



**EMODnet**

European Marine  
Observation and  
Data Network

# Updates from EMODnet Thematics

## EMODnet Chemistry

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**15<sup>th</sup> EMODnet Technical Working Group**  
**12 March 2024**



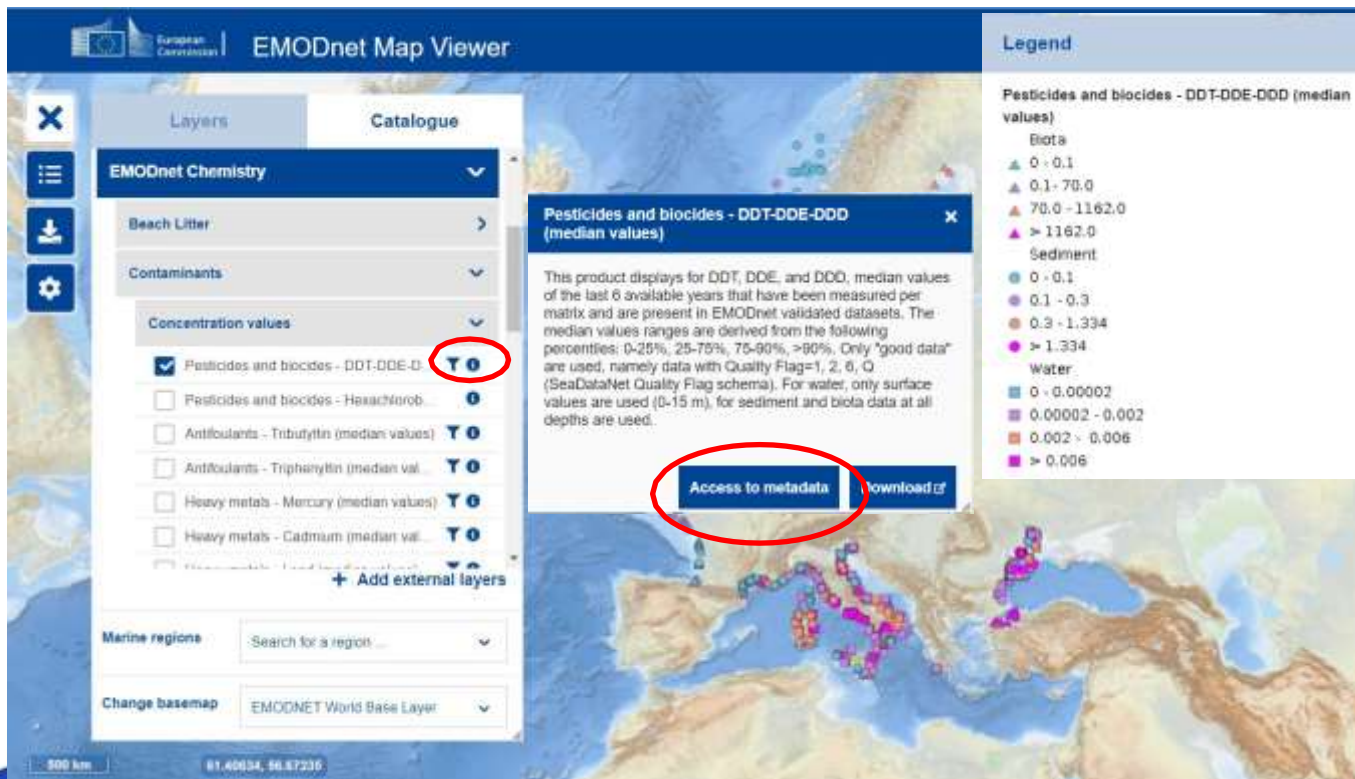
The European Marine Observation and Data Network (EMODnet) is financed by the European Union under Regulation (EU) 2021/1139 of the European Parliament and of the Council of 7 July 2021 establishing the European Maritime, Fisheries and Aquaculture Fund.

# Progress in Chemistry activities since last TWG

October 2023 started new phase (renewal)

## Data products in the Map Viewer

- New **contaminants maps** hosted by HCMR Geoserver are successfully loaded in the Map Viewer
- New **eutrophication maps** hosted by ULiege Ocean Browser are still in the testing environment (EM-801, June 2023)
- Pending publication of **5 map layers from webODV** in the Map viewer (we are not allowed to advertise webODV services hosted by AWI)



EMODnet Map Viewer

Layers Catalogue

EMODnet Chemistry

Beach Litter

Contaminants

Concentration values

Pesticides and biocides - DDT-DDE-DDD **T O**

Pesticides and biocides - Hexachlorob. **O**

Antifoulants - Tributyltin (median values) **T O**

Antifoulants - Triphenyltin (median val. **T O**

Heavy metals - Mercury (median values) **T O**

Heavy metals - Cadmium (median val. **T O**

... **T O**

+ Add external layers

Marine regions Search for a region ...

Change basemap EMODNET World Base Layer

300 km 81.40634, 36.57336

**Pesticides and biocides - DDT-DDE-DDD (median values)**

This product displays for DDT, DDE, and DDD, median values of the last 6 available years that have been measured per matrix and are present in EMODnet validated datasets. The median values ranges are derived from the following percentiles: 0-25%, 25-75%, 75-90%, >90%. Only "good data" are used, namely data with Quality Flag=1, 2, 6, 0 (SeaDataNet Quality Flag schema). For water, only surface values are used (0-15 m), for sediment and biota data at all depths are used.

