EMODnet

European Marine Observation and Data Network

EMODnet Thematic Lot n°3 – Physics

EASME/EMFF/2018/1.3.1.8/Lot3/SI2.810790

Start date of the project: 26/08/2019 - (24 months)

EMODnet Phase III – Quarterly Progress Report (4)

Reporting Period: 01/04/2020 – 30/06/2020

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Contents

Disclaimer

1. Highlights in this quarter

*[**Please make sure that progress in each of the tasks specified in Section 1.4.1 of the Tender Specifications is listed**. For those tasks not experiencing progress, please give an explanation. Max 2 pages]*

Task 1. Develop a common method of access to data held in repositories

EMODnet Physics collects and integrates data from a federated structure of providers and repositories, it checks (and complete) the metadata, harmonized data and makes data and products available in the EMODnet Physics interfaces/catalogues (mapviewer, ERDDAP, TDS, Geoserver, GeoNetwork catalogue.)[1].

As planned, the preliminary work to manage data flow for mini smart sensors on fishing vessels nets was continued and data from Berring Data Collective are now accessible (https://www.emodnet-physics.eu/map/platinfo/pifvplot.aspx?platformid=1000346). This integration was presendetd as proof of concept during the "Fishing for Data" webinar to engage the community and create preliminary connection with other integrators/providers on European and global scale (e.g. FOOS, RECOPESCA). The webinar recorded a huge participation with more than 400 registered people and over 300 participants split across the two sessions. The event raised awareness of EMODnet in general and the fishing for data activity in particular and created a momentum that echoed at global level e.g. IOOS newsletter, - https://ioos.noaa.gov/communications/eyes-on-the-ocean-ioos-bi-weekly/eyes-on-the-ocean-ioos-bi-weekly-14-may-2020/, GOOS and World Ocean Council.

There were also progresses with the glider community and glider data management. During the task team technical meeting (29/5) the group reviewed the outcomes/progresses from the Genova work shop on data management and data flow (real-time to delayed mode including the use of sensorML for complementary metadata sharing), discussed about the synergies of the running projects (EMODnet, CMEMS, GROOM II, EuroSEA, JERICOS3, SeaDataCloud).

Similarly the HFR team made some actions to present progresses towards consistent quality-controlled data to both CMEMS In Situ TAC and EMODnet Physics: the EU HFR Node is now managing data from 12 HFR networks (built of 35 radar sites, representing more than 2/5 of the European Network), and, by the end of 2020, it is expected to gather 20 networks (50 radar sites). To facilitate the provider to join the initiative a user-guide on how to synchronize data was delivered (May 2020) (SOP_HFR_GUIDELINE_v1.2.pdf).

The first data from Nord Stream II has been received and work has started to ingest the data via Data Ingestion. This first dataset is from Swedish waters and hence the Swedish NODC, SMHI, are working on the data. Data from other Baltic countries will follow. The Nord Stream II data are varied in type and will be of interest also for other lots than Physics.

Last but not least, a discussion about the methodology to transform SONEL data in to Linked Data in the EMODnet Physics project was also initiated.

Task 2. Construct products from one or more data sources that provide users with information about the distribution of parameters in time and space

[1] erddap.emodnet-physics.eu, thredds.emodnet-physics.eu, geoserver.emodnet-physics.eu, map.emodnet-physics.eu, catologue.emodnet-physics.eu

As planned, in collaboration with EMODnet Ingestion, we continued working on setting up real time connection with two Ligurian (ARPAL) stations by implementing the SOS SWE (see task 3). These stations are contributing to EMODnet Physics wave products. The adoption of SOS SWE technology is supporting EMODnet Physics to both implement M2M (inwards) connection according OGC standards and create products from more sources (providing the users with details metadata on the data source). We kept working on ingesting Antarctic Circumnavigation Expedition (ACE) data and they are now available in the portal (temperature and salinity products). We are now working on extending the number and type of data adding more themes (e.g. optical propierties, etc.). To note that ACE is using Zenodo as mission metadata repository, one specific action we achieved in this period was the development of a special ACE-data adaptor (uses JSON) to harvest needed metadata from Zenodo instance. As planned River Proxy product and the new Sea Surface Salinity (from SMOS) products from the CMEMS LAMBDA SE project were linked and added to EMODnet Physics catalogue. As anticipated in the previous report we are reporting latest connected stations. (EMODnetPhysics_RiverStation_201910-202003.xls) Also the EMODnet Physics sea surface currents product was updated by completing the connection/ingestion of the Portuguese HFR radars (organized into 2 ERDDAP items).

A. https://erddap.emodnet-physics.eu/erddap/griddap/HFR_Lisboa_Total.html
B. https://erddap.emodnet-physics.eu/erddap/griddap/HFR_South_Total.html

Very importantly, these all these activities stimulated and supported the development of a new version of the EMODnet Physics METADATA scheme (EMODnetPhysics_MetaData_202006.xls).

