	Venice	Conference	A	GEOHAB – Poster Presentations

## 5. Communication assets

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)
31/01/2022	News article	EMODnet newsletter item entitled "Holistic, standards-based access and interoperability for marine biodiversity data"	Awareness that a new use case on the collaboration between EMODnet SH and Biology Lots to produce a standardised approach to Habitat point data submission has been published.	EMODnet Newsletter
31/01/2022	Newsletter item	EMODnet newsletter item entitled "Holistic, standards-based access and interoperability for marine biodiversity data"	Readers see that the thematic lots are working together and not alone alone.	EMODnet Newsletter
31/01/2022	News article	2022: marking the start of a new phase	Awareness on the progress made by EMODnet SH during the last phase.	EMODnet Newsletter
31/01/2022	Newsletter item	2022: marking the start of a new phase	Readers see the outputs and milestones achieved by all of the thematic lots in 2021.	EMODnet Newsletter
15/02/2022	Tweet	Tweet promoting EMODnet SH	Promoting work of EMODnet SH on delivering standardised habitat mapping data products.	@EMODnet and @JNCC_UK
17/02/2022	Newsletter item	EMODnet news item entitled "EMODnet Seabed Habitats Phase IV"	Awareness that the new phase of EMODnet Seabed Habitats has begun, with some new objectives and partners	MEDIN Newsletter

28/02/2022	Newsletter item	EMODnet newsletter item entitled "OSPAR Threatened and/or Declining Habitat Spatial Dataset"	Readers see that there has been a significant update to the number of records hosted in the OSPAR spatial database on Threatened and/or Declining Habitats.	EMODnet Newsletter
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### B. Planned communication products

Date	Communication material	Short description (of the material, title, ...) and/or link to the asset	Main results expected
April 2022	New or updated web page on the ESH website	Update ESH About Project page with new story map on ESH products	Promote EMODnet Seabed Habitats Products
April 2022	Article in EMODnet Newsletter	Promotion of products currently available from ESH mapper through a story map	Promote EMODnet Seabed Habitats Products
April 2022	Tweet	Tweet Promoting	Promote EMODnet Seabed Habitats Products
May 2022	EMODnet Central Protocol for promoting new datasets	Release of the 2021 OSPAR Combined Map and associated methods document	Promote EMODnet Seabed Habitats Products

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
01/2022		Larkin Kate E., Marsan Andrée-Anne, Tonné Nathalie, Van Isacker Nathalie, Collart Tim, Delaney Conor, <b>Vasquez Mickael, Manca Eleonora, Lillis Helen</b> , Calewaert Jan-Bart (2022). Connecting marine data to society . In Ocean Science Data. Collection, Management, Networking and Services. 2022. Manzella, G, Novellino, A (Eds). ISBN 978-0-12-823427-3. Chap.5, pp.283-317 (Elsevier BV) .	978-0-12-823427-3	<a href="https://doi.org/10.1016/B978-0-12-823427-3.00003-7">https://doi.org/10.1016/B978-0-12-823427-3.00003-7</a>	Yes

B. Other/non-peer reviewed types of publications (co-)authored in the quarter					
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No