[Access to metadata](#) [Download of](#)

**Legend**

**Pesticides and biocides - DDT-DDE-DDD (median values)**

**Biota**

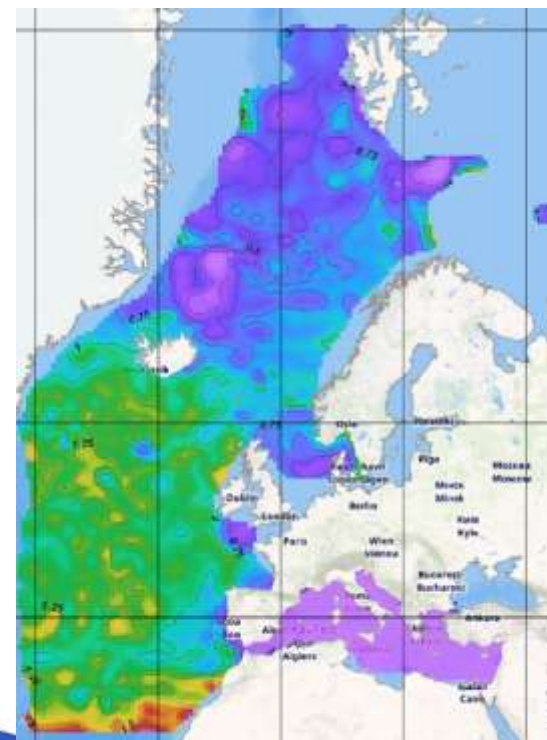
- ▲ 0 - 0.1
- ▲ 0.1 - 70.0
- ▲ 70.0 - 1162.0
- ▲ > 1162.0

**Sediment**

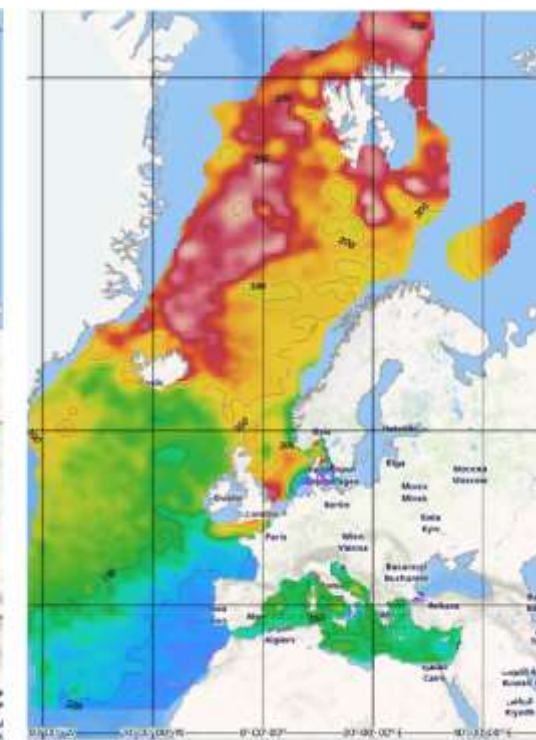
- 0 - 0.1
- 0.1 - 0.3
- 0.3 - 1.334
- > 1.334

**Water**

- 0 - 0.00002
- 0.00002 - 0.002
- 0.002 - 0.006
- > 0.006



Phosphate isopycnal



Oxygen isopycnal

# Progress in Chemistry activities since last TWG

October 2023 started new phase (renewal)

## Data products in the Products Catalogue

- New metadata records for the **maps (pollution, litter, eutrophication)** → harvesting from the Chemistry catalog hosted by Ifremer (Sextant CSW)
- New metadata records for eutrophication, litter and pollutants **regional data collections** → harvesting from the Chemistry catalog hosted by Ifremer (Sextant CSW)
  - Define a strategy to link previous versions to the new release (parent-child as implemented for the DIVA maps updating?)

Q Back to search

Download Display mode


Contaminants: Pesticides and biocides - DDT-DDE-DDD (median values), v2023

This product displays for DDT, DDE, and DDD, median values of the last 6 available years that have been measured per matrix and are present in EMODnet validated datasets. The median values ranges are derived from the following percentiles: 0-25%, 25-75%, 75-90%, >90%. Only "good data" are used, namely data with Quality Flag=1, 2, 6, Q (SeaDataNet Quality Flag schema). For water, only surface values are used (0-15 m), for sediment and biota data at all depths are used.

Identification Content ReferenceSystem Quality DomainConsistency

Alternate title	Contaminants: Pesticides and biocides - DDT-DDE-DDD (median values), v2023
Date	01/11/2023
Date type	Creation: Date identifies when the resource was brought into existence
Edition	1.0
Unique resource identifier	8e577af5-20f5-43b9-85cb-c8de0175e495

Overviews




ALL\_DDT\_median.jpg

Spatial extent

Bounding box description  
bounding box

Bounding box



- Last product version in the viewer
- All product versions in the catalogue

**Direct link from the metadata records in the catalogue to the selected product in the Viewer would improve the user experience**

# Planning for the next year

## Chemistry side



### Map Viewer

- Improve **contaminants maps**: add first layer with all years + add unit in the legend
- New type of **contaminants maps**: data values abundance per group of animals (Biota charts)
- Identify barriers for the publication of the **5 webODV map layers** with OGC WMS-WFS