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

We are keeping working on updating EMODnet Physics GeoServer to expose INSPIRE compliant layers. The GeoServer – INSPIRE estension[2] was successfully installed and we are now filling the needed fields. Two new Temperature layers were developed and shared with the EU ATLAS (EP_DB_TEMP_LAST_MONTH, EP_DB_TRAJ_LAST_MONTH) that are matching all the requirements. Besides, these two new layers, accoring the latest test we still have to fix several layers – this is top priority for next period. As anticipated we are working and exploiting SOS SWE technologies to facilitate interconnection with EMODnet Physics. In collaboration with Data Ingestion we are adopting and testing the 52N instance that is now installed and running at the Ligurian DLTM HPC facility – that is the backbone hosting infrastructure for the ARPAL buoys. We expect real time data flowing by the end of July. This activity let to collect some procedural tricks that are going to be organized into an installation guideline (the first draft will be released with next periodic report). In collaboration with UPC we are exploring a combined data access methodology for underwater data that exploits both the SOS SWE (http://sos.obsea.es/sos) and ERDDAP (http://erddap.obsea.emso.eu). As presented in the previous paragraph, this task is also covering other machine-to-machine connections such as ERDDAP-to-ERDDAP as it is the case for the preliminary Fishing Vessels smart sensors data[3].

[2] https://geoserver.geo-solutions.it/edu/en/inspire/inspire_ext.html

[3] EMODnet Physics - https://erddap.emodnet-physics.eu/erddap/tabledap/data_827d_9397_02a8.html and BCD - https://www.fishydata.com/erddap/tabledap/data_827d_9397_02a8.htmlTable?time%2Clatitude%2Clongitude%2Cdepth%2Ctemperature%2Csalinity%2Csensor_type%2Cvessel_gear_type%2Cdata_collection_program%2Cvessel_id%2Ctow_id%2Csegment_type&time%3E=2020-06-29T00%3A00%3A00Z&time%3C=2020-07-06T07%3A18%3A00Z

Machine to Machine interaction are also serving EMODnet Physics users/partners e.g. in collaboration with JCOMMOPS OceanGlider team we implemented an automatic warning system that collects new glider deployment metadata from GDAC and feed the EGO/JCOMMOPS gap analysis monitoring system. As part of the M2M activities we also updated the widgets for the INSTAC Dashboard KPIs to let the CMEMS tool to include HFR data monitoring.

Task 4. Maintain and further develop a thematic web portal allowing users to find, visualise and download data and promote the data and data products of the portal

In line with planned activities we are updating interfaces to facilitate access to data and products, in particular a "data products" menu page was published to facilitate the user to find and access to combined/gridded products (Figure 2): https://www.emodnet-physics.eu/map/Products/
Other updated products were the

- EMODnet Physics Wind[4] (Figure 3) that integrates global winds at sea level/ground and in situ data. The product provides the user data for latest 60 days from GFS (nowcast) and in situ platforms - Wind velocity is presented in false-color, solid arrows indicate in situ platforms By clicking a given position, a popup shows latest available data, if there is a platform available, the user can also access and plot latest in situ data.
- EMODnet Physics Wave[5] (Figure 4) that integrates med waves and in situ data (and we are working on the global coverage). Wave intensity is presented in false-color, solid arrows indicate in situ platforms.
- EMODnet Physics Sea Level trends, SLEV_004[6], (description also avaialbe @ https://zenodo.org/record/3856635) - using EMODnet Physics available PSMSL RLR monthly data, we discuss sea level trends calculated over 3 recent baseline periods, i.e. 2000-2019, 2005-2019, 2010-2019.

The activity on Sea Level Trends products will continue also in collaboration with EMODnet-PACE WP5.

Task 5. Ensure the involvement of regional sea conventions

Concerning task 5, the activities focused on participating to latest meeting of TG-NOISE (02/06). Activities of TG NOISE are now converging in the methodology to collect data for waternoise monitoring that are harmonizing the experiences from the 6 projects (annex) that are gathering data for reporting on D11 MSFD. One planned action for coming months is to support the TG NOISE new co-chair (F. Borsari) with information about EMODnet Physics Medata management and adoptesd vocabualries (e.g. SDN:P02, EDMO, etc) and facilitate an easy interoperability/integration from regional repositories and EMODnet Physics.
It would possible to test the methodology with a couple of volunteers (UPC - Barcelona and UNIGE-DISTAV - Portofino) which are running platforms equipped with hydrophones that can deliver operational underwater noise. More details and progresses will be reported in next reports.

[4] https://www.emodnet-physics.eu/map/Products/Wind/
[5] https://www.emodnet-physics.eu/map/Products/Wave/
[6] https://www.emodnet-physics.eu/map/Products/V2/PRODUCTS.aspx?PRODTYPE=SL&type=PSMSLSLR&param=undefined

The exercise in which we want to intersect data from EMODnet Physics Impulsive Noise Registry and Human Activity data (e.g. wind farm areas, extraction sites, etc) and have a gap analysis, is still on-going we expect to deliver the analysis by end of the year.

Task 6. Install a process to monitor 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 landing page and map page, it uses logs to extract the traffic/requests/manual downloads/interaction with services. For manual downloads from the Mapviewer (www.emodnet-physics.eu/map) authentication is requested for downloading data (older than 60 days) from coastal fixed stations and data products coming from CMEMS INSTAC.

Besides the automatic system monitoring, EMODnet Physics team is dayily supporting its users comminities to understand and assess the fit-for-scope of the system, e.g. the main uses/users for HFR are for Search and Rescue service, glider users need to access data with a "glider mission" granularity etc. this helps the team to plan system update accordingly (e.g. Figure 1).

Task 7. Operate a help desk offering support to users

EMODnet Physics is already providing an on line help desk feature to deal with users. Any request gets an id to track and manage the feedback time. Table 3 lists the collected interactions.

