



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 (3)

Reporting Period: 01/01/2020 – 31/03/2020



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1. Highlights in this 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. 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. During the period we kept working on the EMODnet Physics catalogue (catalogue.emodnet-physics.eu) and on the definition of the data flow for mini smart sensors on fishing vessels nets. Commercial fishing vessels are starting being used as oceanographic data collectors: these platforms can collect parameters at depth and at a higher frequency than is possible with research vessels. Some national and EU funded projects (e.g. FOOS, RECOPECA) started working on best practice for this kind of approach and EMODnet Physics (in collaboration with ICES, WOC, and BeringDataCollective) is working on a common method to access and make available these huge amounts of valuable data. This action is linked to the organization of the Fishing for Data Workshop, that was planned in May 2020. Due to the CODIV-19, the workshop is on hold (it's planned for October). Meanwhile we are organizing a webinar to present the concept. The webinar is planned the 20th May 2020 – 10.00UTC and 19.00UTC to reach out the widest audience globally.

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

As described in the previous section, EMODnet Physics integrates and organizes data and products from different sources into products with information about distribution of parameters in time and space. The system is interconnecting and harvesting data from both data producers and integrators (CMEMS INSTAC, SeaDataNet, etc). This automation works routinely from many times per day (real time to near real time data) to batch data synchronization (historical validated datasets). The flow can schematically described as follow:

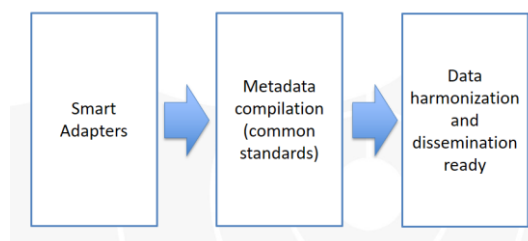


Figure 1. method to construct products from one or more data sources

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

During the period we completed the re-organization of the adapters to feed the new catalogue and we started working and integrating some new data sources.

In collaboration with EMODnet Data Ingestion, 4 wave stations (Portofino, Capomele – SV, Bonassola – SP; Andorra - IM) in the Ligurian sea were linked.

We kept working on ingesting Antarctic Circumnavigation Expedition (ACE) data and they are now available in the portal (Figure 3).

We started working on updating the River Runoff products – we started working on the update from the GRDC (Global Runoff Data Center) and new near real time data (about 400 stations). Moreover we are discussing with the CMEMS SE LAMBDA project (www.cmems-lambda.eu) to connect to and make available in EMODnet Physics both the River Proxy product and the new Sea Surface Salinity (from SMOS) products.

In collaboration with the HFR Radar Task Team and CMEMS INSTAC the number of available HFR in the HFR European Node has been extended and hence in EMODnet Physics (28 European sites in coming months) expanding the Sea Surface Current related EMODnet Physics products.

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

As requested we kept working on M2M INSPIRE compliancy: to facilitate discovery and usage of OGC Web services (WMS, WFS, WCS), the INSPIRE metadata fields (metadata url - pointing to an xml end-point record - and data url - pointing to predefined download link) have been reviewed. The process is not completed yet. The second check (06/04/2020) done from secretariat is still showing **“No service metadata url could be identified”** for many entries, we put this as a priority issue to be fixed as soon as possible.

In the framework of the development of procedures for machine-to-machine connections, we also consider the key activities for the OceanGlider that is eventually leading to an increase of the available data as confirmed by JCOMMOPS (see appendix Figure 2).

The team (MARIS) is advising JERICO-S3 project on adopting SWE standards and 52North SWE toolkit for NRT and RT data exchange from operational oceanography platforms for JERICO-S3 Data Management Plan and for feeding the European OO data exchange, including EMODnet Physics. Possible adoption and deployment will be followed up in the JERICO-S3 project (with which there is a strong collaboration).

In collaboration with EMODnet DIP, Physics is supporting and implementing the SOS SWE to facilitate new producers to join the EMODnet data sharing framework. Given the already wide adoption in the marine community, we are working on the 52N implementation of the services. These services consist of a package to be installed at producers side (i.e. the SOS Server), the data model (that is part of the package) and a client-viewer service (that can be installed/used by any of the RT data consumer – i.e. EMODnet Physics – realtime.emodnet-physics.eu).

During the period, we completed the updates to have a new release of the SOS system. The new package is public available in github (<https://github.com/52North/sensorweb-server>, <https://github.com/52North/sensorweb-server-helgoland>). The package will be tested on the two ARPAL wave bouys mentioned under task 2.

