# 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 (2)

**Reporting Period: 01/10/2019 – 31/12/2019**

*The European Marine Observation and Data Network (EMODnet) is financed by the European Union under Regulation (EU) No 508/2014 of the European Parliament and of the Council of 15 May 2014 on the European Maritime and Fisheries Fund.*

# Contents



## Disclaimer

# 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 viewer[2]. During the period, we kept working on the backoffice infrastructure in terms of both services, security and data synchronization and presentation updates. As planned, one action was to re-synch with the CMEMS-INSTAC new data naming and file system convention. Another focus was on the development of a new connection service between EMODnet Physics and SDC. EMODnet Physics and SDC designed the new connection service. As planned, we worked on the new connection services and the new CDIs request interface – the new system is on line and under test Figure 1). As planned, we worked on the EMODnet Physics catalogue (see Table 1): a had hoc internal naming convention was defined, and the different products available in the portal were organized and made available in one or more of the available interfaces (i.e. mapviewer, TDS, ERDDAP, GeoServer). This way, the user can easily find and download the desired product on his preferred interface and this update let EMODnet Physics to track better the use of data (monitoring indicators) are requested for reporting purposes. At the time of this report the EMODnet Physics catalogue[3] has yet to be updated (on-going activity that is going to be closed by end January).

***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, the catalogue of the EMODnet Physics products was re-organized and this will also facilitate the integration and update of the products. As mentioned in the previous report we already started working on some new products on river data and acoustic pollution. Concerning river flow, there is a very positive user feedback and interest on EMODnet Physics river discharge (NRT) products, actually users (e.g. local authorities in Portugal and Galatia) are asking for more data (in situ meteorological data together with river data, and in-land data) and some actions have already been planned (see section 2). Very similar situation is for acoustic pollution (see also Task 5).

A dedicated team (coordinated by INGV) started working on the high-resolution climatology on a region of interest and more specifically, we decided to focus on the North Adriatic (Po river estuary). This HRC product is going to be released in a preliminary version by end of 2020 and in its final version by the end of the contract.

A second team started working on a nowcast Ocean State (Wave) product covering the Mediterranean area. The publication of this product is planned in autumn 2020.

SeaDataNet community released new climatology products and EMODnet Physics is going to integrate and make them available by next reporting period. Once integrated, it would be possible to start working on seasonal climatology and define a precise delivery plan.

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

[2] www.emodnet-physics.eu/map

[3] http://catalog.emodnet-physics.eu/geonetwork/srv/ita/catalog.search;

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

As requested and planned, we closed a specific action 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 filled. To note that as we are updating the EMODnet Physics products catalogue, this action will continue in the next reporting period. In collaboration with EMODnet Data Ingestion, we started working on ingesting Antarctic Circumnavigation Expedition (ACE) data. Zenodo is implementing OAI-PMH (the same as PANGAEA) for which EMODnet Physics is already implementing connection/ingestion interfaces and at the moment we are working on mapping the data between the ACE convention and EMODnet Physics/Ingestion/SDN standard names.

***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. The new web portal will 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***

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. As planned a specific expert task team (i.e. ICES, CTN – CTN-Marine Technology Centre, and EMODnet Physics coordinator) started working on this topic. The first outcome is a re-organization of the EMODnet Physics Impulsive Noise Registry product page which has to show and make available the source data with original conventions (e.g. boxing area used to compute the values). A second action is a joint activity on dissemination of the results and promotion of common adopted approach. Part of this action is the participation to the QUITEMED middle term review meeting (30/1/2020, Cartagena, Spain). A summary of the main outcomes are going to be presented in the next report.

Moreover, by intersecting data from EMODnet Physics Impulsive Noise Registry and Human Activity data (e.g. wind farm areas, extraction sites, etc) it would be possible to start performing a gap analysis and share results with RSC for further actions. This exercise is planned for next reporting period.

***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.

# 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 |
|---|---|
| While working on the security and data protection updates, we identified a vulnerability issue on DotNetNuke (DNN) that is the EMODnet Physics landing portal CMS. This vulnerability would allow PHP scripts to modify sections in the portal pages. | Besides implementing the already planned actions to improve system and infrastructure security, the DNN was updated to last release, and the only open port is 443 (this limitation is a further guarantee of security). Now, as reported in the document EASME-webmaster data protection checklist, the EMODnet Physics security is ranked B[4] and cookies management is ranked A[5] |
| In-situ meteorological data together with river data and more in-land data | We started integrating in-situ meteorological data where already available and we are also studying how to make available a new river data product that integrates both data from in-land and river-mouth stations. A focused technical meeting within EMODnet Physics River Task team is planned next 23/1 in Lisbon (Portugal). A summary of outcome and plans 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. | 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. |
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**Table 1. Challenges**

[4] https://www.ssllabs.com/ssltest/

[5] https://webcookies.org/cookies/www.emodnet-physics.eu/27992876?886948

# 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.]*

| Priority Issue identified[6] | Status (Pending/Resolved) | Action taken | Date due |
|---|---|---|---|
| Delivery of the updated EASME questionnaire on data protection situation | Resolved | Implemented the planned infrastructure security updates | 17/12/2019 |
| Fill the INSPIRE metadata fields (metadata url - pointing to an xml end-point record - and data url - pointing to predefined download link) in the M2M services. | Resolved | Updated the metadata url | 31/12/2019 |
| 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. |
| Problem to access the TDS catalogue via openDAP | Resolved | Conversion of the format for the identified dataset from netcdf 4 to netcdf 3 | We closed the action in 4 days (13/12-17/12) |
| River data were delivered by using inhomogeneous parameters naming convention | Resolved | Proper renaming-remapping of the parameters standard name (RVFL) | 17/12/2019 |
| Make available T-MEDNET data in Physics | Resolved | Designed of custom T-MEDNET data harvester | 10/12/2019 |
| 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 | |

**Table 2. Identified issues.**

As anticipated in the previous report, we are working on an action to extend the coverage of the river stations including also some key inland platforms and try and make available more atmospheric data. A river team technical meeting is planned this January to review and plan actions.

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.

[6] *Each portal should themselves add in Column A the Priority Issues Identified & communicated in emails by EASME as recommendations since last reporting*

# 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 |
|---|---|---|---|
| 01/10/2019 | BSH | Technical – support to use the mapviewer filters | 1 day |
| 04/10/2019 | DNV GL | Technical – support to download a specific dataset | 1 day |
| 10/10/2019 | EMODnet Secretariat | Technical – support to download data from a platform | 1 day |
| 16/12/2019 | BRGM | Technical – support to download wave data from your platform on La Revellata | 1 day |
| 22/10/2019 | Geo-4D | Technical - support on format to use downloaded data | 1 day |
| 22/10/2019 | IOPAN | Technical – support to download CDOM data from a ferrybox | 1 day |
| 26/10/2019 | Greid Académie de Créteil | Technical – support to download long term timeseries (sea level) | 1 working day feedback - 4 days the data package |
| 31/10/2019 | Institute of Earth Sciences - The Hebrew University of Jerusalem | Technical – support to find and download atmospheric relative humidity near the sea surface in the Mediterranean | 1 day |
| 11/11/2019 | Bentley | Technical – support to download river data | 1 day |
| 03/12/2019 | Instituto Oceanográfico da Universidade de São Paulo (IOUSP) | Technical – support to download Saildrone data | 1 day |
| 04/12/2019 | Colorado EDU | Technical – support to use EMODnet Physics API | 1 day |
| 9/12/2019 | MERCATOR OCEAN | Feedback – some river data are using inhomogeneous parameters naming convention | 1 day feedback – 1 week |

**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.) |
|---|---|---|---|---|
| 3-4/10/2019 | Umea (Sweden) | Swedish EMODnet data ingestion session | O | Progress on EMODnet program, its lots with a focus on Physics and Data Ingestion was presented to key Swedish marine institute to engage further their representative – about 15 attenders |
| 16-18/10/2019 | Brest (France) | SeaDataCloud General Assembly | A | EMODnet Physics, EMODnet Data Ingestion and SDC are strongly collaborating to improve data management (e.g. gliders, HFR) |
| 5/11/2019 | call | iAtlantic WP7 Pangaea-EMODnet meeting | A | Discussion on data flow from PANGEA to EMODnet. EMODnet Physics and PANGEA are already working on PANGEA data dissemination towards EMODnet Physics and more than 480000 datasets are already available[7] (see also Figure 4). During the meeting, we discussed how to apply the same approach to the iAtlantic data. |
| 7-8/11/2019 | Genova (Italy) | EMODnet Physics core team meeting | O | EMODnet Physics core meeting to review the state of action and plan activities for phase 4. |
| 13-14/11/2019 | S. Sebastian (Spain) | Workshop - HF RADAR TASK TEAM WORKSHOP | O | EMODnet Physics was one of the co-organizer of the WS. The meeting was open to all European HF Radar operators and looked for opening new challenges for the European Community around different work lines (Networking, Operations, Data Management, Applications, Governance). |
| 13-15/11/2019 | Paris (France) | H2020 SO-CHIC project KOM | A | EMODnet program and EMODnet Physics and Data Ingestion facility were presented and are going to be the key endpoints for the project public data. |
| 18-22/11/2019 | Helsinki (Finland) | 3rd Polar Forum Workshop | A | The meeting was aiming at supporting information exchange, with the remainder of the week using a "hackathon" approach. |
| 21/11/2019 | Helsinki (Finland) | Workshop on Marine Data[8] | A | EMODnet Physics and its data management strategy and infrastructure was presented to attenders (about 30 people). Organizers were particularly interested in the outcome from the EMODnet Physics – SOOS collaboration and we are now discussing if the same approach can be developed on the Arctic area. |

[7] **https://www.emodnet-physics.eu/map/DefaultMap.aspx?sessionid=637145997007848102**

[8] https://polar-data-forum.org/wp-content/uploads/2020/01/12_Gorringe_EMODnet.pdf

| | | | | |
|---|---|---|---|---|
| 22/11/2019 | call | EMODnet Physics and T-MEDNET data | O | Discussion on how to ingest and present T-MEDNET data in Physics. |
| 27-29/11/2019 | Brussels (Belgium) | H2020 EuroSEA project | A | EMODnet is one of the EuroSEA data integrators and together with the other key European infrastructures (CMEMS, SDN, etc) there is an action to promote data findability, accessibility, interoperability and reusability (FAIR) |
| 3-4/12/2019 | Trieste (Italy) | Workshop - WORKSHOP "MODELLING AND OBSERVATIONS IN THE COASTAL MEDITERRANEAN SEA: PHYSICAL AND BIOGEOCHEMICAL PROCESSES | A | EMODnet Physics was one of the sponsor and supporter of the workshop |
| 4-5/12/2019 | Trieste (Italy) | MONGOOS Annual Meeting | A | Annual meeting of the MONGOOS community. EMODnet Physics was in many of the presentations. |
| 10/12/2019 | call | NORD STREAM 2 project | A | Discussion on possible data delivery from the Nord Stream 2 project into EMODnet Physics and Data Ingestion |
| **SUM** | | | **O** | **Total # of meetings organised = 4** |
| **SUM** | | | **A** | **Total # of meetings attended = 9** |

**Table 4. Meetings**

# 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.) |
|---|---|---|---|
| 13/11/2019 | Presentation @SOCHIC KOM | Enable discovery, open access, view and download of the data generated and collected during the SO-CHIC project | EMODnet program and EMODnet Physics and Data Ingestion facility were presented and are going to be the key endpoints for the project public data. – about 20 people |
| 14/11/2019 | Presentation @ HFR Workshop | Standardized Data Management (HFR) | Update on the HFR data management as defined to fulfil the needs of the key European data integrators and infrastructures – about 30 attenders |
| 21/11/2019 | Presentation @ Arctic Data WS | https://polar-data-forum.org/wp-content/uploads/2020/01/12_Gorringe_EMODnet.pdf | EMODnet Physics and its data management strategy and infrastructure was presented to attenders (about 30 people). Organizers were particularly interested in the outcome from the EMODnet Physics – SOOS collaboration and we are now discussing if the same approach can be developed on the Arctic area. – about 40 people |
| 5/12/2019 | Presentation @ MONGOOS | EMODnet Physics | Update on EMODnet Physics to the MONGOOS community – about 60 people |
| | | | |
| SUM … | | | Total # of … |
| SUM … | | | Total # of … |
| SUM … | | | … |

**Table 5. Communication activities**

To note that the EMODnet Physics users are starting being very active on the communication (via socials) about data and products they deliver or find in the portal (see e.g. Figure **3**). Further to these, the most relevant communication and dissemination actions of the period are related to the

- EGU ESSI 1.1 Informatics in Oceanography and Ocean Science (organization of the session)
- Fishing for Data Workshop [9]– EMODnet Physics is organizing a workshop to facilitate the establishment of best practices and standards for the method of ocean observation via integration with commercial fishing.

