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 (16)

Reporting Period: 01/04/2021 – 30/06/2021

Contents

Disclaimer

1. Highlights in this quarter

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

- In building our library of habitat maps from surveys, we endeavour to consume copies of original data in order to standardise their format, add metadata to the EMODnet Seabed Habitats catalogue, so that they may be viewed, interrogated and further processed by users in a standard manner. However, there are some cases in which data is only available via Web Map Service (WMS), i.e. we can only access the data in the form of a pre-styled map layer. An example of this are the outputs of the Norwegian mapping programme, MAREANO. In order to make these available through EMODnet, we have accessed their WMS directly, and users can now find the following via the EMODnet Seabed Habitats interactive map:
    - 7 new layers under the existing layer group 'Modelled maps of specific habitats' > 'Norwegian Sea (Atlantic Ocean)'
    - 8 layers under the new layer group 'Composite data products' > 'Important marine habitats in Norway'

- We have recently added the 8 layers showing the official 2018 reported distributions of Annex I habitats, as reported by Member States under Article 17 of the Habitats Directive 92/43/EEC. These can be found under 'Composite data products' on the interactive map. These are collections of 10 x 10 km grid squares where the habitat has been observed. These are published by the European Environment Agency as Web Feature Service (WFS). Because of the size of the datasets and the infrequency of updates (every 5 years), we are using a locally stored copy of the original data to speed up loading times and allow custom styling and querying.

- We have recently added the latest version (2020) of the official OSPAR Threatened and/or Declining Habitats data product, which can be found under 'Composite data products' on the interactive map. This consists of 2 layers: points and polygons.

- 54 new point datasets or habitat maps from survey have been collated in various countries: Denmark (1), France (28), Germany (1), Ireland (2), Italy (2), Poland (2), Portugal (4), Romania (5), Spain (2), UK (17). They are being processed and will be made available online in September 2021.

Task 2: construct products

- EUSeaMap 2021
    - Next iteration of EUSeaMap will be delivered in September 2021 (D1.01 to D1.05). 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. On 30 June, EMODnet Geology provided us with an unofficial copy of the product that they will officially deliver in September.
    - EUSeaMap will include the new version of EUNIS (EUNIS 2019). The issue regarding EUNIS 2019 (issue INT 04, section 2, table B) does not affect EUSeaMap.
    - We had to deploy unplanned resources (2 person months) to fix an issue with our biological zone layer due to a data gaps in the EMODnet bathymetry DTM 2018 (see issue INT 05, section 2, table B).

- Composite data products: using our ever-growing library of habitat maps, we are creating new products that target specific user requirements:
    - On request from the OSPAR Intersessional Group on the Coordination of Biodiversity Assessment and Monitoring (ICG-COBAM), we have created the first draft of an update to the

data product showing the best available data on the extent of EUNIS habitat types in the North-east Atlantic (D3.08). This has been created by combining the entire library of habitat maps from surveys (EUNIS classification) from within the area of interest, removing overlaps and filling the gaps with EUSeaMap. A final draft will be published in September following the next update of EUSeaMap.

o To be able to translate the next version of EUSeaMap to EUNIS 2019, we are creating a 'biogenic substrate' data product (D3.05), which will enhance the seafloor substrate product from EMODnet Geology. This makes use of the entire library of habitat maps from surveys (EUNIS and Annex I classification) as well as existing data products (such as OSPAR Threatened and/or Declining Habitats). We have now defined exactly which habitats, in which classification systems, in each region, qualify as being composed of 'biogenic substrate', which will allow us to extract the relevant information from all data sources. The next step will be to combine into a single product and remove overlaps, so that it can be used as an input into EUSeaMap.