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. As described in the previous report we were and are working on updating both the landing page and the mapviewer to improve usability and general user experience. Given the recent communication from EASME/DG MARE/Secretariat we decided not to proceed with the re-designing of the landing page that will be kept as it is for the duration of the contract, while we need to keep working on the mapviewer in order to complete and exploit the work and updates done at the backend and data flow management level. This is also needed to include description/dissemination material to provide the user with an easy guide showing data flow according the parameter (theme), the providing networks and the applied quality check/quality flag (ranging from No QC/provider QC; ICES QC; CMEMS QC; SDN QC; A combination of the previous).

Task 5. Ensure the involvement of regional sea conventions

As planned we attended the QUITEMED2 middle term review meeting (30/1/2020, Cartagena, Spain). The QUIETMED2 Project is funded by DG Environment of the European Commission within the call "DG ENV/MSFD Second Cycle/2018". This activity was designed to bring forward the process to enable the assessment of impulsive noise within the scope of Criterion 1 of Descriptor 11 (D11C1) of the MSFD according to GES Decision 2017/848. The assessment framework for impulsive noise (D11C1) in the Mediterranean area was central in the discussion and the meeting also discussed how to work consistently to Barcelona Convention, ACCOBAMS and TG NOISE objectives. The discussed methodology is based on noise event data to be reported to the (INR-MED) as required by the MSFD. One main outcome of the meeting is that assessment framework for impulsive noise should be based on a conventional risk-based approach that can be adapted to the specific framework of the MSFD. Based on this, impulsive noise can be considered as a hazard that may cause negative effects in populations of marine species. Once the registry is in place, it is possible to estimate the ecological risk by quantifying the extent of the exposure to impulsive noise by selected marine species. The INR-MED is not fully operational yet. Currently, political process is ongoing in ACCOBAMS and the Barcelona Convention to understand how to make this effort more effective. However, it is worth considering here that nor ACCOBAMS and UNEP/MAP are binding legal frameworks and that their provisions cannot be enforced through mandatory processes. Nevertheless, the successful examples for the OSPAR and HELCOM Convention, based on voluntary approach for data request and submission may work well for the MED too. Preliminary results are available in the INR-MED (http://80.73.144.60/CTN_Geoportal/home) and as outcome of the meeting, as soon as it is consolidated, this product is going to be linked – added in EMODnet Physics. Meanwhile EMODnet Physics is helping QUITEMED to reach more data producers (i.e. institutes that are monitoring sound pressure levels at sea) to be included into the voluntary exercise of the operational monitoring of the acoustic pollution, this will help future assessment of GES (once coupled with information from habitat products). Moreover, we updated the Impulsive Noise Event Registry adding the base data layers as agreed with the noise team (ICES and QUITEMED) (Figure 4).

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, has started but not completed yet. We keep reporting on this action in next report.

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 dataprodolder coming from CMEMS INSTAC. The amount of data requesting authentication is about 23% of the total available data in the mapviewer.

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 4 lists the collected interactions.

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. Provide information in the table]

| List of all challenges encountered during the reporting period | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main challenge | Measures taken |
| 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. | We worked on the new definitions and monitoring tools. Some data are already available for this report, more and a better view on the EMODnet Physics usage is going to be expected for next report. |
| 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. | 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 autumn (TBC). |
| CODIV-19 and daily activities | Soon after Italy, all the others European Countries locked down and since March, activities can only be done from home. This is partially affecting some development activities. We are in a phase of re-organization of some of the planned activities (whenever possible we give priority to tasks that can be done from home). Whenever possible meetings were moved to web-meetings/teleconferences or postponed after summer. |
| INSPIRE Metadata for all the EMODnet Physics products | We are using a GeoNetwork instance to expose the metadata url. Although data and products are fully described it seems that some metadata are not exposed, we asked for a second check from the secretariat and the result (06/04/2020) is still "No service metadata url could be identified". This is identified as a priority issue to be fixed as soon as possible. |
| Marine forum post on the future of EMODnet ² . | We recorded tension in the EMODnet Physics contributors' network because the message was read as a cut of the activities. We started informing that the process towards harmonizing and centralizing the access to products can work only with the support and involvement of the established thematic assembly networks. The backend data management, harmonization, processing chain is complex, based on years of developments, and federated IPRs that are needed to let the system to work. Moreover, the number of communities that are now basing their services and systems on EMODnet Physics APIs is increasing and it is simply irrational to force them to build everything from scratch. This is particularly true for wide communities such as SOOS, CMEMS INSITU Dashboard users, NODCs receiving the periodic packages to be validated, users that are collecting user metrics from EMODnet Physics platform pages views, etc. We started informing the community that as far as we keep managing the Physics lot we |

