



EMODnet



European Marine
Observation and
Data Network

EMODnet Thematic Lot n° 2 - Seabed Habitats

EASME/EMFF/2018/1.3.1.8/Lot2/SI2.810241

Start date of the project: 25/09/2019 - (24 months)

EMODnet Phase III – Quarterly Progress Report (15)

Reporting Period: 01/01/2021 – 31/03/2021



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1. Highlights in this quarter

Task 1: develop a common method of access to data held in repositories

- We processed and uploaded 25 new datasets (details are provided in Annex, section 7) and 3 composite habitat data products (Habitats Directive Annex I composites in UK waters) to the portal.

Task 2: construct products

- EUSeaMap 2021
 - next iteration of EUSeaMap will be delivered in September 2021. This new version will be the result of the combination of the biological zone layers developed for the version 2019 with the new version of the EMODnet Geology seabed substrate product. This EMODnet Geology product will be officially delivered in September 2021, i.e. at the same time as EUSeaMap. EMODnet Geology will therefore provide us with an unofficial copy of the product at the end of June 2021. EMODnet Geology and Seabed habitats met in February to agree on the form that this copy will take.
 - A major novelty is the provision of EUSeaMap in the new version of EUNIS (EUNIS 2019). A report on how the translation of EUSeaMap in EUNIS 2019 will be carried out has been published (deliverable D1.06).
 - As mentioned in our tender proposal, in order to reduce costs we had not planned to re-run the biological zones layers but to use the version developed as part of the previous contract, in 2019. A substantial issue with that version, due to a data gaps in the EMODnet bathymetry DTM 2018, has been found out. We have taken the decision to fix the issue, which will require the deployment of unplanned resources (estimated at about 2 men.months) to minimise the risk of delays. An issue has been raised in section 2 (issue INT 05).
- Deliverable 3.10: We are working on a pilot translation of EUNIS habitat datasets from survey from the EMODnet Seabed Habitats catalogue into the new EUNIS classification (EUNIS 2019). This work relies on the official [EUNIS 2019 official translation table published on the EEA website](#). We found that the table is incomplete and it has serious issues and errors, and it was published on the EEA website without a guidance manual or a report. An issue has been raised (see Issue INT 04 for more details).

JNCC has corrected the simpler issues, but for other more complex ones external input or agreement is required. JNCC contacted the EEA and EMODnet Seabed habitats partners and proposed how to solve these more complex issues, but it will take some time before a decision is made. We have a draft proposed translation table for the Atlantic that can be used for the pilot. We created a GIS workflow to automatically translate the habitats translation with a 1:1 relationship using the proposed translation table, however many manual time-consuming translations are still required. Due to the considerable extra resources already employed to make a fit-for-purpose translation table (with resources are already impacted by the covid situation, see Issue INT 03), the delivery of pilot maps translated from the old EUNIS to the new 2019 EUNIS classification will be delayed.
- We are making good progress working on correlation tables and a methods paper to create the biogenic substrate layer (D3.05 and D3.06)

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

- The 19/02/2021 DG/MARE and the EEA organised a meeting between the EEA and EMODnet Seabed Habitats and Biology, the aim of which was to see how reporting under the Nature Directive could be brought together with data processed and disseminated through EMODnet to enhance EMODnet's support to the biodiversity strategy. The EEA presented the datasets from Article 17, Habitats Directive 92/43/EEC reporting that they update every 5-year, of which we already made available the datasets related to the conservation status of habitat types. We currently make available the previous version and we will publish in the next two months the latest one using the WFS made available by the EEA.
- EurOBIS have reported that they have now successfully harvested a pilot UK habitat point dataset, for trialling subsequent habitats extraction. Now that the data are in the OBIS system, JNCC are organising a meeting with EurOBIS and EMODnet Biology representatives to discuss optimal extraction methods. The guidance on submitting habitat data into OBIS will be released in the next quarter.
- JNCC is changing the way web services are managed to reduce service downtime and improve user experience. A nascent Self healing geoserver infrastructure is now generated and we are currently working on configuration and populating it by transferring the service contents to the new system. Lift-and-shift scripts have already been pre-generated to speed up the population/transfer process once configuration is complete. The lift-and-shift process will simulatenously work to simplify the geoserver's workspace structure to improve user experience, reducing the "open" and "view" workspaces into one providing both WFS/WCS and WCS services.
- JNCC worked with ICES to set up a new ICES geodata network metadata account and subportal for EMODnet Seabed Habitats and transferred all metadata records to the new subportal. This allow all metadata records by EMODnet Seabed Habitats datasets to be tagged and therefore they will be accessed more easily by the future EMODnet central portal. JNCC has also worked with ICES to ensure that the subportal provides a working INSPIRE-compliant CSW service.
- Regarding the JIRA EM-88 issue on the Web Services Metadata Url and Data Url fields: All 194 layers highlighted in the validation report have been checked and/or amended to fix their issues. All web services have INSPIRE metadata. As of 12/04/2021, this has been confirmed to be resolved.