Besides this "office" activity, EMODnet Physics is engaging is users with long-term plans e.g. new EMODnet Physisc - SOOS MoU (EMODnetPhysics_SOOS_MoU.pdf), involvement in the GOOS-AniBOS network (GOOS_AniBOS.pdf).

2. Identified issues: status and actions taken

[Provide an overview of the issues identified by EASME (Table A), if any, during the reporting period, the status of those issues and actions taken to address them and/or roadmap with remaining actions planned to resolve the issues. In Table B, provide information about issues and challenges identified by yourself, if any.]

A. Priority issues identified and communicated by EASME/ DG MARE/ SECRETARIAT			
Priority issue	Status (Pending/Resolved)	Action(s) taken / remaining actions planned	Date due
INSPIRE Metadata issue - the Secretariat has been running some compliance checks and noted some remaining issues	Pending	We installed the GEOSERVER INSPIRE extension and two new just published layers are fully compliant with the checks. In coming period we are going to fix the other products-metadata.	As soon as possible
Action point 19: Physics and Chemistry to report on how they get the metrics of (OGC) web services for their portal	Resolved	Provided the list and links of the used tools.	
Provide EASME with documents about the collaboration agreements between EMODnet Physics and SOOS	Resolved	A package with endorsment letter and the latest SOOS annual reports was organized and delivered	
Provide Secretariat with all the EMODnet Physics quarterly reports since phase 3 contract	Resolved	A series of packages with reports and annex to the reports were organized and delivered	
To publish all the EMODnet Physics quarterly reports since phase 3, and phase 3 interim and final reports	Pending	To upload on the EMODnet Physics landing portal (reports page)	As soon as possible

Table 1. Priority issues identified by EASME/ DG MARE/ Secretariat

B. Issues / challenges identified by the thematic assembly group itself			
Priority issue / challenge	Status (Pending/ Resolved)	Action(s) taken / remaining actions planned	Date due
Work on updating the widget to let CMEMS Dashboard to monitor data from HFR node	Resolved	Tool developed and deployed. See also feedback from users (Figure 1)	
Update the method that is processing the monthly averages from operational data	Pending		Autumn 2020
We use the WMO as platform id. Lately some of the platforms with old 5-digit WMO codes are also delivered with the new 7-digit code. This	Pending	Cross check and cleaning/declaring of duplicates	We cannot set a deadline because the update of the WMO is not depending on EMODnet Physics. We can

impacts the name of the NetCDF files that are distributed and the user may find duplicates in the system			only check and correct when an issue is identified.
Identify and fix why matomo is not tracking views for the EMODnet Physics map page	Pending	The matomo tracking scripts is embedded into the EMODnet Physics mapviewer page therefore there is an issue with the matomo tracking tools	
Updates to the Norwegian tide gauge network	pending	In 2019 the Norwegian Hydrographic Service corrected a set of known errors in the tide gauge records. These updated refer to data back to 2007. New data have to be overwritten on previous ones.	As soon as possible. This task also involves the support/collaboration of CMEMS INSTAC
Antarctic Circumnavigation Expedition (ACE) platforms – we are collaborating to ingest and make available ACE data	Pending	On going. Sect. 1	
Indicator - Harmonization score. There are two items to fix: header size and search box.	Resolved	Indicators were changed.	
Management of the new indicators. In particular indicator 1.2 and 4 need a new definition of the monitoring object and consequently the development of new monitoring tools.	Resolved	Indicators were changed.	
CODIV-19 and Fishing for Data Workshop. EMODnet Physics was organizing the Fishing for Data Workshop (19-21 May 2020). Due to the government recommendations and limitations to travels and to attend/held meeting in person it is not possible to held the meeting for the planned period.	Resolved	We organized a webinar (20 May 2020) to present and discuss the designed dataflow for ingesting data collected by smart loggers on Fishing vessels nets. The workshop is postponed to spring 2021 (TBC).	
Problems to access JIRA	Pending	We are still recording problems to access the common space on JIRA. For the time being we directly interact with central administrators to keep track of the progress on actions. i	

Table 2. Priority issues identified by Physics group

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

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

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
01/04/2020	PLOCAN	Technical – to add the platform (id-99027) to PLOCAN statistics service	e-mail	1 day	resolved	Added to the service	
15/04/2020	CMCC	Technical - a problem in visualizinig ctd profiles	HD service	1 day	resolved	Provided the user with more details and examples.	
21/04/2020	BSH	Technical – annual averages are also considering data flagged as bad data	e-mail		pending	We are going to updated the processing method that extracts monthly averages from operational data	Autumn 2020
23/04/2020	Mercator Ocean	Technical – strange values in river data from Mondego Ponte Santa Clara Coimbra station	HD service	1 day	resolved	Cross check the value and the system is showing what it is receiving	
05/05/2020	Hexawatt	Technical – support to find wind and wave products	Central Portal	1 day	resolved	Linked to datasets and products of potential interest	

05/05/2020	Cetmar	Technical – support for understanding metadata	e-mail	1 day	resolved	Provided the needed details.	
05/05/2020	EMSA	Technical – support to use the underwater noise registry	e-mail	1 day	resolved	Provided support and details on the product.	
15/05/2020	Instituto del Mar del Peru	Technical – support to use and download data	HD service	1 day	resolved	Provided the needed details.	
19/05/2020	Finisterra S.A	Technical – support to find sea surface current data details in the Algarve area	HD service	1 day	resolved	Provided the needed details.	
19/05/2020	Bentley	Technical – problems in accessing data by M2M services	e-mail	4 day	resolved	The problem was not in the M2M but at the level of connection with data source.	
03/06/2020	unspecified	Technical – support to use the EMODnet Physics API	e-mail	1 day	resolved	Provided the needed details.	
06/06/2020	Cetmar	Technical – data provided were not visibile in the portal	e-mail	9 days	resolved	Bug in the data management of that source. Fixed	
29/06/2020	Istituto Hidrografico	Technical – support to connect new and more IH data	e-mail	1 day	resolved	Presented the overall EMODnet Data Ingestion strategy for both NRT and historical data.	

