EMODnet Thematic Lot n°4 – Physics

EASME/EMFF/2020/3.1.11/Lot4/SI2.838612

Start date of the project: 23/08/2021 (24 months)

Centralisation Phase

Quarterly Progress Report (Q1.2022)

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

The European Marine Observation and Data Network (EMODnet) is financed by the European Union under Regulation (EU) 2021/1139 of the European Parliament and of the Council of 7 July 2021 establishing the European Maritime, Fisheries and Aquaculture Fund and its predecessor, Regulation (EU) No. 508/2014 of the European Parliament and of the Council of 15 May 2014 on the European Maritime and Fisheries Fund.

Contents

1. Highlights in this quarter

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

During the reporting period, we continued working on the system backend and cleaning and updating datasets and data packages in the system. This task is also a fundamental preparatory action towards Task 4. As anticipated in the previous report the EMODnet Physics infrastructure has been updated and the Physics to CP workflow has also been discussed and agreed. The following schema shows the general approach that will be tracked on JIRA.

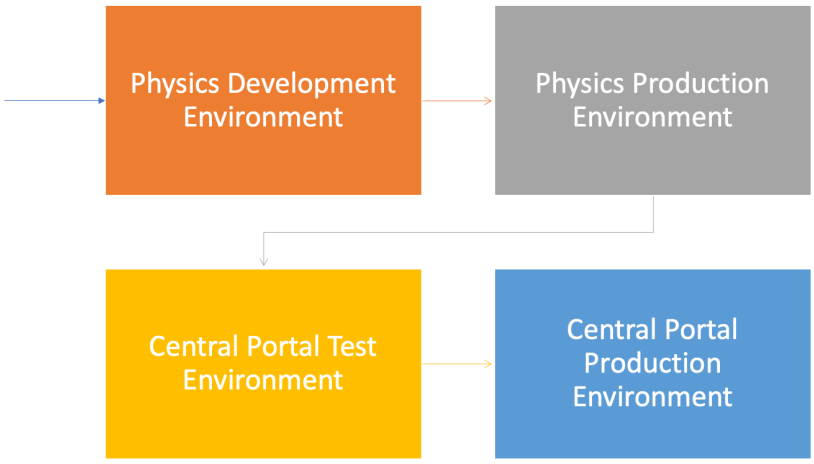

Figure 1. Workflow

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 following products have been updated/published:

- **River Outflow:**
  - EP_MAP_RVFL_001:
    Operational River Runoff data from in situ platforms.
- **Sea Level:**
  - EP_MAP_SLEV_008[1]:
    This Product presents the GLORYS12v1 and the in situ RLR – PSMSL sea level trend. GLORYS12v1 is the regional sea level trends are derived from the Global Ocean Physics Reanalysis, provided by CMEMS by means of GLOBAL_MULTIYEAR_PHY_001_030 product; RLR-PSMSL is the Sea Level - Relative to Local Reference validated product from the PSMSL Permanent Service for Sea Level Monitoring

[1] https://products.emodnet-physics.eu/EP_MAP_SLEV_008/

- EP_MAP_SLEV_009:
  This Product presents the CGLORSv7 and the in situ RLR – PSMSL sea level trend. CGLORSv7 is Regional sea level trends are derived from the Global Ocean Physics Reanalysis, provided by CMCC; RLR-PSMSL is the Sea Level - Relative to Local Reference validated product from the PSMSL Permanent Service for Sea Level

- EP_MAP_SLEV_010:
  This Product presents the GREPv2 and the in situ RLR – PSMSL sea level trend. GREPv2 is Regional sea level trends are derived from the Global Ocean Ensemble Physics Reanalysis, provided by CMEMS by means of GLOBAL_REANALYSIS_PHY_001_031 product; RLR-PSMSL is the Sea Level - Relative to Local Reference validated product from the PSMSL Permanent Service for Sea Level Monitoring

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

As part of the M2M connection task, in this period we have three main results: 1) Rivers - Norway, France were linked in the operational river outflow product; 2) MELOA data project – were connected[2]– MELOA is deploying drifting wave buoy; 3) ARICE Metadata and data models analysis is ongoing and plreminiray data (AWI – Polastern)[3] are now linked in EMODnet Physics catalogue.