[9] https://events.eventzilla.net/e/fishing-for-data-workshop-2138751596

*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=

# 7. Annex: Other documentation attached

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

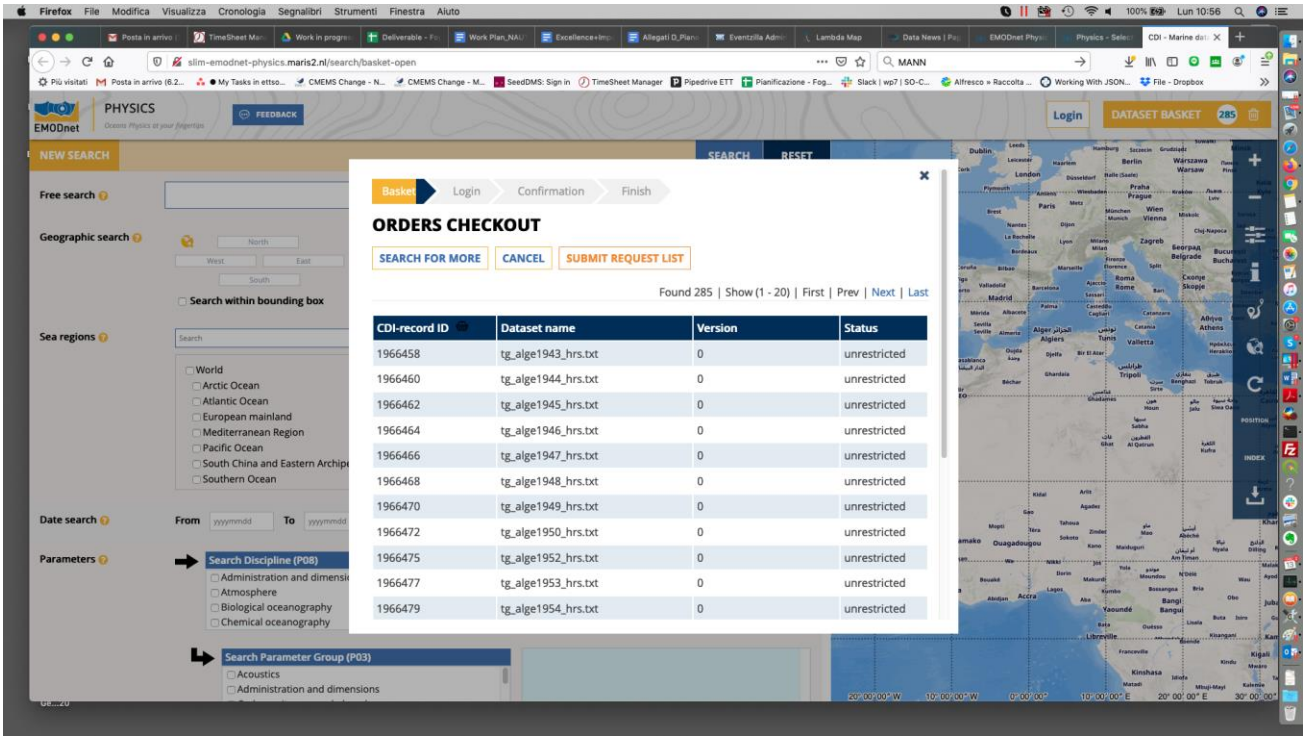
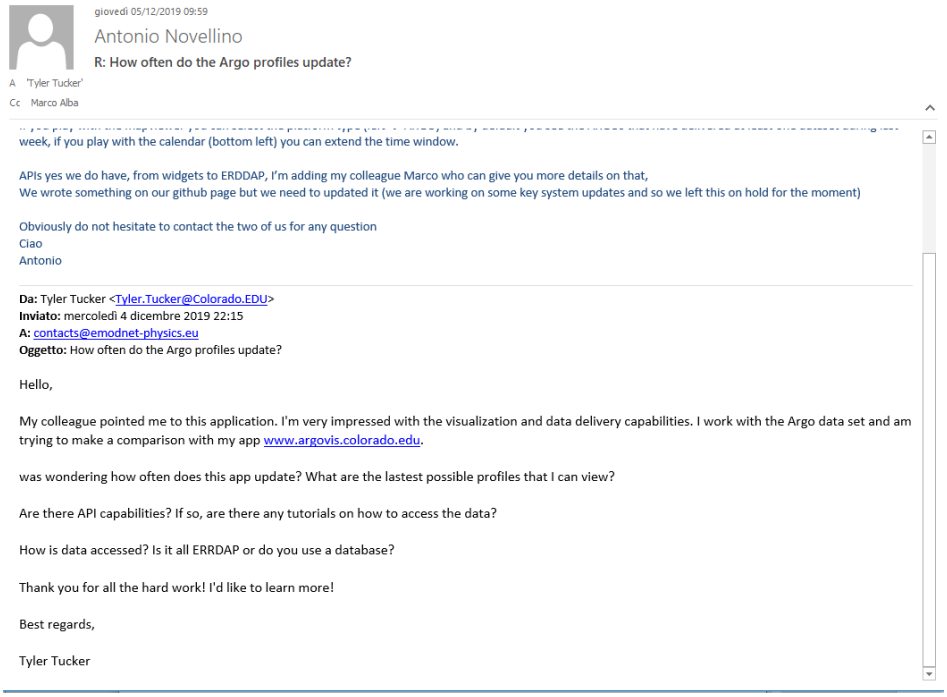



Figure 1. New CDIs request interface



giovedì 05/12/2019 09:59

Antonio Novellino

**R: How often do the Argo profiles update?**

A 'Tyler Tucker'

Cc Marco Alba

week, if you play with the calendar (bottom left) you can extend the time window.

APIs yes we do have, from widgets to ERDDAP, I'm adding my colleague Marco who can give you more details on that,
We wrote something on our github page but we need to updated it (we are working on some key system updates and so we left this on hold for the moment)

Obviously do not hesitate to contact the two of us for any question
Ciao
Antonio

**Da:** Tyler Tucker <Tyler.Tucker@Colorado.EDU>
**Inviato:** mercoledì 4 dicembre 2019 22:15
**A:** contacts@emodnet-physics.eu
**Oggetto:** How often do the Argo profiles update?

Hello,

My colleague pointed me to this application. I'm very impressed with the visualization and data delivery capabilities. I work with the Argo data set and am trying to make a comparison with my app www.argovis.colorado.edu.

was wondering how often does this app update? What are the lastest possible profiles that I can view?

Are there API capabilities? If so, are there any tutorials on how to access the data?

How is data accessed? Is it all ERRDAP or do you use a database?

Thank you for all the hard work! I'd like to learn more!