² <https://webgate.ec.europa.eu/maritimeforum/en/node/4494>

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | guarantee the maintenance and availability of the developed services and interfaces. |
| Help Desk request support coming from Secretariat – time by time the secretariat is forwarding HD request collected on the central portal. These requests are coming out of the official established EMODnet Physics HD channels and are not properly recorded according the task 6 and 7 | <p>We re-entered all the requests in our tracking system and properly manage them.</p> <p>Going towards a centralization of the services at the central level, we suggest starting discussing in coming TWGs how to interoperate and exchange the HD requests when needed.</p> |
| | |

Table 1. Challenges

3. 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. You may also provide information about issues you identified yourself, but these need to be covered in a separate table (B)]

| A. Priority issue(s) identified and communicated by EASME/ DG MARE/ SECRETARIAT | | | |
|------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Priority issue(s) | Status (Pending/Resolved) | Action(s) taken / remaining actions planned | Date due |
| Brexit - Please review the content of your portal and make sure that it is reflecting that fact. | Resolved | The portal was updated with the provided link. Link is in the page footer. Page and link were operational starting from midnight 1st Feb 2020. | 01/02/2020 |
| INSPIRE Metadata issue - the Secretariat has been running some compliance checks and noted some remaining issues | Pending | We updated the services, we asked a second run of the test from Secretariat to cross check what is missing yet. | |
| Report on portal users | Resolved | We extracted the list of registered users and mapped per entity typology (private, government, etc). To note that EMODnet Physics requires authentication for a very limited set of data (i.e. European coastal data) therefore the list is reporting on a limited subset of EMODnet Physics users. | 07/02/2020 |
| Annual Report 2019 | Resolved | Added a couple of pages about EMODnet Physics activities for the 2019 Annual Report. We're ready for further interactions. | Delivered 06/03/2020 |
| EMODnet Flyer | Resolved | Draft of doc by due date, final version/revision delivered 27/02/2020 | 21/02/2020 |
| Description of standards we share with USA and particularly NOAA | Resolved | Brief overview of the adopted common standards (ERDDAP and ISO) | 07/02/2020 |

Table 2. Priority issues by EASME/ DG MARE/ Secretariat

| B. Other priority issue(s) identified by the thematic assembly group itself | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Priority issue(s) | Status (Pending/Resolved) | Action(s) taken / remaining actions planned | Date due |
| 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 impacts the name of the NetCDF files that are distributed and the user may find duplicates in the system | 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 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 – discussion and optimization of metadata and data presentation. | Pending | Some of the ACE platforms are already available in Physics, we're working on metadata mapping of atmospheric and meteorological parameters to show them all | |
| Indicator - Harmonization score. There are two items to fix: header size and search box. | pending | Planned for coming weeks. | |

Table 3. Other issues

4. User feedback

[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 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. Provide information in the table. If you wish to include the full user feedback in the report you can attach it in Annex]

| Overview of user feedback and/or requests received during the reporting period | | | | | | |
|--------------------------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Date | Organisation | Type of user feedback (e.g. technical, case study, etc.) and short description of the feedback received | 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 |
| 07/01/2020 | PLOCAN | Technical – request for updating (adding a platform to) the service sending monthly analytics from Physics | 1 day | resolved | We added the platform to the service | |
| 07/01/2020 | Private person – request forwarded by EMODnet Seabed Habitat HD | Technical – support to download the temperature and salinity climatology data from Physics. | 1 day | resolved | We provided links and instructions to download the package from the TDS interface | |
| 15/01/2020 | EuroGOOS | Technical – request for support in performing asset mapping for GOOS Regional Alliance | | pending | We extracted the preliminary report on the platforms type vs GRA | We are interacting with EuroGOOS and GRA officers to refine and complete the assessment. |
| 23/01/2020 | SOCIB | Technical - request of historical HFR data from European systems covering the period 2016-2018 | 1 day | resolved | We provided the TDS Url where to find all the available HFR data in Physics. | |
| | Private user | Technical – request for wave data from 3 Greek stations | | resolved | We provided the available data and instructions to find and | |