### Data access

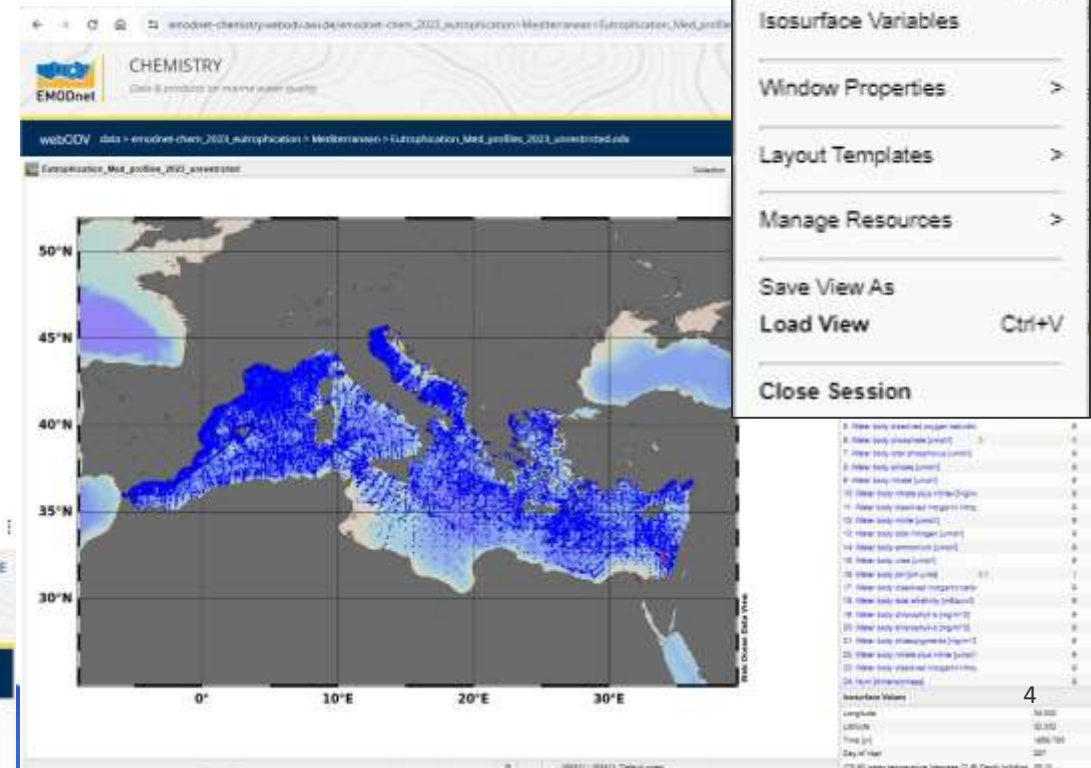
- **New version** of the regional data collections by April 2024 (management of the annual publication)
- Exploring the use of **ERDDAP** for the regional data collections

### 4 new Use Cases are underway

- 2 publications (regional data collections)
- data for MSFD Descriptor 5 and 8 (Odv format)
- dashboard with oxygen and nitrate

### Improve statistics for KPI 2.B) Usage of data products

- GreyLog with 4 input: OGS, Ifremer, HCMR, and ULiege

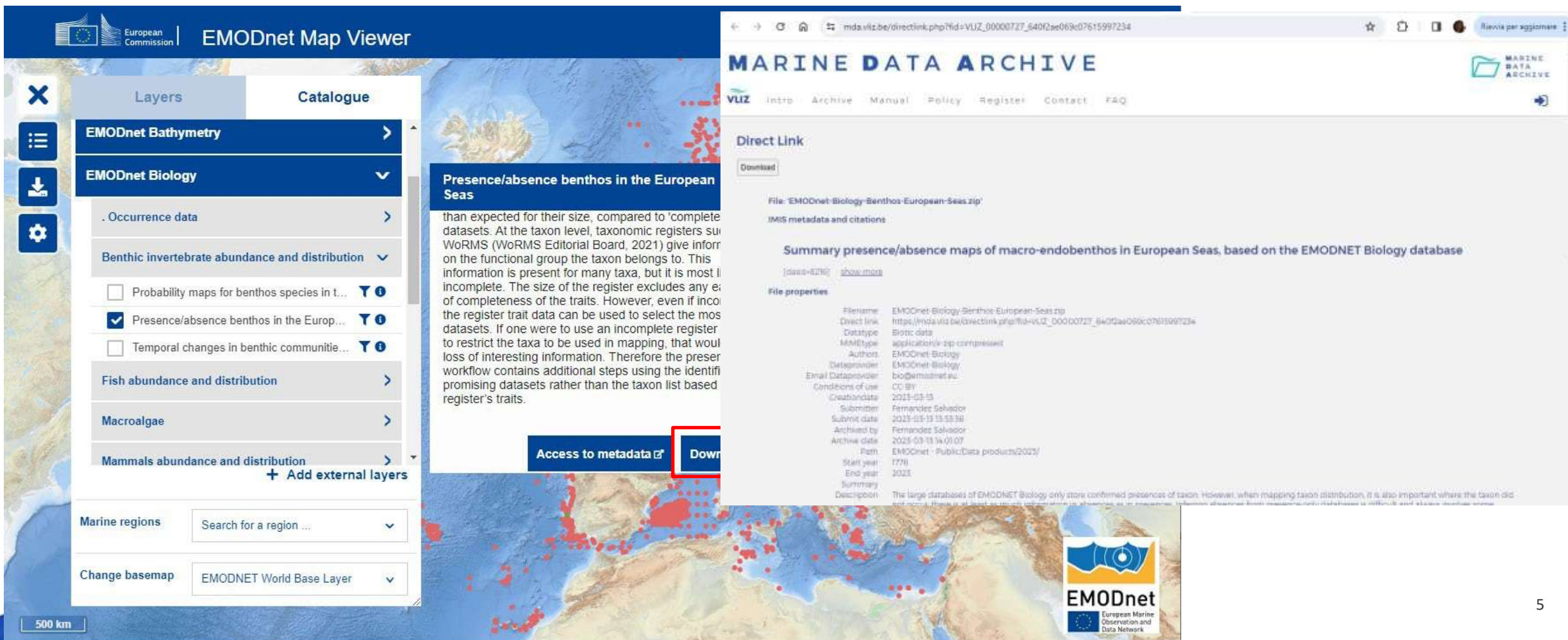


# Other examples

## Biology side

### Map Viewer

- Species distribution



The screenshot displays the EMODnet Map Viewer interface. The main map shows the European Seas with red dots representing benthos presence/absence. The interface includes a 'Layers' panel on the left, a 'Catalogue' panel on the right, and a 'Direct Link' section at the bottom right.