Best regards,

Tyler Tucker

Figure 2. Feedback

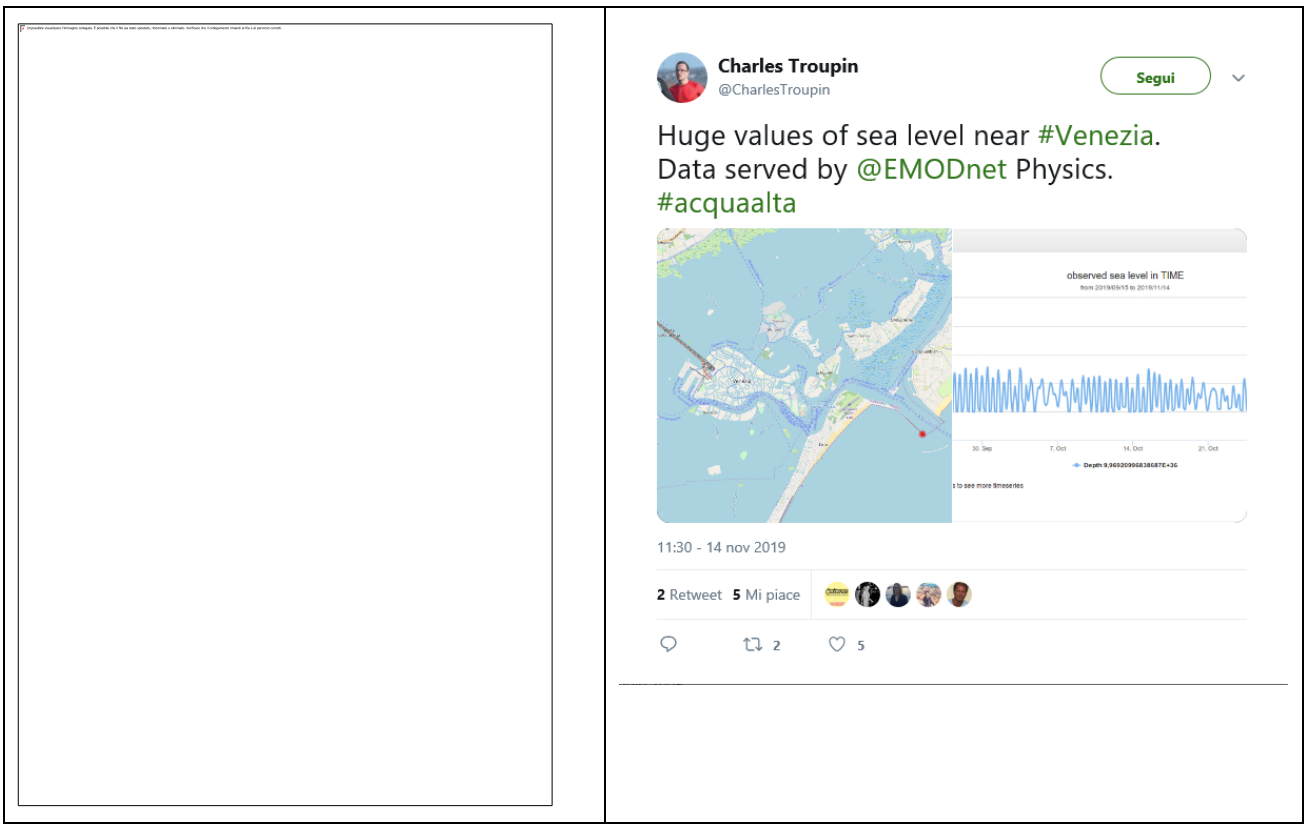



Figure 3. Example of a twitter from the EMODnet Physics users community

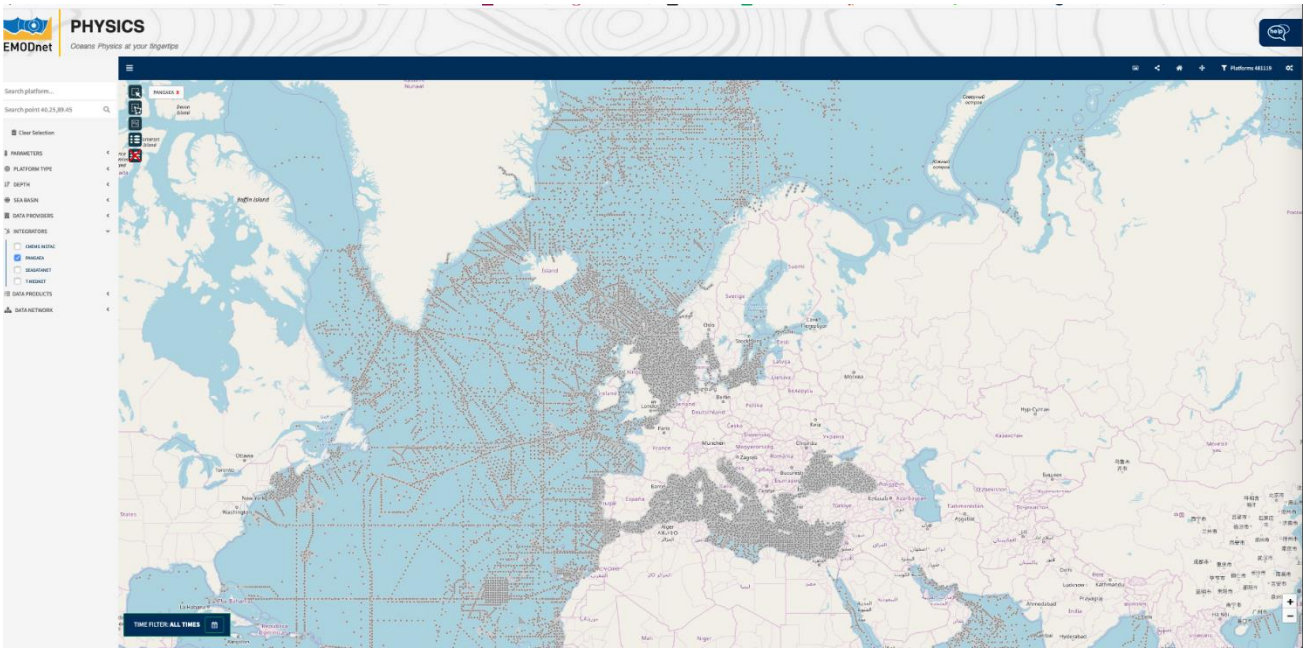



Figure 4. PANGEA data in EMODnet Physics

Table 1. Catalogue of the EMODnet Physics products

| Themes/ keywords | Interface | name (nuovo) | Description (nuova) |
|---|---|---|---|
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_SDN_TEMP_NN_GR_FEB | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) in February - GridObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_SDN_TEMP_NN_GR_APR | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) in April - GridObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_SDN_TEMP_NN_GR_MAR | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) in March - GridObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_SDN_TEMP_NN_GR_SEP | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) in September - GridObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_SDN_TEMP_NN_GR_NOV | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) in November - GridObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_SDN_TEMP_NN_GR_JUL | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) in July - GridObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_SDN_TEMP_NN_GR_JAN | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) in January - GridObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_SDN_TEMP_NN_GR_AUG | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) in August - GridObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_SDN_TEMP_NN_GR_DEC | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) in December - GridObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_SDN_TEMP_NN_GR_JUN | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) in June - GridObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_SDN_TEMP_NN_GR_MAY | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) in May - GridObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_SDN_TEMP_NN_GR_OCT | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) in October - GridObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| OTHR | geoserver.emodnet-physics.eu | EP_GEO_NER_OTHR_NN_NN_RAS | Natural Earth features 5 types of raster files at 1:10 million-scale to suit your bandwidth and content focus. Two versions of the 10 million-scale raster data are offered: high resolution files at 21,600 x 10,800 pixels and low resolution at 16,200 x 8,100. The raster files register precisely with the 10m vector data. Embedded raster content includes: land cover, shaded relief, ocean water, and drainages with lakes. All files include a TFW world file. |
| SLEV | geoserver.emodnet-physics.eu | EP_GEO_INT_SLEV_TG_TS_ABS | EMODnet Physics - Absolute Sea Level Trends - MultiPointObservation - based on SONEL DB |
| RVFL | geoserver.emodnet-physics.eu | EP_GEO_INT_RVFL_RS_TS_VAR | EMODnet Physics - River Runoff Trends - MultiPointTimeSeriesObservation - based on GRDC DB |
| WIND | geoserver.emodnet-physics.eu | EP_GEO_INT_WIND_MO_TS_NRT | EMODnet Physics - NRT Wind Direction and Wind Speed at ground/sea level - MultiPointObservation |
| SLEV | geoserver.emodnet-physics.eu | EP_GEO_PSM_SLEV_TG_TS_ANO | EMODnet Physics - Absolute Sea Level Anomalies - MultiPointTimeSeriesObservation - based on SONEL DB |

| | | | |
|---|---|---|---|
| SLEV | geoserver.emodnet-physics.eu | EP_GEO_SON_SLEV_GR_TS_TRE | EMODnet Physics - Relative Sea Level Trends since 1900 - GridObservation - Based on PSMSL aggregated dataset. Data Retrived 30/04/2018 from http://www.psmsl.org/data/obtaining; |
| SLEV | geoserver.emodnet-physics.eu | EP_GEO_PSM_SLEV_FS_PP_NNN | EMODnet Physics - DB of the GNSS stations in EMODnet Physics - Coordinates - based on SONEL DB |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_AL_PP_MED | EMODnet Physics - DB of the platforms in the Mediterranean Sea in EMODnet Physics - Coordinates |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_FB_PP_GLO | EMODnet Physics - DB of the FerryBox in EMODnet Physics - TrajectoryObservation |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_DB_PP_GLO | EMODnet Physics - DB of the Drifting Buoys in EMODnet Physics - TrajectoryObservation |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_INT_TEMP_AL_PP_GLO | EMODnet Physics - DB of the platforms collecting Temperature in the Water Column in EMODnet Physics - Coordinates |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_INT_TEMP_AR_PP_GLO | EMODnet Physics - DB of the ARGO Buoys in EMODnet Physics - TrajectoryObservation |
| TEMP | geoserver.emodnet-physics.eu | EP_GEO_INT_TEMP_OT_PP_GLO | EMODnet Physics - DB of the platforms outside European Seas in EMODnet Physics - Coordinates |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_AL_PP_JS3 | EMODnet Physics - DB of the platforms of JERICO projects in EMODnet Physics - Coordinates |
| SLEV | geoserver.emodnet-physics.eu | EP_GEO_PSM_SLEV_TG_PP_GLO | EMODnet Physics - DB of the platforms of PSMSL in EMODnet Physics - Coordinates |
| OPTS | geoserver.emodnet-physics.eu | EP_GEO_INT_OPTS_AL_PP_GLO | EMODnet Physics - DB of the platforms collecting Optical data in the Water Column in EMODnet Physics - Coordinates |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_MO_PP_GLO | EMODnet Physics - DB of the Mooring Buoys in EMODnet Physics - Coordinates |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_AL_PP_ATL | EMODnet Physics - DB of the platforms in the Atlantic Ocean in EMODnet Physics - Coordinates |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_AL_PP_ATL | EMODnet Physics - DB of the platforms in EMODnet Physics in EMODnet Physics - Coordinates |
| SLEV | geoserver.emodnet-physics.eu | EP_GEO_PSM_SLEV_TG_TS_TRE | EMODnet Physics - Relative Sea Level Trends since 1900 - MultiPointTimeSeriesObservation - Based on PSMSL aggregated dataset. Data Retrived 30/04/2018 from http://www.psmsl.org/data/obtaining; |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_AL_PP_BAL | EMODnet Physics - DB of the platforms in the Baltic Sea in EMODnet Physics - Coordinates |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_HF_PP_GLO | EMODnet Physics - DB of the HF Radars in EMODnet Physics - Coordinates |
| WAVE | geoserver.emodnet-physics.eu | EP_GEO_INT_WAVE_AL_PP_GLO | EMODnet Physics - DB of the platforms collecting Wave Parameters in EMODnet Physics - Coordinates |
| SLEV | geoserver.emodnet-physics.eu | EP_GEO_INT_SLEV_AL_PP_GLO | EMODnet Physics - DB of the platforms collecting Sea Level in EMODnet Physics - Coordinates |
| ATMS | geoserver.emodnet-physics.eu | EP_GEO_INT_ATMS_AL_PP_GLO | EMODnet Physics - DB of the platforms collecting Atmospheric and Meterological Data at ground/sea level in EMODnet Physics - Coordinates |
| UWNO | geoserver.emodnet-physics.eu | EP_GEO_INT_UWNO_AL_PP_GLO | EMODnet Physics - DB of the platforms collecting Water Acoustic Pollution/Noise (Sound Pressure Level) in EMODnet Physics - Coordinates |
| LHAT | geoserver.emodnet-physics.eu | EP_GEO_INT_LHAT_AL_PP_GLO | EMODnet Physics - DB of the platforms collecting Light Attenuation in EMODnet Physics - Coordinates |
| BGCP | geoserver.emodnet-physics.eu | EP_GEO_INT_BGCP_AL_PP_GLO | EMODnet Physics - DB of the platforms collecting BioGeoChemical parameters in EMODnet Physics - Coordinates |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_AL_PP_ARC | EMODnet Physics - DB of the platforms in the Arctic Sea in EMODnet Physics - Coordinates |
| HCXX | geoserver.emodnet-physics.eu | EP_GEO_INT_HCXX_AL_PP_GLO | EMODnet Physics - DB of the platforms collecting Sea Currents in EMODnet Physics - Coordinates |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_AP_PP_GLO | EMODnet Physics - DB of the platforms collecting Profiles in the water column in EMODnet Physics - Trajectories |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_AL_PP_BLS | EMODnet Physics - DB of the platforms in the Black Sea in EMODnet Physics - Coordinates |
| WIND | geoserver.emodnet-physics.eu | EP_GEO_INT_WIND_AL_PP_GLO | EMODnet Physics - DB of the platforms collecting Wind parameters at ground/sea level in EMODnet Physics - Coordinates |

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| WIND | geoserver.emodnet-physics.eu | EP_GEO_INT_WIND_GL_PP_GLO | EMODnet Physics - DB of the Gliders in EMODnet Physics - Trajectories |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_AL_PP_NWS | EMODnet Physics - DB of the platforms in the North West Shelf / North Sea in EMODnet Physics - Coordinates |
| RVFL | geoserver.emodnet-physics.eu | EP_GEO_INT_RVFL_FS_PP_GLO | EMODnet Physics - DB of the River Gauging Stations in EMODnet Physics - Coordinates |
| ALLP | geoserver.emodnet-physics.eu | EP_GEO_INT_ALLP_AL_PP_GLO | EMODnet Physics - DB of the NRT platforms in EMODnet Physics - Coordinates |
| SIEX | geoserver.emodnet-physics.eu | EP_GEO_INT_SIEX_SA_GR_SHH | EMODnet Physics - NRT Sea Ice Extend Antarctic Sea - GridSeriesObservation - based on the CMEMS-SEAICE_GLO_SEAICE_L4_NRT_OBSERVATIONS_011_001 - Arctic and Antarctic - Ocean. The OSI SAF delivers three global sea ice products in operational mode: sea ice concentration, sea ice edge, sea ice type (OSI-401 OSI-402 and OSI-403). These products are delivered daily at 10km resolution in a polar stereographic projection covering the Northern Hemisphere and the Southern Hemisphere. It is the Sea Ice operational nominal product for the Global Ocean. In addition, a sea ice drift product is delivered at 60km resolution in a polar stereographic projection covering the Northern and Southern Hemispheres. The sea ice motion vectors have a time-span of 2 days. Developed by SIW-METNO-OSLO-NO |
| RVFL | geoserver.emodnet-physics.eu | EP_GEO_GRD_RVFL_FS_PP_GLO | EMODnet Physics - DB of the GRDC River Gauging Stations in EMODnet Physics - Coordinates |
| SICE | geoserver.emodnet-physics.eu | EP_GEO_INT_SICE_SA_GR_NHH | EMODnet Physics - NRT Sea Ice Extend Arctic Sea - GridSeriesObservation - based on the CMEMS-SEAICE_GLO_SEAICE_L4_NRT_OBSERVATIONS_011_001 - Arctic and Antarctic - Ocean. The OSI SAF delivers three global sea ice products in operational mode: sea ice concentration, sea ice edge, sea ice type (OSI-401 OSI-402 and OSI-403). These products are delivered daily at 10km resolution in a polar stereographic projection covering the Northern Hemisphere and the Southern Hemisphere. It is the Sea Ice operational nominal product for the Global Ocean. In addition, a sea ice drift product is delivered at 60km resolution in a polar stereographic projection covering the Northern and Southern Hemispheres. The sea ice motion vectors have a time-span of 2 days. Developed by SIW-METNO-OSLO-NO |
| UWNO | geoserver.emodnet-physics.eu | EP_GEO_INT_UWNO_XX_GR_INR | EMODnet Physics - European Impulsive Noise Events Registry - GridSeriesObservation - Data supplied by contracting parties to OSPAR (North East Atlantic), HELCOM (Baltic Sea), and Barcelona and ACCOBAMS (Mediterranean Sea, Black Sea). The data are collated nationally from registers of licenced events such as pile driving, controlled explosions from naval operations and other activities that release energy. This registry is specifically purposed with supporting OSPAR and HELCOM in providing information that will feed their regional assessments, and in reporting by its contracting parties to MSFD descriptor 11.1.1 (Low and mid frequency impulsive noise). HELCOM and OSPAR impulsive noise events registry is hosted and managed by ICES (http://ices.dk/marine-data/data-portals/Pages/underwater-noise.aspx) |
| UWNO | geoserver.emodnet-physics.eu | EP_GEO_INT_UWNO_XX_VC_INR | EMODnet Physics - Impulsive Noise events Registry Values Codes - GridSeriesObservation - Data supplied by contracting parties to OSPAR (North East Atlantic), HELCOM (Baltic Sea), and Barcelona and ACCOBAMS (Mediterranean Sea, Black Sea). The data are collated nationally from registers of licenced events such as pile driving, controlled explosions from naval operations and other activities that release energy. This registry is specifically purposed with supporting OSPAR and HELCOM in providing information that will feed their regional assessments, and in reporting by its contracting parties to MSFD descriptor 11.1.1 (Low and mid frequency impulsive noise). HELCOM and OSPAR impulsive noise events registry is hosted and managed by ICES (http://ices.dk/marine-data/data-portals/Pages/underwater-noise.aspx) |

