



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 (1)

Reporting Period: 26/08/2019 – 30/09/2019



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1. Highlights during the reporting period

*Provide a short summary of the key achievements and/or events of interest to a wider audience within this reporting period you wish to highlight. **Please make sure that progress in each of the tasks specified in Section 1.4.1 of the Tender Specifications is covered. For those tasks not experiencing significant progress, please state so.** In addition, you can (but not required) also consider the indicators or any other of the reporting sections.*

[Please, provide a bullet list of maximum 1 bullet point per Tender task; and potentially max 10 main points/highlights with short explanations. 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 and makes it available in the EMODnet Physics catalogues (ERDDAP, TDS and Geoserver)¹ and hence in the map viewer²

The developed data flow is already including key European infrastructures and provides (e.g. CMEMS INSTAC, SeaDataNet) and to make it more open and inclusive the EMODnet Physics infrastructure was re-designed: once a data sources is connected, datasets are going to be integrated by adding EMODnet Physics metadata (see Figure 1). Once ingested, data is made available into the designed dissemination catalogue (e.g. timeseries are available in ERDDAP, gridded datasets in TDS, etc.).

This also includes the interaction and collaboration with thematic network groups with whom EMODnet Physics is developing and establishing global standards for data management (e.g. HFR³, OceanGlider, etc.)⁴

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

In this phase EMODnet Physics is going to develop and make available products such as: Seasonal/annual sea water temperature map

- Seasonal/annual sea water salinity map
- Monthly/annual fresh water discharge map
- Monthly/annual total suspended matter map
- monthly/annual sea surface horizontal velocity map
- monthly/annual relative/absolute sea level trend map
- ice coverage and ice coverage trends
- noise sound maps
- Seasonal/annual sea state (wave) map
- Etc

¹ erddap.emodnet-physics.eu, thredds.emodnet-physics.eu, geoserver.emodnet-physics.eu

² www.emodnet-physics.eu/map

³ <https://doi.org/10.25704/9XPF-76G7>

⁴ <https://www.frontiersin.org/articles/10.3389/fmars.2019.00440/full>

Some of these activities have already started (i.e. fresh water discharge, sea surface currents maps and noise registry), the task teams are now working on the specifications and delivery plan that is going to be presented in next quarterly report.

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

Two key action were delivered under this task: the inclusion and ingestion of the T-MED network and the Salidrone network (see Figure 2 and Figure 3). This task is done in collaboration with EMODnet Data Ingestion.

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

The EMODnet Physics web portal is on line and is making findable, accessible, visible and interoperable both data and data products. We are in a phase of re-designing and updating both the landing page and the mapviewer to improve usability and general user experience.

Task 5. Ensure the involvement of regional sea conventions

EMODnet Physics is going to keep interacting and collaborating with RSC and TG NOISE on acoustic pollution both in terms of impulsive noise registry and noise propagation maps. A specific expert task team (i.e. ICES, CTN – CTN-Marine Technology Centre, and EMODnet Physics coordinator) will work on this action.

Task 6. Install a process to monitor performance and deal with user feedback

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. Interaction with users is also source of specifications to improve and update the system, e.g. lately EMODnet Physics was contacted by Hazrunoff project (<http://www.hazrunoff.eu/>) because they are using the river product to serve the institution of Augas de Galicia and they are so satisfied that are asking for more data (meteo and other stations more inland) for flooding studies. The EMODnet Physics River Task Team is working on it. Another example is the request for update of the JSON production service for Coriolis gliders data repository that has already been deployed.

2. Challenges encountered during the reporting period

Provide an overview of the main challenges encountered during the reporting period and the measures taken to address them, including those related to technical and data provision issues. [Please, provide information in the table.]

