



**EMODnet**



European Marine  
Observation and  
Data Network

*Your gateway to marine data in Europe*

0 300 600km

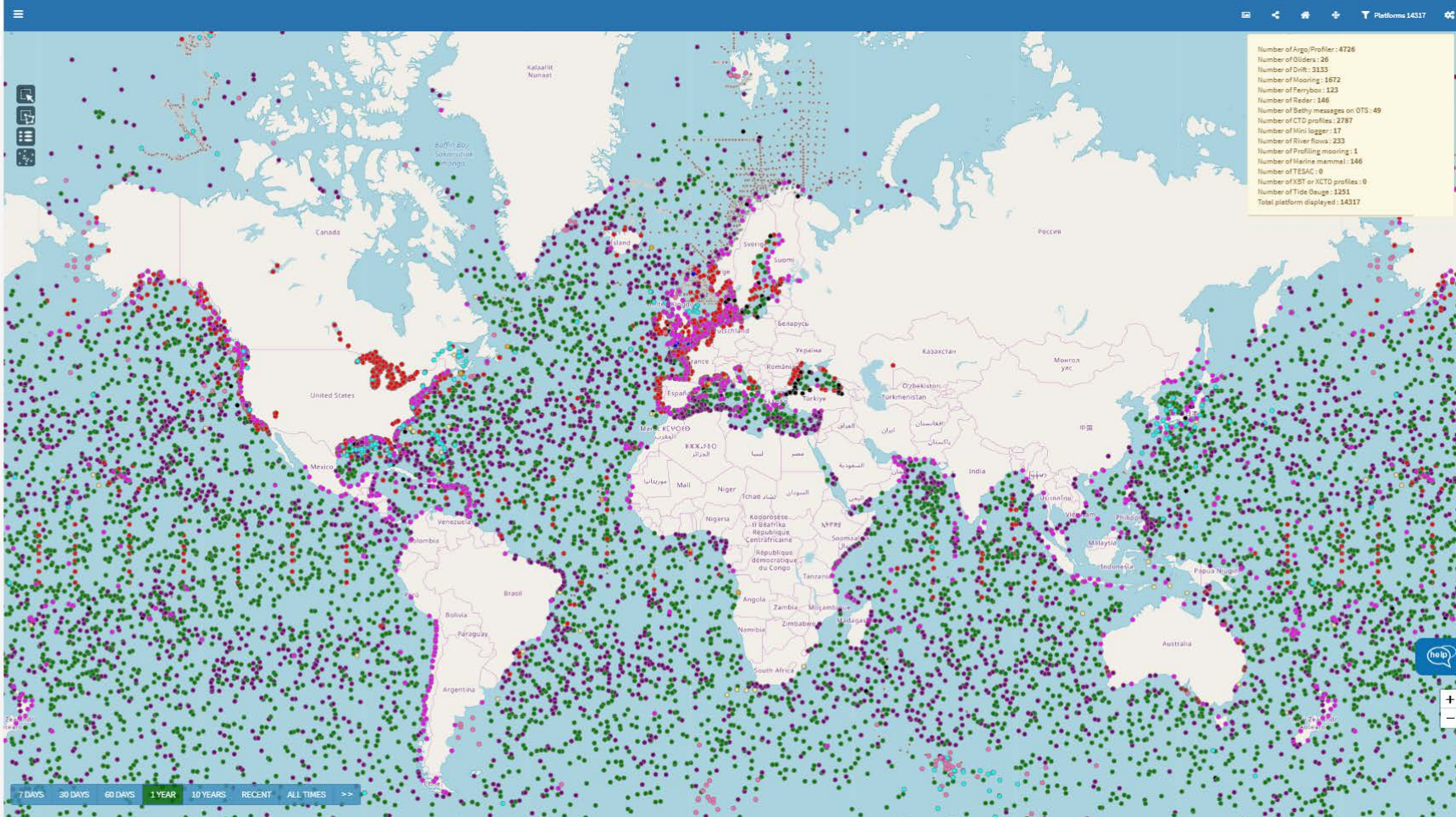
# EMODnet: Your gateway to marine data in Europe

Patrick Gorringer  
EMODnet  
secretariat

SMHI / EMODnet  
Physics Co-  
ordinator

Search platform...  
Search point:40,25,89,45

- Clear Selection
- PARAMETERS
- PLATFORM TYPE
- DEPTH
- SEA BASIN
- DATA PROVIDERS
- INTEGRATORS
- DATA PRODUCTS
- DATA NETWORK



7 DAYS 30 DAYS 60 DAYS 1 YEAR 10 YEARS RECENT ALL TIMES >>>

help





Problem with marine data: data scattered,  
in old archives, files, computers, ...  
Institutes don't transfer data, data formats,  
no standardization.....