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

- EMODnet Seabed Habitats and Biology have had two successful meetings on the subject of better integration of habitat observations in EurOBIS. In the last report we explained that a trail dataset had been ingested into EurOBIS. Now it is possible to extract this information using the EMODnet Biology Data Download Toolbox (go to Parameter Filters > Rock and sediment physical properties > Habitat); the 'full occurrence data and parameters' option will include habitats recorded using according to the standard approach we have developed. We have described this approach in a guidance document, which is about to be published (D2.08). We have also created a communication plan to help promote this guidance in the community. With Biology we have also agreed that, in future, it would be possible to submit habitat-only observations to EurOBIS (i.e. without species occurences). This has not been done to date, but by doing so, we may eventually be able to move away from a standalone habitat points database towards a fully integrated system for all biodiversity data.

- Our new GeoServer is now fully populated with the contents of the previous server and organised in a simpler workspace structure. It is now in the user acceptance testing phase.

Task 4: maintain and further develop a thematic web portal

- We have updated the interactive map viewer with several functionality improvements:
  o Layer search
  o New tools added to the map toolbar: 'go to lat/long', 'measure'
  o Clearer tool icons in the map toolbar and the layer-specific toolbars
- At the time of writing, the updated map viewer had not yet been embedded into the map viewer page on the website. Although this is a trivial step so by the time you read this, it may have.

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

- This task is operated routinely

Task 7: operate a help desk offering support to users

- This task is operated routinely

Milestone/Deliverable	WP	Date due	Status	If Delayed: reason for delay and expected delivery date
Status of the Milestones and Deliverables listed in the workplan				
D1.01: Modified substrate data product including 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]	WP1	24/08/2021	Pending	
D1.02: Modified substrate data product including biogenic substrate to allow new EUNIS classification	WP1	24/08/2021	Pending	
D1.03: Confidence layer for modified substrate data product [dependent on 1.01, 1.02]	WP1	24/08/2021	Pending	
D1.04: EUSeaMap in EUNIS and MSFD broad habitat classifications, updated with new substrate data, with metadata	WP1	24/09/2021	Pending	
D1.05: Confidence maps for updated EUSeaMap in EUNIS and MSFD classifications, with metadata	WP1	24/09/2021	Pending	
D1.06: Method for classifying EUSeaMap according to the new version of EUNIS [dependent on new EUNIS being publishing]	WP1	24/12/2020	Delivered	
D1.07: EUSeaMap classified according to the new version of EUNIS [dependent on new EUNIS being publishing], with metadata	WP1	24/09/2021	Pending	
D1.08: Confidence maps for EUSeaMap in new EUNIS classification, with metadata [dependent on 1.07]	WP1	24/09/2021	Pending	
D1.09: Review of stakeholder needs and feasibility of classifying EUSeaMap to regional classifications, such as HUB	WP1	24/03/2020	Delivered	
D1.10: Method for classifying EUSeaMap according to	WP1	24/05/2020	Delivered	

regional classifications [dependent on D1.09]				
D1.11: EUSeaMap classified according to regional classifications, and metadata [dependent on D1.09]	WP1	24/09/2020	Delayed	When the proposal was written, D1.11 was making sense because the Baltic and the Mediterranean regional classifications were dramatically different from EUSeaMap's reference classification, the European classification EUNIS.

But EUNIS was transformed shortly after, and that new version turned out to be quite close to these regional classifications. Hence translating the current version of EUSeaMap in regional classifications would have been unnecessary, because next version of EUSeaMap will be translated in this new EUNIS.

However, rather than cancelling the deliverable, we proposed to delay it, i.e. next iteration of EUSeaMap (Sept 2021) will be delivered in the new EUNIS, and the Baltic and Mediterranean classifications |
D1.12: Confidence maps for EUSeaMap classified according to regional classifications, with metadata [dependent on D1.09]	WP1	24/09/2021	Pending	
D1.13a: Technical report describing the updates to EUSeaMap 2019	WP1	24/03/2020	Delivered	
D1.13b: Technical report describing the updates to EUSeaMap 2021	WP1	24/09/2021	Pending	
D1.14: Well-documented R code and ArcGIS models used to construct EUSeaMap	WP1	24/09/2021	Pending	
D1.15: Report describing ways in which EUSeaMap may be improved if funds become available	WP1	24/11/2020	Delivered	
D2.01: An expanded library of maps of communities, biocoenoses, biotopes and habitats for all of Europe, ingested and converted to a standard format, with metadata for every map	WP2	24/08/2021	Pending	
D2.02: An expanded collation of point records of communities, biocoenoses, biotopes and habitats for all of Europe, ingested and converted to a standard format, with metadata for every dataset	WP2	24/08/2021	Pending	