Main challenge	Measures taken
CMEMS INSTAC update – in April the CMEMS INSTAC went under a major update of the infrastructure and conventions. This had a deep impact on the EMODnet Physics NRT data dissemination service and some of the platforms hosted by INSTAC (as well as some of the datasets) have to be re-connected yet	We are working on updating of all the machine-to-machine services between EMODnet Physics and CMEMS INSTAC. We plan to complete the synch in November.
SDN update – in line with the SDC project plan, the SDN infrastructure is now moving into the cloud. A new connection service between EMODnet Physics and SDC has to be developed.	EMODnet Physics and SDC are projecting and designing the new connection service. Progress on this action will be presented in next report.
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.	In this report we use and report on indicators as defined in the previous period. We are working on the new definitions and monitoring tools that are going to be included in next report. This means that some of figures that are presented in this report are not going to be comparable with the ones that we present in next reports.

Table 1. Challenges

3. Identified issues: status and actions taken

Provide an overview of the issues identified, if any, during the reporting period, the status of those issues, and actions taken to address them. [Please, provide information in the table.]

Issue identified	Status (Pending/Resolved)	Action taken	Date due

Table 2. Identified issues.

During the period, there is not any issue to report. We anyhow identified a couple of actions to go towards user needs, more specifically there is an action to extend the coverage of the river stations including also some key inland platforms and try and make available more atmospheric data.

Two actions already closed are 1) the update of the service that is providing Coriolis/JCOMMOPS glider manager with metadata on operational glider missions, 2) the update of the widget service adopted by CMEMS INSTAC for their dashboard/KPI services.

4. User Feedback

List any useful feedback you received on your portal, your activities or those of other EMODnet projects/activities. Also provide any suggestions you have received for EMODnet case studies and/or future products/activities/events. [Please, provide information in the table. If you wish to include the full user feedback in the report you can attach it in Annex.]

Date	Organisation	Type of user feedback (e.g. technical, case study, etc.)	Response time
30/09/2019	DG MARE	Technical – analysis of sea temperature variations	Report in 15 days
2/5/2019	Met Office	Technical – support to automate the download of the daily Dutch HF radar data	1 day
2/5/2019	Regional Environmental Protection Agency of Calabria	Technical – support to find metadata	1 day
20/5/2019	Framian	Technical – support to find and download temperature and salinity data	1 day
13/8/2019	NIVA	Technical – support to find and download temperature and salinity data	2 weeks
30/4/2019	VLIZ	Technical – support to include noise maps into central portal	1 day
29/4/2019	CMEMS INSTAC	Technical – request for update of the widget service	1 week to close the activity
17/04/2019	Technical University of Denmark	Technical – support to download ARGO data	1 week to deliver the package
15/04/2019	ISMAR	Technical – support to get some metadata on wind buoys	1 day
27/03/2019	Berring Data Collective	Technical – support to download a limited package of data	1 week to deliver the package
9/04/2019	MERCATOR OCEAN	Technical – support to get some HFR missing data	1 day to give feedback
12/04/2019	GL Garrad Hassan Deutschland	Technical – support to download historical data	3 days to deliver the package
12/04/2019	National Technical University of Athens	Technical – support to get some further metadata on a subset of platforms	3 days to give feedback
08/04/2019	BRGM	Technical – support to have further metadata	1 day
02/04/2019	NIVA DK	Technical – support to find metadata and M2M services	1 day

Table 3. user feedback

5. Meetings held/attended since last report

List here the internal and external meetings held/participated by the contractant (e.g. meeting, conference, training (workshop), etc.) since the last quarterly report. Please add a short description on the meeting as well as the nature and volume of the audience. At the bottom of the table, provide the total number of events organised and events participated. [Please, provide information in the table.]

Table: Meetings organised and attended.