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

## 6. Monitoring indicators

Comments on the progress indicators in the indicators spreadsheet		
Progress indicator	Means of collecting figures	Comment
<p>1. Current status and coverage of total available thematic data</p> <p>A) Volume and coverage of available data</p>	<p>Volume of data: PostgreSQL query</p> <p>Coverage: spatial analysis using data stored PostgreSQL and sea-basin vector file. For this report we used the same sea-basin file as in the last quarter.</p>	<p>no change since last quarter - next bulk upload due in April 2022. Sub-themes renamed to match new list of sub-themes. Same regions used as in last quarter but we intend to start using the same region boundaries as EMODnet Biology from next quarter onwards</p>
<p>What is your opinion on the data coverage within EMODnet for your thematic?</p>		<p>Data coverage of habitat data is much lower than for other EMODnet thematics such as Physics, Chemistry or Biology. There are two reasons for this. 1) Apart from a few exceptions (UK, Finland), there are no national thematic assembly center on habitat data in European countries, so collating/standardising/making data available mostly relies on EMODnet Seabed Habitats. 2) a habitat data record is an integrated measure, i.e. requires integration of multiple parameters: sediment type, temperature, species community type (which is also an integrated value), etc. Assigning a habitat/community/biotope value to a point/polygon record is therefore not instantaneous, but on the contrary requires months of work (sediment type identification, imagery interpretation, species identification, statistical clustering, etc). As a result, the identification of a habitat is expensive, and there are few survey programmes compared to other thematics that deal with directly measurable parameters</p>
<p>B) Usage of data in this quarter</p>	<p>GeoServer logs and download logs</p>	<p>not much change in downloads, but some increase is noted for WMS and WFS requests. Part of this is because there was a 2 week gap in the records for December (last quarter).</p>

<p>2. Current status and coverage of total number of data products</p> <p>A) Volume and coverage of available data products</p>	<p>Volume of data: manual summary combined with PostgreSQL query</p> <p>Coverage: spatial analysis using data stored PostgreSQL and sea-basin vector file. For this report we used the same sea-basin file as in the last quarter.</p>	<p>no change since last quarter - next bulk upload due in April 2022. However, two products added to first table that had been missed in the previous report (biogenic substrate and Coralligenous). Sub-themes renamed to match new list of sub-themes. Same regions used as in last quarter but we intend to start using the same region boundaries as EMODnet Biology from next quarter onwards</p>
<p>B) Usage of data products in this quarter</p>	<p>GeoServer logs and download logs</p>	<p>Fairly consistent usage since the last quarter. The largest swings are in the less popular sub-themes, where a small actual change results in a large % change.</p>
<p>3. Internal and external organisations supplying/approached to supply data and data products within this quarter</p>	<p>Extract from our internal data collation tracker in SharePoint Lists</p>	<p>22 datasets or data products acquired in this quarter. 12 of these are in addition to the data promised as part of the technical proposal, as indicated in the additional column we have provided. Due to the last-minute change to the reporting template we were unable to provide information on file sizes and data licences in time for the reporting deadline.</p>
<p>4. Online 'Web' interfaces to access or view data</p>	<p>-</p>	<p>no changes since last quarter. Information is presented according to new sub-themes.</p>
<p>5. Statistics on information volunteered through download forms</p>	<p>Form on download page of website</p>	<p>Roughly 50% of "users" (treated as individual download events) gave some form of information. From those giving sector information, heavy slant towards academia, which is consistent with previous quarters. Geographic percentages remain similarly consistent.</p>
<p>6. Published use cases</p>	<p>Matomo</p>	<p>Note that this list only includes use cases published on central portal. There are many more on the Seabed Habitats portal, which will need to be copied across as part of the centralisation process.</p>
<p>8.1. Technical monitoring</p>	<p>Matomo</p>	<p>longer than usual average response time. Not sure why</p>
<p>9. Visibility &amp; Analytics for web pages</p>	<p>Matomo</p>	<p>overall decrease this quarter perhaps due to higher than average page views last quarter by secretariat/central portal team while doing the page mapping exercise</p>
<p>10. Visibility &amp; Analytics for web sections</p>	<p>Matomo</p>	<p>overall decrease this quarter perhaps due to higher than average page views last quarter by secretariat/central portal team while doing the page mapping exercise</p>



11. Average visit duration for web pages	Matomo	increase in time spent on pages related to contributing data probably due to project partners accessing the guidance for formatting and submitting data under WP2
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*The monitoring numbers reported as part of the progress monitoring of EMODnet performance are collected through Matomo and/or Europa Analytics, unless reported otherwise.*

## 7. Annex: Other documentation attached

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