D2.03: Templates for habitat map data exchange formats and for metadata	WP2	24/02/2020	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. Guidelines drafted and pending final amendments from external peers and EMODnet Biology (almost complete). Expected delivery now mid-August 2021
D2.10: Evidence of use of the EMODnet Ingestion and safe-keeping of marine data facility for ingesting data points, maps and models from third parties	WP2	24/09/2021	Pending	
D3.01: 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	WP3	24/08/2021	Pending	
D3.02: A combined, harmonized data product showing the best evidence for extent and distribution of the Essential Ocean Variable "Seagrass cover" in Europe, with metadata	WP3	24/08/2021	Pending	
D3.03: 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	WP3	24/08/2021	Pending	
D3.04: Report detailing the construction of the three Essential Ocean Variable data products	WP3	24/08/2021	Pending	
D3.05: A combined, harmonized data product showing the best evidence for the extent of biogenic substrate in Europe, with metadata	WP3	24/04/2021	Delayed	We had a major issue with EUSeaMap (see issue INT 05, section 2), and priority was given to solving that issue. D3.05 will be finished by August 2021 and officially delivered by September
D3.06: Report detailing the construction of the biogenic habitat data product	WP3	24/05/2021	Delayed	Same as D3.05
D3.07: A review of stakeholder needs for combined, harmonized data	WP3	24/03/2020	Delivered	

products for seabed habitats in Europe				
D3.08: Combined, harmonized data products showing the best evidence for extent and distribution of habitats defined in other classifications and lists in Europe, with metadata, depending on stakeholder needs	WP3	24/08/2021	Pending	
D3.09: Report detailing the construction of the data products defined by stakeholder needs	WP3	24/09/2021	Pending	
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 August due to serious issues with the EEA official translation table (See ISSUE INT 04)
D3.11: Report describing the process of translating marine habitat data to the new version of EUNIS	WP3	24/09/2021	Pending	
D4.01: A digital map with panning and zooming facilities allowing users to view data, data products and metadata	WP4	24/10/2019	Delivered	
D4.02: Facilities for downloading data, metadata and data products	WP4	24/10/2019	Delivered	
D4.04: Seamless display of habitat points stored locally and those accessed via machine-to-machine connections (predominantly from OBIS/ EMODnet Biology)	WP4	24/08/2021	Pending	
D4.05: Seamless display of habitat maps stored locally and those accessed via machine-to-machine connections	WP4	24/11/2020	Delivered	
D4.06: Seamless display of other map layers on portal accessed using machine-to-machine connections	WP4	24/09/2020	Delivered	
D4.07: Feature enabling ability to track usage	WP4	24/10/2019	Delivered	
D4.08: Feature enabling live operation of help desk 9-5, MonFri	WP4	24/10/2019	Delivered	
D4.09: User questions and answers on the portal and through RSS so they can be	WP4	24/08/2020	Delivered	Agreed with CINEA that there's no need to publish live Q&R. A FAQ will be sufficient

listed on the central EMODnet portal				
D4.10: New map layers to portal	WP4	Upload 24/02/2020	Delivered	
		Upload 24/08/2020	Delivered	
		Upload 24/02/2021	Delivered	
		Upload 24/08/2021	Pending	
D4.11: Contribution to EMODnet Technical Working Group	WP4	09/2019	Delivered	
		04/2020	Delivered	
		11/2020	Delivered	
		1st meeting 2021	Delivered	
		2nd meeting 2021	Pending	
D4.13: Planned technical improvements	WP4	24/09/2021	Delivered	
D4.14: Ad hoc technical improvements based on user feedback	WP4	24/09/2021	Delivered	
D4.15: Ad hoc changes to website and visual	WP4	24/09/2021	Pending	
D4.16: A new URL under the "europa.eu" domain, if requested by the Commission services	WP4		Canceled	
D5.01: Evidence of efforts to ensure maximum coherence with data delivery to and from regional sea conventions and ICES	WP5	24/09/2021	Pending	
D5.02: Evidence of efforts to coordinate with CMEMS	WP5	24/09/2021	Pending	
D5.03: Evidence of collaboration with EMODnet biology to coordinate the ingestion of species and habitat point data from the same samples	WP5	24/09/2021	Delivered	
D5.04: Widespread promotion of guidelines for submitting habitat point data to OBIS	WP5	24/09/2021	Pending	