Table 3. User feedback

4. Meetings/events held/attended & planned

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

A. Meetings/events organised and attended				
Date	Location	Type event (internal or external meeting, training (workshop), etc.)	Meeting attended (A) / organised (O)	Short description and main results (# participants, agreements made, etc.)
06/04/2020	web	Meeting with CMEMS LAMBDA SE project	A	Follow up on the ingestion of new river data. The LAMBDA project collected some very interesting feedback from local (Portuguese and Basque) Environmental Agencies which are really interested in accessing more river data, not only at the river mouth. The group (LAMBDA, EMODnet Physics and EMODnet Ingestion) discussed how to manage and ingest more data to match this request. The available infrastructure and procedures are already in line with this request and the team agreed to include, wherever possible and available, data from the river course
08/04/2020	web	EMODnet Physics annual general assembly	O	During the meeting we discussed about the EMODnet Physics progresses and among the others, the collaboration and joint EMODnet Physics – EMODnet Ingestion activities. Joint activities are planned to link more real-time sources (by exploiting e.g. SOS SWE technologies), improve the links between portals and in particular between the ingested data list and Physics mapviewer, keep working on common events (e.g. Fishing for data webinar and platform networks workshops)
16/04/2020	web	In.vi.Tra Jenues KOM	A	In.vi.Tra Jenues is an Interreg IT-FR project aiming at offering training trans-national opportunities in the blue-economy. ETT presented it's activities and the work in both the EMODnet Physics and EMODnet Ingestion as a framework to host and train a student. The selection procedure went well and in July-August 2020 a French student will work in the ETT – EMODnet development team.
17/04/2020	web	EMODnet-PACE WP5 KOM	A	One specific focus of the meeting was to identify new Chinese coastal data sources (HFR and Sea Level stations) to be linked by EMODnet Ingestion and Physics. While Chinese partners are not planning to open HFR data for the moment, it will be possible to access to their sea level stations and data for developing joint products.

20/04/2020	web	EMODnet – CMEMS coordination meeting	A	A MoU between DG MARE and DG GROW consolidated the interoperability between EMODnet and CMEMS for the physics and chemistry, and EMODnet Ingestion is central in the process to keep adding additional in-situ data to both the initiatives. https://webgate.ec.europa.eu/maritimeforum/en/node/4719
21-22/04/2020	web	EMODnet Steering Committee meeting	A	Key meeting outcomes are available in the marine forum: https://webgate.ec.europa.eu/maritimeforum/en/node/4543
23-24/04/2020	web	EMODnet Technical working Group	A	As horizontal platform for the thematic lots, Ingestion is key partner in the discussion. https://webgate.ec.europa.eu/maritimeforum/en/node/4720
27/04/2020	web	HFR TT – CMEMS INSTAC – EMODnet Physics and Ingestion	A	Technical meeting to discuss about joint action to engage more HFR providers. Part of the discussion was the organization of a HFR Workshop (planned in October 2020 – already moved in Spring 2021), back to back with FerryBox community for a more integrated coastal monitoring approach
27/04/2020	web	In.vi.Tra Jenues selection day	A	Follow up of the previous meeting.
04/05/2020	web	EGU ESSI 1.1 session	O	Although the meeting was remotely host and attended, discussions were quite good and potential links with EMODnet lots were presented. https://meetingorganizer.copernicus.org/EGU2020/session/34713
06/05/2020	web	Meeting with LAMMA	O	A meeting was organized to discuss how LAMMA (http://www.lamma.rete.toscana.it/) can contribute to EMODnet Ingestion and be linked in EMODnet Physics. Follow up actions are planned in coming months.
20/05/2020	web	Fishing for Data webinar	O	More than 300 people proactively participated to the webinar showing high interest for the topic. EMODnet Ingestion and Physics are going to take lead on the development of this new type of data stream. Materials from the event @: https://www.emodnet-physics.eu/portal/single-element-view?return=news&moduleid=1483&tabid=96&id=119
26/05/2020	Web	Fishing for Data Team	O	Follow up on the webinar and planning of actions
27/05/2020	Web	Hazrunoff final meeting	A	The project (www.hazrunoff.eu) studied the integration of sensing and modelling technologies for early