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

Work in progress and well tracked by both JIRA tickets and periodid meetings (4/3/2022; 8/4/2022). As planned the PROD-GEONETWORK was configured. As described in Figure 1. Physics publishes on EMODnet Physic endpoints for CP:

- https://prod-erddap.emodnet-physics.eu/erddap/info/index.html?page=1&itemsPerPage=1000
- https://prod-erddap.emodnet-physics.eu/ncWMS/
- https://prod-geoserver.emodnet-physics.eu/geoserver/
- https://prod-geonetwork.emodnet-physics.eu/geonetwork/

CP publishes on CP test viewer: https://emodnet.development.ec.europa.eu/geoviewer-new/

Physics and CP exchange and monitor progresses on JIRA and together agree when to move on public CP viewer.

Task 5. Contributing content to dedicated spaces in Central Portal

[2] https://erddap.emodnet-physics.eu/erddap/search/index.html?page=1&itemsPerPage=1000&searchFor=MELOA

[3] https://erddap.emodnet-physics.eu/erddap/search/index.html?page=1&itemsPerPage=1000&searchFor=ARICE

During the period we continued the activity on static contents, supported central team with contents for the 2021 EMODnet Annual Report, published 3 new uses cases (already available on the central portal), and supported the central team to collect “user consent forms”.

Task 6. Ensure the involvement of regional sea conventions

In line with the previous periods, team attended the TG NOISE activities (external attender) and under the new contract ICES (core team partner) and CTN (subcontractor) will help ensuring the involvment of RSC.

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

The team proactively participated to a series of EuroSEA WP3 workshops with networks platform operators on common standards and opendata. This broader team is working on Network Harmonisation recommendation to provide guidelines on the implementation of FAIR Principles by the different ocean platform networks but also at EuroGOOS level with the DATAMEQ working group.

Task 8. Monitor quality/performance and deal with user feedback

The subtask “deal with user feedback” goes together with task 7. Concerning the process to monitor performances, EMODnet Physics is implementing matomo for collecting views on the landing and map page. It uses logs to extract the traffic/requests/manual downloads/interaction with services. The system was updated and, if the users is trying to download coastal data older than 60 days, the mapviewer is proposing a form to collect some user information (type of organization and filed of work). The filling of the form is on voluntary basis. Moreover the new products and service monitoring service (graylog) is up and running.

For this period the main source for feedback has been the help desk system (see task.7)

Task 9. Maintain the existing thematic web portal for a maximum of six months from the start of the projects

Web portal maintenance will be provided until the new central system is published.

Table 1. Milestones and Deliverables - EASME/EMFF/2020/3.1.11/Lot4/SI2.838612

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
D1.1 Kick off Meeting	WP1	30/11/2021	Delivered	8 November 2021	
D1.2 Annual assembly	WP1	30/11/2022			
D1.3 EMODnet SC	WP1	30/11/2021	Delivered	8-10 September 2021	
D1.4 EMODnet TWG	WP1	30/11/2021	Delivered	8-10 September 2021	
D1.5 EMODnet SC	WP1	31/05/2022			Planned 27-28/4
D1.6 EMODnet TWG	WP1	31/05/2022			Planned 26/4
D1.7 EMODnet SC	WP1	31/08/2022			
D1.8 EMODnet TWG	WP1	31/08/2022			
D1.9 EMODnet SC	WP1	30/11/2022			
D1.10 EMODnet TWG	WP1	30/11/2022			
D1.11 EMODnet plenary event	WP1	31/12/2021	Delivered	8-9 November 2021	The EMOdnet Physics KOM was organized in two session, the first one was closed to core partner (D1.1) the second was a plenary with invited speech about previous and recent developments of the EMODnet Physics networks and collaborators
D1.12 EMODnet plenary event	WP1	30/06/2022	Delivered	12-13 April 2021	INS data ingestion WS. The event is involving EMODnet (Physics, Chemistry and Ingestion), CMEMS INSTAC and EurGOOS to discuss about joint actions for facilitating nrt operational data ingestion
D1.13 EMODnet plenary event	WP1	31/12/2022			
D1.14 EMODnet plenary event	WP1	30/06/2023			
D1.15 Quarterly report Q3.2021	WP1	15/10/2021	Delivered	15/10/2021	
D1.16 Quarterly report Q4.2021	WP1	15/01/2022	Delivered	15/01/2022	
D1.17 Quarterly report Q1.2022	WP1	15/04/2022	Delivered	15/04/2022	This Report