D5.06: New use cases on the website	WP5	24/09/2021	Pending	
D5.07: A prominent summary of the data and data products available on the website	WP5	24/09/2020	Delivered	
D5.08: Sustained online presence: news stories, tweets, etc.	WP5	24/09/2021	Pending	
D5.09: Presentations and posters at conferences and cross-cutting meetings	WP5	24/09/2021	Pending	
D5.10: Promotion of products via ESRI story maps	WP5	24/09/2021	Delivered	
D6.04: Participation in EMODnet Steering Committee meetings		09/2019 04/2020 11/2020 1st meeting 2021 2nd meeting 2021	Delivered Delivered Delivered Delivered Pending	
D6.10: Quarterly progress reports to EASME, DG MARE and EMODnet Secretariat by 15th of the month.		15/10/2019 15/01/2020 15/04/2020 15/07/2020 15/10/2020 15/01/2021 15/04/2021 15/07/2021	Delivered Delivered Delivered Delivered Delivered Delivered Delivered Pending	
D6.11: Interim report		24/09/2020	Delivered	
D6.13: Final report		24/09/2021	Pending	

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
JIRA EM-20 - Internal procedures to identify and report data breaches to EASME - EASME checklist item 8	Done			25/09/2020
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-88 - Seabed Habitats - Web Services MetadataUrl and DataUrl fields	Done	MetadataURLs updated where relevant within GeoServer layers. 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. JNCC liaised with MAREANO project to ensure XML metadata records were available for these external layers. 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. Case-by-case log presented to central portal for review, and rerun of checks was successful		12/04/2021
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.		

JIRA EM-132 - Seabed Habitats to report on number and volume of downloaded data and data products by 6th of January	Done			06/01/2021
JIRA EM-146 - Seabed Habitats Quality of Service Monitoring	In Progress	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.

Progress on the self-healing GeoServer has been somewhat hindered by staffing/Covid issues but a beta site is now up and populated, and is pending being made live. Tests have been made of shutdowns on the beta site and the self-initiation, restart and healing is proving successful. | 31/07/2021 | |
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-215 - Seabed Habitats - Banner for Promotion EMODnet Online Survey 2021	Done	Banner installed		21/05/2021
JIRA EM-238 - Seabed Habitats - Update of Data Protection Notices	Done	All references that needed to be replaced were replaced		08/06/2021

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 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 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).		13
INT 05 unexpected additional work for next EUSeaMap due to data gaps in version 2018 of the EMODnet bathymetry DTM (pixels with nodata alongshore, leading to significant loss of habitat spatial distribution).	Done	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. 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 have deployed unplanned resources (2 men.months)		30/06/2021

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
06/04/2021	EMODnet Biology, via EMODNET Central portal	General - They are releasing soon a data product on EMODnet-Biology that makes use of some of your data. Couldn't find our preferred citation on our website. Ask how they should cite EMODnet Seabed Habitats Their product is developed by Tom Webb (Sheffield University) next Thursday 2021-04-08, but you can already see the methods and some examples on github. This products links biological occurrences (with numerical abundances) of benthic species to their seabed habitats. Link github: https://github.com/EMODnet/EMODnet-Biology-Benthic-Habitats-Occurrences-Traits	Email	2h	resolved	Answer: If you used EUSeaMap, the citation is Populus et al, 2017 if you used version 2016; Vasquez el al 2020 if you used the version 2019. If you didn't use EUSeaMap but something else, the most appropriate way would just be to thank EMODnet Seabed Habitats.	
10/05/2021	Blue Marine Foundation	General - where are the quantitative datasets used to determine energy classes in EUSeaMap 2019?	Email	1 day	resolved		