**Layers Panel:**

- EMODnet Bathymetry
- EMODnet Biology
  - Occurrence data
  - Benthic invertebrate abundance and distribution
    - Probability maps for benthos species in t...
    - Presence/absence benthos in the Europ...
    - Temporal changes in benthic communitie...
  - Fish abundance and distribution
  - Macroalgae
  - Mammals abundance and distribution
- + Add external layers

**Catalogue Panel:**

**Presence/absence benthos in the European Seas**

than expected for their size, compared to 'complete datasets. At the taxon level, taxonomic registers such as WoRMS (WoRMS Editorial Board, 2021) give information on the functional group the taxon belongs to. This information is present for many taxa, but it is most incomplete. The size of the register excludes any information on the completeness of the traits. However, even if incomplete, the register trait data can be used to select the most promising datasets rather than the taxon list based register's traits.

**Direct Link Section:**

Download

File: 'EMODnet-Biology-Benthos-European-Seas.zip'

IMIS metadata and citations

**Summary presence/absence maps of macro-endobenthos in European Seas, based on the EMODNET Biology database**

[data-6276] [show more](#)

**File properties**

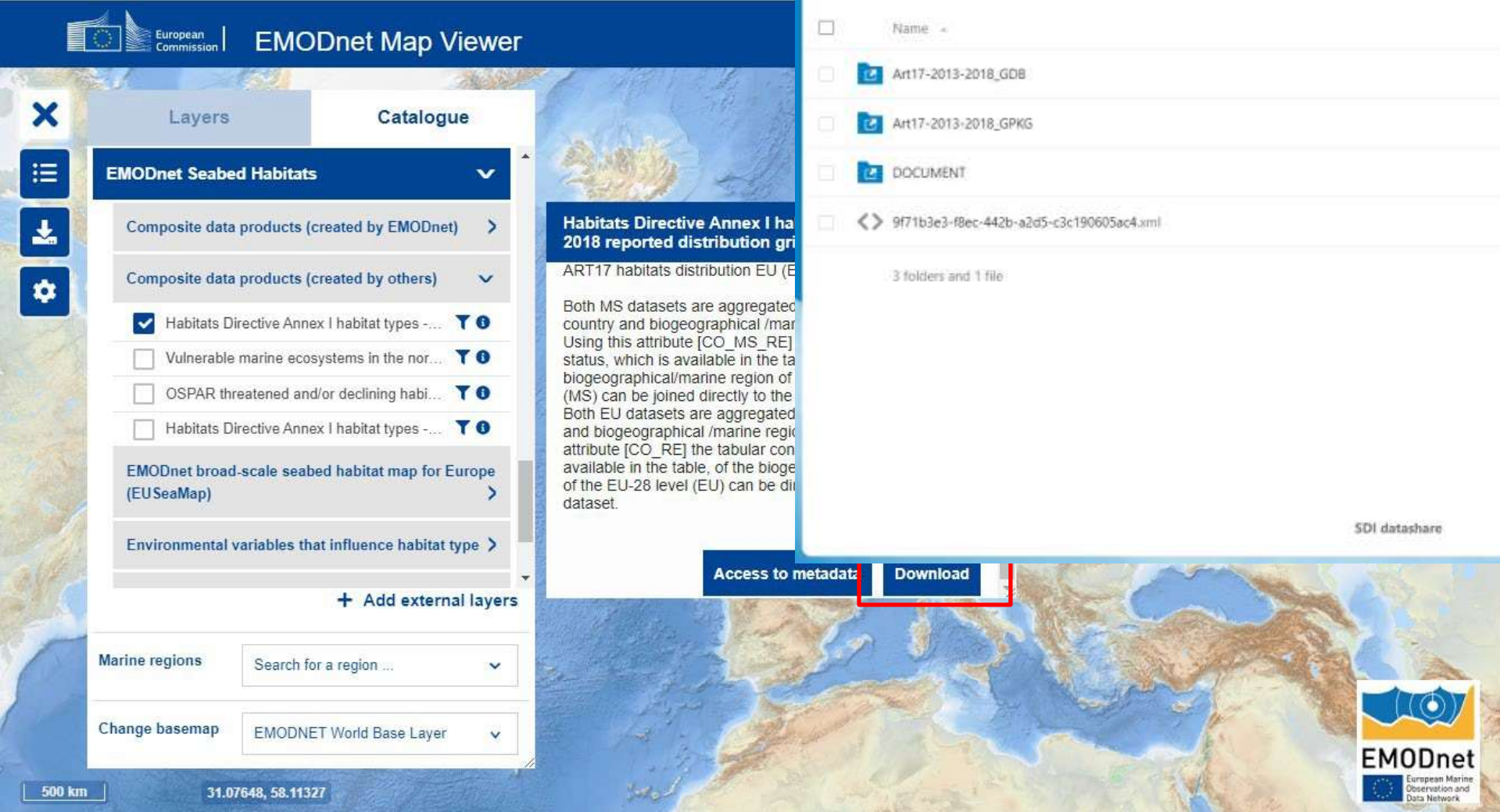
Filename	EMODnet-Biology-Benthos-European-Seas.zip
Direct link	<a href="https://mda.vliz.be/directlink.php?fid=VLIZ_00000727_840f2ae069c07615997234">https://mda.vliz.be/directlink.php?fid=VLIZ_00000727_840f2ae069c07615997234</a>
Datatype	Binary data
MIMEtype	application/x-zip-compressed
Author	EMODnet-Biology
Data provider	EMODnet-Biology
Email Data provider	bio@emodnet.eu
Conditions of use	CC-BY
Creation date	2021-03-15
Submitter	Fernandez Salvador
Submit date	2021-03-15 13:53:39
Archived by	Fernandez Salvador
Archive date	2023-03-13 14:01:07
Path	EMODnet - Public Data products/2023/
Start year	1770
End year	2023
Summary	
Description	The large databases of EMODNET Biology only store confirmed presences of taxon. However, when mapping taxon distribution, it is also important where the taxon did not occur. This is often the case for species that are not recorded in the database, but whose presence is inferred from macroalgal, red algal, and other marine invertebrates.