				detection and follow-up of hazmat and flood hazards in transitional and coastal waters. It used EMODnet Physics M2M services and contributed to EMODnet Ingestion activities to link more river data in the Iberian area.
27/05/2020	Web	Glider data flow	O	Meeting with the core glider community
29/05/2020	Web	Nord Stream II	O	Data discussions with Nord Stream II
02/06/2020	Web	15th Meeting of the MSFD Common Implementation Strategy Technical Group on Underwater Noise (TG-Noise)	A	It is the periodic TG NOISE meeting to present and discuss on progress on D11 MSFD. The meeting introduced the new chairs and present outcomes from European projects working on the topic
04/06/2020	Web	Sustunable KOM	A	Novellino is serving the project AOB to facilitate the connection and ingestion of project produced data into the EMODnet infrastructure. https://www.sustunableproject.eu/
10/06/2020	Web	EU HFR node coordination meeting	A	The meeting was organized to discuss about action to streamline more data from the same sources, in particular it is under discussion the ingestion and inclusion of radial data from HFR stations (at the moment only totals are delivered)
16/06/2020	Web	Coastal workshop: EMODnet and CMEMS	A	The workshop was aimed at exchanging on EMODnet and Copernicus (CMEMS and land) services and developments in this thematic area.
23/6/2020	Web	CMEMS INSTAC AM	A	New EMODnet Physics datasets presented at the INSTAC AM
29/06/2020	Web	EMODnet, JCOMMOPS, CORIOLIS – Glider Data flow – tech meeting	O	As part of the EMODnet Physics and Ingestion activities there is a continuous interaction with network platform operators. This meeting was to recap on some pending actions on glider data management with a focus on streamlining data from the platform to GDAC (Coriolis) and NRT data integrators (EMODnet Physics, CMEMS), design the management of both recovery and delay mode data management to facilitate long-term stewardship of the data while exploiting the use of recent technologies such as SensorML to link more platform setting information. On discussed action is to organize a new international event in 2021 as follow up of the international glider workshop held in Genova in 2018.
1-2/07/2020	Web	Tide gauge Task Team	A	Physics presented on recent developments regarding tide gauge data and products
SUM			**O**	**Total # of meetings organised = 8**
SUM			**A**	**Total # of meetings attended = 15**

Table 4. Meetings/events held/attended

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
26-29/07/2020	Web	SOOS Annual General Assembly	A	Annual meeting of the SOOS community to discuss about progress and define new actions. EMODnet Data Ingestion and EMODnet Physics are involved in the service development design and provision.
21-25/09/2020	web	10 years of EMODnet progress and achievement Webinars	A	The goal of the webinars is to bridge towards the main event (EMODnet Open Confernce) and to celebrate and showcase 10 years of EMODnet progress and achievement
20-21/10/2020	web	Marine data to support aquaculture in the North Atlantic Workshop	A	The event is jointly organized by EATiP, DG MARE, DG DEFIS, Copernicus Marine and EMODnet with the goal to discuss and link new marine data in support to aquaculture activities
3-7/03/2021	Oostende, Belgium	EMODnet Open Conference and Jamboree 2nd Edition initially programmed from 21st to 25th of September 2020 will be postponed to Spring 2021.	A/O	Due COVID-19 situation the organizing committee decided to postpone the event to 2021
23-25/03/2021	Gothenburg, Sweden,	Ferrybox Workshop	A/O	Due COVID-19 situation the organizing committee decided to postpone the event to 2021
23-25/03/2021	Gothenburg, Sweden,	HFR Workshop	A/O	Due COVID-19 situation the organizing committee decided to postpone the event to 2021
12-14/04/2021	Amsterdam, Netherlands	IMDIS Conference	A	Due COVID-19 situation the organizing committee decided to postpone IMDIS 2020 conference to 2021
May 2021(TBC)	Genoa, Italy	Fishing for Data 2 workshop	O	The goal is to have the planned physical workshop that was postponed due the COVID-19 situation.
May-June 2021	Brest, France	EuroGOOS International conference	A	The conference provides a forum for a broad range of implementers and users of operational oceanography services, including marine scientists and technologists, private companies, and policymakers. The conference reviews the present ocean monitoring and forecasting capacities and oceanographic services, and identifies new science and technology priorities. It facilitates dialogue, experience sharing and future planning with both European and

				international partners and stakeholders, towards a more coordinated response to global challenges and societal needs related to seas and oceans https://eurogoos.ifremer.fr/
16-18/06/2021	Vigo, Spain	MARETECH Workshop	A/O	Due COVID-19 situation the has decided to postpone the IX International Workshop on MARine TECHnology

Table 5. Meetings/events planned

5. Communication and dissemination assets

[Please list all the relevant communication and dissemination products and assets you have developed during this period (e.g. development of communication materials such as brochures, videos, press releases, newsletters, etc.) and are planning to do. At the bottom of the table, provide a total number for every type of communication product you have developed (e.g. total # of press releases, etc.).]

A. Communication products				
Date	Communication action/ material	Short description (of the material, title, …) and/or link to the activity	Main results	Name of event at which material was disseminated (if applicable)
08/04/2020	Presentation		EMODnet Physics annual general assembly – progress report presentation on the joint actions	EMODnet Physics Annual Assembly
21-22/04/2020	Presentation	EMODnet Physics	Periodic report on EMODnet Physics activities.	EMODnet SC - TWG
26/05/2020	Presentation	Oral presentation and video of the event	Engagement of the Fishing Vessels community – more than 300 atteneders	Fishing for Data Workshop
27/05/2020	Presentation	EMODnet Physics from data to services	EMODnet Physics and EMODnet Ingestion activities for river data management were presented to about 20 attenders. It was highlighted the importance of collaboration between services like EMODnet projects and topic specific projects that can demonstrate the importance of data accessibility and interoperability for developing advanced services (HazRinoff) while engaging more providers to share data to make it possible (via EMODnet)	HazRunoff Workshop
04/06/2020	Presentation	EMODnet Physics and EMODnet Data Ingestion	The Adivsors were asked to present their expertise and projects – EMODnet, EMODnet Physics and pillars, EMODnet Ingestion were presented to the about 30 participants	Sustunable project KOM
16/06/2020	Presentation	EMODnet Physics	EMODnet Physics data and products for coastal users	Coastal workshop: EMODnet and CMEMS
	Tech note	A reanalysis of relative Sea Level trends - EMODnet Physics[7]	Tech note describing the adopted methodology to process sea level data and compute trends on recent time-baseline	NA