Date	Location	Type event (meeting, training (workshop), etc.)	Attended (A) / Organised (O)	Short description and main results (# participants, agreements made, etc.)
2-3/04/2019	Rome, Italy	EMODnet Data Ingestion – general assembly	A	General Assembly of the EMODnet Data Ingestion project. Presentation and discussion of the joint actions to ingest more data
9-11/04/2019	Wien, Austria	EGU 2019 – ESSI 1.	O	https://meetingorganizer.copernicus.org/EGU2019/session/30893 - about 70 attenders
24-26/04/2019	Genova, Italy	Ferrybox workshop	O	The goal of this workshop was to collect contributions related to underway measurements from outside of the FerryBox community (e.g. ICOS, SOOP-XBT) in order to enhance knowledge exchange and future cooperation. About 70 people attended and proactively participated to the event
7-10/05/2019	Liverpool, UK	SeaDataCloud TTG	A	SeaDataCloud Technical Team meeting – among the other topics we discussed about RT SOS SWE data flow, HFR data flow and the collaboration and connections between SDC and Physics
8-9/05/2019	Herakliom, Greece	EuroGOOS Annual Meeting	A	Annual meeting of the EuroGOOS members. Progress and synergies among the different projects were discussed.
18-19/06/2019	Marseille, France	Oceans'19	A	https://www.oceans19mtnssee.emarseille.org/
21-29/05/2019	New Brunswick, NJ US	EGO Meeting & International Glider Workshop Meeting – follow up of the Genova International Glider meeting (scaled up to OceanGliders task teams: og-dm@jcommops.org.)	O	dedicated side meeting, one full day in length, with 26 attendees, was held to keep working on OceanGliders1-0 format document and monitoring KPI
25/06-2/07/2019	Paris, France	IOC Assembly	A	IOC annual assembly.
11/06/2019	Zug, Switzerland	Meeting with NordStream	O	Discussion about synergies: ingestion of NordStream data and use of Physics data and data products.

2-3/09/2019	Gent, Belgium	EMODnet TWG	A	EMODnet Technical Working group
3-4/09/2019	Gent, Belgium	EMODnet SC	A	EMODnet Steering Committee meeting.
5/09/2019	Lulea, Sweden	Swedish National Data Ingestion session	O	EMODnet Program, with a specific focus on EMODnet Physics and EMODnet Data Ingestion were presented to Swedish authorities and Marine Institute to find synergies and to collaborate. About 30 attenders
4-5/09/2019	Gent, Belgium	Open Sea Lab	A	People from EMODnet Physics joined and helped with the practical activities of the Open Sea Lab http://www.emodnet.eu/emodnets-2nd-open-sea-lab-look-back
10/09/2019	Call	SOOS DMSC meeting	A	Data Management Steering Committee of the SOOS – EMODnet Physics is member and proactively participate to SOOS activities
16-22/09/2019	Hawaii, US	OceanObs'19	A	http://www.oceanobs19.net/ EMODnet Physics participated to some of the community papers ⁵
18/09/2019	Call	Meeting on river flow data management	O	EMODnet River Task team meeting on activity review and plans.
25/09/2019	call	Management of MED noise data – call meeting	O	Call meeting with CTN – CTN-Marine Technology Centre to discuss about joint activities on noise data management. CTN is the coordinator of the QuietMED project, EMODnet Physics is in the advisory board of the proj.
SUM			O	Total # of meetings organised = 7
SUM			A	Total # of meetings attended = 10

Table 4. Meetings

⁵ <https://www.frontiersin.org/articles/10.3389/fmars.2019.00313/full>
<https://www.frontiersin.org/articles/10.3389/fmars.2019.00568/full>
<https://www.frontiersin.org/articles/10.3389/fmars.2019.00440/full>

6. Outreach and communication activities

Please list all the relevant communication/outreach activities or products you have developed/executed during this period (including presentations, lectures, trainings, demonstrations, workshops, etc., and development of communication materials such as brochures, videos, press releases, newsletters, etc.). At the bottom of the table, provide a total number for every type of communication activity you have developed/executed (e.g. total # of press releases, total # of presentations given, etc.). [Please, provide information in the table.]

Table: Communication activities.

