

# EMODnet query tool

Accessing the EMODnet thematic data products

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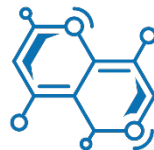
# Thematic portals



**BATHYMETRY**



**BIOLOGY**



**CHEMISTRY**



**GEOLOGY**



**HUMAN ACTIVITIES**



**PHYSICS**



**SEABED HABITATS**



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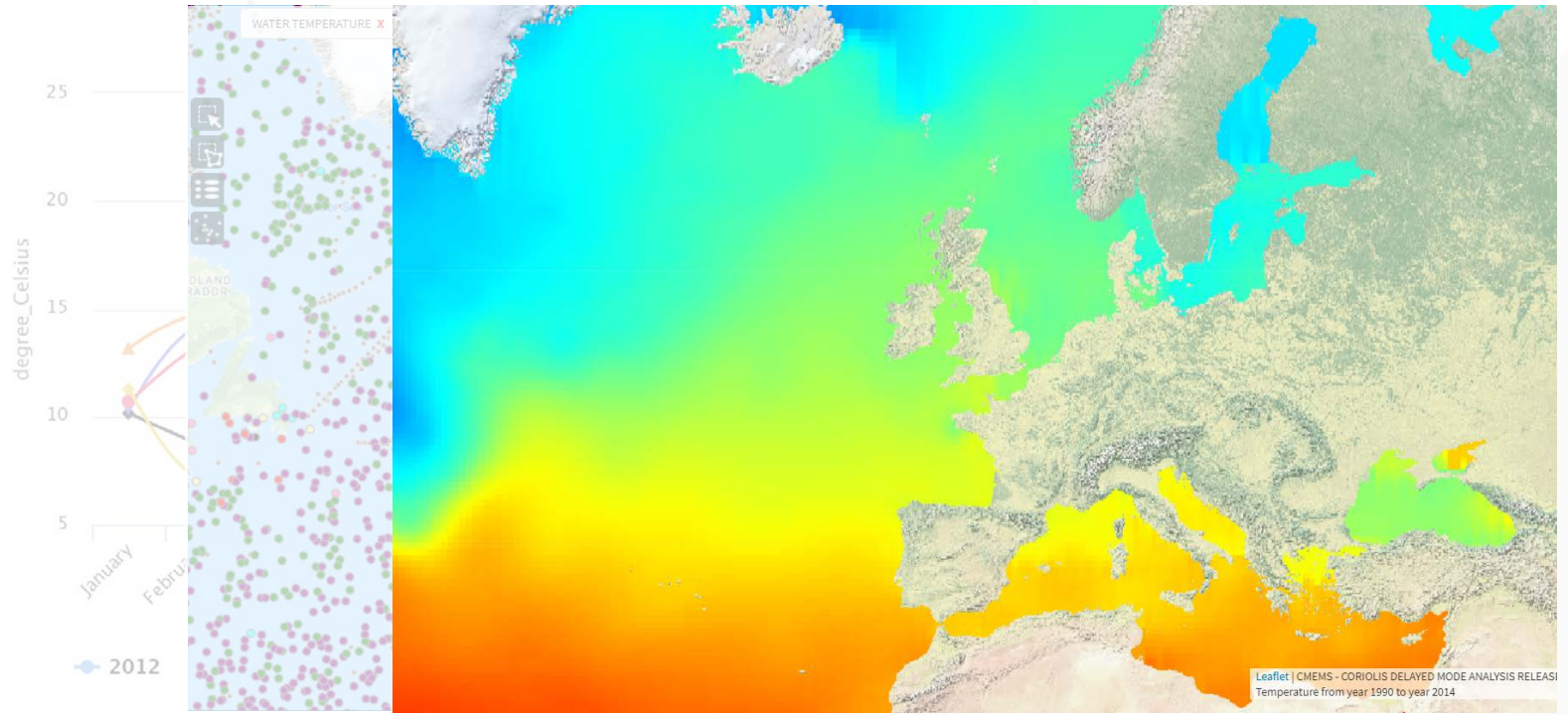