Table 6. Comminunication products

[7] https://zenodo.org/record/3856635#.XwXNuJMzZMY

B. Planned communication products			
Date	Communication action/ material	Short description (of the material, title, …) and/or link to the activity	Main results expected
26-29/07/2020	Oral presentation	SOOS DMSC	We are going to present EMODnet, EMODnet Physics and EMODnet DIP to engage the community
21-25/09/2020	Oral presentation	10 years of EMODnet progress and achievement Webinars	We are going to present EMODnet, EMODnet Physics and EMODnet DIP to engage the community
20-21/10/2020	Oral presentation	Marine data to support aquaculture in the North Atlantic Workshop	We are going to present EMODnet, EMODnet Physics and EMODnet DIP to engage the community
3-7/03/2021	Oral Presentation	EMODnet Open Conference and Jamboree 2nd Edition initially programmed from 21st to 25th of September 2020 will be postponed to Spring 2021.	We are going to present EMODnet, EMODnet Physics and EMODnet DIP to engage the community
23-25/03/2021	Oral Presentation	Ferrybox Workshop	We are going to present EMODnet, EMODnet Physics and EMODnet DIP to engage the community
23-25/03/2021	Oral Presentation	HFR Workshop	We are going to present EMODnet, EMODnet Physics and EMODnet DIP to engage the community
12-14/04/2021	Oral presentation	IMDIS Conference	We are going to present EMODnet, EMODnet Physics and EMODnet DIP to engage the community
May 2021(TBC)	Oral presentation	Fishing for Data 2 workshop	We are going to present EMODnet, EMODnet Physics and EMODnet DIP to engage the community
16-18/06/2021	Oral presentation	MARETECH Workshop	We are going to present EMODnet, EMODnet Physics and EMODnet DIP to engage the community

Table 7. Planned communication

[Publications (e.g. peer-reviewed journals, book chapters, conference papers, etc.) that you are aware of using/referring to EMODnet data or data products within the reporting period.]

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)

Table 8. Publications

A simple search in google scholar shows more than hundreds documents between papers and projects deliverables using/citing EMODnet Physics.

https://scholar.google.com/scholar?hl=it&as_sdt=0%2C5&q=EMODnet+Physics&btnG=

6. Monitoring indicators

[Please refer to the standardised monitoring tool i.e. Matomo to complete the designated excel template on monitoring and progress indicators in annex, and provide a comment or short explanation on numbers and trends in the table below for each indicator when possible/applicable. If monitoring was carried out using tools other than Matomo, please indicate clearly.]

Comments on the progress indicators in the excel template	
Progress indicator	Comment
1.1 Status/Volume and coverage of all available acquired data A) Volume and coverage of available acquired data	For this indicator we consider the "platform" as the "unit" of monitoring assessmnent. 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 1.1 we report on the % variation of the platforms for the given basin. A reduction of the % may indicate that some plaforms are not delivering data. For indicator 1.2 the unit of download is measured in platforms (in coherence with indicator 1.1) 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. dayily data for past XX years). For ice data, EMODnet Physics is integrating a satellite derived product covering the whole Arctic and Antarctic areas
B) Usage of data in this quarter (formerly indicator 4)	During this quarter we recorded a general decrease of the use of data, we guess that the COVID-19 situation deeply influenced this trend. Processing data needs computational infrastructure and tools that usually are not avaialble at home, therefore unless there are operational services that collect and process data, the "manual" use of data is somehow limited.
1.2 Status/Total number and the coverage of all built & external data products A) Volume and coverage of available built & acquired data products	EMODnet Physics organizes data and products according the disseminitation interface therefore the volume of data is not avaialble for each single item. Most of the EMODent Physics products have a global coverage. We are updating the monitoring system in order to facilitate the extraction according the new released indicators and tables.
B) Usage of data products in this quarter (formerly indicator 4)	we are recording the use of all the tracked interfaces and endpoints. For some we are resolving per single item/product (Geoserver, ERDDAP and THREDDS) while products map visualization are collected all together and it is not possible to have fine details per item yet. Starting from next report we espect to be alble and comment trends also. .

