



EMODnet



European Marine
Observation and
Data Network

16th EMODnet TWG - Physics

Antonio Novellino, EMODnet Physics

08/10/2024



The European Marine Observation and Data Network (EMODnet) is financed by the European Union under Regulation (EU) 2021/1139 of the European Parliament and of the Council of 7 July 2021 establishing the European Maritime, Fisheries and Aquaculture Fund.

EMODnet Physics

Service status

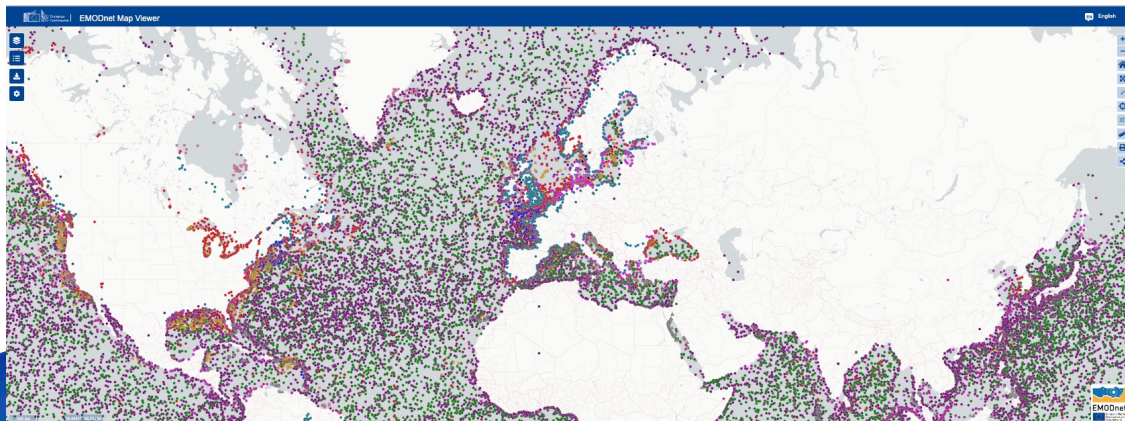
- **in situ** data, data collections and products on Physical parameters
 - CP Geoviewer, ERDDAP, GeoServer, GeoNetwork
- **near real time and delayed** mode data on ocean physics
- builds on **marine data infrastructures and programs**
- **continuous data flow**
 - 1700/2500 Mooring, 1240 Rivers, 120/2500 Gliders/AUVs missions, ...
 - 1100/3000 Vessels data, 1750/26900 drifting buoys, 3100/20000 ARGO, ...
- **global coverage** (whenever possible)
- **common standards** and tools (support to community)



duplicates
 too inland

| Parameter | 20 th SC | | 21 st SC | |
|-------------------------------------------------|---------------------|----------|---------------------|---|
| | Stations | Products | | |
| Water Temperature | 5856141 | 4 | 2486552 | 4 |
| Water Salinity and conductivity | 5820447 | 5 | 2465334 | 5 |
| Currents | 4494 | | 36375 | |
| Optical Properties (turbidity, light att., ...) | 19539 | 3 | 20274 | 3 |
| Sea Level | 7114 | 4 | 5708 | 6 |
| Meteorological | 14684 | | 29879 | |
| Waves (height, direction, ...) | 3544 | | 16703 | 1 |
| Winds (strength, direction) | 3215 | | 11388 | 1 |
| River outflow | 1787 | 1 | 1241 | 1 |
| Under water noise | 5 | 2 | 5 | 2 |

| | | |
|------------------|-------|---|
| Biochemical | 51733 | |
| Carbon System | 2181 | 1 |
| Dissolved Oxygen | 43751 | |