EMODnet



European Marine  
Observation and  
Data Network

# EMODnet network unlocks hidden and fragmented marine data resources

EMODnet sits in an **increasingly complex** European marine observation data and information sharing landscape. This complexity is **confusing**, off-putting for a **user** but EMODnet makes it **easier for users** to access the required information.

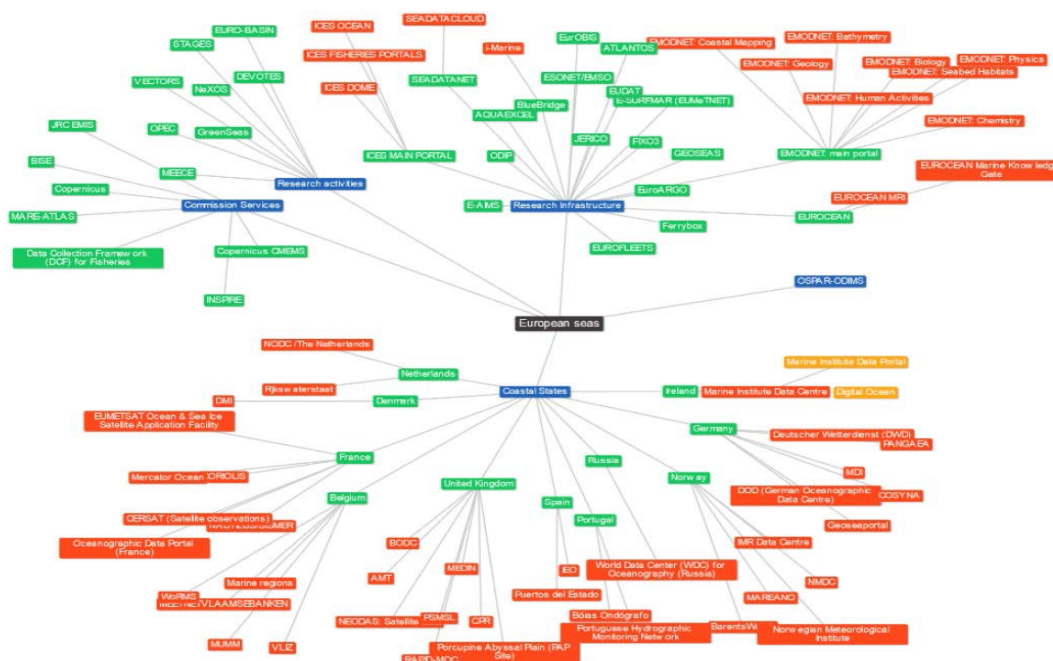


Figure 1 European Landscape - the big picture

EMODnet brings together marine data  
....but it also brings together communities (data workshops, platform, national)



# The role of EMODnet...

**EMODnet**



European Marine  
Observation and  
Data Network

... is to unlock hidden and fragmented marine data resources



**Launched by DG-MARE in 2009 (Directorate-General for Maritime Affairs and Fisheries)**

**Core principals:**

- Collect data once, use it many times**
- Develop data standards across and within disciplines**
- Build on existing efforts from data communities**
- Accompany data with statements on data ownership, accuracy and precision**
- Make the data, free and open, available to any user**