10/05/2021	Graduate School of the Environment	general - I want to convert the kdPAR data into photic depth. I am trying to understand the growth range of a species of seaweed.	Email	1 day	resolved	Answer: The fraction of incident light reaching a depth h can be calulated using the following formula: $fr = (exp(-kdpar \times h))$ Hence, if you use a value of fraction of light above which you assume conditions are photic (I think 0.01 is typically used), then you can calculate the photic depth $h=\ln(fr)/-kdpar$	
13/05/2021	Natural England	- cannot access a dataset (page not found)	Email	1h	resolved		
17/05/2021	University of Genova	general - Would like to know how many of the level of detail maps have videos?	Email, via secretariat	1 day	resolved	the question should be asked to the person refered to as contact person in the metadata	
10/06/2021	Ifremer, MSFD Service, France	general - Would need to intersect EUSeaMap and MSFD areas in France. Did not work with QGIS	Email	1 day	resolved	QGIS is not able to perform appropriate intersection when there are a lot of polygons. We did it in ARCGIS	

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.)
04/2021	Videoconf	Meeting		O	As part of WP2 (data collation), a series of internal 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
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.
11/06/2021	Videoconf	Meeting		A	EMODnet Open Conference 2021 – Rehearsal and technical guidelines for speakers
14-16/06/21	Videoconf	Conference	Yes. 2 presentations 1) Lillis and Vasquez: Main achievements in the last 5 years 2) Lillis: Breakout "EMODnet for EU Green Deal" - key messages	A	EMODnet Conference
15/06/21	Videoconf	Meeting		A	EMODnet Conference breakout discussion: pre-meeting
15/06/2021	Videoconf	Workshop		O	EMODnet Conference breakout discussion. Helen Lillis from Seabed Habitats lot was lead rapporteur

Date	Location	Type event	Yes/No presentation	A/O	Description
16/06/2021	Videoconf	Meeting	Yes: Manca: best practices as part of EUSeaMap	A	EMODnet Jamboree Special Sessions "Ocean Data Best Practices" dialogue
17/06/2021	Videoconf	Meeting		O	Partner progress meeting (as part of EMODnet Jamboree)
17/06/2021	Videoconf	Meeting		O	Partner next phase meeting (as part of EMODnet Jamboree)
18/06/2021	Videoconf	Meeting		O	Cross-thematic session with EMODnet Biology
18/06/2021	Videoconf	Meeting		O	Cross-thematic session with EMODnet Geology
18/06/2021	Videoconf	Meeting		A	EMODnet Jamboree Special Sessions "Citizen science" dialogue
18/06/2021	Videoconf	Meeting		A	EC European Ocean Observation event
26/06-05/07/2021	Albena, Bulgaria	Conference	Yes: Todorova et al: 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.	A	XXIth International Multidisciplinary Scientific GeoConference Surveying, Geology and Mining, Ecology and Management – SGEM 2021, 26 June - 5 July, 2021.
SUM				**O**	**Total # of meetings organised = 7**
SUM				**A**	**Total # of meetings attended = 8**

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

07/07/2021	Videoconf	Meeting	O	Meeting with Tehran Convention to discuss how to engage with Caspian Sea data holders.
12/07/2021	Videoconf	Meeting	A	Mission Atlantic and One Ocean Hub projects have created the first draft of a South Atlantic broad-scale habitat map. This meeting is to present and discuss these outputs.
8-9/09/2021	Ostend	EMODnet Steering committee	A	
9-10/09/2021	Ostend	EMODnet Technical Working Group	A	

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)
26/04/21	News item	New habitat data products 2021!		-
15/06/21	News item	EMODnet Joins Copernicus to Support MSFD		-
25/06/21	News item	EMODnet Seabed Habitats at the Open Conference and Jamboree 2021		-