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| UWNO | geoserver.emodnet-physics.eu | EP_GEO_INT_UWNO_XX_PD_INR | EMODnet Physics - Impulsive Noise events Registry Pulse Days - GridSeriesObservation - Data supplied by contracting parties to OSPAR (North East Atlantic), HELCOM (Baltic Sea), and Barcelona and ACCOBAMS (Mediterranean Sea, Black Sea). The data are collated nationally from registers of licenced events such as pile driving, controlled explosions from naval operations and other activities that release energy. This registry is specifically purposed with supporting OSPAR and HELCOM in providing information that will feed their regional assessments, and in reporting by its contracting parties to MSFD descriptor 11.1.1 (Low and mid frequency impulsive noise). HELCOM and OSPAR impulsive noise events registry is hosted and managed by ICES (http://ices.dk/marine-data/data-portals/Pages/underwater-noise.aspx) |
| _OTH | geoserver.emodnet-physics.eu | EP_GEO_WSEA_OTHR_NN_GR_GLO | World Sea Basins |
| _OTH | geoserver.emodnet-physics.eu | EP_GEO_WSEA_OTHR_NN_GR_EUR | World Sea Atlas - Reference for European Sea Basins |
| _ALL | geoserver.emodnet-physics.eu | EP_GEO_ICES_ALLP_AL_PP_GLO | EMODnet Physics - DB of the ICES platforms and datasets in EMODnet Physics - Coordinates |
| UWNO | geoserver.emodnet-physics.eu | EP_GEO_EXT_UWNO_XX_GR_INR | EMODnet Physics - Impulsive Noise events Source Data - GridSeriesObservation - Data supplied by contracting parties to OSPAR (North East Atlantic), HELCOM (Baltic Sea), and Barcelona and ACCOBAMS (Mediterranean Sea, Black Sea). The data are collated nationally from registers of licenced events such as pile driving, controlled explosions from naval operations and other activities that release energy. This registry is specifically purposed with supporting OSPAR and HELCOM in providing information that will feed their regional assessments, and in reporting by its contracting parties to MSFD descriptor 11.1.1 (Low and mid frequency impulsive noise). HELCOM and OSPAR impulsive noise events registry is hosted and managed by ICES (http://ices.dk/marine-data/data-portals/Pages/underwater-noise.aspx) |
| HCXX | geoserver.emodnet-physics.eu | EP_GEO_INT_HCXX_HF_GR_EUR | EMODnet Physics - NRT Sea Surface Currents from HFR - GridSeriesObservation |
| ALLP | erddap.emodnet-physics.eu | EP_ERD_INT_ALLP_AL_PP_GLO | |
| SLEV | erddap.emodnet-physics.eu | EP_ERD_INT_SLEV_AL_PR_ANO | EMODnet Physics - Collection of absolute salinity (AMON) Profiles - MultiPointProfileObservation |
| DRYT | erddap.emodnet-physics.eu | EP_ERD_INT_DRYT_AL_TS_NRT | EMODnet Physics - Collection of air temperature in dry bulb (DRYT) TimeSeries - MultiPointTimeSeriesObservation |
| WETT | erddap.emodnet-physics.eu | EP_ERD_INT_WETT_AL_TS_NRT | EMODnet Physics - Collection of Air temperature in wet bulb (WETT) TimeSeries - MultiPointTimeSeriesObservation |
| BIOA | erddap.emodnet-physics.eu | EP_ERD_SOO_BIOA_NN_NN_J18 | |
| ATMP | erddap.emodnet-physics.eu | EP_ERD_INT_ATMP_AL_TS_NRT | EMODnet Physics - Collection of atmospheric pressure at altitude (ATMP) TimeSeries - MultiPointTimeSeriesObservation |
| ATMS | erddap.emodnet-physics.eu | EP_ERD_INT_ATMS_AL_TS_NRT | EMODnet Physics - Collection of atmospheric pressure at sea level (ATMS) TimeSeries - MultiPointTimeSeriesObservation |
| ATPT | erddap.emodnet-physics.eu | EP_ERD_INT_ATPT_AL_TS_NRT | EMODnet Physics - Collection of atmospheric pressure hourly tendency (ATPT) TimeSeries - MultiPointTimeSeriesObservation |
| VH11 | erddap.emodnet-physics.eu | EP_ERD_INT_VH11_AL_TS_NRT | EMODnet Physics - Collection of Average height highest 1/10 wave (H1/10) (VH110) TimeSeries - MultiPointTimeSeriesObservation |
| VAVH | erddap.emodnet-physics.eu | EP_ERD_INT_VAVH_AL_TS_NRT | EMODnet Physics - Collection of Average height highest 1/3 wave (H1/3) (VAVH) TimeSeries - MultiPointTimeSeriesObservation |
| VT11 | erddap.emodnet-physics.eu | EP_ERD_INT_VT11_AL_TS_NRT | EMODnet Physics - Collection of Average period highest 1/10 wave (T1/10) (VT110) TimeSeries - MultiPointTimeSeriesObservation |
| VAVT | erddap.emodnet-physics.eu | EP_ERD_INT_VAVT_AL_TS_NRT | EMODnet Physics - Collection of Average period highest 1/3 wave (T1/3) (VAVT) TimeSeries - MultiPointTimeSeriesObservation |
| VHZA | erddap.emodnet-physics.eu | EP_ERD_INT_VHZA_AL_TS_NRT | EMODnet Physics - Collection of Average zero crossing wave height (Hzm) (VHZA) TimeSeries - MultiPointTimeSeriesObservation |

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| VTZA | erddap.emodnet-physics.eu | EP_ERD_INT_VTZA_AL_TS_NRT | EMODnet Physics - Collection of Average zero crossing wave period (Tz) (VTZA) TimeSeries - MultiPointTimeSeriesObservation |
| VCSP | erddap.emodnet-physics.eu | EP_ERD_INT_VCSP_AL_TS_NRT | EMODnet Physics - Collection of bottom-top current component (VCSP) TimeSeries - MultiPointTimeSeriesObservation |
| FLU2 | erddap.emodnet-physics.eu | EP_ERD_INT_FLU2_AL_PR_NRT | EMODnet Physics - Collection of chlorophyll-a fluorescence (FLU2) Profiles - MultiPointProfileObservation |
| FLU2 | erddap.emodnet-physics.eu | EP_ERD_INT_FLU2_AL_TS_NRT | EMODnet Physics - Collection of chlorophyll-a fluorescence (FLU2) TimeSeries - MultiPointTimeSeriesObservation |
| PCO2 | erddap.emodnet-physics.eu | EP_ERD_INT_PCO2_AL_PR_NRT | EMODnet Physics - Collection of CO2 partial pressure (PCO2) Profiles - MultiPointProfileObservation |
| PCO2 | erddap.emodnet-physics.eu | EP_ERD_INT_PCO2_AL_TS_NRT | EMODnet Physics - Collection of CO2 partial pressure (PCO2) TimeSeries - MultiPointTimeSeriesObservation |
| CDOM | erddap.emodnet-physics.eu | EP_ERD_INT_CDOM_AL_PR_NRT | EMODnet Physics - Collection of colored dissolved organic matter (CDOM) Profiles - MultiPointProfileObservation |
| CDOM | erddap.emodnet-physics.eu | EP_ERD_INT_CDOM_AL_TS_NRT | EMODnet Physics - Collection of colored dissolved organic matter (CDOM) TimeSeries - MultiPointTimeSeriesObservation |
| HCDT | erddap.emodnet-physics.eu | EP_ERD_INT_HCDT_AL_PR_NRT | EMODnet Physics - Collection of current to direction relative true north (HCDT) Profiles - MultiPointProfileObservation |
| HCDT | erddap.emodnet-physics.eu | EP_ERD_INT_HCDT_AL_TS_NRT | EMODnet Physics - Collection of current to direction relative true north (HCDT) TimeSeries - MultiPointTimeSeriesObservation |
| PRRD | erddap.emodnet-physics.eu | EP_ERD_INT_PRRD_AL_TS_NRT | EMODnet Physics - Collection of Daily precipitation rate (liquid water equivalent) (PRRD) TimeSeries - MultiPointTimeSeriesObservation |
| DEWT | erddap.emodnet-physics.eu | EP_ERD_INT_DEWT_AL_TS_NRT | EMODnet Physics - Collection of dew point temperature (DEWT) TimeSeries - MultiPointTimeSeriesObservation |
| DOX1 | erddap.emodnet-physics.eu | EP_ERD_INT_DOX1_AL_PR_NRT | EMODnet Physics - Collection of dissolved oxygen (DOX1) Profiles - MultiPointProfileObservation |
| DOX1 | erddap.emodnet-physics.eu | EP_ERD_INT_DOX1_AL_TS_NRT | EMODnet Physics - Collection of dissolved oxygen (DOX1) TimeSeries - MultiPointTimeSeriesObservation |
| DOX2 | erddap.emodnet-physics.eu | EP_ERD_INT_DOX2_AL_PR_NRT | EMODnet Physics - Collection of dissolved oxygen (DOX2) Profiles - MultiPointProfileObservation |
| DOX2 | erddap.emodnet-physics.eu | EP_ERD_INT_DOX2_AL_TS_NRT | EMODnet Physics - Collection of dissolved oxygen (DOX2) TimeSeries - MultiPointTimeSeriesObservation |
| DOXY | erddap.emodnet-physics.eu | EP_ERD_INT_DOXY_AL_PR_NRT | EMODnet Physics - Collection of dissolved oxygen (DOXY) Profiles - MultiPointProfileObservation |
| DOXY | erddap.emodnet-physics.eu | EP_ERD_INT_DOXY_AL_TS_NRT | EMODnet Physics - Collection of dissolved oxygen (DOXY) TimeSeries - MultiPointTimeSeriesObservation |
| CHLT | erddap.emodnet-physics.eu | EP_ERD_INT_CHLT_AL_PR_NRT | EMODnet Physics - Collection of electrical conductivity (CHLT) Profiles - MultiPointProfileObservation |
| CHLT | erddap.emodnet-physics.eu | EP_ERD_INT_CHLT_AL_TS_NRT | EMODnet Physics - Collection of electrical conductivity (CHLT) TimeSeries - MultiPointTimeSeriesObservation |
| CNDC | erddap.emodnet-physics.eu | EP_ERD_INT_CNDC_AL_PR_NRT | EMODnet Physics - Collection of electrical conductivity (CNDC) Profiles - MultiPointProfileObservation |
| CNDC | erddap.emodnet-physics.eu | EP_ERD_INT_CNDC_AL_TS_NRT | EMODnet Physics - Collection of electrical conductivity (CNDC) TimeSeries - MultiPointTimeSeriesObservation |
| VEMH | erddap.emodnet-physics.eu | EP_ERD_INT_VEMH_AL_TS_NRT | EMODnet Physics - Collection of Estimated maximum wave height (VEMH) TimeSeries - MultiPointTimeSeriesObservation |
| FLU3 | erddap.emodnet-physics.eu | EP_ERD_INT_FLU3_AL_TS_NRT | EMODnet Physics - Collection of fluorescence (FLU3) TimeSeries - MultiPointTimeSeriesObservation |
| FLUO | erddap.emodnet-physics.eu | EP_ERD_INT_FLUO_AL_TS_NRT | EMODnet Physics - Collection of fluorescence (FLUO) TimeSeries - MultiPointTimeSeriesObservation |
| VGTA | erddap.emodnet-physics.eu | EP_ERD_INT_VGTA_AL_TS_NRT | EMODnet Physics - Collection of Generic average wave period (VGTA) TimeSeries - MultiPointTimeSeriesObservation |
| VGHS | erddap.emodnet-physics.eu | EP_ERD_INT_VGHS_AL_TS_NRT | EMODnet Physics - Collection of generic significant wave height (Hs) (VGHS) TimeSeries - MultiPointTimeSeriesObservation |
| GSPD | erddap.emodnet-physics.eu | EP_ERD_INT_GSPD_AL_TS_NRT | EMODnet Physics - Collection of gust wind speed (GSPD) TimeSeries - MultiPointTimeSeriesObservation |