Task 4: maintain and further develop a thematic web portal

- Since 19th January we reinstated recording of users information on the download form which was deactivated temporarily because a precautionary approach to GDPR was taken after Brexit whilst we worked on compliance. There will be a small drop out in indicator 6 from 20th December 2020 to 18th January 2021.
- The EMODnet Seabed Habitats webpages have been updated to reflect change from EASME Unit A.3 to CINEA Unit D.3. The Privacy policy now includes the disclaimer "Relevant documents such as data protection notices are being reviewed & updated in light of our current transfer from EASME to CINEA Executive Agency. Thus, after 1 April 2021 any reference to EASME shall be read as CINEA during the transition period.", as requested.
- All minor issues related to cookie management (DNT) have been resolved on 24th February, pending final checks and approval. See progress in Jira issue: EM-93: GDPR Compliance for Seabed Habitats.

- Two news items have been published in the news section of the portal, the details of which are listed in Section 5, including a news item to publicise the Emodnet Open Conference to the habitat mapping community.
- Three new use cases have been published on the EMODnet Seabed habitats portal and submitted for publication to the EMODnet central portal.
- Figures in the data products summary page have been updated following the publication of new datasets in the portal. EMODnet Seabed Habitats - Data Products Summary (emodnet-seabedhabitats.eu).

Task 5: ensure the involvement of regional sea conventions

- Nothing to report. As a reminder, a consultation of the regional sea conventions was carried out in 2020 (see [report](#)).

Task 6: install a process to monitor performance and deal with user feedback

- Progress indicators that require reporting figures (percentage coverage, counts) per sea basin: we have actively contributed to the EMODnet secretariat's recent thoughts with respect to this, particularly regarding the various options for spatial projections and standard region shapefiles to be used as reference by all thematic lots. When the secretariat provides guidance, we will attempt to do some of these calculations automatically, which may be a challenge. In the meantime reporting on habitat maps from survey and point data per region is now automated based on draft sea areas sent to the secretariat, there will therefore be a difference in these figures from the previous report due to this improved approach.

Task 7: operate a help desk offering support to users

- This task is operated routinely

Status of the Milestones and Deliverables listed in the workplan				
Milestone/Deliverable	WP	Date due	Status	If Delayed: reason for delay and expected delivery date
D1.06: Method for classifying EUSeaMap according to the new version of EUNIS [dependent on new EUNIS being publishing]	WP1	24/12/2020	Delivered	
D1.10: Method for classifying EUSeaMap according to regional classifications	WP1	24/05/2020	Delivered	
D2.08: Guidelines for submitting habitat point data to OBIS	WP2	24/04/2020	Delayed	Delayed due to ingestion setbacks with EurOBIS on trial dataset. Expected delivery now End June 2021
D3.10: pilot maps and points translated to the new version of EUNIS (created as part of a pilot project)	WP3	24/03/2021	Delayed	Partly completed. Delayed to mid-June due to serious issues with the EEA official

				translation table (See ISSUE INT 04)
D4.05: Seamless display of habitat maps stored locally and those accessed via machine-to-machine connections	WP4	24/11/2020	Delayed	We have recently agreed a route to implementing this, and it should be delivered within Q2 2021- Priority was given to solving Jira issues.