2. Organisations supplying/approached to supply data and data products within reporting period	During the period the approached groups joined network and started making available data/products. EMODnet Physics data policy is very simple and well agreed by contributors. Data is open and free. For a limited set of data, EMODnet Physics is asking for authentication, before delivering downloads to users (who did the data request selection on the mapviewer). M2M and dissemination interfaces (ERDDAP, THREDDS, Geoserver) are not requiring any authentication and are delivering all the avaialble data wothouth any restrictions.
3. 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. Some of the data that are presented on the mapviewer require authentication (e.g. coastal data from European istitution - data older than 60 days). All linked datasets are unrestricted.
5. Statistics on data volunteered through download forms	This period registered one of the highest increase in the registered users since the form was published: more than 110 users filled the form. This may be linked to the big success and attendance of the "Fishing For Data" workshop that reached out a big number of attenders (about 400) mainly new to EMODnet. 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 data that requires authentication (i.e. coastal data older than 60 days). The majority of EMODnet Physics data are downloadable without any authentication.
7. Published use cases	Use cases are providing an example of how EMODnet Physics data can be used for both private and public downstream applications and the once developed by private entities are keeping being the most read (e.g. wave model, tourist navigation system). It looks like that the EMODnet use case are helping advertising of such application and compnies, while promoting their services, are linking their users to the EMODnet cases.
9.1. Technical monitoring	The system is performing well
9.2. Portal user-friendliness (Visual Harmonization score)	The portal is processing towards the common visual harmonization recommendations as required and agreed during EMODnet SC and TWG
10. Visibility & Analytics for web pages	EMODnet Physics mapviewer is by far the most used interface with an growing trend.
11. Visibility & Analytics for web sections	EMODnet Physics mapviewer is by far the most used interface with an growing trend.
12. Average visit duration for web pages	The metrics are in line with the users use of the EMODnet Physics sections: while they spend a limited time on the landing (background, news…) they interact with the mapviewer and platform pages - these are the key emodnet Physics products confirming the importance of the EMODnet Physics team in keeping developing and updating them. importantly the detected bug in the tracking of this page has been fixed.

Table 9. Indicators

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). Each system uses different technical approaches and therefore has its strengths and shortcomings. Therefore, results are indicative and care should be taken with 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

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

Project	Location	Country/Countries
BIAS (Baltic Sea Information on the Acoustic Soundscape)	Baltic Sea	Sweden, Denmark, Germany, Poland, Estonia, Finland
JOMOPANS (Joint Monitoring Programme for Ambient Noise North Sea)	North Sea	Netherlands, UK, Denmark, Sweden Belgium, Norway, Germany
JONAS (Joint Framework for Ocean Noise in the Atlantic Seas)	NE Atlantic waters	Ireland, Spain, Portugal, France, UK
QuietMed	Mediterranean Sea	Spain, Greece, Malta, Italy, France, Slovenia, Croatia
QuietMed II	Mediterranean Sea	Spain, Italy, Malta, Greece, Cyprus, Croatia, Slovenia and Denmark
SOUNDSCAPE	North Adriatic Sea	Italy, Croatia