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| ALTS | erddap.emodnet-physics.eu | EP_ERD_INT_ALTS_AL_TS_NRT | EMODnet Physics - Collection of Height above mean sea level (ALTS) TimeSeries - MultiPointTimeSeriesObservation |
| HCSP | erddap.emodnet-physics.eu | EP_ERD_INT_HCSP_AL_PR_NRT | EMODnet Physics - Collection of horizontal current speed (HCSP) Profiles - MultiPointProfileObservation |
| HCSP | erddap.emodnet-physics.eu | EP_ERD_INT_HCSP_AL_TS_NRT | EMODnet Physics - Collection of horizontal current speed (HCSP) TimeSeries - MultiPointTimeSeriesObservation |
| WSPD | erddap.emodnet-physics.eu | EP_ERD_INT_WSPD_AL_TS_NRT | EMODnet Physics - Collection of horizontal wind speed (WSPD) TimeSeries - MultiPointTimeSeriesObservation |
| PRRT | erddap.emodnet-physics.eu | EP_ERD_INT_PRRT_AL_TS_NRT | EMODnet Physics - Collection of Hourly precipitation rate (liquid water equivalent) (PRRT) TimeSeries - MultiPointTimeSeriesObservation |
| _UWN | erddap.emodnet-physics.eu | EP_ERD_INT__UWN_AL_TS_NRT | EMODnet Physics - Collection of light attenuation coefficient (TUR2) TimeSeries - MultiPointTimeSeriesObservation |
| TUR2 | erddap.emodnet-physics.eu | EP_ERD_INT_TUR2_AL_TS_NRT | EMODnet Physics - Collection of light attenuation coefficient (TUR2) TimeSeries - MultiPointTimeSeriesObservation |
| LGHT | erddap.emodnet-physics.eu | EP_ERD_INT_LGHT_AL_PR_NRT | EMODnet Physics - Collection of light irradiance immerged par (LGHT) Profiles - MultiPointProfileObservation |
| LGHT | erddap.emodnet-physics.eu | EP_ERD_INT_LGHT_AL_TS_NRT | EMODnet Physics - Collection of light irradiance immerged par (LGHT) TimeSeries - MultiPointTimeSeriesObservation |
| SCAT | erddap.emodnet-physics.eu | EP_ERD_INT_SCAT_AL_TS_NRT | EMODnet Physics - Collection of Light scattering (SCATTERING) TimeSeries - MultiPointTimeSeriesObservation |
| TUR3 | erddap.emodnet-physics.eu | EP_ERD_INT_TUR3_AL_PR_NRT | EMODnet Physics - Collection of light transmission (TUR3) Profiles - MultiPointProfileObservation |
| LINC | erddap.emodnet-physics.eu | EP_ERD_INT_LINC_AL_TS_NRT | EMODnet Physics - Collection of Longwave/atmospheric incoming radiation (LINC) TimeSeries - MultiPointTimeSeriesObservation |
| VCMX | erddap.emodnet-physics.eu | EP_ERD_INT_VCMX_AL_TS_NRT | EMODnet Physics - Collection of Maximum crest trough wave height (Hc,max) (VCMX) TimeSeries - MultiPointTimeSeriesObservation |
| VTMX | erddap.emodnet-physics.eu | EP_ERD_INT_VTMX_AL_TS_NRT | EMODnet Physics - Collection of Maximum wave period (Tmax) (VTMX) TimeSeries - MultiPointTimeSeriesObservation |
| VST1 | erddap.emodnet-physics.eu | EP_ERD_INT_VST1_AL_TS_NRT | EMODnet Physics - Collection of Maximum wave steepness (VST1) TimeSeries - MultiPointTimeSeriesObservation |
| VZMX | erddap.emodnet-physics.eu | EP_ERD_INT_VZMX_AL_TS_NRT | EMODnet Physics - Collection of Maximum zero crossing wave height (Hmax) (VZMX) TimeSeries - MultiPointTimeSeriesObservation |
| VMDR | erddap.emodnet-physics.eu | EP_ERD_INT_VMDR_AL_TS_NRT | EMODnet Physics - Collection of Mean wave direction from (Mdir) (VMDR) TimeSeries - MultiPointTimeSeriesObservation |
| ALLP | erddap.emodnet-physics.eu | EP_ERD_MEO_ALLP_AL_PP_GLO | EMODnet Physics - Collection of MEOP - Marine Mammals - CTD data - MultiPointProfileObservation - The marine mammal data were collected and made freely available by the International MEOP Consortium and the national programs that contribute to it. (http://www.meop.net). |
| NTAW | erddap.emodnet-physics.eu | EP_ERD_INT_NTAW_AL_PR_NRT | EMODnet Physics - Collection of Nitrate (NO3-N) (NTAW) Profiles - MultiPointProfileObservation |
| NTRA | erddap.emodnet-physics.eu | EP_ERD_INT_NTRA_AL_PR_NRT | EMODnet Physics - Collection of Nitrate (NO3-N) (NTRA) Profiles - MultiPointProfileObservation |
| NTRZ | erddap.emodnet-physics.eu | EP_ERD_INT_NTRZ_AL_PR_NRT | EMODnet Physics - Collection of Nitrate + Nitrite (NTRZ) Profiles - MultiPointProfileObservation |
| NTRI | erddap.emodnet-physics.eu | EP_ERD_INT_NTRI_AL_PR_NRT | EMODnet Physics - Collection of Nitrite (NO2-N) (NTRI) Profiles - MultiPointProfileObservation |
| BCCW | erddap.emodnet-physics.eu | EP_ERD_INT_BCCW_AL_PR_NRT | EMODnet Physics - Collection of number of bacteria cells in sea water (BCCW) Profiles - MultiPointProfileObservation |
| OSAT | erddap.emodnet-physics.eu | EP_ERD_INT_OSAT_AL_PR_NRT | EMODnet Physics - Collection of oxygen saturation (OSAT) Profiles - MultiPointProfileObservation |
| OSAT | erddap.emodnet-physics.eu | EP_ERD_INT_OSAT_AL_TS_NRT | EMODnet Physics - Collection of oxygen saturation (OSAT) TimeSeries - MultiPointTimeSeriesObservation |
| VTZM | erddap.emodnet-physics.eu | EP_ERD_INT_VTZM_AL_TS_NRT | EMODnet Physics - Collection of period of the highest wave (VTZM) TimeSeries - MultiPointTimeSeriesObservation |

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| PHPH | erddap.emodnet-physics.eu | EP_ERD_INT_PHPH_AL_PR_NRT | EMODnet Physics - Collection of ph (PHPH) Profiles - MultiPointProfileObservation |
| PHPH | erddap.emodnet-physics.eu | EP_ERD_INT_PHPH_AL_TS_NRT | EMODnet Physics - Collection of ph (PHPH) TimeSeries - MultiPointTimeSeriesObservation |
| PHOS | erddap.emodnet-physics.eu | EP_ERD_INT_PHOS_AL_PR_NRT | EMODnet Physics - Collection of Phosphate (PO4-P) (PHOS) Profiles - MultiPointProfileObservation |
| PHYC | erddap.emodnet-physics.eu | EP_ERD_INT_PHYC_AL_TS_NRT | EMODnet Physics - Collection of Phycobolin pigment concentrations in the water column (PHYC) TimeSeries - MultiPointTimeSeriesObservation |
| PSAL | erddap.emodnet-physics.eu | EP_ERD_INT_PSAL_AL_PR_NRT | EMODnet Physics - Collection of practical salinity (PSAL) Profiles - MultiPointProfileObservation |
| PSAL | erddap.emodnet-physics.eu | EP_ERD_INT_PSAL_AL_TS_NRT | EMODnet Physics - Collection of practical salinity (PSAL) TimeSeries - MultiPointTimeSeriesObservation |
| RELH | erddap.emodnet-physics.eu | EP_ERD_INT_RELH_AL_TS_NRT | EMODnet Physics - Collection of relative humidity (RELH) TimeSeries - MultiPointTimeSeriesObservation |
| RVFL | erddap.emodnet-physics.eu | EP_ERD_INT_RVFL_AL_TS_NRT | EMODnet Physics - Collection of river flow rate (RVFL) TimeSeries - MultiPointTimeSeriesObservation |
| ANTA | erddap.emodnet-physics.eu | EP_ERD_SLD_ANTA_AL_PP_019 | EMODnet Physics - Collection of Saildrone Antarctica Circumnavigation Surface Data |
| ATME | erddap.emodnet-physics.eu | EP_ERD_SLD_ATME_AL_PP_955 | EMODnet Physics - Collection of Saildrone Atlantic Ocean to Mediterranean (ATL2MED) SD-1030 Real-Time-Data |
| ATME | erddap.emodnet-physics.eu | EP_ERD_SLD_ATME_AL_PP_573 | EMODnet Physics - Collection of Saildrone Atlantic Ocean to Mediterranean (ATL2MED) SD-1053 Real-Time-Data |
| GSTR | erddap.emodnet-physics.eu | EP_ERD_SLD_GSTR_AL_PP_019 | EMODnet Physics - Collection of Saildrone Gulf Stream 2019 Near-Real-Time Mission Data |
| PTEM | erddap.emodnet-physics.eu | EP_ERD_INT_PTEM_AL_PR_NRT | EMODnet Physics - Collection of sea potential temperature (POTENTIAL_TEMP) Profiles - MultiPointProfileObservation |
| PTEM | erddap.emodnet-physics.eu | EP_ERD_INT_PTEM_AL_TS_NRT | EMODnet Physics - Collection of sea potential temperature (POTENTIAL_TEMP) TimeSeries - MultiPointTimeSeriesObservation |
| TEMP | erddap.emodnet-physics.eu | EP_ERD_INT_TEMP_AL_PR_NRT | EMODnet Physics - Collection of sea temperature (TEMP) Profiles - MultiPointProfileObservation |
| TEMP | erddap.emodnet-physics.eu | EP_ERD_INT_TEMP_AL_TS_NRT | EMODnet Physics - Collection of sea temperature (TEMP) TimeSeries - MultiPointTimeSeriesObservation |
| DTEM | erddap.emodnet-physics.eu | EP_ERD_INT_DTEM_AL_PR_NRT | EMODnet Physics - Collection of sea temperature from oxygen sensor (TEMP_DOXY) Profiles - MultiPointProfileObservation |
| DTEM | erddap.emodnet-physics.eu | EP_ERD_INT_DTEM_AL_TS_NRT | EMODnet Physics - Collection of sea temperature from oxygen sensor (TEMP_DOXY) TimeSeries - MultiPointTimeSeriesObservation |
| SSJT | erddap.emodnet-physics.eu | EP_ERD_INT_SSJT_AL_TS_NRT | EMODnet Physics - Collection of sea temperature from tsg (SSJT) TimeSeries - MultiPointTimeSeriesObservation |
| DENS | erddap.emodnet-physics.eu | EP_ERD_INT_DENS_AL_PR_NRT | EMODnet Physics - Collection of sea_water_sigma_theta (DENS) Profiles - MultiPointProfileObservation |
| DENS | erddap.emodnet-physics.eu | EP_ERD_INT_DENS_AL_TS_NRT | EMODnet Physics - Collection of sea_water_sigma_theta (DENS) TimeSeries - MultiPointTimeSeriesObservation |
| VTDH | erddap.emodnet-physics.eu | EP_ERD_INT_VTDH_AL_TS_NRT | EMODnet Physics - Collection of significant wave height (VTDH) TimeSeries - MultiPointTimeSeriesObservation |
| SLCA | erddap.emodnet-physics.eu | EP_ERD_INT_SLCA_AL_PR_NRT | EMODnet Physics - Collection of Silicate (SIO4-SI) (SLCA) Profiles - MultiPointProfileObservation |
| SVEL | erddap.emodnet-physics.eu | EP_ERD_INT_SVEL_AL_PR_NRT | EMODnet Physics - Collection of sound velocity (SVEL) Profiles - MultiPointProfileObservation |
| SVEL | erddap.emodnet-physics.eu | EP_ERD_INT_SVEL_AL_TS_NRT | EMODnet Physics - Collection of sound velocity (SVEL) TimeSeries - MultiPointTimeSeriesObservation |
| NSCT | erddap.emodnet-physics.eu | EP_ERD_INT_NSCT_AL_PR_NRT | EMODnet Physics - Collection of south-north current component (NSCT) Profiles - MultiPointProfileObservation |
| NSCT | erddap.emodnet-physics.eu | EP_ERD_INT_NSCT_AL_TS_NRT | EMODnet Physics - Collection of south-north current component (NSCT) TimeSeries - MultiPointTimeSeriesObservation |
| WSPN | erddap.emodnet-physics.eu | EP_ERD_INT_WSPN_AL_TS_NRT | EMODnet Physics - Collection of South-north wind component (WSPN) TimeSeries - MultiPointTimeSeriesObservation |