D1.18 Quarterly report Q2.2022	WP1	15/07/2022			
D1.19 Quarterly report Q3.2022	WP1	15/10/2022			
D1.20 Quarterly report Q4.2022	WP1	15/01/2023			
D1.21 Quarterly report Q1.2023	WP1	15/04/2023			
D1.22 Quarterly report Q2.2023	WP1	15/07/2023			
D1.23 Annual progress report	WP1	23/08/2022			
D1.24 Final progress report	WP1	23/08/2023			
D1.25 Handover note	WP1	23/08/2023			
D1.26 EMODnet Physics note for Annual Report 2021	WP1	31/01/2022	Delivered (January 2022)		
D1.27 EMODnet Physics note for Annual Report 2022	WP1	31/01/2023			
D1.28 EMODnet Ingestion general assembly 2021	WP1	30/11/2021	21-22 September 2021		
D1.29 EMODnet Ingestion general assembly 2022	WP1	30/11/2022			
D1.30 Guideline on data ingestion procedures for new real time and near real time streams v.2022	WP1	31/08/2022			
D1.31 Guideline on data ingestion procedures for new real time and near real time streams v.2023	WP1	23/08/2023			
D1.32 Use cases 2021	WP1	31/12/2021	CMCC delivered (Dec 2021) OGS delivered (Feb 2022)		
D1.33 Use cases 2022	WP1	31/12/2022	CSCS delivered (Feb 2022) OceanGlider delivered (Feb2022)		
D1.34 Use cases 2023	WP1	23/08/2023			

D1.35 Contribution to central space with background information and EMODnet Physics content	WP1	28/02/2022	In progress – tracked with JIRA		
D1.36 TGs - RSCs event attendance	WP1	31/12/2021	TG NOISE WS "towards EU thresholds for underwater noise", 13-14 Sept 2021		
D1.37 TGs - RSCs events sattendance	WP1	30/06/2022	TG NOISE WS: Towards EU threshold values for underwater noise (17/02/2022) 20th TG-NOISE – 22/03/2022		TG NOISE doc library[4]
D1.38 TGs - RSCs events attendance	WP1	31/12/2022			
D1.39 TGs - RSCs events attendance	WP1	30/06/2023			
D2.1. Data Inventory with gap analysis v.2021	WP2	31/12/2021	V.2021 attached to Q1.2022	15/01/2022	EMODnet Physics_Inventory_v.2021.03
D2.2 Data Inventory with gap analysis v.2022	WP2	31/08/2022			
D2.3 Data Inventory with gap analysis v.2023	WP2	23/08/2023			
D2.4 EMODnet Physics Event/Workshop	WP2	31/12/2021	Delivered	15/1/2022	Updates are described in the quarterly report Q4.2021 – Section 4
D2.5 EMODnet Physics Event/Workshop	WP2	30/06/2022	Delivered -	15/4/2022	This Report - updates are described in the quarterly report Q1.2022 – Section 4
D2.6 EMODnet Physics Event/Workshop	WP2	31/12/2022			

[4] https://circabc.europa.eu/ui/group/326ae5ac-0419-4167-83ca-e3c210534a69/library/89b98517-6283-4d3a-abd0-3a716661b370?p=1

D2.7 EMODnet Physics Event/Workshop	WP2	30/04/2023			
D2.8 Report on th maintainace and update of the EMODnet Physics smart connectors v.2022	WP2	31/08/2022			
D2.9 Report on th maintainace and update of the EMODnet Physics smart connectors v.2023	WP2	23/08/2023			
D2.10 EMODnet Physics Handbook on data management	WP2	31/08/2022			
D2.11 Support to develop common strategy and guideline for adoption cloud technologies	WP2	23/08/2023			
D2.12 EMODnet Physics Metadata handbook and examples	WP2	31/08/2022			
D2.13 Report on dissemination system interfaces update v.2022	WP2	31/08/2022			
D2.14 Report on dissemination system interfaces update v.2023	WP2	23/08/2023			
D2.15 Updated list of EMODnet Physics products v.2021	WP2	31/12/2021	Delivered	15/1/2022	
D2.16 Updated list of EMODnet Physics products v.2022	WP2	31/08/2022			
D2.17 Updated list of EMODnet Physics products v.2023	WP2	23/08/2023			
D2.18 SSS v.2020	WP2	28/02/2022	Delayed – almost ready		Under integration and validation, will be released during this quarter
D2.19 SSS v.2021	WP2	28/02/2023			
D2.20 River Proxy V1.0	WP2	31/12/2021	Released[5]		