2. Identified issues: status and actions taken

A. Priority issue(s) identified and communicated by EASME/ DG MARE/ SECRETARIAT				
Priority issue	Status	Action(s) taken / remaining actions planned	Date due	Date resolved
JIRA EM-181 - Some links on Seabed Habitats Product catalogue are broken	Done	Two metadata records were “unpublished”, likely as a result of the Geonetwork subportal move. This is now rectified.		30/03/2021
JIRA EM-146 - Seabed Habitats Quality of Service Monitoring	In Progress	<p>The metric behind response time was queried by JNCC, as it appeared to relate to last-by response rather than first-byte response. This has been agreed by the secretariat, and amendments have now been made to the code for response time in subsequent reporting periods.</p> <p>Progress on the self-healing geoserver has been somewhat hindered by staffing/Covid issues but is still being progressed and a nascent instance has been set up. We hope for this to be complete this quarter, which should mitigate the availability issues.</p>	31/07/2021	
JIRA EM-88 - Seabed Habitats - Web Services MetadataUrl and DataUrl fields	Done	<p>MetadataURLs updated where relevant within GeoServer layers.</p> <p>Some ICES metadata records encountered a bug in the move to the new subportal that left them unpublished, JNCC worked with ICES to correct these.</p> <p>JNCC liaised with MAREANO project to ensure XML metadata records were available for these external layers.</p> <p>dataURLs corrected in Geoserver where necessary. Log taken of layers that do not require dataURLs (e.g. Group layers, non-downloadable datasets) for future auditing of this requirement.</p>		12/04/2021

		Case-by-case log presented to central portal for review, and rerun of checks was successful		
JIRA EM-80 - Seabed Habitats to report on status or plans to support INSPIRE Compliant CSW	Done	JNCC worked with ICES data team to rectify INSPIRE extension and advertised port issues on the CSW service of the ICES Geonetwork. As a side-task relating to work on this issue, Seabed Habitats has moved to a sub-portal for easier data management and harvesting by EMODNet Central.		08/04/2021
JIRA EM-93 - GDPR Compliance for Seabed Habitats	In review	JNCC digital and data solutions teams have made requested changes to the website to resolve the issue. Remaining action is only for secretariat to review that the changes are acceptable.		

B. Issues / challenges identified by the thematic assembly group itself

Priority issue / challenge	Status	Action(s) taken / remaining actions planned	Date due	Date resolved
INT 03 - covid, back to full lockdown confinement in the UK, with school closed Everything takes longer due to slow network speeds or having to take additional time off to look after children	Resolved	More days allocated to these tasks; although this will inevitably mean that fewer days will be available for other tasks later on in the project. Lockdown in UK is easing and school re-opened but there is a risk of need to take additional time off to look after children		March 2021
INT 04 Issues with the EUNIS 2019 translation table	Pending	Deliverable 3.10 relies on the official EUNIS 2019 official translation table published on the EEA website. We found that the table is incomplete and it has serious issues and errors, and that it was published on the EEA website without a guidance manual or a report. In the Atlantic alone, for example, the spreadsheet consists of 980 rows, 293 of these needed manual checks and corrections (where possible). Specific issues included: whole sections of the classification missing, logical rules not followed, incorrect or missing codes. JNCC has		