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| TM10 | erddap.emodnet-physics.eu | EP_ERD_INT_TM10_AL_TS_NRT | EMODnet Physics - Collection of Spectral moments (-1,0) wave period (Tm-10) (VTM10) TimeSeries - MultiPointTimeSeriesObservation |
| TM02 | erddap.emodnet-physics.eu | EP_ERD_INT_TM02_AL_TS_NRT | EMODnet Physics - Collection of Spectral moments (0,2) wave period (Tm02) (VTM02) TimeSeries - MultiPointTimeSeriesObservation |
| VHM0 | erddap.emodnet-physics.eu | EP_ERD_INT_VHM0_AL_TS_NRT | EMODnet Physics - Collection of spectral significant wave height (Hm0) (VHM0) TimeSeries - MultiPointTimeSeriesObservation |
| LGH4 | erddap.emodnet-physics.eu | EP_ERD_INT_LGH4_AL_PR_NRT | EMODnet Physics - Collection of Surface incoming photosynthetic active radiation (LGH4) Profiles - MultiPointProfileObservation |
| LGH4 | erddap.emodnet-physics.eu | EP_ERD_INT_LGH4_AL_TS_NRT | EMODnet Physics - Collection of Surface incoming photosynthetic active radiation (LGH4) TimeSeries - MultiPointTimeSeriesObservation |
| SINC | erddap.emodnet-physics.eu | EP_ERD_INT_SINC_AL_TS_NRT | EMODnet Physics - Collection of surface_downwelling_shortwave_flux_in_air (SINC) TimeSeries - MultiPointTimeSeriesObservation |
| NRAD | erddap.emodnet-physics.eu | EP_ERD_INT_NRAD_AL_TS_NRT | EMODnet Physics - Collection of surface_net_downward_radiative_flux (NRAD) TimeSeries - MultiPointTimeSeriesObservation |
| SWHT | erddap.emodnet-physics.eu | EP_ERD_INT_SWHT_AL_TS_NRT | EMODnet Physics - Collection of swell height (SWHT) TimeSeries - MultiPointTimeSeriesObservation |
| CPHL | erddap.emodnet-physics.eu | EP_ERD_INT_CPHL_AL_PR_NRT | EMODnet Physics - Collection of total chlorophyll-a (CPHL) Profiles - MultiPointProfileObservation |
| RDIN | erddap.emodnet-physics.eu | EP_ERD_INT_RDIN_AL_TS_NRT | EMODnet Physics - Collection of Total incoming radiation (RDIN) TimeSeries - MultiPointTimeSeriesObservation |
| TUR4 | erddap.emodnet-physics.eu | EP_ERD_INT_TUR4_AL_PR_NRT | EMODnet Physics - Collection of turbidity (TUR4) Profiles - MultiPointProfileObservation |
| TUR4 | erddap.emodnet-physics.eu | EP_ERD_INT_TUR4_AL_TS_NRT | EMODnet Physics - Collection of turbidity (TUR4) TimeSeries - MultiPointTimeSeriesObservation |
| TUR6 | erddap.emodnet-physics.eu | EP_ERD_INT_TUR6_AL_PR_NRT | EMODnet Physics - Collection of Turbidity of water in the water body (TUR6) Profiles - MultiPointProfileObservation |
| TUR6 | erddap.emodnet-physics.eu | EP_ERD_INT_TUR6_AL_TS_NRT | EMODnet Physics - Collection of Turbidity of water in the water body (TUR6) TimeSeries - MultiPointTimeSeriesObservation |
| SLEV | erddap.emodnet-physics.eu | EP_ERD_INT_SLEV_AL_TS_NRT | EMODnet Physics - Collection of water surface height above a specific datum (SLEV) TimeSeries - MultiPointTimeSeriesObservation |
| VDIR | erddap.emodnet-physics.eu | EP_ERD_INT_VDIR_AL_TS_NRT | EMODnet Physics - Collection of wave direction rel. true north (VDIR) TimeSeries - MultiPointTimeSeriesObservation |
| VPSP | erddap.emodnet-physics.eu | EP_ERD_INT_VPSP_AL_TS_NRT | EMODnet Physics - Collection of Wave directional spreading at spectral peak (VPSP) TimeSeries - MultiPointTimeSeriesObservation |
| VTPK | erddap.emodnet-physics.eu | EP_ERD_INT_VTPK_AL_TS_NRT | EMODnet Physics - Collection of wave period at spectral peak / peak period (Tp) (VTPK) TimeSeries - MultiPointTimeSeriesObservation |
| VPED | erddap.emodnet-physics.eu | EP_ERD_INT_VPED_AL_TS_NRT | EMODnet Physics - Collection of Wave principal direction at spectral peak (VPED) TimeSeries - MultiPointTimeSeriesObservation |
| VEPK | erddap.emodnet-physics.eu | EP_ERD_INT_VEPK_AL_TS_NRT | EMODnet Physics - Collection of Wave spectrum peak energy (Smax) (VEPK) TimeSeries - MultiPointTimeSeriesObservation |
| EWCT | erddap.emodnet-physics.eu | EP_ERD_INT_EWCT_AL_PR_NRT | EMODnet Physics - Collection of west-east current component (EWCT) Profiles - MultiPointProfileObservation |
| EWCT | erddap.emodnet-physics.eu | EP_ERD_INT_EWCT_AL_TS_NRT | EMODnet Physics - Collection of west-east current component (EWCT) TimeSeries - MultiPointTimeSeriesObservation |
| WSPE | erddap.emodnet-physics.eu | EP_ERD_INT_WSPE_AL_TS_NRT | EMODnet Physics - Collection of West-east wind component (WSPE) TimeSeries - MultiPointTimeSeriesObservation |
| WDIR | erddap.emodnet-physics.eu | EP_ERD_INT_WDIR_AL_TS_NRT | EMODnet Physics - Collection of wind from direction relative true north (WDIR) TimeSeries - MultiPointTimeSeriesObservation |
| ODIR | erddap.emodnet-physics.eu | EP_ERD_INT_ODIR_AL_TS_NRT | EMODnet Physics - Collection of wind to direction relative true north (WTODIR) TimeSeries - MultiPointTimeSeriesObservation |
| GDIR | erddap.emodnet-physics.eu | EP_ERD_INT_GDIR_AL_TS_NRT | EMODnet Physics - Collection of wind_gust_from_direction (GDIR) TimeSeries - MultiPointTimeSeriesObservation |

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| SLEV | erddap.emodnet-physics.eu | EP_ERD_UHS_SLEV_TG_TS_NRT | EMODnet Physics - NRT Sea Level - MultiPointSeriesObservation - based on the UHSL |
| SLEV | erddap.emodnet-physics.eu | EP_ERD_UHS_SLEV_TG_TS_NRT | EMODnet Physics - NRT Sea Level - MultiPointSeriesObservation - based on the UHSL |
| HCXX | thredds.emodnet-physics.eu | EP_TDS_INT_HCXX_HF_GR_NRT | EMODnet Physics - NRT Sea Surface Currents from HFR - GridSeriesObservation |
| HCXX | thredds.emodnet-physics.eu | EP_TDS_INT_HCXX_HF_GR_NRT | EMODnet Physics - NRT Sea Surface Currents from HFR European Seas - GridSeriesObservation |
| SIEX | thredds.emodnet-physics.eu | EP_TDS_CMS_SIEX_SA_GR_NRT | EMODnet Physics - NRT Sea Ice Extend - GridSeriesObservation - based on the CMEMS-SEAICE_GLO_SEAICE_L4_NRT_OBSERVATIONS_011_001 - Arctic and Antarctic - Ocean. The OSI SAF delivers three global sea ice products in operational mode: sea ice concentration, sea ice edge, sea ice type (OSI-401 OSI-402 and OSI-403). These products are delivered daily at 10km resolution in a polar stereographic projection covering the Northern Hemisphere and the Southern Hemisphere. It is the Sea Ice operational nominal product for the Global Ocean. In addition, a sea ice drift product is delivered at 60km resolution in a polar stereographic projection covering the Northern and Southern Hemispheres. The sea ice motion vectors have a time-span of 2 days. Developed by SIW-METNO-OSLO-NO |
| SLEV | thredds.emodnet-physics.eu | EP_TDS_UHS_SLEV_TG_TS_NRT | EMODnet Physics - NRT Sea Level - MultiPointSeriesObservation - based on the UHSL |
| TEMP | thredds.emodnet-physics.eu | EP_TDS_CMS_TEMP_SA_GR_NRT | EMODnet Physics - NRT Satellite Sea Surface Temperature - GridSeriesObservation - based on the CMEMS-SEAICE_GLO_SEAICE_L4_NRT_OBSERVATIONS_011_001 - Arctic and Antarctic - Ocean. The OSI SAF delivers three global sea ice products in operational mode: sea ice concentration, sea ice edge, sea ice type (OSI-401 OSI-402 and OSI-403). These products are delivered daily at 10km resolution in a polar stereographic projection covering the Northern Hemisphere and the Southern Hemisphere. It is the Sea Ice operational nominal product for the Global Ocean. In addition, a sea ice drift product is delivered at 60km resolution in a polar stereographic projection covering the Northern and Southern Hemispheres. The sea ice motion vectors have a time-span of 2 days. Developed by SIW-METNO-OSLO-NO |
| TEMP | thredds.emodnet-physics.eu | EP_TDS_SDN_TEMP_XX_GR_CLI | EMODnet Physics - Sea Surface Temperature Climatology (1900-2013) - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| UWNO | thredds.emodnet-physics.eu | EP_TDS_INT_UWNO_XX_GR_XXX | EMODnet Physics - European Impulsive Noise Events Registry - GridSeriesObservation - Data supplied by contracting parties to OSPAR (North East Atlantic), HELCOM (Baltic Sea), and Barcelona and ACCOBAMS (Mediterranean Sea, Black Sea). The data are collated nationally from registers of licenced events such as pile driving, controlled explosions from naval operations and other activities that release energy. This registry is specifically purposed with supporting OSPAR and HELCOM in providing information that will feed their regional assessments, and in reporting by its contracting parties to MSFD descriptor 11.1.1 (Low and mid frequency impulsive noise). HELCOM and OSPAR impulsive noise events registry is hosted and managed by ICES (http://ices.dk/marine-data/data-portals/Pages/underwater-noise.aspx) |
| TSMA | thredds.emodnet-physics.eu | EP_TDS_INT_TSMA_XX_GR_EUR | EMODnet Physics - Total Suspended Matter - GridSeriesObservation - Concentration of total suspended matter (conc_tsm, mg/l) is a product of the Coastcolour L2W Concentrations Data, obtained from the OC4 algorithm for clear and moderate turbid waters, and from the CoastColour v1 neural network.The L2W product was then remapped on a regular grid, maintaining the 300 m full resolution, in order to obtain L3 products over the European Seas and monthly averaged. Developed by EMODnet Physics. |
| PSAL | thredds.emodnet-physics.eu | EP_TDS_CMS_PSAL_XX_GR_C51 | EMODnet Physics - Salinity in the Water column - GridSeriesObservation - Monthly gridded analysis fields of Temperature profiles from the reprocessed (ISAS software) in-situ data collections (1900 - 201x). INSITU_GLO_TS_OA_REP_OBSERVATIONS_013_002_b - Developed by IFREMER for CMEMS |