→ [www.emodnet.eu](http://www.emodnet.eu) ←

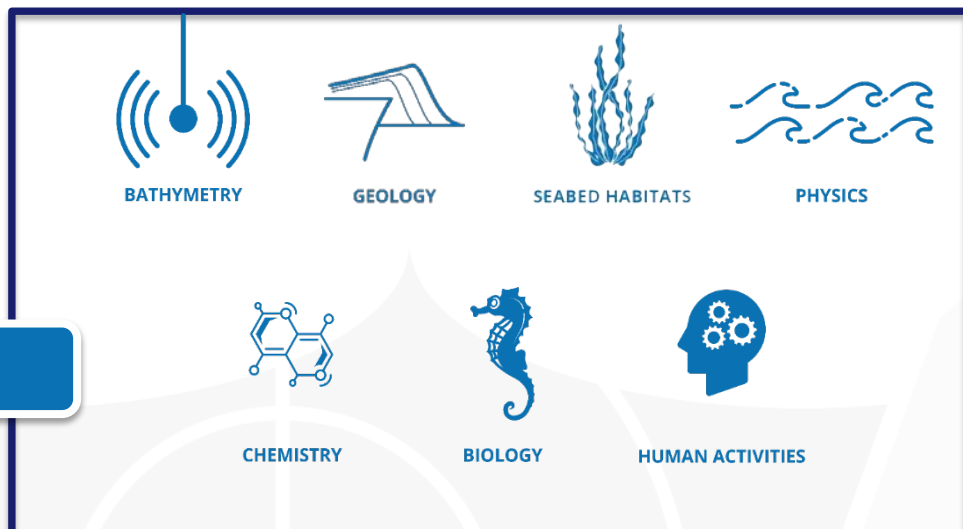


**EMODnet**



 **Network of >150 organisations**

# EMODnet consists of 5 strands and 7 portals



7 thematic portals

Central Portal

6 Sea-basin Checkpoints

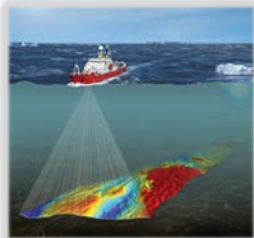
Data Ingestion Portal

Secretariat

1. Save costs
2. Develop new products & services
3. Adds value to your data
4. Improve our knowledge of the seas

# Thematic DATA coverage

## Bathymetry



Survey tracks

Water depth and depth profiles

Undersea features

Wrecks

High resolution bathymetry in coastal areas

## Geology



Seabed substrate

Sediment accumulation rates

Seafloor lithology

Seafloor stratigraphy

Coastal behaviour

Geological events and probabilities

Mineral occurrences

## Seabed habitats



Seabed habitat maps (broad-scale and specific per basin)

Individual seabed habitat maps from surveys

Environmental variables influencing habitat type (depth, salinity, currents, light, ...)

## Physics



Wave height and duration

Sea temperature

Wind speed and direction

Salinity

Horizontal speed of the water column

Water clarity

Changes in sea level

Inflow from rivers

Water conductivity / biochemical parameters

Atmospheric parameters

Underwater noise

## Chemistry



Acidity

Antifoulants

Chlorophyll

Dissolved gases

Fertilisers

Hydrocarbons

Marine litter (micro, beach, seafloor)

Heavy metals

Organic matter

Polychlorinated biphenyls

Pesticides and biocides

Radionuclides

Silicates

## Biology



Occurrences and abundances of species of:

Phytoplankton

Zooplankton

Macro-algae

Angiosperm

Fish

Reptile

Benthos

Bird

Sea mammal

## Human activities



Aggregate extraction

Aquaculture

Cultural heritage

Dredging

Fisheries

Hydrocarbon extraction

Traffic in main ports

Ocean energy facilities

Pipelines and cables

Protected areas

Status of bathing sites

Vessel density

Waste disposal (solids)

Wind farms

Other forms of area management/designation

Data

Metadata

**Bathymetry**

Data on bathymetry (water depth), depth contours, survey tracks, and geographical location of underwater features such as wrecks

**Geology**

Data on seabed substrate, seafloor geology, coastal behaviour, sediment accumulation rates, geological events and probabilities, and mineral occurrences

**Biology**

Data on species temporal and spatial occurrences, biotic measurements, and abiotic parameters

**Human activities**

Data on the intensity and spatial extent of human activities at sea



**EMODnet**

Central Portal

[www.emodnet.eu](http://www.emodnet.eu)

**Seabed habitats**

Data on seabed habitats and surveys, environmental variables, and seabed habitat models

**Physics**

Data on salinity, temperature, waves, currents, sea level, light attenuation, winds, underwater noise, river, water conductivity, atmosphere, optical properties

**Chemistry**

Data on concentrations of chemicals related to eutrophication and contamination in water, sediments and biota, and marine litter

Data Products

Data Services



- A single access gate for **near real time and multi-year historical data** on **physical conditions** of the seas and oceans as monitored by **in-situ platforms**
- Build on and in collaboration with **EuroGOOS, Copernicus Marine, SeaDataNet**
- A **data portal** interface:
  - Easily **accessible, interoperable, free** of restriction on use
  - Easy **identification** of and **links** to the data **provider**
  - Provides **feedback** on the **impact and use** to **data providers**
- A federated infrastructure with a **“Data Translator” engine**:
  - **Collect once and use many** times, reduce fragmentation and increase our knowledge of the oceans
  - **Facilitate the ingestion/connection** of new data sources and make available more data

## Data

Near real-time (NRT) data at in situ observatories at sea

Reprocessed NRT data

Archived data derived from further elaboration and validation

## Products

Data products

- Sea Level
- Temperature & Salinity
- Currents
- Ice coverage
- River runoff & TSM
- Impulsive Noise

## Parameters

Temperature

Wind

Salinity

Atmospheric param.

Waves

Biogeochemical param.