| | | | | | | |
|------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------|--|
| | | | | | collect further data from partner projects (e.g. SDC) | |
| 05/02/2020 | HZG | Technical – information about which plotting library we integrate in Physics | 1 day | resolved | HighCharts. | |
| 06/02/2020 | DG MARE | Technical – information about which standards we share with US and NOAA | 1 day | resolved | Info sent by email | |
| 21/02/2020 | LIVE (request forwarded from EMODnet SH) | Technical – support to download salinity data for a given number of platforms | 11/03/2020 | resolved | We were updating the catalogue and the cross-links were not working. | |
| 27/02/2020 | Dokuz Eylul University School of Natural and Applied Sciences – forwarded from the EMODnet Secretariat | Information – possibility to have an internship with EMODnet partners | 1 day | resolved | | |
| 10/03/2020 | Tallinn University of Technology | Technical – support to download data from platformid=8427 | 1 day | resolved | We provided links and instructions. | |
| 02/03/2020 | University of Genova - DICCA | Technical – support to download all the Mediterranean wave data to validate MFC model | 1 day | resolved | We provided links to ERDDAP, instructions to use it, links to download the original netcdf files, instructions to use them | |
| 05/03/2020 | EMODnet Secretariat | Technical – problem in the sea water velocity map | 17/03/2020 | resolved | Time by time it happens that one of the HFR (usually SHOM) is delivering corrupted data and this corrupts the layer. Once identified the specific | |

| | | | | | | |
|------------|----------------------------------------------------------------|---------------------------------------------|-------|----------|--------------------------------------------------------------------------------------------------------|--|
| | | | | | corrupted dataset, once removed from the backend services that generate the map, the problem is fixed. | |
| 16/03/2020 | Private user – others (forwarded from the EMODnet Secretariat) | Technical – support to access wave MFC data | 1 day | Resolved | EMODnet Physics is not hosting MFC data, the user was pointed to other projects. | |

Table 4. User feedback

5. Meetings held/attended & planned

[List here the internal and external meetings held/participated by the contractant (e.g. meeting, conference, training (workshop), etc.) since the last quarterly report, and any important meetings or events planned in the future. 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. Provide information in the two table]

| A. Meetings organised and attended | | | | |
|------------------------------------|------------------|-------------------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date | Location | Type event (meeting, training (workshop), etc.) | Meeting to be attended / organised | Short description and main expected outcomes |
| 13/01/2020 | Web | EMODnet Arctic map discussion | O | The main discussed topic was to set up an EMODnet Physics child portal focused on the Arctic area to stimulate data sharing in the region |
| 15/01/2020 | web | SOOS DMSC | A | SOOSmap updates, new data providers in the region, planning for Ocean Sciences presentation on SOOSmap and EMODnet. |
| 17/01/2020 | web | BOOS SC | A | General update on EMODnet, EMODnet Physics and DIP were reported. |
| 21/01/2020 | Lisbon, Portugal | CMEMS SE LAMBDA project user workshop | A | EMODnet Physics was invited to present the River Runoff data management and data APIs. EMODnet DIP platform was also presented. River runoff data are very important for both hydrological agencies and MFC operators. |
| 22/01/2020 | Lisbon, Portugal | EMODnet Physics River Runoff Task Team meeting | O | We discussed on how to include more data (going farer into the land domain – request from users) and how to take on and extend some of the LAMBDA results (e.g. River Proxy model and SSS SMOS). |
| 27-29/01/2020 | Bologna, Italy | DIVA user Workshop | A | The workshop was organized from and for the DIVA user community. DIVA is one of the scientific tools used by several EMODnet lots and linked projects (e.g. SDC) to develop gridded reanalysis products (e.g. climatology) |

| | | | | |
|---------------|---------------------|-----------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 27-28/01/2020 | Tromsø, Norway | Arctic ROOS | A | General update on EMODnet, EMODnet Physics and DIP were reported. |
| 30/01/2020 | Cartagena, Spain | QUITEMED2 middle term project review | A | EMODnet Physics is serving the AoB of the QUITEMED2 project. EMODnet Physics and QUITEMED2 collaborate on MSFD D11C1 and the MED-INR. |
| 04/02/2020 | Genova, Italy | Meeting with DICCA – University of Genova | O | The meeting was organized to discuss about the use of EMODnet Physics data for validating and initiating the DICCA MFC models and the possibility to link and re-distribute the DICCA products (WIND and WAVE MED nowcast) |
| 04/02/2020 | Dresde , Germany | ENVRI-FAIR General Assembly | A | EMODnet-Physics is identified with CMEMS and EMODnet-Chemistry as VIP users of the services that will be set up in the MARINE Domain by ENVRI-FAIR project |
| 07/02/2020 | web | SOOSmap web meeting | O | SOOSmap updates, new data providers in the region, planning for Ocean Sciences presentation on SOOSmap and EMODnet. |
| 07/02/2020 | web | Fishing for Data Workshop – organizing committee meeting | O | Meeting to organize the workshop. |
| 12-13/02/2020 | Brussel, Belgium | CMEMS-EMODnet-Chemistry meeting | A | The experience of collaboration between CMEMS and EMODnet-Physics was shared with EMODnet-Chemistry partners to discuss about potential mutual benefit (CMEMS – Chemistry) |
| 13/02/2020 | Genova, Italy | Meeting with ARPAL (Regional Agency for Environment Protection) | O | EMODnet, EMODnet Physics and EMODnet Ingestion were presented. We discussed on EMODnet Physics API to serve and support ARPAL activities and how to include 2 ARPAL wave stations (Capomele and Portofino) into the system. |
| 15-20/02/2020 | San Diego, US | Ocean Sciences | A/O | Practical examples in SOOSmap, EMODnet Physics, and other portals for how to make data sharing to work. Examples included research, teaching, public-private collaborations, and planning future fieldwork. |