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| TEMP | thredds.emodnet-physics.eu | EP_TDS_CMS_TEMP_XX_GR_C52 | EMODnet Physics - Temperature in the Water column - GridSeriesObservation - Monthly gridded analysis fields of Temperature profiles from the reprocessed (ISAS software) in-situ data collections (1900 - 201x). INSITU_GLO_TS_OA_REP_OBSERVATIONS_013_002_b - Developed by IFREMER for CMEMS |
| HCXX | emodnet-physics.eu/map | EP_MAP_INT_HCXX_HF_GR_NRT | EMODnet Physics - NRT Sea Surface Currents from HFR - GridSeriesObservation |
| PSAL | emodnet-physics.eu/map | EP_MAP_SDN_PSAL_NN_GR_MED | EMODnet Physics - Sea Salinity Climatology (1900-2013) in Mediterranean Sea - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| SLEV | emodnet-physics.eu/map | EP_MAP_PSM_SLEV_TG_TS_TRE | EMODnet Physics - Relative Sea Level Trends since 1900 - MultiPointTimeSeriesObservation - Based on PSMSL aggregated dataset. Data Retrived 30/04/2018 from http://www.psmsl.org/data/obtaining; |
| SLEV | emodnet-physics.eu/map | EP_MAP_PSM_SLEV_TG_TS_ANO | EMODnet Physics - Relative Sea Level Anomalies since 1900 - MultiPointTimeSeriesObservation - Based on PSMSL aggregated dataset. Data Retrived 30/04/2018 from http://www.psmsl.org/data/obtaining; |
| TEMP | emodnet-physics.eu/map | EP_MAP_SDN_TEMP_NN_GR_ARC | EMODnet Physics - Sea Temperature Climatology (1900-2013) in Arctic Sea - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| PSAL | emodnet-physics.eu/map | EP_TDS_CMS_PSAL_XX_GR_C51 | EMODnet Physics - Salinity in the Water column - GridSeriesObservation - Monthly gridded analysis fields of Temperature profiles from the reprocessed (ISAS software) in-situ data collections (1900 - 201x). INSITU_GLO_TS_OA_REP_OBSERVATIONS_013_002_b - Developed by IFREMER for CMEMS |
| TEMP | emodnet-physics.eu/map | EP_MAP_SDN_TEMP_NN_GR_BLS | EMODnet Physics - Sea Temperature Climatology (1900-2013) in Black Sea - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TSMA | emodnet-physics.eu/map | EP_MAP_INT_TSMA_NN_GR_EUR | EMODnet Physics - Total Suspended Matter - GridSeriesObservation - Concentration of total suspended matter (conc_tsm, mg/l) is a product of the Coastcolour L2W Concentrations Data, obtained from the OC4 algorithm for clear and moderate turbid waters, and from the CoastColour v1 neural network.The L2W product was then remapped on a regular grid, maintaining the 300 m full resolution, in order to obtain L3 products over the European Seas and monthly averaged. Developed by EMODnet Physics. |
| SLEV | emodnet-physics.eu/map | EP_MAP_SON_SLEV_TG_TS_TRE | EMODnet Physics - Absolute Sea Level Trends since 1900 - MultiPointTimeSeriesObservation - Based on SONEL DB |
| TEMP | emodnet-physics.eu/map | EP_MAP_SDN_TEMP_NN_GR_NWS | EMODnet Physics - Sea Temperature Climatology (1900-2013) in North Sea /North West Shelf - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | emodnet-physics.eu/map | EP_MAP_SDN_TEMP_NN_GR_MED | EMODnet Physics - Sea Temperature Climatology (1900-2013) in Mediterranean Sea - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | emodnet-physics.eu/map | EP_MAP_SDN_TEMP_NN_GR_IBI | EMODnet Physics - Sea Temperature Climatology (1900-2013) in IBI Sea - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| SIEX | emodnet-physics.eu/map | EP_MAP_CMS_SIEX_SA_GR_ARC | EMODnet Physics - NRT Sea Ice Extend Arctic Sea - GridSeriesObservation - based on the CMEMS-SEAICE_GLO_SEAICE_L4_NRT_OBSERVATIONS_011_001 - Arctic and Antarctic - Ocean. The OSI SAF delivers three global sea ice products in operational mode: sea ice concentration, sea ice edge, sea ice type (OSI-401 OSI-402 and OSI-403). These products are delivered daily at 10km resolution in a polar stereographic projection covering the Northern Hemisphere and the Southern Hemisphere. It is the Sea Ice operational nominal product for the Global Ocean. In addition, a sea ice drift product is delivered at 60km resolution in a polar stereographic projection covering the Northern and Southern Hemispheres. The sea ice motion vectors have a time-span of 2 days. Developed by SIW-METNO-OSLO-NO |

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| PSAL | emodnet-physics.eu/map | EP_MAP_SDN_PSAL_NN_GR_NWS | EMODnet Physics - Sea Salinity Climatology (1900-2013) in North Sea /North West Shelf - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| PSAL | emodnet-physics.eu/map | EP_MAP_SDN_PSAL_NN_GR_BAL | EMODnet Physics - Sea Salinity Climatology (1900-2013) in Baltic Sea - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | emodnet-physics.eu/map | EP_MAP_CMS_TEMP_XX_GR_C51 | EMODnet Physics - Temperature in the Water column - GridSeriesObservation - Monthly gridded analysis fields of Temperature profiles from the reprocessed (ISAS software) in-situ data collections (1900 - 201x). INSITU_GLO_TS_OA_REP_OBSERVATIONS_013_002_b - Developed by IFREMER for CMEMS |
| PSAL | emodnet-physics.eu/map | EP_MAP_MEO_PSAL_MM_PR_GLO | EMODnet Physics - Collection of Water Salinity Profiles from MEOP - Marine Mammals - MultiPointProfileObservation - The marine mammal data were collected and made freely available by the International MEOP Consortium and the national programs that contribute to it. (http://www.meop.net) |
| TEMP | emodnet-physics.eu/map | EP_MAP_SDN_TEMP_NN_GR_BAL | EMODnet Physics - Sea Temperature Climatology (1900-2013) in Baltic Sea - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| PSAL | emodnet-physics.eu/map | EP_MAP_SDN_PSAL_NN_GR_IBI | EMODnet Physics - Sea Salinity Climatology (1900-2013) in IBI - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| PSAL | emodnet-physics.eu/map | EP_MAP_SDN_PSAL_NN_GR_BLS | EMODnet Physics - Sea Salinity Climatology (1900-2013) in Black Sea - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| TEMP | emodnet-physics.eu/map | EP_MAP_MEO_TEMP_MM_PR_GLO | EMODnet Physics - Collection of Water Temperature Profiles from MEOP - Marine Mammals - MultiPointProfileObservation - The marine mammal data were collected and made freely available by the International MEOP Consortium and the national programs that contribute to it. (http://www.meop.net) |
| UWNO | emodnet-physics.eu/map | EP_MAP_INT_UWNO_NN_XX_INR | EMODnet Physics - European Impulsive Noise Events Registry - GridSeriesObservation - Data supplied by contracting parties to OSPAR (North East Atlantic), HELCOM (Baltic Sea), and Barcelona and ACCOBAMS (Mediterranean Sea, Black Sea). The data are collated nationally from registers of licenced events such as pile driving, controlled explosions from naval operations and other activities that release energy. This registry is specifically purposed with supporting OSPAR and HELCOM in providing information that will feed their regional assessments, and in reporting by its contracting parties to MSFD descriptor 11.1.1 (Low and mid frequency impulsive noise). HELCOM and OSPAR impulsive noise events registry is hosted and managed by ICES (http://ices.dk/marine-data/data-portals/Pages/underwater-noise.aspx) |
| PSAL | emodnet-physics.eu/map | EP_MAP_SDN_PSAL_NN_GR_ARC | EMODnet Physics - Sea Salinity Climatology (1900-2013) in Arctic Sea - GridSeriesObservation - based on the SeaDataNet aggregated dataset - DIVA software v4.6.10 - mask: relative error threshold 0.5. |
| ALLP | emodnet-physics.eu/map | EP_MAP_INT_ALLP_AL_XX_NRT | EMODnet Physics - DB of the NRT platforms in EMODnet Physics - Coordinates |
| SIEX | emodnet-physics.eu/map | EP_MAP_CMS_SIEX_SA_GR_ANT | EMODnet Physics - NRT Sea Ice Extend Antarctic Sea - GridSeriesObservation - based on the CMEMS-SEAICE_GLO_SEAICE_L4_NRT_OBSERVATIONS_011_001 - Arctic and Antarctic - Ocean. The OSI SAF delivers three global sea ice products in operational mode: sea ice concentration, sea ice edge, sea ice type (OSI-401 OSI-402 and OSI-403). These products are delivered daily at 10km resolution in a polar stereographic projection covering the Northern Hemisphere and the Southern Hemisphere. It is the Sea Ice operational nominal product for the Global Ocean. In addition, a sea ice drift product is delivered at 60km resolution in a polar stereographic projection covering the Northern and Southern Hemispheres. The sea ice motion vectors have a time-span of 2 days. Developed by SIW-METNO-OSLO-NO |