# Other examples

## Seabed Habitats side

### Map Viewer

- Composite data products



The screenshot displays the EMODnet Map Viewer interface. On the left, a sidebar contains navigation icons and a 'Layers' panel. The 'Layers' panel is divided into 'EMODnet Seabed Habitats' and 'Composite data products (created by others)'. Under 'EMODnet Seabed Habitats', the 'Habitats Directive Annex I habitat types' layer is checked. Below this, there are options for 'EMODnet broad-scale seabed habitat map for Europe (EUSeaMap)' and 'Environmental variables that influence habitat type'. At the bottom of the sidebar, there are dropdown menus for 'Marine regions' and 'Change basemap'. The main map area shows a satellite-style map of Europe with a blue overlay representing seabed habitats. A metadata popup is visible over the map, titled 'Habitats Directive Annex I ha 2018 reported distribution gri'. It contains text describing the aggregation of MS datasets and the use of attributes like [CO\_MS\_RE] and [CO\_RE]. A red box highlights the 'Download' button in the metadata popup. An 'SDI datashare' window is overlaid on the right side of the map, showing a file browser interface with a table of files and folders. The table has columns for 'Name', 'Size', and 'Modified'. The files listed are 'Art17-2013-2018\_GDB' (31 MB, 2 years ago), 'Art17-2013-2018\_GPKG' (144.6 MB, 2 years ago), 'DOCUMENT' (1.1 MB, 2 years ago), and '9f71b3e3-f8ec-442b-a2d5-c3c190605ac4.xml' (42 KB, 7 days ago). A 'Download all files' button is located at the top right of the SDI datashare window. The EMODnet logo and 'European Marine Observation and Data Network' text are visible in the bottom right corner of the map area.

European Commission | EMODnet Map Viewer

Layers Catalogue

EMODnet Seabed Habitats

Composite data products (created by EMODnet)

Composite data products (created by others)

Habitats Directive Annex I habitat types ...

Vulnerable marine ecosystems in the nor...

OSPAR threatened and/or declining habi...

Habitats Directive Annex I habitat types ...

EMODnet broad-scale seabed habitat map for Europe (EUSeaMap)

Environmental variables that influence habitat type

+ Add external layers

Marine regions Search for a region ...

Change basemap EMODNET World Base Layer

500 km 31.07648, 58.11327

Habitats Directive Annex I ha 2018 reported distribution gri

ART17 habitats distribution EU (E

Both MS datasets are aggregated country and biogeographical /mar Using this attribute [CO\_MS\_RE] status, which is available in the tabi biogeographical/marine region of (MS) can be joined directly to the Both EU datasets are aggregated and biogeographical /marine regi attribute [CO\_RE] the tabular con available in the table, of the bioge of the EU-28 level (EU) can be di dataset.

Access to metadata Download

SDI datashare

Name	Size	Modified
<input type="checkbox"/> Art17-2013-2018_GDB	31 MB	2 years ago
<input type="checkbox"/> Art17-2013-2018_GPKG	144.6 MB	2 years ago
<input type="checkbox"/> DOCUMENT	1.1 MB	2 years ago
<input type="checkbox"/> 9f71b3e3-f8ec-442b-a2d5-c3c190605ac4.xml	42 KB	7 days ago

3 folders and 1 file 176.7 MB

EMODnet European Marine Observation and Data Network

# Improvements in Filtering options

EMODnet Product Catalogue

Nothing in basket

Filter

Expand Collapse

- TYPE OF RESOURCES
- AVAILABLE ACTIONS
- TOPICS
- KEYWORDS
- CONTACT FOR THE RESOURCE
- PROVIDED BY**
- YEARS
- FORMATS
- REPRESENTATION TYPES
- UPDATE FREQUENCIES
- STATUS
- SERVICE TYPES
- SCALE 1:
- RESOLUTION

TYPE OF RESOURCES

- Dataset (3754)
- Series (1693)
- Service (69)
- OGC:WMS (33)
- ERDDAP griddap (11)
- OPeNDAP (10)
- OGC:WFS (9)
- Open Geospatial Consortium Web M... (9)
- ERDDAP griddap OPeNDAP Open G... (8)
- View (3)

5 less

AVAILABLE ACTIONS

- Downloadable (2408)
- Viewable (1794)

TOPICS

- Oceans (1482)
- Oceans (1469)
- Biota (707)
- Environment (606)
- Geoscientific information (205)
- Elevation (199)
- Boundaries (55)
- Utilities communication (15)
- Location (14)
- Climatology, meteorology, atmosphere (6)
- Economy (6)
- Farming (5)
- Planning cadastre (4)
- Imagery base maps earth cover (3)
- Inland waters (1)
- Structure (1)
- Transportation (1)

12 less

que

It is very long  
Not user's customized



- Set appropriate order
- Eliminate duplicates
- Use vocabularies

KEYWORDS

CONTACT FOR THE RESOURCE

PROVIDED BY

- EMODnet Biology dataproducts at V... (19)
- EMODnet Bathymetry (467)
- EMODnet Ingestion (1482)
- EMOD-PACE products (central portal) (22)
- EMODnet Human Activities (47)
- EMODnet Biology datasets (1321)
- EMODnet Chemistry (384)
- EMODnet Seabed Habitats (1417)
- EMODnet Physics (133)
- EMOD-PACE data coverage (geodab) (7)
- EMODnet Geology (187)
- EMODnet Biology dataproducts at CP (8)

7 less

EDMO names

- Rename titles

Can be called THEMES?