| | | | | |
|---------------|---------------------|-----------------------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------|
| 17-20/02/2020 | Brest, France | Jerico S3 – KOM | A | JS3 is a partner project to make available more European coastal data. |
| 6/03/2020 | Copenhagen, Denmark | Fishing for Data Workshop – organizing committee meeting + ICES | O | Meeting to organize the workshop and discuss on data management flow and standards. |
| 07/03/2020 | web | Communication from DG MARE | A | DG MARE and EASME presented the future EMODnet strategy ³ |
| 14/03/2020 | web | Communication from DG MARE – follow up | A | Follow up of the previous web meeting |
| 30/03/2020 | web | Quarterly reports indicators and metrics | A | Meeting between EMODnet Physics and Secretariat to check and discuss on quarterly reports indicators and metrics. |
| 30/03/2020 | web | JERICO S3 – EMODnet Physics interoperability | O | Discussion on general structure of the JS3 Virtual Access and how to connect Physics to the JS3 VA and vice versa |
| | | | | |
| SUM | | | O | Total # of meetings organised = 9 |
| SUM | | | A | Total # of meetings attended = 13 |

Table 5. Meetings Attended

| B. Meetings planned in the future | | | | |
|------------------------------------------|----------|-------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------|
| Date | Location | Type event (meeting, training (workshop), etc.) | Meeting Attended (A) / Organised (O) | Short description and main results (# participants, agreements made, etc.) |
| 02/04/2020 | web | SOOS DMSC | A | EMODnet Physics is contributing to SOOS and hosting the SOOSmap. During the meeting |
| 7/04/2020 | web | IOC Group 1 webinar | | |
| 08/04/2020 | web | EMODnet Physics core team meeting | O | |
| 14/04/2020 | web | EMODnet PACE WP5 meeting | A | |
| 16/04/2020 | web | GOOS webinar on SOOS | A/O | The meeting has been postponed to date TBC |
| 21-22/04/2020 | web | EMODnet SC | A | |

³ <https://webgate.ec.europa.eu/maritimeforum/en/node/4494>

| | | | | |
|---------------|------------------------|-------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------|
| 23/04/2020 | web | EMODnet TWG | A | |
| 29-30/04/2020 | web | SDC TTG meeting | A | |
| 04/05/2020 | web | EGU ESS11.1 | O | The session has been rescheduled (Mon, 04/05/2020 10.45-12.30) ⁴ and moved into a new web-format ⁵ |
| 12-13/05/2020 | web | EMODnet Ingestion Annual Assembly meeting | A/O | |
| 20/05/2020 | web | Fishing for Data webinar | O | |
| 17-20/06/2020 | Vigo, Spain | MARETECH Workshop | A/O | International workshop on Marine Technology - TBC the meeting in person |
| 26-28/10/2020 | Amsterdam, Netherlands | IMDIS Conference | A | |
| 10-11/11/2020 | Gothenburg, Sweden, | Ferrybox Workshop | A/O | |
| | | | | |
| | | | | |

Table 6. Meetings Planned

⁴ <https://meetingorganizer.copernicus.org/EGU2020/session/34713>

⁵ https://egu2020.eu/sharing_geoscience_online/scientific_sessions.html#forconveners