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## From data to data product

Raw data → Aggregation → Interpolation → Product

```
54 TIME;DEPTH;CND
55 01/03/2018 00:
56 01/03/2018 00:
57 01/03/2018 00:
58 01/03/2018 00:
59 01/03/2018 00:
60 01/03/2018 00:
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83 01/03/2018 00:
84 01/03/2018 01:
85 01/03/2018 01:
86 01/03/2018 01:
87 01/03/2018 01:
```



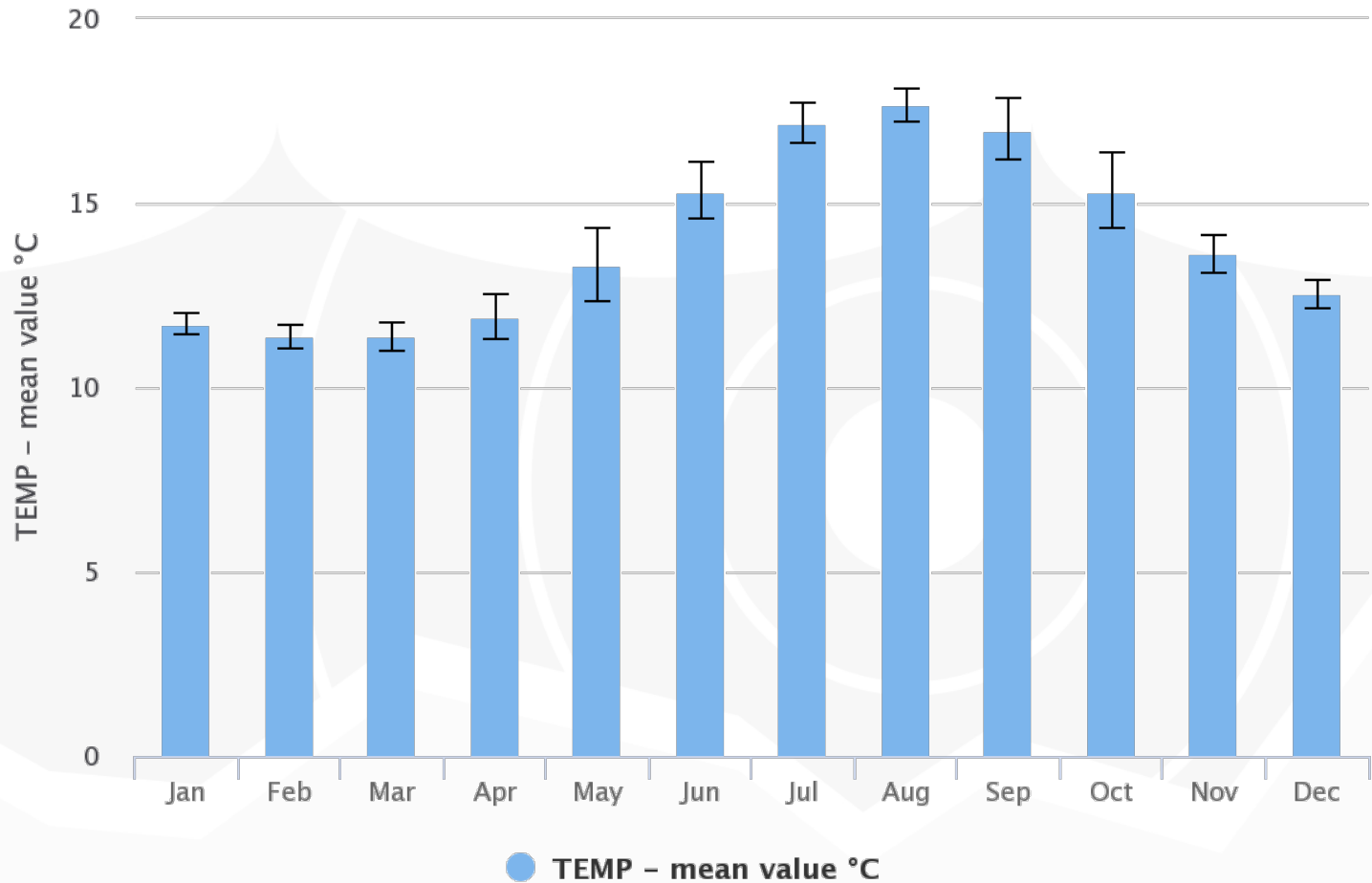


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# Valuable information from data products





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## The Central Portal

- Provide general information on all EMODnet thematic projects, promoting the project as one integrated network.
- Provide access to the data products developed and managed by the individual thematic lots.
- Organize user services to facilitate and increase access to the EMODnet portals.

Catalogue

Map viewer

Web services  
documentation

Query tool

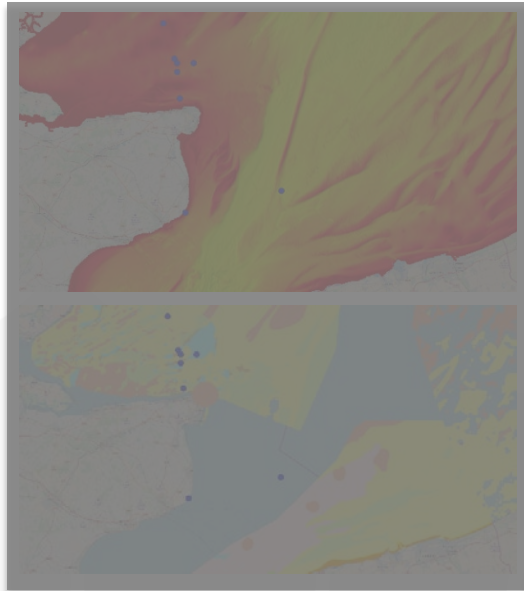


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# Query tool 1.0: drawbacks

|    | A        | B         |
|----|----------|-----------|
| 1  | Latitude | Longitude |
| 2  | 50.15    | 1.30      |
| 3  | 51.20    | 1.74      |
| 4  | 52.11    | 1.12      |
| 5  | 51.15    | 1.39      |
| 6  | 51.49    | 1.42      |
| 7  | 51.58    | 1.31      |
| 8  | 51.41    | 1.37      |