# Improvements in Filtering options



EMODnet Product Catalogue



Nothing in basket

Filter

Expand Collapse

- TYPE OF RESOURCES
- AVAILABLE ACTIONS
- TOPICS
- KEYWORDS
- CONTACT FOR THE RESOURCE
- PROVIDED BY**
- YEARS
- FORMATS
- REPRESENTATION TYPES
- UPDATE FREQUENCIES
- STATUS
- SERVICE TYPES
- SCALE 1:
- RESOLUTION

## YEARS

- Inva (19)
- 2024 (106)
- 2023 (1919)
- 2022 (759)
- 2021 (469)
- 2020 (305)
- 2019 (410)
- 2018 (384)
- 2017 (257)
- 2016 (237)
- 2015 (146)
- 2014 (226)
- 2013 (100)
- 2012 (71)
- 2011 (68)
- 2010 (31)
- 2009 (44)
- 2008 (13)
- 2007 (36)
- 2006 (32)
- 2005 (53)
- 2004 (71)
- 2003 (7)
- 2002 (7)
- 2001 (5)
- 2000 (1)
- 1999 (3)
- 1996 (4)
- 1995 (3)
- 1994 (4)
- 1993 (1)
- 1992 (2)
- 1991 (2)
- 1990 (2)
- 1988 (2)
- 1987 (2)
- 1986 (2)
- 1984 (3)
- 1983 (1)
- 1970 (1)

35 less

## TYPE OF RESOURCES

- Dataset (3754)
- Series (1693)
- Service (69)
- OGC:WMS (33)
- ERDDAP griddap (11)
- OPeNDAP (10)
- OGC:WFS (9)
- Open Geospatial Consortium Web M... (9)
- ERDDAP griddap OPeNDAP Open G... (8)
- View (3)

## SERVICE TYPES

- OGC:WMS (33)
- ERDDAP griddap (11)
- OPeNDAP (10)
- OGC:WFS (9)
- Open Geospatial Consortium Web M... (9)
- ERDDAP griddap OPeNDAP Open G... (8)
- View (3)
- OGC:WCS (2)
- OGC:CSW (1)
- OGC:WMTS (1)

## STATUS

- Completed (711)
- On going (33)
- Historical archive (25)
- Under development (6)