Currents

Optical properties

Sea Level

Ice data

Under water noise

River Runoff

## Services

Data portal

Catalogue

Products portal

Newsletter & digest

Monitoring tools

Reports (mail)

http & permaURLs

API REST/SOAP

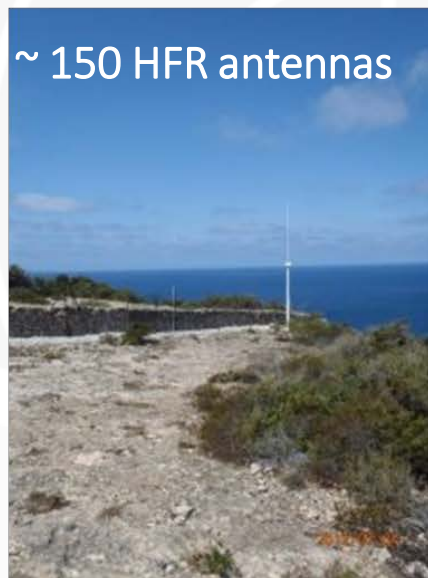
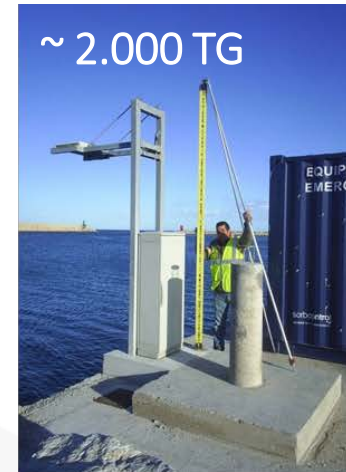
OGC WMS, WFS, WCS