| 9  | 51.49    | 1.36      |
| 10 | 51.50    | 1.35      |
| 11 | 51.47    | 1.36      |



|    | A        | B         | C                | D               |
|----|----------|-----------|------------------|-----------------|
| 1  | Latitude | Longitude | Bathymetry_depth | SH_habitat_type |
| 2  | 50.15    | 1.30      | value            | value           |
| 3  | 51.20    | 1.74      | value            | value           |
| 4  | 52.11    | 1.12      | value            | value           |
| 5  | 51.15    | 1.39      | value            | null            |
| 6  | 51.49    | 1.42      | value            | value           |
| 7  | 51.58    | 1.31      | value            | value           |
| 8  | 51.41    | 1.37      | value            | value           |
| 9  | 51.49    | 1.36      | value            | null            |
| 10 | 51.50    | 1.35      | value            | value           |
| 11 | 51.47    | 1.36      | value            | value           |

- ⦿ User input: list of coordinates -> preparation in advance
- ⦿ Return value for the layer at input point -> works for raster/grids and polygon layers
- ⦿ User-friendliness of output file
- ⦿ Further analysis of the output file needed -> added value?
- ⦿ 4-dimensional layers



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# Query tool 2.0

## What does not change

- ⦿ Retrieve information from multiple thematic data products via one single interface