## SCALE 1:

## RESOLUTION

It is very long  
Not user's customized

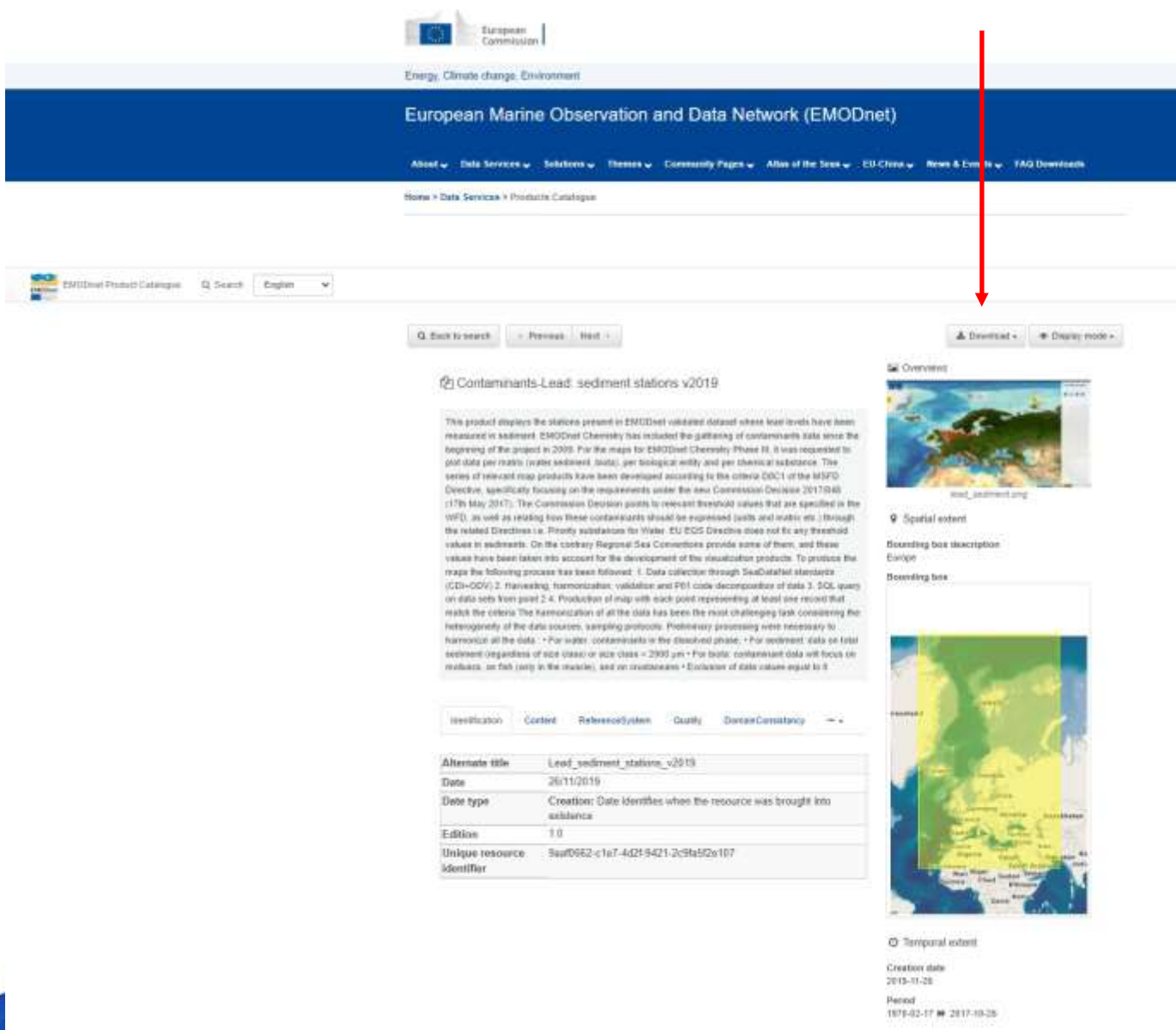


- Set appropriate order
- Eliminate duplicates
- Use vocabularies
- Rename titles
- Misleading to be corrected ( YEARS! )
- Identify items to eliminate
- Filtering options answers to
  - What (THEMES)
  - Where (?)
  - Who (CONTACT)
  - When (YEARS – related to the data)
  - How



# Improvements in the Products Catalogue

## View and download product



The screenshot shows the EMODnet Products Catalogue interface. At the top, there is a navigation bar with the European Commission logo and the text 'Energy, Climate change, Environment'. Below this is the 'European Marine Observation and Data Network (EMODnet)' header. A red arrow points from the 'Download' button in the top right of the product overview to the 'Download' button in the top right of the product details page. The product details page for 'Contaminants-Lead: sediment stations v2019' includes a description, a metadata table, and a map. The metadata table is as follows:

Field	Value
Alternate title	Lead_sediment_stations_v2019
Date	26/11/2019
Date type	Creation: Date identifies when the resource was brought into existence
Edition	1.0
Unique resource identifier	5aaf0662-c1a7-4d2f-9421-2c9a52a107

- Direct download of the resource (EM-574)

- Direct link from the catalogue to viewer in the selected product layer (EM-556)

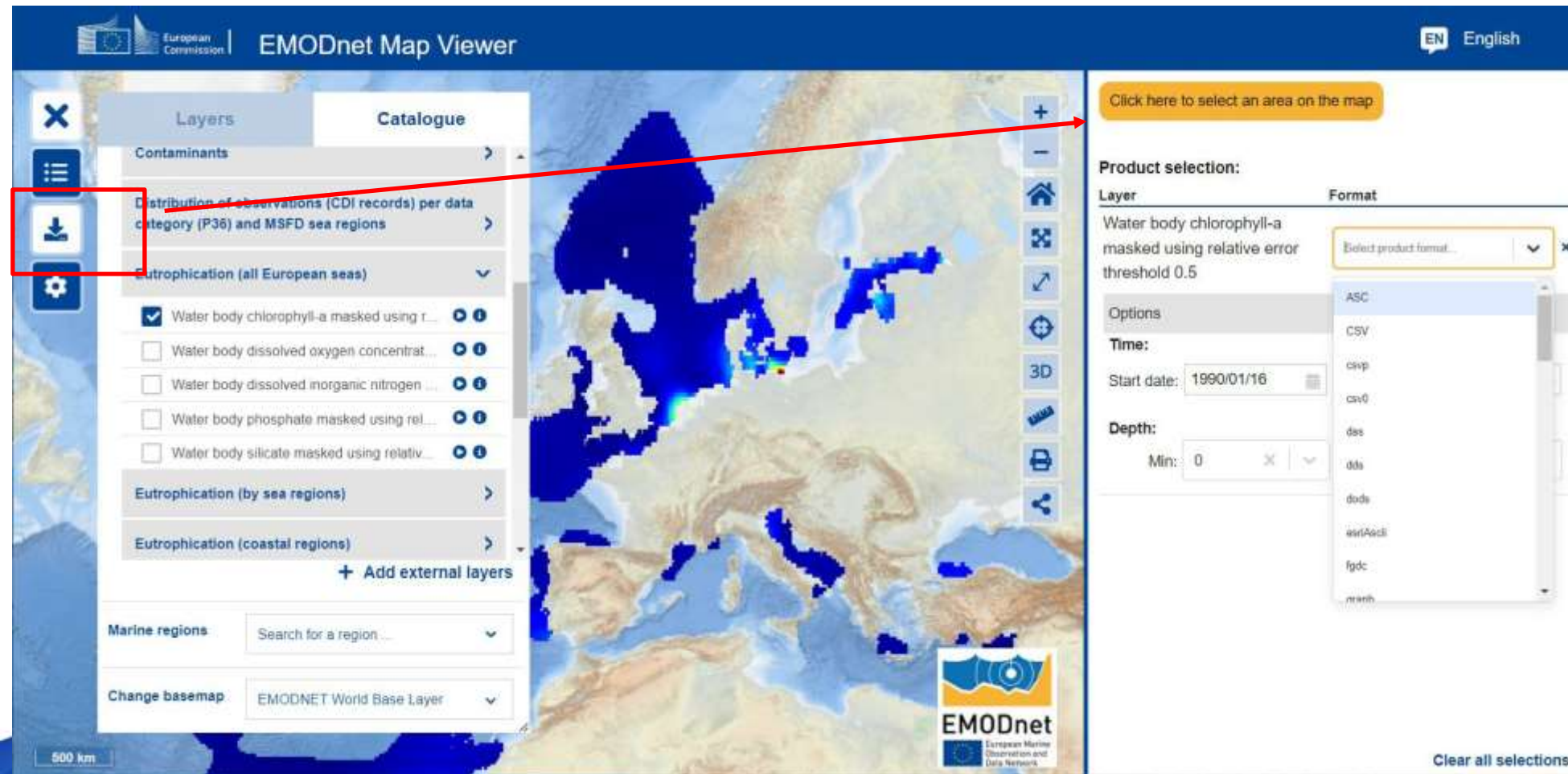
The functionality was already available in the Chemistry portal, so there should be no problems with multiple UUIDs