Date	Communication action/material	Short description (of the material, title, ...) and/or link to the activity	Main results (# participants, # views, # press clippings, etc.)
SUM ...			Total # of ...
SUM ...			Total # of ...
SUM

Table 5. Communication activities

In most of the previous table reported events, the EMODnet Physics team with either oral or poster presentation. Further to these, the most relevant communication and dissemination actions of the period are related to the

- FerryBox workshop (EMODnet Physics co-organized the event)
- EGU ESSI 1.1 Informatics in Oceanography and Ocean Science (organization of the session)
- Participation to OceansObs'19 and related papers (see note in the previous page)

Relevant scientific and/or popular publications (scientific papers, book chapters, conference papers, etc.) you published or of which you know they have been published using/referring to EMODnet data or data products during this reporting period must also be reported here. [Please, provide information in the table.]

Table: List of known publications using EMODnet data or data products.

Date	Name of journal, conference, ...	Publication title	Authors	Organisation(s)

Table 6. 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=

The team is going to go through these documents for listing the most relevant or interesting.

7. Annex: Other documentation attached

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

ERDDAP > tabledap > Data Access Form

Dataset Title: **sea temperature (TEMP) TimeSeries**  

Institution: EMODnet Physics (Dataset ID: EP_INSITU_TEMP_TS)

Information: [Summary](#) | [License](#) | [FGDC](#) | [ISO 19115](#) | [Metadata](#) | [Background](#) | [Subset](#) | [Make a graph](#)

Variable	Optional Constraint #1	Optional Constraint #2	Minimum or a List of Values	Maximum
<input checked="" type="checkbox"/> EP_PLATFORM_ID (EMODnet Platform ID)	>=	<=		
<input checked="" type="checkbox"/> EP_PLATFORM_TYPE (EMODnet Platform Type)	>=	<=		
<input checked="" type="checkbox"/> EP_PLATFORM_CODE (EMODnet Platform Code)	>=	<=		
<input checked="" type="checkbox"/> EP_PLATFORM_LINK (EMODnet Platform Link)	>=	<=	"http://www.emodnet..."	"http://www.emodnet..."
<input checked="" type="checkbox"/> time (Valid Time GMT, UTC)	>= 2019-10-04T12:58:09Z	<=	2014-01-01T00:00:00Z	2019-10-10T09:00:00Z
<input checked="" type="checkbox"/> TIME_QC (quality flag, 1)	>=	<=	0	4
<input checked="" type="checkbox"/> depth (m)	>=	<=	-999.0	429496.7
<input checked="" type="checkbox"/> DEPTH_QC (quality flag, 1)	>=	<=	0	9
<input checked="" type="checkbox"/> pres (Sea pressure, dbar)	>=	<=	-99999.9	1.0000000000000001E33
<input checked="" type="checkbox"/> PRES_QC (quality flag, 1)	>=	<=	0	9
<input checked="" type="checkbox"/> latitude (degrees_north)	>=	<=	-9999.99	343.125
<input checked="" type="checkbox"/> longitude (degrees_east)	>=	<=	-9999.99	348.75
<input checked="" type="checkbox"/> POSITION_QC (quality flag, 1)	>=	<=	0	8
<input checked="" type="checkbox"/> TEMP (sea temperature, degree_Celsius)	>=	<=	-2147484.0	393281.0
<input checked="" type="checkbox"/> TEMP_QC (sea temperature quality flag, 1)	>=	<=	0	9
<input checked="" type="checkbox"/> TEMP_DM	>=	<=	"u0000"	"R"
<input checked="" type="checkbox"/> site_code	>=	<=	"15534"	"Virtsu"
<input checked="" type="checkbox"/> platform_code	>=	<=	"100536"	"ZMFR"
<input checked="" type="checkbox"/> platform_name	>=	<=	"30 NM West of King..."	"ZORA"
<input checked="" type="checkbox"/> pi_name	>=	<=	"BSH"	"wilhelm.petersen@h..."
<input checked="" type="checkbox"/> area	>=	<=	"Adriatic Sea (Medi..."	"North West Shelf"
<input checked="" type="checkbox"/> author	>=	<=	"ARSO, Med ROOS dat..."	"cmems-service"
<input checked="" type="checkbox"/> source	>=	<=	"BUOY/MOORING: SURF..."	"vessel of opportun..."
<input checked="" type="checkbox"/> contributor_name	>=	<=	"All-Russia Researc..."	"IZOR - Institute o..."
<input checked="" type="checkbox"/> contributor_url	>=	<=	"http://www.izor.hr"	"http://www.meteo.ru"
<input checked="" type="checkbox"/> data_assembly_center	>=	<=	"BGODC"	"Puertos del Estado"
<input checked="" type="checkbox"/> institution_edmo_code	>=	<=	"1002"	"850"
<input checked="" type="checkbox"/> institution_references	>=	<=	"NA"	"www.fh-kiel-gmbh.d..."
<input checked="" type="checkbox"/> institution	>=	<=	"ARSO - Slovenian E..."	"Xunta de Galicia: ..."
<input checked="" type="checkbox"/> wmo_platform_code	>=	<=	"_"	"ZMFR"