		<p>corrected the simpler issues, but for other more complex ones external input or agreement is required. JNCC contacted the EEA and EMODnet Seabed habitats partners and proposed how to solve these more complex issues, but it will take some time before a decision is made. Fixing these issues has costed a lot of unplanned effort -We estimate this will cause a ~1.5 months delay in the delivery of D3.10 (pilot translation of EUNIS maps).</p>		
<p>INT 05 unexpected additional work for next EUSeaMap due to data gaps in version 2018 of the EMODnet bathymetry DTM (pixels with no data alongshore, leading to significant loss of habitat spatial distribution).</p>	<p>pending</p>	<p>As mentioned in our tender proposal, in order to reduce costs for the development of EUSeaMap 2021 we had not planned to re-run the biological zone layers but to use the version developed as part of the previous contract, in 2019. A substantial issue with that version, due to a data gaps in the EMODnet Bathymetry DTM 2018, has been found out. In some places covering sometimes significant areas, the DTM presents gaps (i.e. pixels with no data) alongshore, as a result our biological zone layers also do. This gap represents a total area of approximately 32 500 km² in the Atlantic.</p> <p>We have taken the decision to fix the issue and use the latest version of the EMODnet Bathymetry DTM (version 2019, which does not present that issue) to fill the gaps. In order to minimise the risk of delays in the provision of EUSeaMap (due the 25th of September 2021) we will deploy unplanned resources (estimated at about 2 men.months)</p>		

3. User feedback (Contact Us form, online chat & other communication means)

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
27/01/2021	OFB (French Office for Biodiversity), France	General - Would like to know the source of the map that is the Natura 2000 site Belle ile en mer, in France	Email	1 hour	resolved	Replied via email	
04/02/2021	Ifremer, France	Technical - Has some observation data of Ostrea Edulis and would like it to be integrated into OSPAR shapefile on threatened and endangered habitats. We have suggested that he submits the dataset to SEANOE, an Ifremer tool for data publication that is linked to EMODnet data ingestion. So the data will be sent to data ingestion. We have provided them with the OSPAR shapefile template for them to submit the data to SEANOE in a format compliant with OSPAR's format	Email	1 day	resolved	Multiple emails/calls	

19/02/2021	EEA	General - Need for EMODnet portal to make Habitats directive datasets more visible/ easier to find. Following this comment the map viewer was reorganised and the names of the groups of layers were standardised (Habitats directive – xxx, instead of Annex I or Article 17)	Meeting	1 week	resolved	Reorganisation of the map viewer	resolved
08/03/2021	JNCC international team/Ramsar Convention – UK National Focal Point	Technical - Use of EMODnet Seabed Habitats seagrass EOVs in Marine/coastal habitat extents for the UK Ramsar National Report	Email	1 day	resolved	Replied via email	Resolved but needs to be considered in the next update of EOv layers
19/03/2021	Ifremer, France	Technical - As part of project CENOPAC are going to assess the impact of fisheries on natural resources in the East Channel. Asked what is the best data available on habitats in the study area	Email	1 day	resolved	Replied via email	
19/03/2021	SAR (Marine standards Management Service), France	Technical - The SAR is in charge of creating marine data standards in France. Sent a survey on marine habitat classifications (questions such as which classifications are important to consider, and why)	Email	1 day	resolved	Replied the survey via email	

26/03/2021	Rijkswaterstaat, the Ministry of Infrastructure and Water Management (RWS) in The Netherlands	Technical - Need for EUSeaMap in shapefile format. Available for download in Geodatabase format only.	Email	3 days	resolved	Sent in Shapefile format	
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4. Meetings/events held/attended & planned

A. Meetings/events organised and attended					
Date	Location	Type event (internal or external meeting, training/workshop)	Indicate if a ppt was given (yes/no + short description)	Meeting attended (A) / organised (O)	Short description and main results (# participants, agreements made, etc.)
01/2021	Videoconf	Meeting		O	As part of WP2 (data collation), a series of one-to-one meetings were organised by ISPRA (WP leader) in order for each partner to update on their inputs and plans until the end of the contract
14/01/2021	Videoconf	Meeting		O	JNCC meeting ICES data managers to discuss metadata in ICES GeoDatanetwork
27/01/2021	Videoconf	Workshop		A	Organised by the Consortium for contract EASME/EMFF/2018/1.3.1.1/SI2.814068. Stakeholder workshop to discuss how best to seize the opportunities offered by the implementation of the existing policy framework to support the application of Ecosystem Based