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.). If you have planned any important outreach and/or communication activity, then please list these with their expected outcome. Provide information in the tables A for actions done and B for planned activities]

| A. Outreach and communication activities | | | |
|-------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date | Communication action/ material | Short description (of the material, title, ...) and/or link to the activity | Main results |
| 21/01/2020 | Oral presentation | CMEMS SE LAMBDA project user workshop | EMODnet Physics was invited to present the River Runoff data management and data APIs. EMODnet DIP platform was also presented. River runoff data are very important for both hydrological agencies and MFC operators. |
| 13/02/2020 | Oral presentation | Meeting with ARPAL (Regional Agency for Environment Protection) | EMODnet, EMODnet Physics and EMODnet Ingestion were presented. We discussed on EMODnet Physics API to serve and support ARPAL activities and how to include 2 ARPAL wave stations (Capomele and Portofino) into the system. |
| 17/02/2020 | Oral presentation | https://agu.confex.com/agu/osm20/meetingapp.cgi/Session/85151 | Practical examples in SOOSmap, EMODnet Physics, and other portals for how to make data sharing to work. Examples included research, teaching, public-private collaborations, and planning future fieldwork. |
| | | | |
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Table 7. Outreach

| B. Planned outreach and communication activities | | | |
|---------------------------------------------------------|--------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Date | Communication action/ material | Short description (of the material, title, ...) and/or link to the activity | Main results expected |
| | Oral Presentation | MARETECH workshop | We are going to present EMODnet, EMODnet Physics and EMODnet DIP to engage the community |
| | Oral Presentation | Fishing for Data Workshop | We are going to present EMODnet, EMODnet Physics and EMODnet DIP to engage the community |
| | Oral Presentation | Ferrybox Workshop | We are going to present EMODnet, EMODnet Physics and EMODnet DIP to engage the community |

Table 8. Planned outreach

[Relevant scientific and/or popular publications (scientific papers, book chapters, conference papers, ...) 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. Provide information in the table.]

| List of known publications using EMODnet data or data products | | | | |
|-----------------------------------------------------------------------|-------------------------------------------|-------------------|-----------|-----------------|
| Date | Type and name of journal, conference, ... | Publication title | Author(s) | Organisation(s) |
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Table 9. 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=

7. Monitoring indicators

[Please consult and complete the designated excel template on monitoring and progress indicators in annex, and provide a comment short explanation on numbers and trends in the table on for each indicator when possible/applicable. If any additional monitoring was done through other monitoring tools, please state clearly. Provide information in the table.]

| Comments on the progress indicators in the excel template | |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Progress indicator | Comment |
| 1.1 Volume and coverage of all available acquired data | The volume of data for this period is stable (there is a natural fluctuation less than 5% in the number of platforms due the natural turnover of operational platforms). Importantly to remember that Physics is receiving data from more than 11000 operational platforms that means that the overall volume of data accessible by the portal keeps increasing constantly. Concerning the occupied volume, because of the multiobservations nature of the systems delivering data to EMODnet Physics (i.e. in situ platforms) we are reporting the total the size of the allocated cache for running the system. |
| 1.2 Total number and the coverage of all built & external data products | The tab 1.2.1 provides the full list of the available products and their end-point (i.e. EMODnet Physics interface to access the product). EMODnet Physics is now listing 258 products and 163 are operational that means that are constantly updated during the reporting period. |
| 2. Overview of all organisations supplying and approached to supply data and data products within reporting period | We reported the organization contacted during the period of the report (A) and the full list of the EMODnet Physics supplier/linked organization. |
| 3. Interfaces to access or view data | All the data and products presented in the EMODnet Physics pages and services are directly downloadable from the portal. Data are directly delivered by EMODnet Physics (the system caches some data to improve the user experience while downloading), when data are requested to third party systems (e.g. historical validated data are delivered by the RSM system behind the SeaDataNet service) EMODnet Physics is mediating the request (shop in shop system) to support the user with its data request experience. |
| 4. Usage of data and data products per interface and per theme | We noted a decrease in the manual downloads, we guess that this is due to the fact that people are now at home and they try and limit the downloading as much as possible. |
| 5. Distribution of users that have used the portal's data and data products per organisation type and country, and their main use cases | During the period we registered 82 new users. Most of them are from Academic/Research organizations. To note that this indicator presents a subset of the EMODnet users: EMODnet Physics requires authentication in case of coastal data from fixed station or in case of dataproducts (older than 60 days) coming from CMEMS INSTAC - this data is less than 25% of the total data. |
| 6. External products (websites, apps, ...) built on top of web-services: update since last quarterly report | It is hard to report on this indicator because it's only possible to track the users that declare themselves or contact the team for custom services. We know that e.g. CMEMS INSTAC, and SDN are using the EMODnet Physics dashboard for extracting metrics. We also know that EMODnet Physics was used by EEA to run a river data source assessment. Some National, Regional and EU projects are using EMODnet Physics as source of data and |