THREDDS

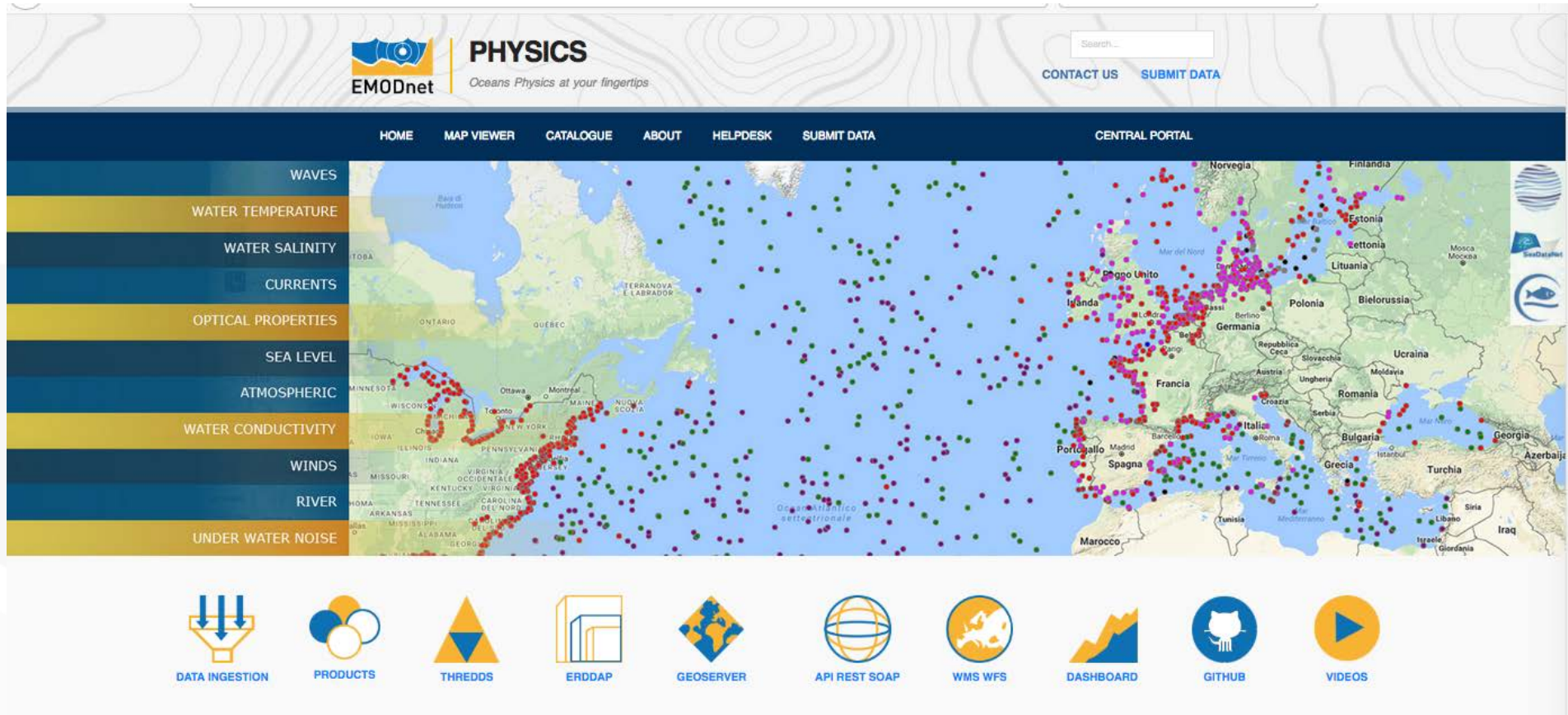
ERDDAP

widgets

# Unlocking data, bringing communities together and contributing to a better, data, coordinated observing system



www.emodnet-physics.eu



The screenshot shows the EMODnet Physics landing page. At the top left is the EMODnet logo and the text "PHYSICS Oceans Physics at your fingertips". To the right is a search bar and links for "CONTACT US" and "SUBMIT DATA". Below this is a navigation bar with links: HOME, MAP VIEWER, CATALOGUE, ABOUT, HELPDESK, SUBMIT DATA, and CENTRAL PORTAL. The main content area features a vertical menu on the left with categories: WAVES, WATER TEMPERATURE, WATER SALINITY, CURRENTS, OPTICAL PROPERTIES, SEA LEVEL, ATMOSPHERIC, WATER CONDUCTIVITY, WINDS, RIVER, and UNDER WATER NOISE. The central part of the page is a map of the Atlantic and Mediterranean regions, overlaid with numerous colored dots representing data points. On the right side of the map, there are logos for "SeaDataHub" and "EMODnet". At the bottom of the page, there is a row of ten icons representing different services: DATA INGESTION, PRODUCTS, THREDDS, ERDDAP, GEOSERVER, API REST SOAP, WMS WFS, DASHBOARD, GITHUB, and VIDEOS.

more than 25.000 connected platforms, more than 600.000 datasets

7 Days 60 Days Older data

quick download(80 days): select data format and go

NetCDF CSV Download Preview

PSMML quick download: choose your data

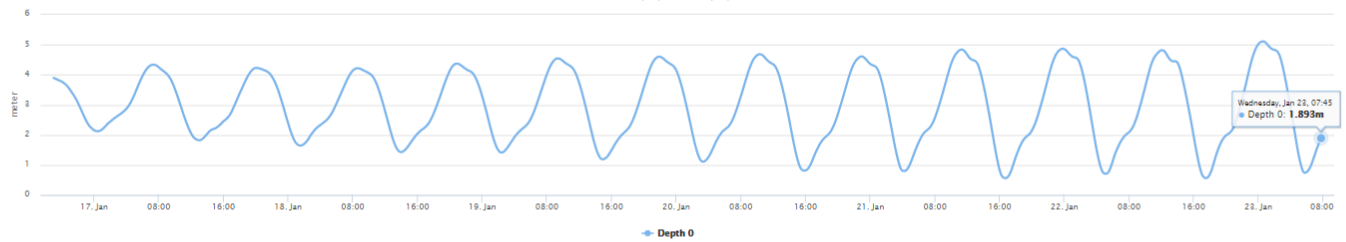
Monthly trends Annual trends

plots are a Runtime undersampled view of the dataset; to see full details open the "preview"



Sea Level / observed sea level - meter

observed sea level in TIME  
from 2019/01/16 to 2019/01/23



QC any

QC doc

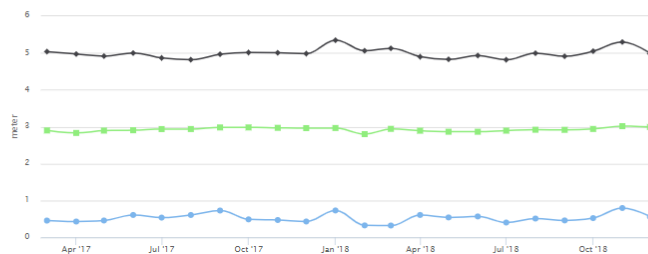
PROD ID IBI 013 033

Select other depths to see more timeseries

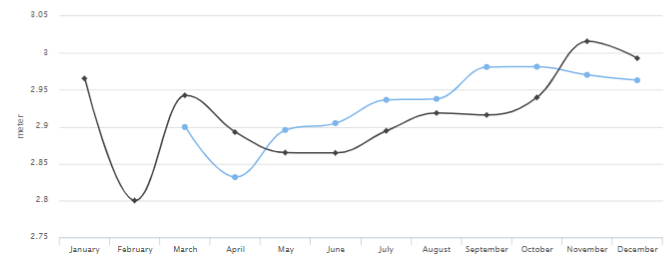
© EMODnet-Physics

Trends from NRT data with NO QC

observed sea level - Min/Max/Average



observed sea level - AnnualAVG



PLATFORM CODE

Portsmouth  
PortsmouthTG  
PSMML\_PORTSMOUTH\_350  
IOC\_ptmt

INSTITUTION

NOC - National Oceanography Centre  
Southampton - UK  
Met Office- United Kingdom  
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ASSEMBLY CENTER