Figure 1. EMODnet Physics metadata

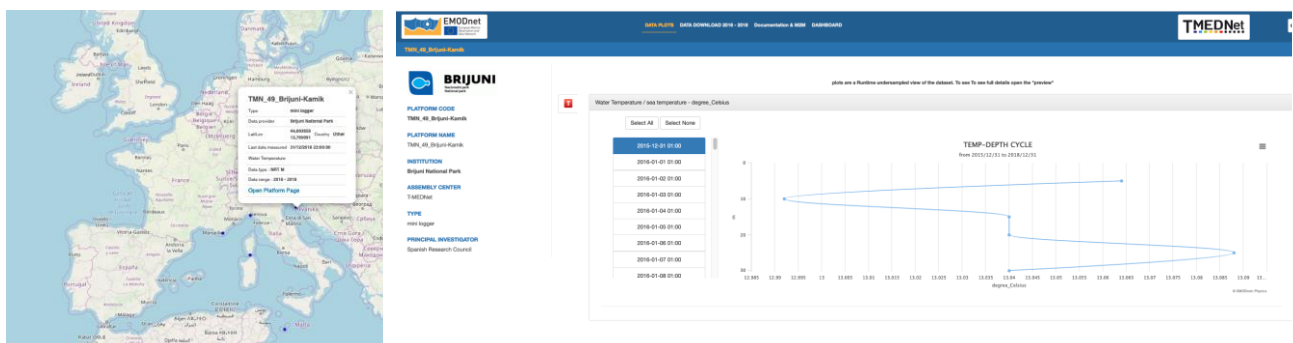


Figure 2. T-Med network datasets

ERDDAP > tabledap > Make A Graph

Dataset Title: **Saildrone Gulf Stream 2019 Near-Real-Time Mission Data** [✉](#) [RSS](#)

Institution: Saildrone (Dataset ID: SAILDRONE_GULFSTREAM_2019)

Range: longitude = -71.59522 to -57.25445°E, latitude = 35.533592 to 41.490913°N, time = 2019-01-30T00:00:00Z to 2019-02-25T23:55:00Z

Information: [Summary](#) | [License](#) | [FGDC](#) | [ISO 19115](#) | [Metadata](#) | [Background](#) | [Subset](#) | [Data Access Form](#) | [Files](#)

Graph Type:

X Axis:

Y Axis:

Color:

Click on the map to specify a new center point.

Zoom:

Time range:

Constraints

time	Optional Constraint #1	Optional Constraint #2
<input type="text" value="time"/>	<input type="text" value="2019-02-19T00:00:00Z"/>	<input type="text" value="2019-02-26T00:00:00Z"/>
<input type="text" value="time"/>	<input type="text" value="2019-02-19T00:00:00Z"/>	<input type="text" value="2019-02-26T00:00:00Z"/>
<input type="text" value="time"/>	<input type="text" value="2019-02-19T00:00:00Z"/>	<input type="text" value="2019-02-26T00:00:00Z"/>
<input type="text" value="time"/>	<input type="text" value="2019-02-19T00:00:00Z"/>	<input type="text" value="2019-02-26T00:00:00Z"/>

Server-side Functions

☐ distinct()

Graph Settings

Marker Type: Size:

Color:

Color Bar: Scale:

Minimum: Maximum: N Sections:

Draw land mask:

Y Axis Minimum: Maximum: Ascending:

Redraw the Graph (Please be patient. It may take a while to get the data.)