B. Planned communication products			
Date	Communication material	Short description (of the material, title, …) and/or link to the asset	Main results expected

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)
22/06/2021	Annex to ICES Scientific Reports volume 3, issue 61	Assessing the physical disturbance on the seabed from fisheries in the Bulgarian Black Sea area with reference to benthic habitats status, in DOI	Valentina Todorova, Marina Panayotova, Valentina Doncheva, Ivelina Zlateva, annex to: *ICES. 2021. A series of two Workshops to develop a suite of management options to reduce the impacts of bottom fishing on seabed habitats and undertake analysis of the trade-offs between overall benefit to seabed habitats and loss of fisheries revenue/contribution margin for these options (WKTRADE3). ICES Scientific Reports. 3:61. 100 pp*	Institute of Oceanology – Bulgarian Academy of Sciences
07/04/2021	Data Product	Tom J. Webb (2021) Benthic occurrences, habitat maps, and species traits. Integrated data products created under the European Marine Observation Data Network (EMODnet) Biology project (EASME/EMFF/2017/1.3.1.2/02/SI2.789013) Link		

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.	Volume remains unchanged as no planned ingestion this quarter. Expected ingestion will happen in the following quarter.
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)	Reasons behind large decrease in manual and WFS downloads are unknown. Possibly due to local caching by end-users. Map visualisations and WMS remain relatively stable.
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Manual determination	New data products available in the form of most recent (2018) EEA official distribution grids of Annex I habitats (gathered via m2m connections from EEA's services), and Norwegian datasets showing habitats of national importance (gathered via m2m connections).
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)	Despite decrease, downloads return to magnitudes of 2 quarters ago (Q12021 potentially exceptional). WFS usage dramatically increased, likely due to data harvest for OSPAR assessment (utilised EMODnet Seabed Habitats as definitive source of habitat maps from survey amongst others).
3. Organisations supplying/approached to supply data and data products within this quarter	Manual (audit logs)	EEA approached for provision of 2018 distribution grids via WFS m2m connection, successfully harvested. NIVA approached for m2m provision (wms) of composite products showing important habitats in Norway.
4. Online 'Web' interfaces to access or view data	Manual	No live changes yet. However, within the next few days, the portal will move to a more streamlined workspace, removing the duplicated "open" and "view" workspaces.
5. Statistics on information volunteered through download forms	User download form logs. Scripted data extraction from logs (python/pandas)	Percentage of users volunteering information remains relatively consistent with previous quarter. 1/5th lower number of users, follows closely with slightly lower download and service use.
6. Published use cases	EMODnet Grafana	Generally lowered viewership on central portal. Uncertain of reasonings. 3 new use cases on the thematic portal this quarter. Resource will be made available in the upcoming quarter to push more use cases to central.
8.1. Technical monitoring	EMODnet Grafana	Average response time generally decreasing in comparison to previous quarter. Last Response time is potentially a Grafana error however?

8.2. Portal user-friendliness (Visual harmonization score)	Trust-IT supplied	1 point lower than previous quarter due to lower score in social media icons. Noted that footer and header are full with on home page, this is due to consistent styling across the site (central portal uses a restricted width home page and full width subsections). Due to impending retirement of thematic portal and development costs of changing templates, we take steer from the secretariat on whether we should press ahead with required changes for minor visual improvements, bearing in mind cost and value.
9. Visibility & Analytics for web pages	EMODnet Grafana	Page views generally consistent with previous quarter, but lower than last year for Data Exchange Formats, possibly due to community's increased knowledge of required formats.
10. Visibility & Analytics for web sections	EMODnet Grafana	Relatively stable through low viewership of the two sections. No general trends.
11. Average visit duration for web pages	EMODnet Grafana	In general stable, however, data submission process has taken a large drop in average duration, perhaps due to general knowledge of submission process. Exit stats not taken. Increased viewing time of mesh archive may be an anomaly (e.g. idle user) as page itself is relatively brief and does not necessarily warrant the amount of time shown.

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.