IBIROOS DAC (Puertos del Estado)

TYPE

Tide Gauge

PRINCIPAL INVESTIGATOR

PdE

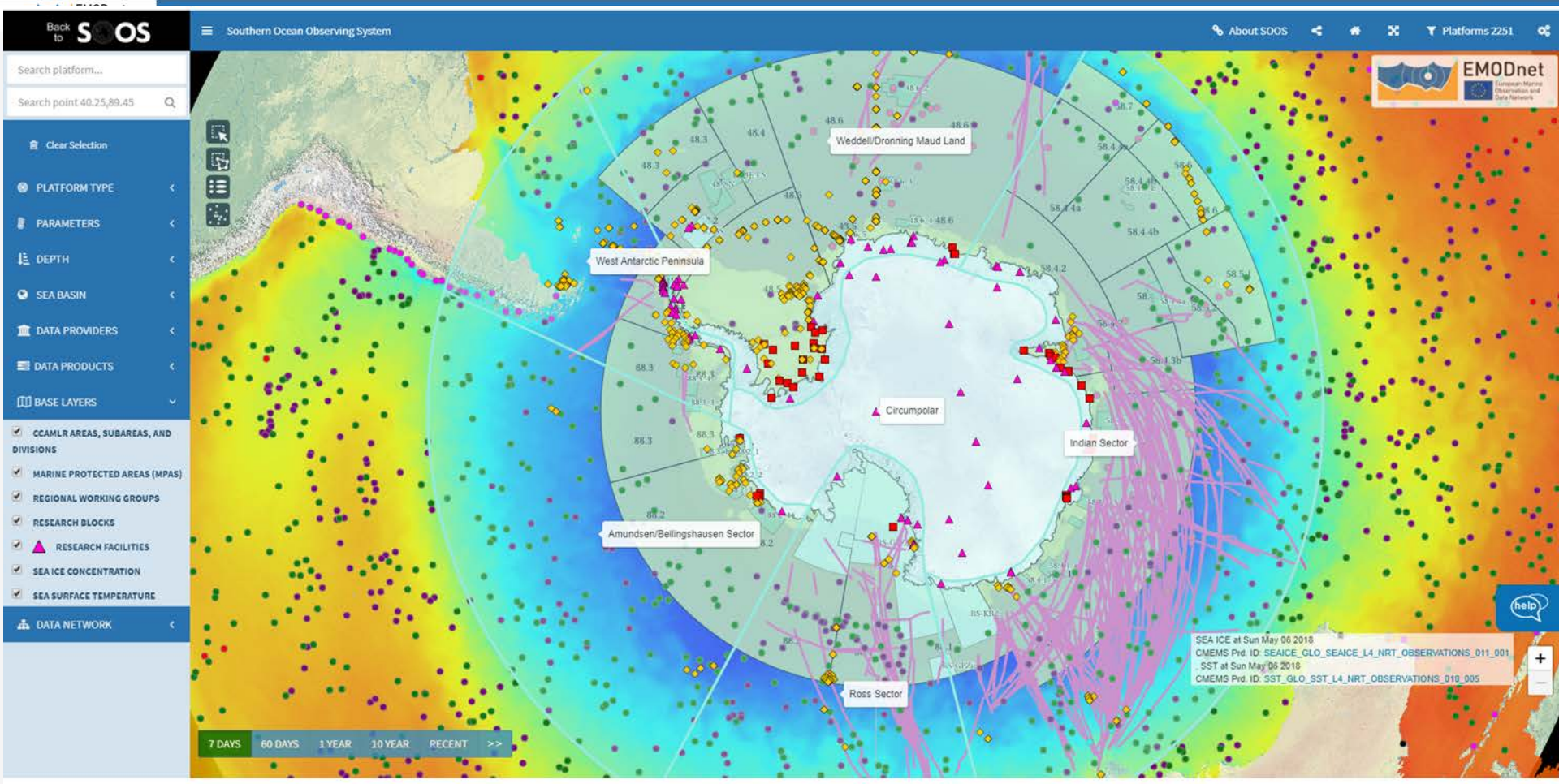
SONEL - GPSIGNSS

PSMML\_PORTSMOUTH\_350 GPS\_id 2011


CMEMS - PROD ID

INSITU IBI NRT OBSERVATIONS 013 033





Service	Description	Examples
permaURL	All platforms	<a href="http://http://www.emodnet-physics.eu/Map/platinfo/piroosplot.aspx?platformid=8427">http://http://www.emodnet-physics.eu/Map/platinfo/piroosplot.aspx?platformid=8427</a> <a href="http://www.emodnet-physics.eu/Map/spi.aspx?code=Arkona">http://www.emodnet-physics.eu/Map/spi.aspx?code=Arkona</a> Service description @ <a href="http://www.emodnet-physics.eu/map/spi.aspx">http://www.emodnet-physics.eu/map/spi.aspx</a>
API REST/SOAP	Latest 60 days of data	<a href="http://www.emodnet-physics.eu/map/Service/WSEmodnet2.aspx">www.emodnet-physics.eu/map/Service/WSEmodnet2.aspx</a> <a href="http://www.emodnet-physics.eu/map/service/WSEmodnet2.asmx">www.emodnet-physics.eu/map/service/WSEmodnet2.asmx</a>
OGS WMS, WFS,	Postgresql + Geoserver	<a href="http://geoserver.emodnet-physics.eu/geoserver/web">geoserver.emodnet-physics.eu/geoserver/web</a> examples and service description @ <a href="http://www.emodnet-physics.eu/map/service/GeoServerDefaultWMS">www.emodnet-physics.eu/map/service/GeoServerDefaultWMS</a> <a href="http://www.emodnet-physics.eu/map/service/GeoServerDefaultWFS">www.emodnet-physics.eu/map/service/GeoServerDefaultWFS</a>
THREDDS (OpenDAP, WMS, WCS)	Latest 60 days + HFR data + Ice	<a href="http://thredds.emodnet-physics.eu/thredds/catalog.html">thredds.emodnet-physics.eu/thredds/catalog.html</a>
ERDDAP	Latest 60 days	<a href="http://erddap.emodnet-physics.eu">erddap.emodnet-physics.eu</a>
widgets	All plots	<a href="http://www.emodnet-physics.eu/Map/Charts/PlotDataTimeSeries.aspx?paramcode=EMO&amp;platid=8427&amp;timerange=">www.emodnet-physics.eu/Map/Charts/PlotDataTimeSeries.aspx?paramcode=EMO&amp;platid=8427&amp;timerange=</a>



**CENTRAL PORTAL**  
Your gateway to marine data in Europe

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[ABOUT](#) [DATA PORTALS](#) [DATA SERVICES](#) [SOLUTIONS](#) [CHECKPOINTS](#) [NEWS & EVENTS](#) [EOOS CONFERENCE](#) [ATLAS OF THE SEAS](#)

[Home](#) » [Solutions](#) » [Use Cases](#)

## Use Cases

Portal: [Physics](#) Case Type: [- Any -](#)