EMODnet Physics

Status Update



| Planned activities | status | |
|------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Complete the work on data-collections | In progress | Published a new Controlled vocabulary – NVS:P33 Improved synch with OCEANOPS for international programs metadata management Working on improved metadata template (including e.g. links to OBPS, sensors specs, ...) |
| Review “in situ filter” specs (in collaboration with CP team) | In progress | Validated on the staging system https://emodnet.development.ec.europa.eu/geoviewer/# |
| Update products/Clean the catalogue | In progress | To improve and harmonize the UX some products were removed from the geoviewer (not from the catalogue) T/S CORA updated, in progress Sea Level, Noise, Wave (big interest from community to publish under Physics external products – TBD) |
| Develop new (internal) workflow for providing CT with news/newsletters | In progress | To be updated to better match latest specs from Central Team (periodic papers) |
| Develop (internal) KPI to complement CT indicators | In test | Quarterly indicators refer to “themes”, internal indicators better track the typology of platform and the source |

```
[ ] import pandas as pd
import matplotlib.pyplot as plt
```

```
[ ] operational_date = '2024-09-20'
```

```
[ ] csv_url = 'https://ercompwebapps.emodnet-physics.eu/erddap/tabledap/EP_PLATFORMS_METADATA.csv?PLATFORMCODE%2Ccall_name%2Clatitude%2Clongitude%2CdataFeatureType%2ClastDate'
csv_url = csv_url + operational_date
```

```
[ ] try:
    sampling_points = pd.read_csv(csv_url, skiprows=[1])
except Exception as e:
    print(f"An error occurred: {e}")
```

```
▶ # prompt: make a table counting by platform_type_longname

platform_type_counts = sampling_points.groupby('platform_type_longname')['PLATFORMCODE'].count()
print(platform_type_counts)
```

```
platform_type_longname
Argo BGC                493
Argo/Profiler           2729
Diving Logger            5
Drifting Buoys          1746
Ferrybox/Ship            39
Fishing Vessels          178
Gliders                  120
HF Radar Radial         112
Mooring                  1714
River Station            2357
Sea Mammals              5
Thermosalinographers    866
Tide Gauge               1768
Weather Station          4
Name: PLATFORMCODE, dtype: int64
```

EMODnet Physics

Actions and JIRA

| | Open JIRA | | owner |
|--------|------------------------------------------------------------------------------|----------------|---------|
| EM-87 | Web Services MetadataUrl and DataUrl fields issue | Almost closed! | Physics |
| EM-918 | Revision of the themes under the EMODnet Physics section in the CP mapviewer | | Physics |
| EM-919 | Removal of product layers | | Physics |
| EM-957 | EMODnet lots to check if filter values are displayed in the preferred order | | Physics |
| EM-627 | Animation of Physics layers with many timesteps triggering DDOS protection | | CP |
| EM-946 | Layer animation: requests made after removing and adding a layer. | | CP |

Keep working on layers to ease the discovery of the in situ data collections and products:

- published
 - Wave, Wind, Sea Level (5min, 60min)
- working on (collection)
 - Currents, Optical properties of the water, Meteo, snow-cameras
 - Underwater signatures (CINEA/2022/OP/0019 - ECoSS)
 - PSMSL (RLR) trends
 - Platform-networks products (Ships, Gliders, HFR, ...)
- update/remove obsolete (products)
 - Temperature and Salinity anomalies

Review/improve layers filters

- projects, providers, ...

Improving/enhancing:

- EMODnet Physics metadata-data models
- UX in situ platform page
- overall performances
- documentation/how to...

```
[ ] import pandas as pd
import matplotlib.pyplot as plt

[ ] station_code = 'RS_IT_Po_Pontelagoscuro'
start_date = '2024-01-01'
end_date = '2024-09-23'

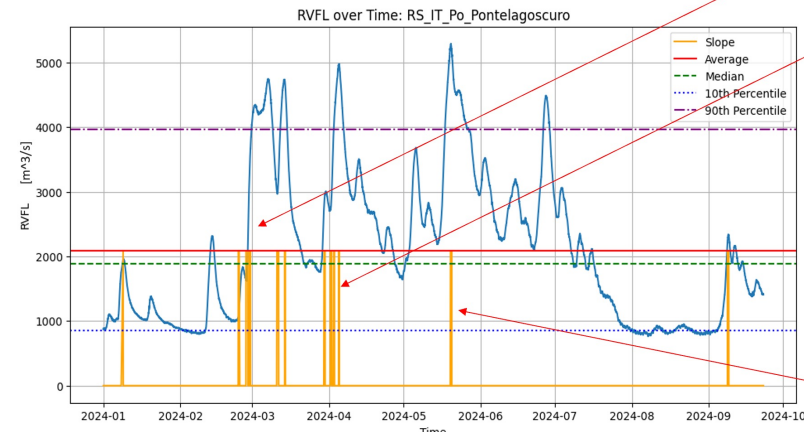
[ ] csv_url = 'https://ercompwebapps.emodnet-physics.eu/erddap/tabledap/TS_RVFL.csv?PLATFORMCODE=2&CTIME_0C%2CRVFL%2CRVFL_0C6PLATFORMCODE=422'
csv_url = csv_url + station_code
csv_url = csv_url + '&22&time%3E=' + start_date + '&T00%3A00%3A00Z&time%3C=' + end_date + '&T01%3A00%3A00Z'

[ ] print (csv_url)
https://ercompwebapps.emodnet-physics.eu/erddap/tabledap/TS_RVFL.csv?PLATFORMCODE=2&CTIME_0C%2CRVFL%2CRVFL_0C6PLATFORMCODE=422RS_IT_Po_Pontelagoscuro

[ ] try:
sampling_points = pd.read_csv(csv_url, skiprows=[1])
except Exception as e:
print(f"An error occurred: {e}")
```

Flooding – fast increase in the flow rate

- 1) weekly flow rate average
- 2) peak detection and amplification (and average of the amplified timeseries)
- 3) peak cleaning (> 10 times amplified average)



- [silenciosasera.it](#)
Il Po in rapida crescita, oltre due metri in poche ore. Arda sotto osservazione
IN AGGIORNAMENTO - Continua a salire il livello di fumi e torrenti a causa delle precipitazioni. Il livello del Po a Piacenza ha superato i...
28 feb 2024
- [Piena del Po, l'allerta è arancione: livelli in crescita dopo le piogge](#)
Ferrara, 3 aprile 2024 - Le piogge dei giorni scorsi e l'apporto degli affluenti emiliani lombardi hanno portato a un incremento del...
2 apr 2024
- [Gazzetta di Mantova](#)
La piena del Po passa nel Mantovano senza fare danni
La prima piena del 2024, dopo un lungo periodo di siccità interrotto da una crescita livelli a novembre, ha messo alla prova argini.
4 apr 2024
- [Piena Mantova](#)
Arriva una nuova ondata di piena del Po. A Torre d'Oglio ponte di barche già chiuso
Ondata di piena del Po anche nel Mantovano: attesa dal pomeriggio di oggi, mercoledì 3 aprile 2024. Chiuso il ponte di Torre d'Oglio.
3 apr 2024
- [Polesine24](#)
Piena del Po, l'allerta prosegue
Nuovi aggiornamenti per quanto riguarda la piena del fiume Po. E nuova allerta per una perturbazione in arrivo su tutto il Nord.
21 mag 2024

EMODnet Physics

Plans

- Update GeoNetwork
- Complete the inclusion of more insitu collections in the CP geoviewer
- Improve performances of the pages presenting in situ data
- Update static page (with more info on contributors, data provenience, and guidelines)
- Update products

Wishlist

- user guide on the CP geoviewer
- implement “Europa analytics” monitoring (with segments) on the geoviewer (to understand interaction on products) - focus on the platforms/getfeatures (and access these log to provide providers with feedback on views/use)



EMODnet



European Marine
Observation and
Data Network

emodnet.ec.europa.eu

Stay up-to-date with
the latest news