## What changes

- ⦿ Improve user-friendliness and intuitiveness: web map interface
- ⦿ Make use of added value of data products
- ⦿ Output: product ready to consume (no further analysis needed)
- ⦿ On the fly & report results: adjust your query





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# Query tool 2.0

## Concept

- 📍 Tool for a preliminary assessment and early phase planning of a particular activity

## Basic functionalities

- 📍 To visualize data products
- 📍 To select an area of interest (bounding box)
- 📍 To retrieve on the fly summary statistics for the selected layer(s)
- 📍 To get a pdf/html report with maps and summary statistics of selected layer(s)

## Extended functionalities

- 📍 Filtering options
- 📍 Select by pre-defined polygons



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# Prototype





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# Report



BATHYMETRY

[Show](#)



HUMAN ACTIVITIES

Nothing selected



BIOLOGY

Nothing selected



PHYSICS

Nothing selected



CHEMISTRY

Nothing selected



SEABED HABITATS

[Show](#)



GEOLOGY

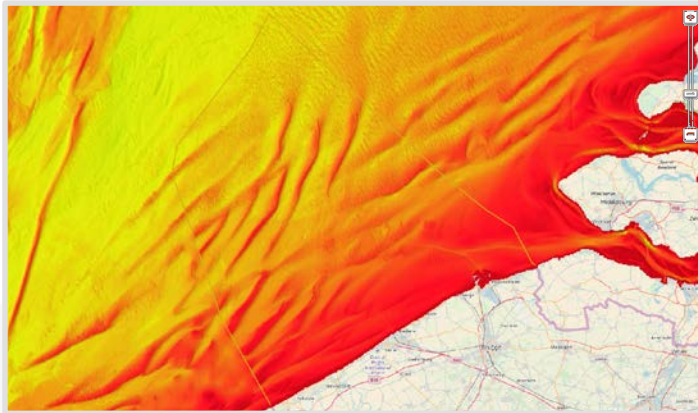
[Show](#)



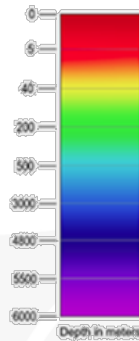
# Mean depth from DTM

The EMODnet DTM is generated by regional teams from the EMODnet Bathymetry partnership following a common QA-QC process and DTM generation methodology. The resolution of the EMODnet DTM since early February 2015 is a grid size of (...)

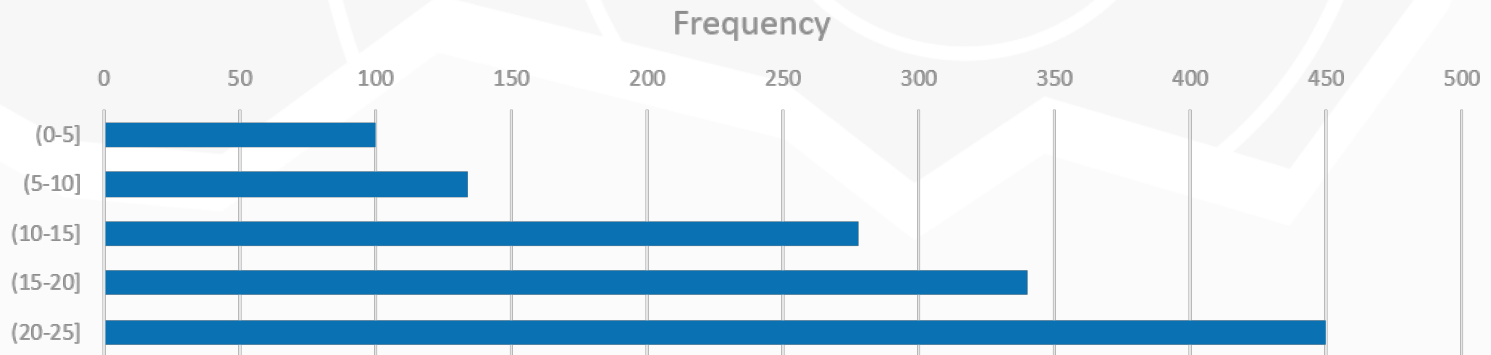
+



Rainbow (non-linear)