### EMODnet Physics enhances the services of the CMEMS In Situ Thematic Assembly Centre

EMODnet Physics has developed a user-friendly interface for the Copernicus Marine Environment Monitoring Service (CMEMS) In Situ Thematic Assembly Centre to improve the viewing service developed for outreach and promotion activities.

[Physics](#)

### Monitoring of global in situ real-time oceanographic data traffic and quality

The EMODnet Physics Portal map viewer allows the Fisheries and Oceans department of the Government of Canada to quickly view where a platform is located and which platforms are located next to it.

[Physics](#)

### Capitalising on EMODnet Radar Data for Water Dispersion Studies

Leveraging on the EMODnet radar data, PM\_TEN, an Italian, technology-transfer company active in the Environmental Physics field, has released a new service for its customers (as part of an environmental impact assessment package) which uses EMODnet radar data to integrate the output of numerical circulation models and provide a solid and validated input to oil spill models.

[Physics](#)

### EMODnet & CMEMS together to build a framework for improving land boundary conditions in CMEMS

#### EMODnet Chemistry Final Meeting

The EMODnet Chemistry final meeting will be organized by IEO in Madrid, Spain in January 2019.  
29 Jan 2019 to 31 Jan 2019

#### 9th FerryBox Workshop

EMODnet Physics co-organises the 9th Ferrybox Workshop in Spring 2019.  
24 Apr 2019 to 26 Apr 2019

[View All](#)

#### LATEST NEWS

##### Launch of the EMODnet Atlas of European Marine Life!

*EMODnet Biology is proud to unveil a new and innovative showcase of exemplar marine biolo*

19 Dec 2018

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##### New EMODnet portfolio

Interested to have an overview of what EMODnet has to offer in terms of data and data products?  
11 Dec 2018

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##### EMODnet and its fundamental role in shaping the future of ocean observing in Europe

From 21 to 23 November 2018, more than 300 participants gathered in Brussels to discuss the future of ocean observing, monitoring and data collection efforts in Europe. The EMODnet Secretariat, together with the European Marine Board and EuroGOOS, played a key role in the organisation of this... 30 Nov 2018

[View All](#)