| | |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | products (e.g. Hazarunoff - http://www.hazrunoff.eu/ , PIM – www.pimliguria.it ; Jerico S3 - http://www.jerico-ri.eu/ ; AtlanOS – www.atlantos-h2020.eu ; SO-CHIC – www.sochic-h2020.eu , etc). Although it does not give the figure for the reporting period, we also suggest to consider the users list in attach to have a better overview of some of the EMODnet Physics users (considering that authentication is only requested for less than 25% of the data and products in the system). |
| 7. Published use case and number of readings | The most viewed use-case keep being Mediterranean Wind Wave Model and EMODnet Bathymetry & Physics data supporting Sea Situational Awareness for tourist navigation that are use case from private entities. It looks like they use, among the others, the EMODnet channel to present their expertise and use case. |
| 8. Portal and Social Media visibility | The daily visits are increasing but are not yet back to the highest recorded values. Most of them are direct access. Concerning themes we see that river, sea levels and temperature are very requested. We suggest to include the www.emodnet-physics.eu/map_or_map.emodnet-physics.eu as further entry point for the visibility assessment. |
| 9.1 Technical monitoring | System is working properly |
| 9.2 Portal user-friendliness | Harmonization score indicates there are still two items to fix: header size and search box. |
| 10. Visibility & Analytics for web pages | The most visited page is the mapviewer. |
| 11. Visibility & Analytics for web sections | Is in line with indicator 11 |
| 12. Average visit duration for web pages | Users usually stay more on the mapviewer and interact with more subpages. We see that the average visit duration is more than 5 minutes. |

Table 10. Monitoring 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.

Comment: 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.

8. Annex: Other documentation attached

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

Antonio Novellino

Da: Belbeoch Mathieu (JCOMMOPS) <mbelbeoch@jcommops.org> per conto di Belbeoch Mathieu (JCOMMOPS)
Inviato: venerdì 27 marzo 2020 10:09
A: Vicente Fernández EuroGOOS; 'Antonio Novellino'
Cc: 'Fischer, Albert'
Oggetto: Re: AtlantOS project - D9.3 accepted but request to update by taking into account a few comments from reviewers

Hi Vicente,
I hope all is well on your side.

1)ok for the gliders. We could add a small note to show this is changing now.
<http://www.jcommops.org/board?t=oceangliders> with more than 500 glider missions captured, as a glider TC was recruited in June 2019 thanks to EMODNET financial support.

2) EuroArgo stats regroup national contributions from countries (tagged by operating country), plus specific floats funded by European Projects (tagged European Union, and operated by EuroArgo ERIC). as shown on the pie chart below.

Hope this helps,
let me know
thanks,
Mathieu

From: Vicente Fernández EuroGOOS <vicente.fernandez@eurogoos.eu>
Sent: Thursday, March 26, 2020 9:12 PM
To: Belbeoch Mathieu (JCOMMOPS) <mbelbeoch@jcommops.org>; 'Antonio Novellino' <antonio.novellino@ettsolutions.com>
Cc: 'Fischer, Albert' <A.Fischer@unesco.org>
Subject: RE: AtlantOS project - D9.3 accepted but request to update by taking into account a few comments from reviewers

Dear Mathieu, Antonio,

I started to include the minor corrections in the D9.3 suggested by the reviewer, basically they are asking for 2 things:

- A discussion on why the number of gliders is small in both JCOMMOPS and EMODnet
- What does it mean EU contribution in ARGO program? Are them Euro-ARGO profilers, on top of the profilers launched by every member state?

Figure 2. extract from exchanges on the AtlantOS reports review and common actions on OceanGliders