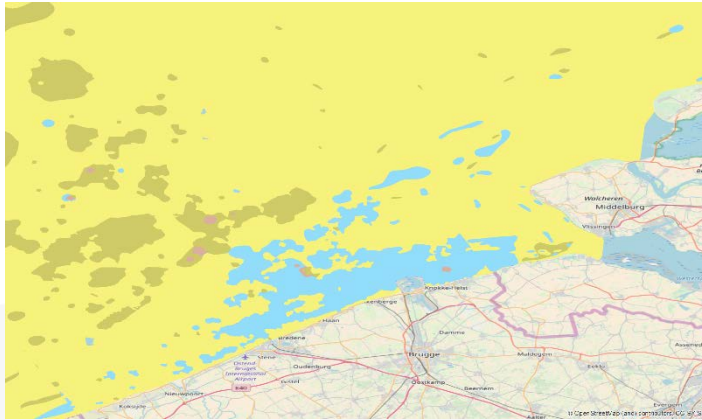
|                                |         |
|--------------------------------|---------|
| Average depth of selected area | 24.32 m |
| Minimum depth of selected area | 0 m     |
| Maximum depth of selected area | 54.21 m |



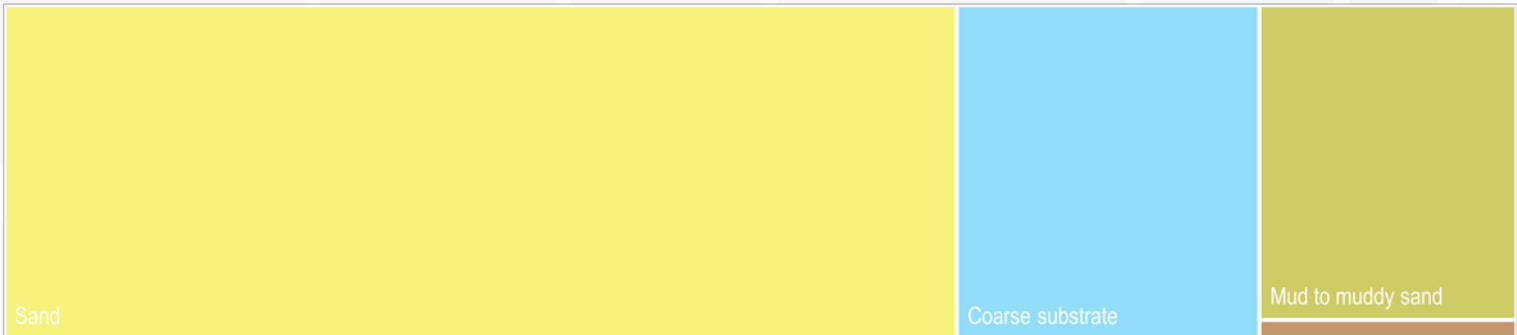
# Seabed substrate 1:250k

Geological data from Europe's seas is collected by national organizations using a range of tools and techniques. The main providers of data for EMODnet Geology are the national geological surveys, but other entities hold and contribute data. The (...)

+



|                          |             |                         |                             |
|--------------------------|-------------|-------------------------|-----------------------------|
| Mud to muddy sand<br>16% | Sand<br>63% | Coarse substrate<br>20% | No data at this level<br>1% |
|--------------------------|-------------|-------------------------|-----------------------------|



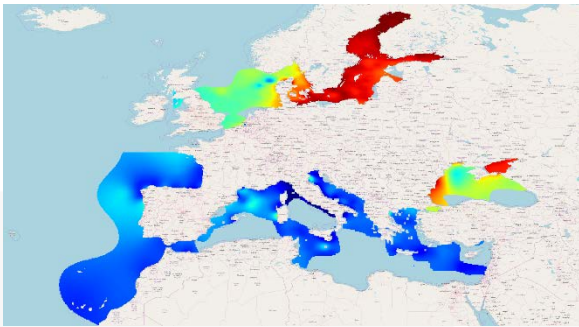


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# Valuable information from data products...?