					assessment in Marine Spatial Planning in the Black Sea.
02/02/2021	Videoconf	Meeting		O (co-organisation EMODnet Geology and Seabed Habitats)	Cross thematic meeting to ensure that Geology's product "seabed substrate" early delivery to Seabed Habitats suits our needs (this product is a key input to EUSeaMap)
02-05/02/2021	Videoconf	workshop		A	Organised by ICES - Workshop on the Use of Predictive Habitat Models in ICES Advice (WKPHM) - A workshop to produce an ICES advice to model deep sea habitats by predictive modelling techniques
19/02/2021	Videoconf	Meeting	Yes – presentation of and how we disseminate data that is related to Nature Directive	A	<p>Organised by DG/MARE and EEA</p> <p>Meeting Between EMODnet and EEA. Objective: see how reporting under the Nature Directive could be brought together with data processed and disseminated through EMODnet to enhance EMODnet's support to the biodiversity strategy.</p> <p>We presented the data that we make available that is related to the Nature directives (e.g. the Habitats Directive Annex I individual maps from survey). The EEA presented the datasets from Article 17, Habitats Directive 92/43/EEC reporting that they update every 5-year, of which we already made available the datasets related to the conservation status of habitat types. We currently make available the previous version and we will publish the latest one using the WFS made available by the EEA</p>

14/03/2021	Videoconf	Meeting		O	Internal 6th Project Management Team meeting - The Project Management Team comprises WP leaders (Ifremer, ISPRA, JNCC), meets every 3 months and its task is to implement the scientific and technical activities
14/03/2021	Videoconf	Meeting		O	Project office meeting - Discussed deliverable progress and EUSeaMap issues
24/03/2021	Videoconf	meeting		O	Habitat mapping for OSPAR BH3 Extent of Physical damage to predominant and special habitats. A meeting with colleagues working on the OSPAR BH3 assesemnt. Discuss progress made with the creation of the habitat map and timeline.
SUM				O	Total # of meetings organised = 6
SUM				A	Total # of meetings attended = 3

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
04/2021	Videoconf	Meeting	O	As part of WP2 (data collation), a series of internal one-to-one meetings are organised by ISPRA (WP leader) in order for each partner to update on their inputs and plans until the end of the contract
20/04/2021	Videoconf	Meeting	O	Internal technical meeting to discuss how to update the habitat EOV layers
05/05/2021	Videoconf	Conference	A	GEOHAB. Main habitat mapping conference.
14-16/06/21	Videoconf	Conference	A	EMODnet Conference
17-18/06/21	Videoconf	Workshop and meeting	A	EMODnet jamboree
26/06-05/07/2021	Albena, Bulgaria	Conference	A	XXIth International Multidisciplinary Scientific GeoConference Surveying, Geology and Mining, Ecology and Management – SGEM 2021, 26 June - 5 July, 2021. IO-BAS, partner of EMODnet Seabed Habitats, will make a presentation on how EUSeaMap 2019 was used in the assessment of the spatial extent of benthic broad habitats types adversely affected by anthropogenic pressures under D6C5 in 2019.

5. Communication assets

A. Communication products				
Date	Communication material	Short description (of the material, title, ...) of the asset	Main results	Name of event at which material was disseminated (if applicable)
01/2021	1 Story map published on the website	2 story maps related to making habitat maps and using EUSeaMap for MSP	Provide access to resources on habitat mapping	
01/ 2021	1 Story map published on the website	a story maps on an example of using EUSeaMap for Marine spatial planning	Provide access to resources on habitat mapping and a use case for EUSeaMap	
01/ 2021	EMODnet Seabed Habitats Use cases on EMODnet central portal	All EMODnet Seabed Habitats Use cases so far reformatted, with added images to be published on EMODnet central portal	Provide access to the Seabed habitats use cases from the central portal	
21/02/2021	Elsevier Book Article	Review of article on EMODnet and the European Atlas of the Seas for a Book Chapter on "Marine data for society"	Section on Seabed Habitats reviewed	
03/03/2021	EMODnet Annual Report 2020	Contribution to EMODnet Annual Report 2019	Provision of key summary of 2020 updates for EMODnet Seabed Habitats and metrics for "EMODnet in Figures"	
09/03/2021	EMODnet Data and data product portfolio	Contribution to the annual update of the EMODnet Data and data product portfolio - Coordination EMODnet Secretariat	Document updated	
26/03/2021	News item on ESH website	Invitation to EMODnet's Open Conference 2021	Promote EMODnet's Open Conference to habitat mapping community	
04/03/20206	Tweet	Invitation to EMODnet's Open Conference 2021	Promote EMODnet's Open Conference to habitat mapping community	
06/04/2021	Tweet	Invitation to EMODnet's Open Conference 2021 and reminder of poster abstract submission deadline	Promote EMODnet's Open Conference to habitat mapping community	
14/04/2020	News item on ESH website	Addition of new datasets to the portal	Inform users of updates also more traffic to the portal	