Optional:

Then set the File Type: (File Type information)

and

or view the URL: https://erddap.emodnet-physics.eu/erddap/tabledap/SAILDRONE_GULFSTRE

(Documentation / Bypass this form)

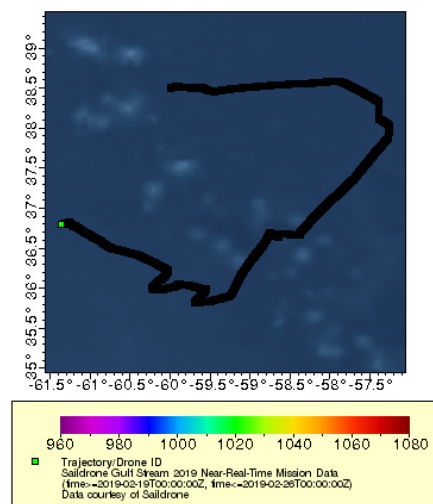


Figure 3. Saildrone datasets

8. Monitoring indicators

Please consult and fill in the designated excel template in annex, and provide a comment in the table on each indicator when possible/applicable. [Please provide information in the table.]

Table: Comments on the progress indicators in the excel template.

Progress indicator	Comment
1.1 Volume of available acquired data	The volume for T&S increased because now the monitoring tool is also counting the CTDs (where 1 CTD = 1 platform)
1.2 Number and coverage of built & external data products	There is not any new product/update since the new contract started
2. Organisations supplying each type of data	
3. Interfaces to access or view data: list changes or new items within reporting period	% of data / data products / external data products available through services is missing for this report because we need to define the metrics. It will be documented in next report.
4. Usage of data and data products per interface and per theme	Figures are covering 1/4/2019 – 30/9/2019
5. Distribution of users that have used the portal's data and data products per organisation type and country, and their main use cases	Figures are covering 1/4/2019 – 30/9/2019
6. External products (websites, apps, ...) built on top of web-services: update since last quarterly report	Here we reported the known ones
7. Published use case and number of readings	Figures as provided by TRUST-IT. The most viewed use cases are the once involving private companies: it is likely meaning these SMEs are using the use case to promote themselves.
8. Portal and Social Media visibility	Figures are covering 1/7/2019 – 30/9/2019. The number of visitor is stable (actual vs previous) and it is mainly direct (73%) that means that people who know and like Physics are keeping using it.
9.1 Technical monitoring	Figures as provided by TRUST-IT
9.2 Portal user-friendliness	Figures as provided by TRUST-IT
10. Visibility & Analytics for web pages	Figures as provided by TRUST-IT There is a peak in the first quarter for the landing page that is when Physics organized several events. It seems that people used the landing page to collect info for these events (the number of unique visitor did not changed). There is a problem in the monitoring of the map page since Q1 2019 – to be checked and solved.
11. Visibility & Analytics for web sections	Figures as provided by TRUST-IT The map viewer page is the most used part of the system.

12. Average visit duration for web pages	<p>Figures as provided by TRUST-IT</p> <p>Interaction with the map viewer let the user to stay more on the portal (the user has to interact more). It is possible to see a peak for the videos (Q2) that is when the videos were published. This is likely meaning that people had a look at them all for their entire duration.</p>
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Table 7. Comments.

Note: Indicators 10-12 are good for a generic web site (e.g. a blog or a newspaper) it does not really give ideas on an operational service: if you create a service you do scripts so you do not need to open web pages to see data, that means that the indicator (monitoring tool) is likely not to give a complete overview of the real visibility of the system.

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.