[5] https://products.emodnet-physics.eu/EP_MAP_RVFL_001/
https://prod-erddap.emodnet-physics.eu/erddap/tabledap/ERD_EP_RVFL_NRT.html

D2.21 River Proxy V2.0	WP2	31/08/2022			
D2.22 River Proxy V3.0	WP2	23/08/2023			
D2.23 INS RVFL DB v.1.0	WP2	31/08/2022			
D2.24 TSM v.2021	WP2	28/02/2023			
D2.25 SLEV INS DB	WP2	31/12/2021	Delayed – under finalization		Will be released this quarter
D2.26 SLEV REL TRENDS	WP2	31/08/2022			
D2.27 SLEV ABS TRENDS	WP2	31/08/2022			
D2.28 SLEV REL ANOM	WP2	31/08/2022			
D2.29 SLEV ATL ABS TREND	WP2	31/08/2022			
D2.30 RFVL v.1	WP2	28/02/2023			
D2.31 UWN ROI v.1.0	WP2	31/08/2022			
D2.32 WAVE INS DB+ NOWCAST v.2.0	WP2	28/02/2022	Delayed		The product is not covering the whole Europe yet (hence it is not ready yet) – At the moment we are receiving data for Med Sea (UniGE – DICCA), Iberican Atlantic (CoLAB Atlantic) and Irish Atlantic (Marine Institute). The product is still on development.
D2.33 WIND INS DB+ NOWCAST v.2.0	WP2	28/02/2022	Delayed		Will be published this quarter. V2.0 will have grid resolution of 10Km (UniGE – DICCA)
D2.34 ICE SIC v.2.0	WP2	31/08/2022			
D2.35 TGs - RSCs event attendance	WP2	31/12/2021	19th TG NOISE	26 October 2021	
D2.36 TGs - RSCs events sattendance	WP2	30/06/2022	20th TG NOISE	22 March 2022	
D2.37 TGs - RSCs events attendance	WP2	31/12/2022			
D2.38 TGs - RSCs events attendance	WP2	30/06/2023			
D3.1 Report on the SOS.SWE connected stations v.2021	WP3	30/11/2021	Delivered	15/01/2022	Annex to Q4.2021
D3.2 Report on the SOS.SWE connected stations v.2022	WP3	31/08/2022			

D3.3 Report on the SOS.SWE connected stations v.2023	WP3	23/08/2023			
D3.4 Handbook on procedure to set up SOS.SWE interoperability	WP3	23/08/2023			
D3.5 Report on new API v.2021	WP3	30/11/2021	Delivered	15/01/2022	Annex to Q4.2021
D3.6 new APIs v.2022	WP3	31/08/2022			
D3.7 new APIs v.2023	WP3	23/08/2023			
D3.8 handbook to use EMODnet Physics APIs v.2021	WP3	30/11/2021	Delivered	15/1/2022	Annex to Q4.2021
D3.9 handbook to use EMODnet Physics APIs v.2022	WP3	31/08/2022			
D3.10 handbook to use EMODnet Physics APIs v.2023	WP3	23/08/2023			
D3.11 Phasing out of EMODnet Physics Landing page	WP3	28/02/2022			
D3.12 Phasing out of EMODnet Physics mapviewer	WP3	30/11/2021	In progress – status is reported in the quarterly report – Section 1		
D3.13 EMODnet Physics catalogue v.2021	WP3	30/11/2021	Delivered	15/1/2022	Annex to Q4.2021
D3.14 Maintenance and update of EMODnet Physics catalogue v.2022	WP3	31/08/2022			
D3.15 Maintenance and update of EMODnet Physics catalogue v.2023	WP3	23/08/2023			
D3.16 Monitoring tools	WP3	28/02/2022			Given the centralization process the monitoring tools are going to be a combination of tools, some designed to let Physics and CP to interact and fix issues (e.g. JIRA), some to report on indicators (matomo) some to monitor M2M (the central team is updating the tools to monitor the new EMODnet Physics Enviroment). Whenever needed new tools will be discussed and deployed.