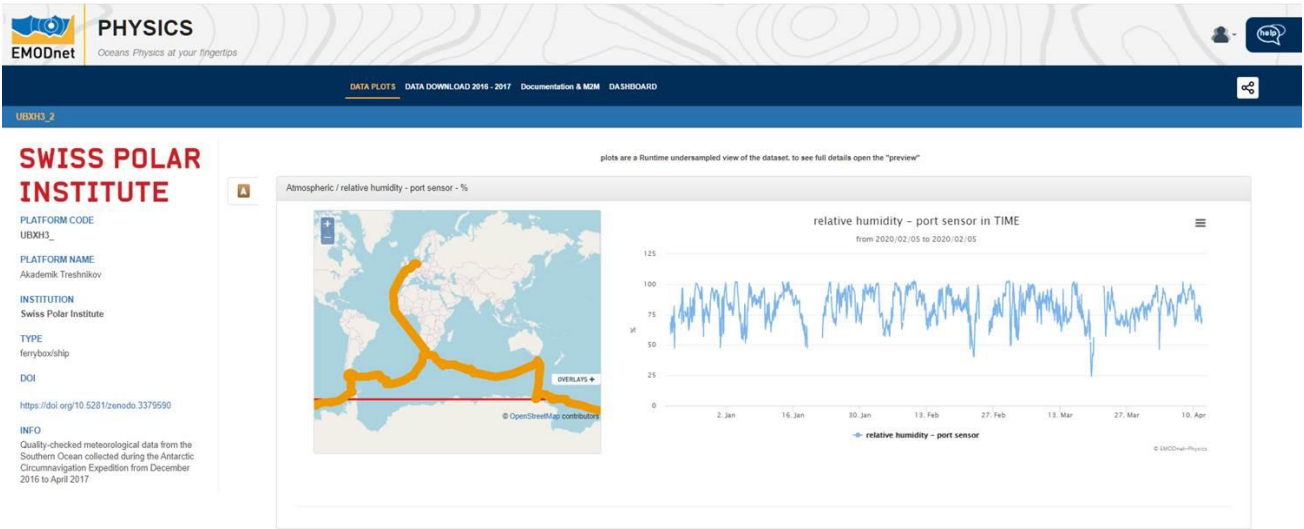


Figure 3. Antarctic Circumnavigation Expedition (ACE) data in EMODnet Physics

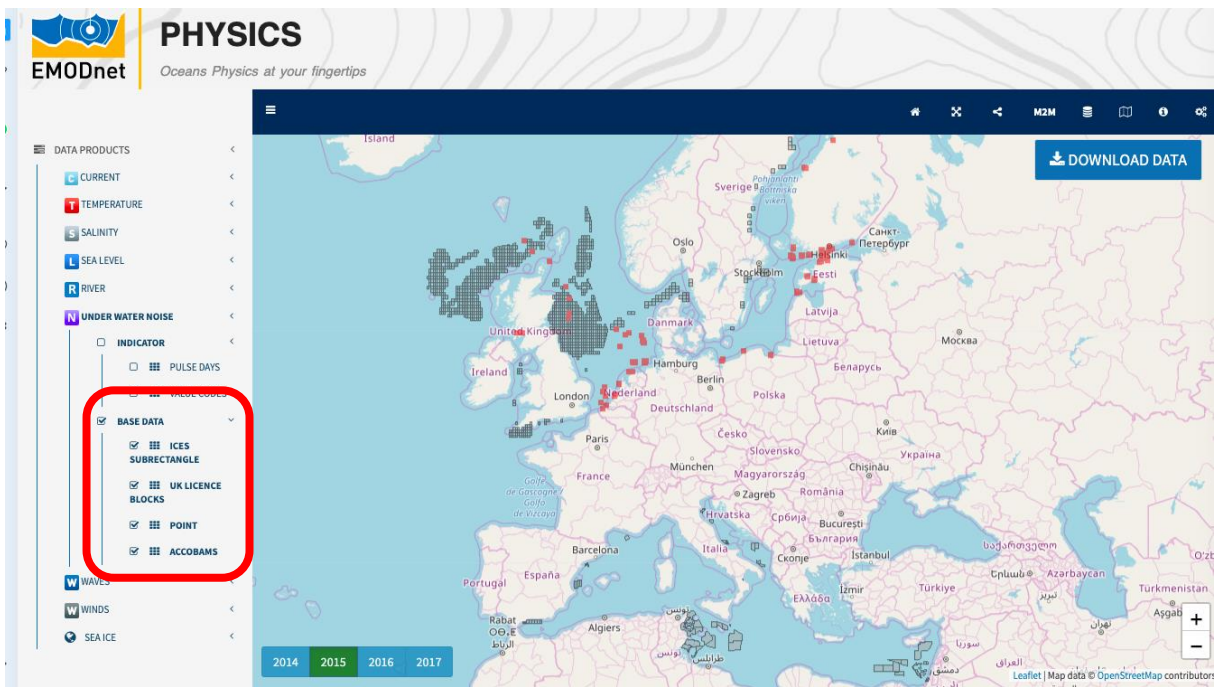


Figure 4. EMODnet Physics Impulsive Noise Registry page

Registered Users (organizations) – snapshot @ 07/02/2020 – see file in attach.