			and promotion of the portal	
14/04/2020	Tweet from EMODnet central Twitter account	Addition of new datasets to the portal –	More traffic to the portal and promotion of the portal	

B. Planned communication products

Date	Communication material	Short description (of the material, title, ...) and/or link to the asset	Main results expected
05/2021 (dates of meetings TBC)	Tweet	Meeting EMODnet biology on ingestion of habitat data into EuroOBIS	Promote the activities of both lots – dates to be confirmed
05/2021 (dates of meetings TBC)	News item on ESH website	Meeting EMODnet biology on ingestion of habitat data into EuroOBIS	Promote the activities of both lots
14 th June 2021	EMODnet Seabed Habitats conference poster	For the EMODnet Open conference – On application of EMODnet SH products	Promote EMODnet Seabed habitats products
14 th June 2021	EMODnet Seabed Habitats conference poster	For the EMODnet Open conference – on ESH portal.	Promote EMODnet Seabed habitats portal
14 th June 2021	News item	ESH attending EMODnet Open conference and link to the posters	Promote EMODnet activities
14 th -16 th June 2021	A series of tweets and re-tweets	ESH attending EMODnet Open conference	Promote EMODnet activities to the habitat mapping community
07/2021	New ESH webpage and pdf	Guidance on submitting habitat data into OBIS	Provide guidance and promote the agreed protocol
07/2021 (dates to be discussed with EMODnet biology)	News item on ESH website	A protocol has been agreed between EMODnet and OBIS to submit Habitat/biotope data into OBIS	Promote the protocol and EMODnet activities
07/2021 (dates to be discussed with EMODnet biology)	Tweet	It is now possible to submit Habitat/biotope data into OBIS following the Emodnet protocol.	Promote the protocol

List of known publications using EMODnet data or data products

Date	Type and name of journal, conference, ...	Publication title including DOI (if known)	Author(s)	Organisation(s)
28/01/2021	Ambio	Combined effects of human pressures on Europe's marine ecosystems DOI	Korpinen et al 2021	
09/2020	Nordic Blue Carbon Project final report	Blue Carbon - climate adaptation, CO2 uptake and sequestration of carbon in Nordic blue forests DOI	Frigstad et al 2020	
10/09/2020	Contract Report	Report on the marine environmental status (MSFD) in 2019. Chapter 2.2. Data analysis and interpretation of D1,6 Seabed habitats - macrozoobenthos. Contract № Д-33-25/10.09.2020 between the Bulgarian Ministry of Environment and Waters and the Institute of Oceanology - BAS		
04/2020	Ecologia Balkanica	First Implementation of Marine Strategy Framework Directive for Benthic Habitats Assessment in the Bulgarian Black Sea Link	Todorova et al 2020	