2. Identified issues: status and actions taken

Table 2. Priority issues identified by CINEA/ DG MARE/ Secretariat

A. Priority issue(s) identified and communicated by CINEA/ DG MARE/ SECRETARIAT				
Priority issue	Status (Pending/ Resolved)	Action(s) taken/ remaining actions planned	Date due	Date resolved
EM-14/EM-87 **Physics - Web Services MetadataUrl and DataUrl fields**	In progress	Service check and update – continuous dialogue with secretariat/central portal tech team.	asap	
EM-140 **INSPIRE quality Service requirements**	In progress	TWG is working on this issue.	asap	
EM-145 **The WMS service exceeds the 10-seconds response time required by INSPIRE**	In progress	Keep working on this in collaboration with CP.	asap	
EM-210 **LegendGraphics for HFR WMS**	In progress	Mapproxy does not support the legend graphics as requested. A custom development is needed. It is not planned yet.	asap	
EM-382 **Physics Grafana spotted tracking some pages**	In progress	Some of the monitored endpoints are changed and are going to be changed because of the centralization process, the agreement is to monitor what is possible/available as internim solution.	CP is updating the endpoint to be monitored	
EM-393 **Review the new CP mapviewer**	In progress	CP have to take over and follow up on provided comment		
EM-441 **Mapping Physics Portal content to Central Portal**	Done	mapping done		07/04/2022
EM-494 **Physics to report on number and volume of downloaded data and data products**	Done	data provided		02/02/2022
EM-496 **ERDDAP - dataset.xml (local cache)**	Done	conf. file provided		15/03/2022
EM-509 **Create "NEW' Physics page on CP (dev)**	In Review	Physics team is reviewing the page	asap	
EM-510	To Do	CP and Physics team are working on this feature, importantly this	asap	

Control feature for time constraint on the platform layers		should be checked on the new data that Physics is going to publish on the prod-system		
EM-517 **layer: Sealevel trend North Indian Ocean (1993-2019)**	Done	links updated		09/03/2022
EM-530 **Physics - EMODnet Catalogue Tags**	In Progress			
EM-538 **Layer EP_HFR_CFM_EUROPE not working in Physics WMS**	In Review			

Table 3. Priority issues identified by Physics group

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
Update the platforms page with the same technology and responsiveness implement for the mapviewer	Closed	This is part of Taks 9. Most of the pages have been updated		31/03/2022

3. User feedback

Table 4. 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
8/3/2022	CETMAR	Technical - change data source path	HD	1 day + in progress	Pending	Working on the mapping of the new source	
22/2/2022	Aktis Hydraulics	Support to download data	HD	1 day + 1 week	Solved	Feedback by email	
30/3/2022	TU Delft	Requesto for technical help	HD	1 day	Solved	Feedback by email.	
30/3/2022	XG - Xunta Galicia - Spain	Technical	HD	1 day	Solved	Feedback by email	
1/4/2022	Student	Support to download data	HD	1 day	Pending	Meeting to train	Online Meeting scheduled
4/4/2022	RPS	Metadata Access	HD	1 day	Solved	Feedback by email	
5/4/2022	RPS	Support to download data	HD	1 day	Pending	Feedback by email	Getting data from producers

4. Meetings/events held/attended & planned

Table 5. Meetings/events held/attended

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.)
17/01/2022	web	external	no	A	Arctic RCC, https://www.arctic-rcc.org/
24/01/2022	web	external	no	A	CMEMS INS TAC KOM - EMODnet Physics is attending the Advisory Board of CMEMS INSTAC
01/02/2022	web	internal	Yes, state of the art of EMODnet rivers service	A	EUROGOOS - Coastal Working Group
08/02/2022	web	external		A	Odyssey project launch
08/02/2022	web	external	no	A	Swedish ODF, Ocean Data Factory, workshop on data availability
08/02/2022	web	external	yes	A	Arctic ROOS GA - 8-9/02/2022
14/02/2022	Sopot, Poland + web	conference	yes	A	International Ocean Data Conference 2022 - The Data We Need for the Ocean We Want - https://oceandataconference.org/
17/02/2022	web	external	no	A	Intro TransEurope Marinas & EMODnet - to discuss about synergies between the two initiatives
17/02/2022	web	external	no	A	TG Noise thematic sessions “Towards EU threshold values for underwater noise”