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| TEMP | emodnet-physics.eu/map | EP_MAP_INT_TEMP_PR_TS_DBA | EMODnet Physics - DB of the platforms page collecting Water Column Temperature - MultiProfileSeriesObservation |
| PSAL | emodnet-physics.eu/map | EP_MAP_INT_PSAL_PR_TS_DBA | EMODnet Physics - DB of the platforms page collecting Water Column Salinity - MultiProfileSeriesObservation |
| TEMP | emodnet-physics.eu/map | EP_MAP_INT_TEMP_DB_TS_DBA | EMODnet Physics - DB of the Drifting Buoys platfrom page collecting Sea Surface Temperature - MultiTrajectorySeriesObservation |
| PSAL | emodnet-physics.eu/map | EP_MAP_INT_PSAL_DB_TS_DBA | EMODnet Physics - DB of the Drifting Buoys platfrom page collecting Sea Surface Salinity - MultiTrajectorySeriesObservation |
| TEMP | emodnet-physics.eu/map | EP_MAP_INT_TEMP_FB_TS_DBA | EMODnet Physics - DB of the FerryBox/Ships platfrom page collecting Sea Surface Temperature - MultiTrajectorySeriesObservation |
| PSAL | emodnet-physics.eu/map | EP_MAP_INT_PSAL_FB_TS_DBA | EMODnet Physics - DB of the FerryBox/Ships platfrom page collecting Sea Surface Salinity - MultiTrajectorySeriesObservation |
| BGCH | emodnet-physics.eu/map | EP_MAP_INT_BGCH_FB_TS_DBA | EMODnet Physics - DB of the FerryBox/Ships platfrom page collecting Sea Biogeochemical parameters - MultiTrajectorySeriesObservation |
| TEMP | emodnet-physics.eu/map | EP_MAP_INT_TEMP_GL_TS_DBA | EMODnet Physics - DB of the Gliders platfrom page collecting Water column Temperature - MultiTrajectorySeriesObservation |
| PSAL | emodnet-physics.eu/map | EP_MAP_INT_PSAL_GL_TS_DBA | EMODnet Physics - DB of the Gliders platfrom page collecting Water column Salinity - MultiTrajectorySeriesObservation |
| BGCH | emodnet-physics.eu/map | EP_MAP_INT_BGCH_GL_TS_DBA | EMODnet Physics - DB of the Gliders platfrom page collecting Water column BioGeoChemical parameters - MultiTrajectorySeriesObservation |
| SLEV | emodnet-physics.eu/map | EP_MAP_INT_SLEV_TG_TS_DBA | EMODnet Physics - DB of the Tide Gauges platfrom page collecting Sea Level - MultiPointSeriesObservation |
| TEMP | emodnet-physics.eu/map | EP_MAP_INT_TEMP_MO_TS_DBA | EMODnet Physics - DB of the Mooring Buoys platfrom page collecting Water Column Temperature - MultiPointSeriesObservation |
| PSAL | emodnet-physics.eu/map | EP_MAP_INT_PSAL_MO_TS_DBA | EMODnet Physics - DB of the Mooring Buoys platfrom page collecting Water Column Salinity - MultiPointSeriesObservation |
| BGCH | emodnet-physics.eu/map | EP_MAP_INT_BGCH_MO_TS_DBA | EMODnet Physics - DB of the Mooring Buoys platfrom page collecting Water Column BioGeoChemical parameters - MultiPointSeriesObservation |
| WIND | emodnet-physics.eu/map | EP_MAP_INT_WIND_MO_TS_DBA | EMODnet Physics - DB of the Mooring Buoys platfrom page collecting Wind at ground/sea level - MultiPointSeriesObservation |
| WAVE | emodnet-physics.eu/map | EP_MAP_INT_WAVE_MO_TS_DBA | EMODnet Physics - DB of the Mooring Buoys platfrom page collecting Wave parameters - MultiPointSeriesObservation |
| ATMO | emodnet-physics.eu/map | EP_MAP_INT_ATMO_MO_TS_DBA | EMODnet Physics - DB of the Mooring Buoys platfrom page collecting Atmospheric and Meterological parameters at ground/sea level - MultiPointSeriesObservation |
| UWNO | emodnet-physics.eu/map | EP_MAP_INT_UWNO_MO_TS_DBA | EMODnet Physics - DB of the Mooring Buoys platfrom page collecting acoustic pollution/noise parameters - MultiPointSeriesObservation |
| CURR | emodnet-physics.eu/map | EP_MAP_INT_CURR_MO_TS_DBA | EMODnet Physics - DB of the Mooring Buoys platfrom page collecting Sea Currents parameters - MultiPointSeriesObservation |
| OPTI | emodnet-physics.eu/map | EP_MAP_INT_OPTI_MO_TS_DBA | EMODnet Physics - DB of the Mooring Buoys platfrom page collecting Sea Optical properties parameters - MultiPointSeriesObservation |
| TEMP | emodnet-physics.eu/map | EP_MAP_INT_TEMP_MM_TS_DBA | EMODnet Physics - DB of the Sea Mammals platfrom page collecting Water column Temperature - MultiTrajectorySeriesObservation |
| PSAL | emodnet-physics.eu/map | EP_MAP_INT_PSAL_MM_TS_DBA | EMODnet Physics - DB of the Sea Mammals platfrom page collecting Water column Salinity - MultiTrajectorySeriesObservation |
| CURR | emodnet-physics.eu/map | EP_MAP_INT_CURR_HR_TS_DBA | EMODnet Physics - DB of theHF Radar platfrom page collecting Sea Surface Currents -GridSeriesObservation |
| RFVL | emodnet-physics.eu/map | EP_MAP_INT_RFVL_RS_TS_DBA | EMODnet Physics - DB of the River Gauging Station platfrom page collecting River Flow - MultiPointSeriesObservation |
| TEMP | emodnet-physics.eu/map | EP_MAP_INT_TEMP_CT_TS_DBA | EMODnet Physics - DB of the CTD platforms page - Water Column Temperature - MultiProfileSeriesObservation |

| | | | |
|---|---|---|---|
| PSAL | emodnet-physics.eu/map | EP_MAP_INT_PSAL_CT_TS_DBA | EMODnet Physics - DB of the CTD platforms page - Water Column Salinity - MultiProfileSeriesObservation |
| TEMP | emodnet-physics.eu/map | EP_MAP_INT_TEMP_ML_TS_DBA | EMODnet Physics - DB of the Mini Logger platforms page - Water Column Temperature - MultiProfileSeriesObservation |
| PSAL | emodnet-physics.eu/map | EP_MAP_INT_PSAL_ML_TS_DBA | EMODnet Physics - DB of the Mini Logger platforms page - Water Column Salinity - MultiProfileSeriesObservation |
| TEMP | emodnet-physics.eu/map | EP_MAP_INT_TEMP_AL_TS_TRE | EMODnet Physics - DB of the platforms page with Reanalysis/Trends in Water Column Temperature - MultiPointSeriesObservation |
| PSAL | emodnet-physics.eu/map | EP_MAP_INT_PSAL_AL_TS_TRE | EMODnet Physics - DB of the platforms page with Reanalysis/Trends in Water Column Salinity - MultiPointSeriesObservation |
| CURR | emodnet-physics.eu/map | EP_MAP_INT_CURR_AL_TS_TRE | EMODnet Physics - DB of the platforms page with Reanalysis/Trends in Sea Currentes - MultiPointSeriesObservation |
| WAVE | emodnet-physics.eu/map | EP_MAP_INT_WAVE_AL_TS_TRE | EMODnet Physics - DB of the platforms page with Reanalysis/Trends in Waves - MultiPointSeriesObservation |
| WIND | emodnet-physics.eu/map | EP_MAP_INT_WIND_AL_TS_TRE | EMODnet Physics - DB of the platforms page with Reanalysis/Trends in Winds at ground/sea level - MultiPointSeriesObservation |
| BGCH | emodnet-physics.eu/map | EP_MAP_INT_BGCH_AL_TS_TRE | EMODnet Physics - DB of the platforms page with Reanalysis/Trends in BioGeoChemical parameters - MultiPointSeriesObservation |
| ATMO | emodnet-physics.eu/map | EP_MAP_INT_ATMO_AL_TS_TRE | EMODnet Physics - DB of the platforms page with Reanalysis/Trends in Atmospheric and Meterological parameters - MultiPointSeriesObservation |
| SLEV | emodnet-physics.eu/map | EP_MAP_INT_SLEV_AL_TS_TRE | EMODnet Physics - DB of the platforms page with Reanalysis/Trends in Sea Level - MultiPointSeriesObservation |
| RFVL | emodnet-physics.eu/map | EP_MAP_INT_RFVL_AL_TS_TRE | EMODnet Physics - DB of the platforms page with Reanalysis/Trends in River Flow - MultiPointSeriesObservation |
| OPTI | emodnet-physics.eu/map | EP_MAP_INT_OPTI_AL_TS_TRE | EMODnet Physics - DB of the platforms page with Reanalysis/Trends in Optical properties of the Sea Water - MultiPointSeriesObservation |
| SIEx | emodnet-physics.eu/map | EP_MAP_INT_SIEx_SA_NN_ARC | EMODnet Physics - NRT Sea Ice Extend Arctic Sea - GridSeriesObservation - based on the CMEMS-SEAICE_GLO_SEAICE_L4_NRT_OBSERVATIONS_011_001 - Arctic and Antarctic - Ocean. The OSI SAF delivers three global sea ice products in operational mode: sea ice concentration, sea ice edge, sea ice type (OSI-401 OSI-402 and OSI-403). These products are delivered daily at 10km resolution in a polar stereographic projection covering the Northern Hemisphere and the Southern Hemisphere. It is the Sea Ice operational nominal product for the Global Ocean. In addition, a sea ice drift product is delivered at 60km resolution in a polar stereographic projection covering the Northern and Southern Hemispheres. The sea ice motion vectors have a time-span of 2 days. Developed by SIW-METNO-OSLO-NO |
| SIEx | emodnet-physics.eu/map | EP_MAP_INT_SIEx_SA_NN_ANT | EMODnet Physics - NRT Sea Ice Extend Antarctic Sea - GridSeriesObservation - based on the CMEMS-SEAICE_GLO_SEAICE_L4_NRT_OBSERVATIONS_011_001 - Arctic and Antarctic - Ocean. The OSI SAF delivers three global sea ice products in operational mode: sea ice concentration, sea ice edge, sea ice type (OSI-401 OSI-402 and OSI-403). These products are delivered daily at 10km resolution in a polar stereographic projection covering the Northern Hemisphere and the Southern Hemisphere. It is the Sea Ice operational nominal product for the Global Ocean. In addition, a sea ice drift product is delivered at 60km resolution in a polar stereographic projection covering the Northern and Southern Hemispheres. The sea ice motion vectors have a time-span of 2 days. Developed by SIW-METNO-OSLO-NO |

Naming Convention:
EP_XXX_YYY_ZZZZ_WW_QQ_MMM

EP = EMODnet Physics – distribution channel
XXX = dissemination interface – TDS,ERD, GEO, MAP
YYY = in built, source – INT, SDN, ICE, PSM, SON, etc
ZZZZ = theme – TEMP, PSAL, …, ALLP (all parameters)
WW = type of platform source - MO (mooring), FB (ferrybox), FS (fixed station), …, SA (satellite), NN (null)
QQ = type of data – TS (time series), PR (profile), VC (value code), GR (gridded)
MMM = Comment/notes – e.g. JAN/DEC (January, December), RAS (Raster), VAR (Variability), NRT (near real time), ANO (anomalies), TRE (trends), MED/GLO (seas), JER (Jerico projects), INR (impulsive noise events, DBA (all data in the EMODnet Physics DB)

# 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 | There is an increase in data availability for water temperature, water salinity and biogeochemical data because of the ingestion and links with CTDs from PANGEA, Saildrone data and T-MEDNET network. |
| 1.2 Number and coverage of built & external data products | As planned, we are working on the new EMODnet Physics catalogue that is already exposing more than 250 products. Most of them are internal (that means that data or products were processed[10] by EMODnet Physics. We added the endpoint to access the product in 1.2.1 that is providing the reader with details on number and coverage of available products. |
| 2. Organisations supplying each type of data | EMODnet Physics is connected to both European and international providers. Column E in sheet EP.2 reports the name of the provider. |
| 3. Interfaces to access or view data: list changes or new items within reporting period | 100% of data is available for the products as defined in 1.2.1 from the endpoint listed in 1.2.1 |
| 4. Usage of data and data products per interface and per theme | Figures are covering 1/10/2019 – 31/12/2019. We provided the reader with metrics when computable. The extraction of the metrics for this indicator is going to change in next report because now that the new catalogue is defined and published we are going to track the requests on the new catalogue entries that is designed to have one product per dissemination interface (meaning that if e.g. a TEMP product is available for download in the mapviewer, TDS and GeoServer, the catalogue has 3 entries and for each we report the number of views). |
| 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 1/10/2019 – 31/12/2019.<br>The report presents information on users that filled the web-form, the users who directly download data from the interfaces (TDS, ERDDAP, …) are not mapped under this metrics. The total number of users (D5) is the total number of users that filled the form that is a little subset of the EMODnet Physics users. |
| 6. External products (websites, apps, …) built on top of web-services: update since last quarterly report | We did not know about new applications, 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. We are trying to collect the report. |
| 7. Published use case and number of readings | The most viewed use-case are 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 | Figures as provided by TRUST-IT - nothing to comment |
| 9.1 Technical monitoring | Figures as provided by TRUST-IT - nothing to comment |
| 9.2 Portal user-friendliness | EMODnet Physics scores 73/81. There are some minor updates to be done. We are going to work on it in the next period. |

[10] It could be format conversion, adoption of standard parameter naming, integration of different sources into a single package, extraction of a layer from a multidimensional product, etc.

| | |
|---|---|
| 10. Visibility & Analytics for web pages | Figures as provided by TRUST-IT.<br>The number of views (and unique views) is in line with previous periods. Landing page and Map viewer page are the most clicked.<br>There is still a problem in the monitoring of the map page since Q1 2019 – an action is planned (see also Table 2) |
| 11. Visibility & Analytics for web sections | Figures as provided by TRUST-IT<br>The map viewer page is the most used part of the system. |
| 12. Average visit duration for web pages | Figures as provided by TRUST-IT<br>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. |

**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.