6. Monitoring indicators

Comments on the progress indicators in the excel template		
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 SQL queries on Postgresql backend. Reference region geospatial datasets for reporting regions.	Reduction in volume of data points available in GB is due to difference in compression of the download zipfile. We seek guidance on optimal ways to measure GB size. Production database table size is a possibility, though this is highly optimised and would appear as a significant reduction. Points per reporting region is now automated based on draft sea areas sent to secretariat, there will therefore be a difference in these figures due to improved approach. As a result of the new approach comparative figures (i.e. new points this quarter) should now be available starting next reporting round (Q2 2021)
B) Usage of data in this quarter	User download form logs, server-side logging on GeoServer for OGC requests. Scripted data extraction from logs (python/pandas)	Manual downloads remain stable. Map visualisations and WMS as previous are across all themes and across data/data products, referring to the entire service. WFS requests are now gathered per-layer and relate to wfs requests specifying a typename (dataset), which is non comparable to the more general method used previously.
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Manual determination	3 new UK-wide detailed composite Habitats Directive datasets added to the portal alongside habitat maps from survey. Reporting on habitat maps from survey per region is now automated based on draft sea areas sent to secretariat, there will therefore be a difference in these figures from the previous report due to improved approach.
B) Usage of data products in this quarter	User download form logs, server-side logging on GeoServer for OGC requests. Scripted data extraction from logs (python/pandas)	Manual downloads show a steady number of increased datasets downloaded, though a reduced number of individual download sessions, suggesting users are downloading a wider variety of datasets on each session. Map visualisations are non-comparable with the previous reporting period due to a change in method (now number of wms requests referred by the EMODnet mapper).

		<p>Map visualisations and WMS as previous are across all themes and across data/data products, referring to the entire service.</p> <p>WFS requests are now gathered per-layer and relate to wfs requests specifying a typename (dataset), which is non comparable to the more general method used previously.</p>
3. Organisations supplying/approached to supply data and data products within this quarter	Manual (audit logs)	A good supply of data. Either volunteered by current partners (or known contacts), or approached directly by partners of seabed habitats.
4. Online 'Web' interfaces to access or view data	Manual	No changes. Before the end of the phase, the portal is hoping to move to a more streamlined workspace, removing the duplicated "open" and "view" workspaces, towards a harmonised workspace for both wfs and wms.
5. Statistics on information volunteered through download forms	User download form logs. Scripted data extraction from logs (python/pandas)	Relatively low provision of optional data compared to the previous reporting phase. Reason is uncertain. However, split between both organisation type and countries remains fairly consistent.
6. Published use cases		<p>Three new use cases (lowest in table) published this quarter and will be submitted to central in due course for upload.</p> <p>Reporting on portal for individual use case statistics on the Seabed Habitats Portal is not possible as use cases are gathered into themed pages.</p>
8.1. Technical monitoring	EMODnet Grafana	Webserver shows improved average response time, though within the margins of error.
8.2. Portal user-friendliness (Visual harmonization score)	Trust-IT supplied	No change in visual harmonisation score. Questions will be asked at next TWG again regarding best use of effort for further harmonisation considering imminent closure of thematic portals.
9. Visibility & Analytics for web pages	EMODnet Grafana	Generally remaining stable in comparison to previous quarters, consistent user interaction with portal
10. Visibility & Analytics for web sections	EMODnet Grafana	Similarly, stable in comparison to previous reporting period, no significant trends observed.
11. Average visit duration for web pages	EMODnet Grafana	Time on data submission process remains high, tying in with new suppliers reading the process in earnest to ensure data are delivered correctly. Other pages showing a marked decrease in duration. Potentially browsing for new content but website is generally static.

The monitoring numbers reported as part of the progress monitoring of EMODnet performance are collected through Matomo. In some cases, numbers from other monitoring systems may also be reported (e.g. Awstats, Google Analytics), and if so, must be reported in the table above. Each system uses different technical approaches and therefore has its strengths and shortcomings. Therefore, results are indicative and care should be taken when interpreting absolute numbers or comparing results from different tools. It is often more sensible to consider trends over time collected by the same monitoring tool.

7. Annex: Other documentation attached

Primary data made available on the web portal in February 2021

In the table below, the dataset which have a reference number are those that were indicated in the annex 2 of the consortium's proposal. The datasets referred to as "Supplemental" were not identified in the proposal.