## Chemistry

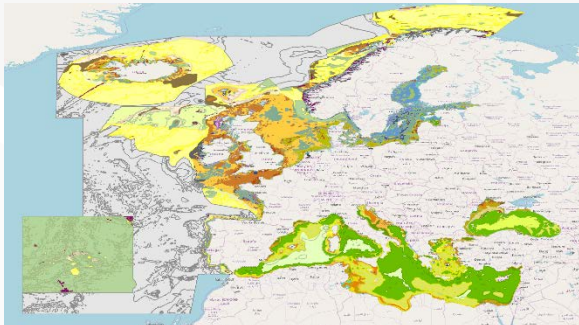


Concentrations of ammonium, Chla-a, dissolved oxygen, phosphate and silicate, averaged per season, at different depths

Min, max, average

|      | Winter | Spring | Summer | Autumn |
|------|--------|--------|--------|--------|
| 2000 | value  | value  | value  | value  |
| 2001 | value  | value  | value  | value  |
| 2002 | value  | value  | value  | value  |
| 2003 | value  | value  | value  | value  |
| 2004 | value  | value  | value  | value  |

## Seabed habitats



Broad-Scale Predictive habitat Map

- 36.1% " A5.27: Deep circalittoral sand
- 31.4% " A5.25 or A5.26: Circalittoral fine muddy sand
- 18.5% " A5.15: Deep circalittoral coarse
- 6.55% " A5.35 : Circalittoral sandy mud



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# Valuable information from data products...?

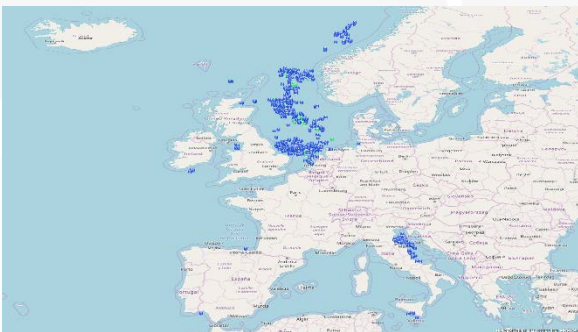
## Biology



Observations and gridded abundances of species per EOY group (phyto-, zooplankton, fish, macrovertebrates, etc).

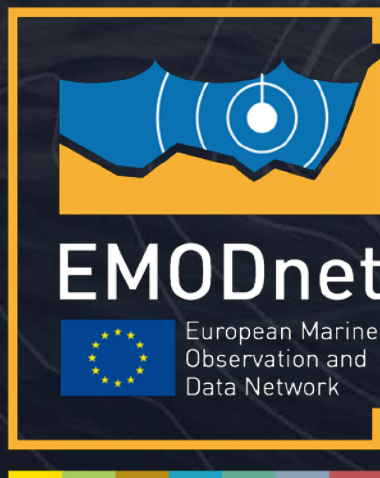
- Number (#) of species in selected area: xxx (download full list)
- # of records in selected area: xxx (download)
- # of Red list species in selected area: xxx (download)
- # of HAB species in selected area: xxx (download)
- # of Invasive species in selected area: xxx (download)
- # of MSFD indicator species: xxx (download)
- # of Habitat directive species: xxx (download)

## Human activities



Location of human activities, installations, infrastructure (e.g. aquaculture, pipelines, wind farms, oil/gas platforms, shipping routes, etc.)

Presence/absence, count



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