24/02/2022	web	external	no	O	Meeting with Politecnico TO - MORELAB; ERG - to discuss about data availability, interoperability and use
01/03/2022	web	external	yes	A	SOOS DMSC - periodic meeting with the SOOS Data Management Steering Com. to discuss about interoperability and joint actions on data gaps
02/03/2022	web	external	yes	A	H2020 - ARICE project General Assembly - to brief up the Assembly about on going collaboration and future data interoperability goals
03/03/2022	web	internal	no	O	EMODnet HFR team meeting - reanalysis of data model and review of annual plan for involving other actors
03/03/2022	web	conference	yes	A	Ocean Science Meeting - EMODnet presented on its activities to engage industries and citizen scientists - https://www.aslo.org/osm2022/scientific-sessions/
04/03/2022	web	internal	no	A	EMODnet Central Portal technical team meeting with Physics
15/03/2022	web	external	yes	O	Meeting with Orsted on Offshore Wind and Ocean Data - EMODnet ingestion
22/03/2022	web	external	no	A	20th TGNOISE
24/03/2022	web	external	no	A	EuroSEA - Eulerian Observatories - meeting for Best Practice. EMODnet (Physics) is a key stakeholder in EuroSEA
24/03/2022	web	external	yes	A	EMODnet Physics presented on the "Marine Biology Live" to present on its actions on Citizens Science. MBL is a series of regular online talks organised by the Marine Biological Association.
25/03/2022	Copenhagen, Denmark	external	no	A	Meeting with Paralenz - to discuss on the physical data ingestion

28/03/2022	web	external	no	A	EuroGOOS - DATAMEQ - periodic meeting. EMODnet Phy is one of the member
30/03/2022	web	internal	yes	A	EMODnet Chemistry SC meeting - EMODnet Chemistry and Physics are jointly developing new river data products
SUM				**O**	**Total # of meetings organised = 2**
SUM				**A**	**Total # of meetings attended =** 18

Table 6. Meetings/events planned

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
05/04/2022	web	workshop	A	Best Practice in Aquaculture
08/04/2022	Web	external	A	Ocena Decade Sweden
26-28/4/2022	web	internal	A	EMODnet SC - TWG
19/05/2022	Ravenna, Italy	conference	A	European Marine Days -
09-10/05/2022	Malmo, Sweden	conference	A	Ocean Literacy - Ocena Decade Sweden - https://malmo.se/Welcome-to-Malmo/Sustainable-Malmo/One-Ocean---One-Planet-Ocean-Literacy-Action-2022.html.

5. Communication assets

Table 7. Comminunication products

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)

Table 8. Planned communication

B. Planned communication products			
Date	Communication material	Short description (of the material, title, …) and/or link to the asset	Main results expected
	Video	Video on how Fisherman can use sensors and see data on EMODnet Physics	
	Video	Video on how EMODnet Physics can support Citizen Science initiatives	

Table 9. Publications

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
	e.g. paper; conference proceedings; book chapter; …				

Table 10. Publications

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
	e.g. paper; conference proceedings; book chapter; …				

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
1. Current status and coverage of total available thematic data A) Volume and coverage of available data	Matomo and server logs	EMODnet Physics input data is sparse and for this indicator we consider the "platform" as the "unit" of monitoring assessment. A platform is a logical entity that hosts data, where data maybe a single dataset (e.g. a profile in case of CTD), a timeseries (e.g. sea level station), a series of profiles (e.g. ARGO). For indicator 1.A we report on the % variation of the number of platforms for the given basin. For this indicator we are using bounding box shapes. Most of them are already compliant to new indications - EEA shapefiles - (to note that Atlantic is covering EEA Atlantic and the South Atlantic is now included in Other Seas) - Caspian and Caribbean Seas have been not used yet and platforms in these regions are counted under Other Seaas. For indicator 1.B the unit of download is measured in platforms (in line with indicator 1.A) while the number of downloads are measured in "requests". A request may be for a single dataset (e.g. 1 CTD) as well as a full time series (e.g. daily data for past XX years). For ice data, EMODnet Physics is integrating a satellite derived product covering the whole Arctic and Antarctic areas. This product can be only downloaded via WMS.
What is your opinion on the data coverage within EMODnet for your thematic?		Coverage is very good but there are still gaps, especially in time. Also important is to plan periodic reviews (some platforms may be out of work, new platforms may be deployed) and periodic data packages and products updates (to include e.g. data published under a project, from a new provider, etc.).
B) Usage of data in this quarter	Matomo and server logs	Indicator 1.B is reporting the amount of downloaded data from mapviewer (note that the amount in GB is an estimation based on the number of requests multiplied the average file size). As reported in 2B the overall amount of downloaded data from ERDDAP is about 140 GB. According indicators it seems the users use the mapviewer