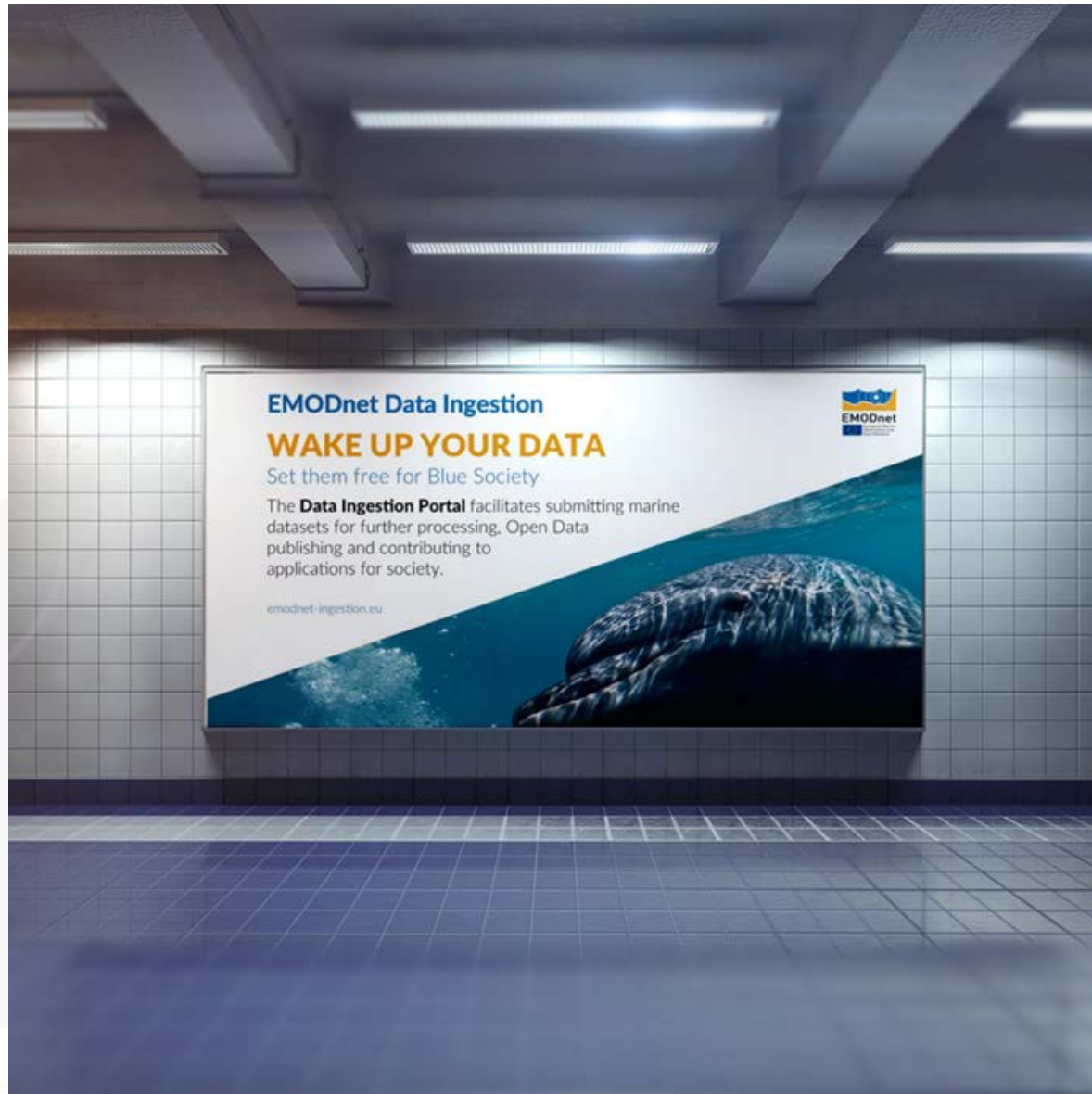




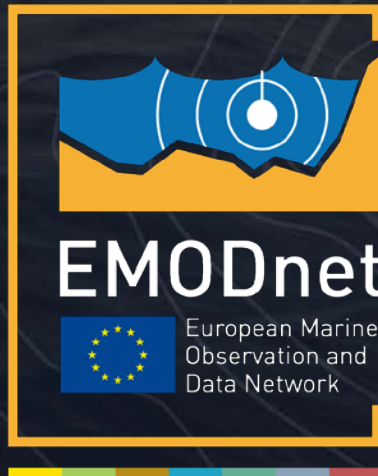
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*[www.emodnet-ingestion.eu](http://www.emodnet-ingestion.eu)*



@EMODnet

[www.emodnet.eu](http://www.emodnet.eu)

*Your gateway to marine data in Europe*

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