Table 10. List of EU projects monitoring underwater sound

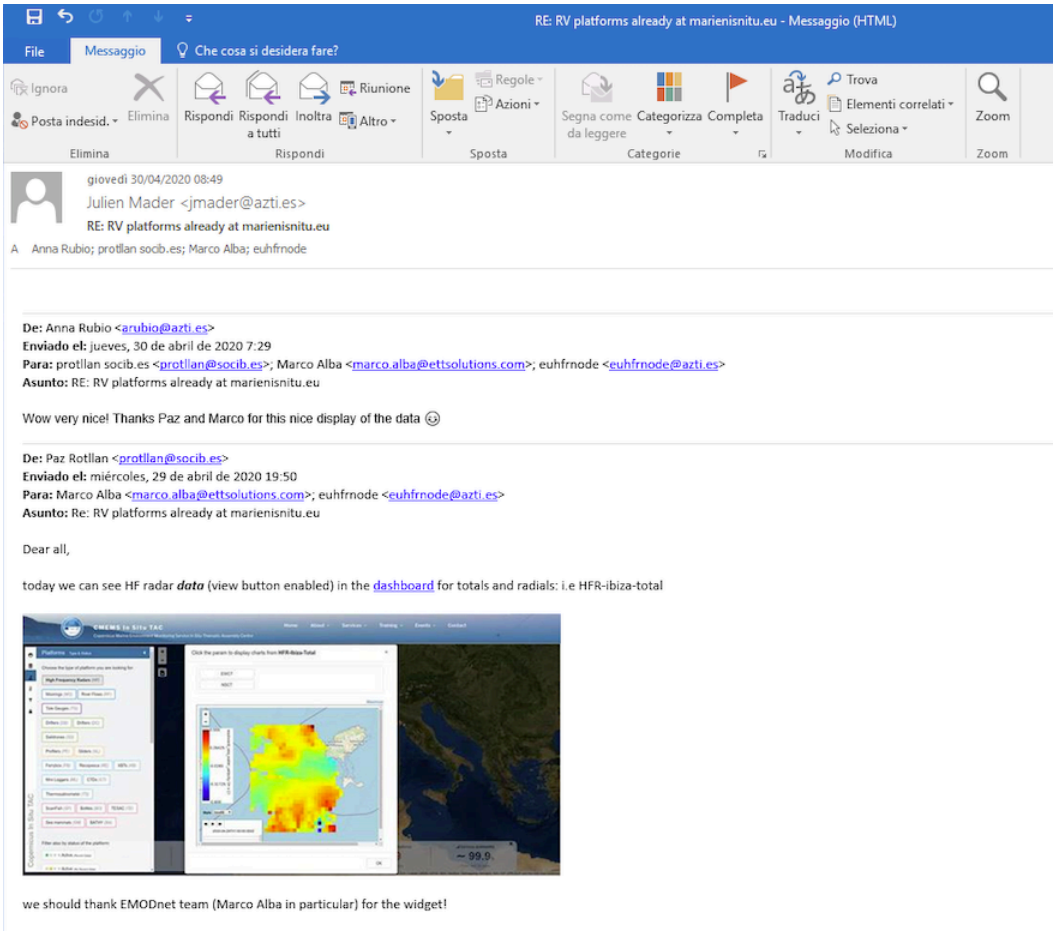

Figure 1. Feedback letter from INSTAC – Dashboard managers

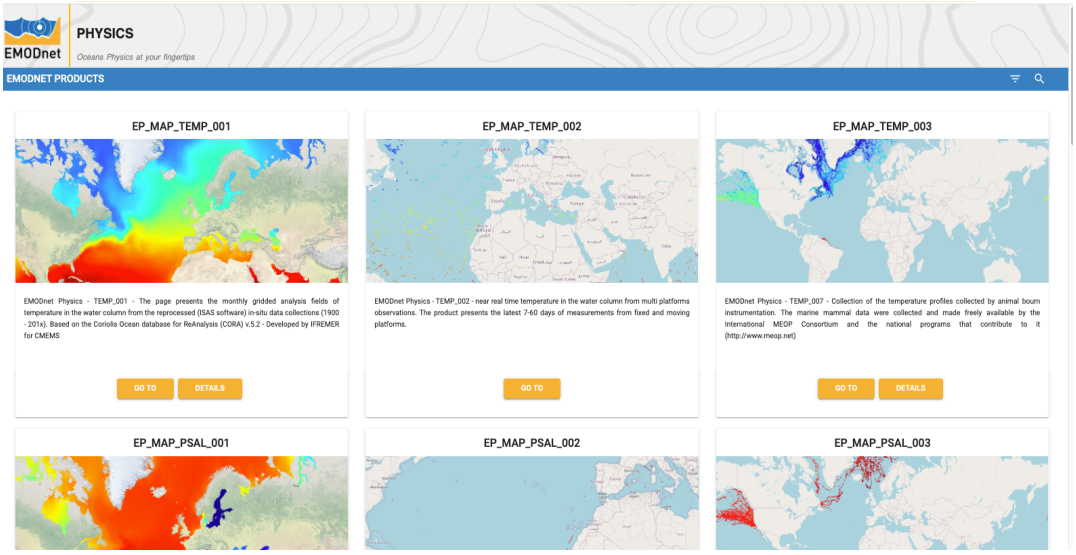

Figure 2. EMODnet Physics Products menu

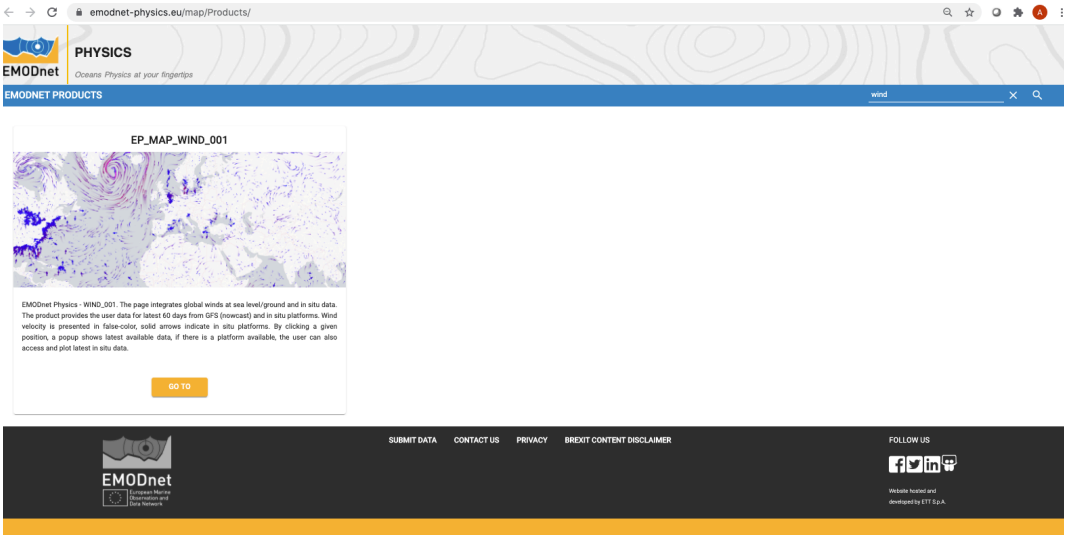

Figure 3. EMODnet Physics Wind description/link

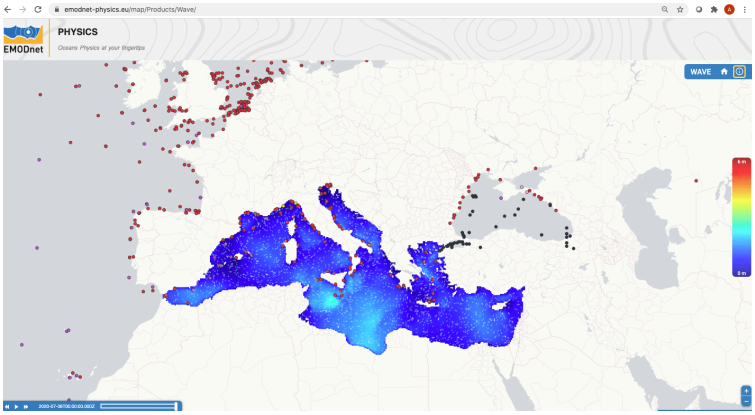

Figure 4. EMODnet Physics Wave product page