		as entry page to check for values (charts) and use ERDDAP and GeoServer to download data (ERDDAP+map manual download - 2B col F; 1B col D). Concerning the use of the interfaces: ERDDAP is the most used. The use of WMS/WFS layers (GeoServer) is tracked and (only) reported under 2B. Users are starting using interfaces as we planned and this will facilitate the centralization of process (the overall idea is to inform users that the new mapviewer/ERDDAP/GeoSeerver are on/from the CP - that are linked to the EMODnet Phyics ones - and they should be able to adapt easily to this - it's only a change in the url endpoint)
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	Matomo and server logs	EMODnet Physics data products may be both datacollections (e.g. PSMSL RLR) and products (e.g. gridded climatology) and the full list is reported in the Products20220331 sheet. Apart from the European Under Water Noise Register and the TSM that only covering Europe (100% of the availble information) the other products offer global coverage. This makes the "Volume unit" not homogeneous here we report on a limited number of products.
B) Usage of data products in this quarter	Matomo and server logs	The mapviewer and the products pages accessible under the "Products" section are monitored in terms of visits (by matomo). ERDDAP is monitored both in terms of visit to the erddap landing page (matomo) and in terms of transactions (downloads - by logs). THREDDS and GeoSERVER are both monitored in terms of logs. We record a quite good use of the services.
3. Internal and external organisations supplying/approached to supply data and data products within this quarter		During the period it was possible to expand the in situ operataional river product (Norway and Corse), connect to AWI - Polastern Data (PANGAEA links), connect to MELOA project wave buoys. CMCC also delivered 3 new Sea Level products. Operational data are always included in collaboration with Ingestion

4. Online 'Web' interfaces to access or view data		Web Services are organized per item-interface to facilitate the tracking of their use. ERDDAP, THREDDS, web APIs, Widgets, GeoServer are providing data and products without any authentication or restriction. Mapviewer presents an authentication/user interest collection form that is not compulsory but it is presented in order to collect indicator 5 stats. All linked datasets are unrestricted.
5. Statistics on information volunteered through download forms		During the period we collected data on 54 new users. It is important to remember that the number of users here reported is only a limited number of the EMODnet Physics users and the form is asked to be filled only to users accessing for the first time to coastal data older than 60 days, and that it is on voluntary base (the user can skip the registration).The majority of EMODnet Physics data are downloadable without any authentication. Academia represents the majority about 70% in the period, the users from business/private is stable (around 17%), then Gov (about 7%) and others the remaining part.
6. Published use cases		Use cases are providing examples of how EMODnet Physics data can be used for both private and public downstream applications. The most viewed are the two from industry (DHI and fishing vessels) and the two on the collaboration between EMODnet and CMEMS. During the period four more use cases were published that are not tracked yet.
8.1. Technical monitoring		System is stable and available (uptime 100%). Concerning the response time, we identified that the bottleneck is on the VM hosting GeoServer. CPU time (it's a 4CPU VM) is 200% and it's overloaded by several call. We planned to set up a new VM with more resources allocated. We also suggest to start monitoring the new "prod-env" endpoints (and have a dedicated monitoring dashboard).
9. Visibility & Analytics for web pages		EMODnet Physics mapviewer is by far the most used interface with an steady trend. Catalogue is also quite well consumed. Charts are missing some data because, some endpoints were changed and the system was not able to distinct by (these) pages. CP team worked to fix it (https://jira.emodnet.eu/browse/EM-382) some further checks are needed
10. Visibility & Analytics for web sections		It looks like that users directly go to the mapviewer bypassing the landing page at all. Combining indicator 9 and 10 stats we see that the map viewer is the most consumed page (9), while the

		webportal section (portal page link to the mapviewer - 10) is very little. This confirms that mapviewer is the most used and appreciated interface.
11. Average visit duration for web pages		Same comments as for sect.9 and 10

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

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

- EMODnet Physics_Inventory_v.2021.03.xls