Reference number	Title	Area	Owner
CCMAR04	Habitat map - single: Marine communities from the litoral of El Hierro	local scale, Spain	MAPAMA
Ifremer06	Habitat map - set: Seabed Habitat (EUNIS) - Mission d'étude PNM golfe Normand Breton (Cartham)	local scale, France	AFB (French Agency for the Biodiversity)
GeoEcoMar01	Point dataset: L35-132A map sheet with 36 point data within circalittoral and offshore circalittoral soft bottom habitats	Romanian shelf (~ 300 km ²)	NIRD GeoEcoMar
GeoEcoMar02	Point dataset: L35-132B map sheet with 25 point data within offshore circalittoral soft bottom habitats	Romanian shelf (~ 300 km ²)	NIRD GeoEcoMar
GeoEcoMar03	Point dataset: L35-132C map sheet with 35 point data within offshore circalittoral soft bottom habitats	Romanian shelf (~ 300 km ²)	NIRD GeoEcoMar
GeoEcoMar04	Point dataset: L35-132D map sheet with 50 point data within offshore circalittoral soft bottom habitats	Romanian shelf (~ 300 km ²)	NIRD GeoEcoMar
IO-BAS01	Bulgarian Black Sea coastal waters, 2018, WFD monitoring network	local scale, Bulgaria	IO-BAS
IO-BAS03	North-Western and Western Black Sea, 2019, ANEMONE project	local scale, Bulgaria	ANEMONE Consortium
ISPRA01	Habitat map - single: POR 2000-2006 – Posidonia Ocenica distribution along the Apulian coast	local scale, Italy	Apulia Region
ISPRA03	Habitat map - single: Tavolara – Punta Coda Cavallo MPA – Bionomic map of seabottom	local scale, Italy	MATTM
MI06	Point dataset: Celtic Sea Folk Sediment Classes	local scale, Ireland	Marine Institute

GeoEcoMar06	Point dataset: L35-144_C map sheet with 25 point data within offshore circalittoral soft bottom habitats	Romanian shelf (~ 300 km ²)	NIRD GeoEcoMar
GeoEcoMar07	Point dataset:K35-12_A map sheet with 35 point data within offshore circalittoral soft bottom habitats	Romanian shelf (~ 300 km ²)	NIRD GeoEcoMar
GeoEcoMar10	Point dataset: L35-120B map sheet with 50 point data within offshore circalittoral soft bottom habitats	Romanian shelf (~ 300 km ²)	NIRD GeoEcoMar
Supplemental	Point dataset: Norwegian Laminaria hyperborea kelp forest occurrences	local scale, Norway	NIVA
Supplemental	Point dataset: Norwegian Saccharina latissima kelp forest occurrences	local scale, Norway	NIVA
Supplemental	Habitat map - set: Seabed Habitat (Habitat Directive) - Mission d'étude PNM golfe Normand Breton (Cartham)	local scale, France	AFB (French Agency for the Biodiversity)
Supplemental	Point data: Phytobenthic occurrences in WFD	local scale, Bulgaria	IO-BAS
Supplemental	1110 Soft Bottom habitats within the BG0000146 SCI Natura2000 area	local scale, Bulgaria	IBER-BAS
Supplemental	1170 Reefs within the BG0000146 Gradina-Zlatna Ribka Natura2000 area	local scale, Bulgaria	IBER-BAS
Supplemental	Zoostera sp. seagrass beds within the BG0000146 SCI Natura2000 area	local scale, Bulgaria	IBER-BAS
Supplemental	Habitat maps of the Protected Area of northern Karpathos and Saria (GR4210003) (December 2020)	local scale, Greece	HCMR
Supplemental	Habitat maps of the Protected Area of northern Karpathos and Saria (GR4210003) (Cymodocea distribution)	local scale, Greece	HCMR
Supplemental	Habitat map - single: Seabed Habitat (EUNIS) - FR5300033 'Iles Houat Hoedic' (Cartham)	local scale, France	OFB
Supplemental	Habitat map - single: Seabed Habitat (Habitat Directive) - FR5300033 'Iles Houat Hoedic' (Cartham)	local scale, France	OFB