# Improvements in the Map Viewer

## Download Eutrophication product

The Map Viewer implements two downloading options:

1. The main download icon that brings to a dedicated selection



The screenshot shows the EMODnet Map Viewer interface. On the left, a sidebar contains a 'Layers' panel with a download icon (a blue square with a white downward arrow) highlighted by a red box. A red arrow points from this icon to the 'Product selection' panel on the right. The 'Product selection' panel includes a button 'Click here to select an area on the map', a 'Product selection' section with a table of layers and formats, and a 'Format' dropdown menu. The table shows 'Water body chlorophyll-a masked using relative error threshold 0.5' as the selected layer. The 'Format' dropdown is open, showing a list of output formats including ASC, CSV, csvp, csvf, ds, dds, ddsd, dsrAacli, fgdc, and netsh. The interface also features a 'Layers' panel on the left with various eutrophication layers, a 'Catalogue' panel, and a 'Marine regions' search field.

Download for the selected product with several output formats

### Issues:

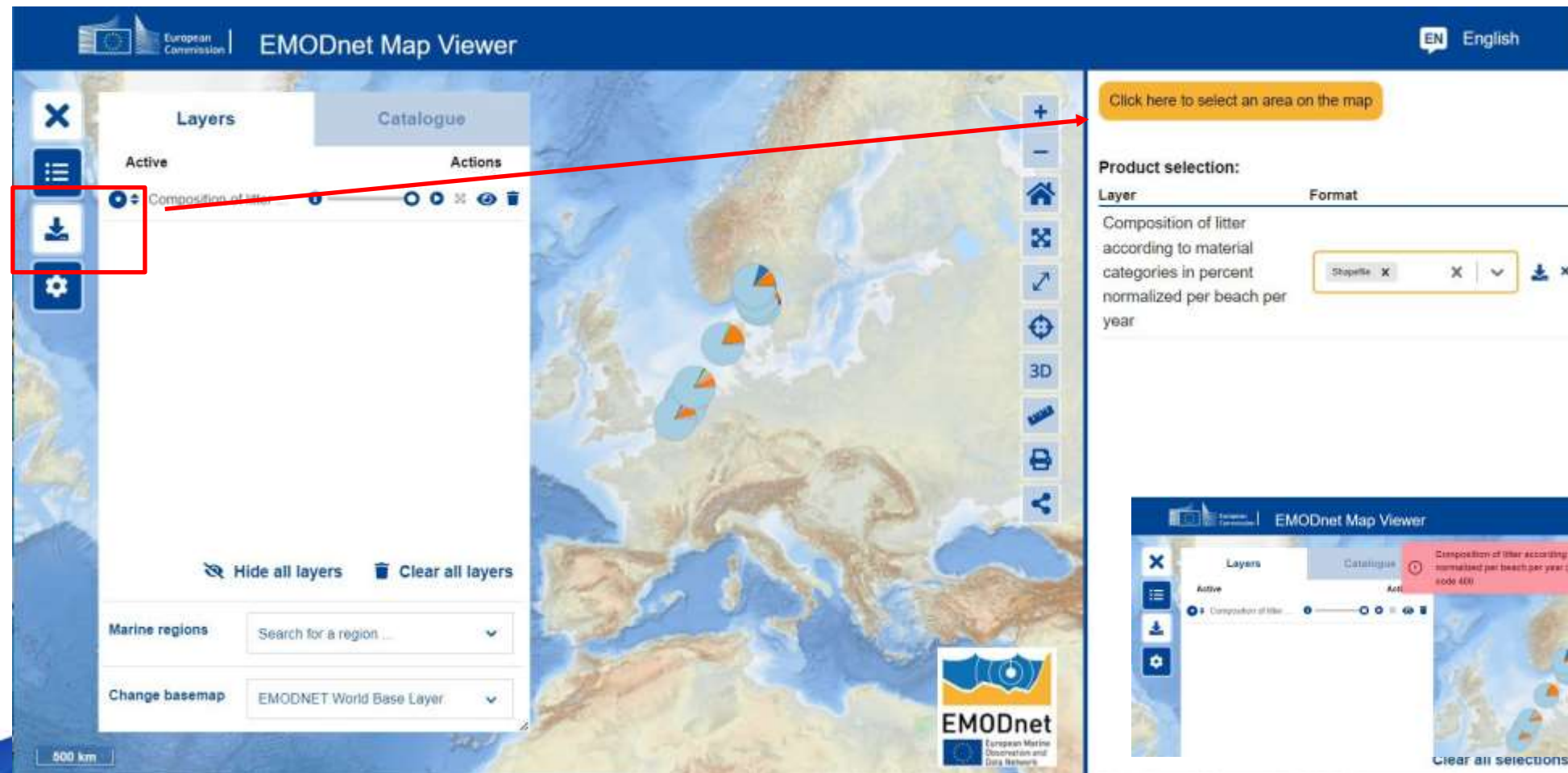
- Output non consistent with selection
- Huge number of output formats
- No image output (.pdf with error)
- No way to select the full domain

# Improvements in the Map Viewer

## Download Beach Litter product

The Map Viewer implements two downloading options:

1. The main download icon that brings to a dedicated selection



Download for the selected product as Shapefile

### Issues:

- No possibility to select the year
- No image output
- Error message

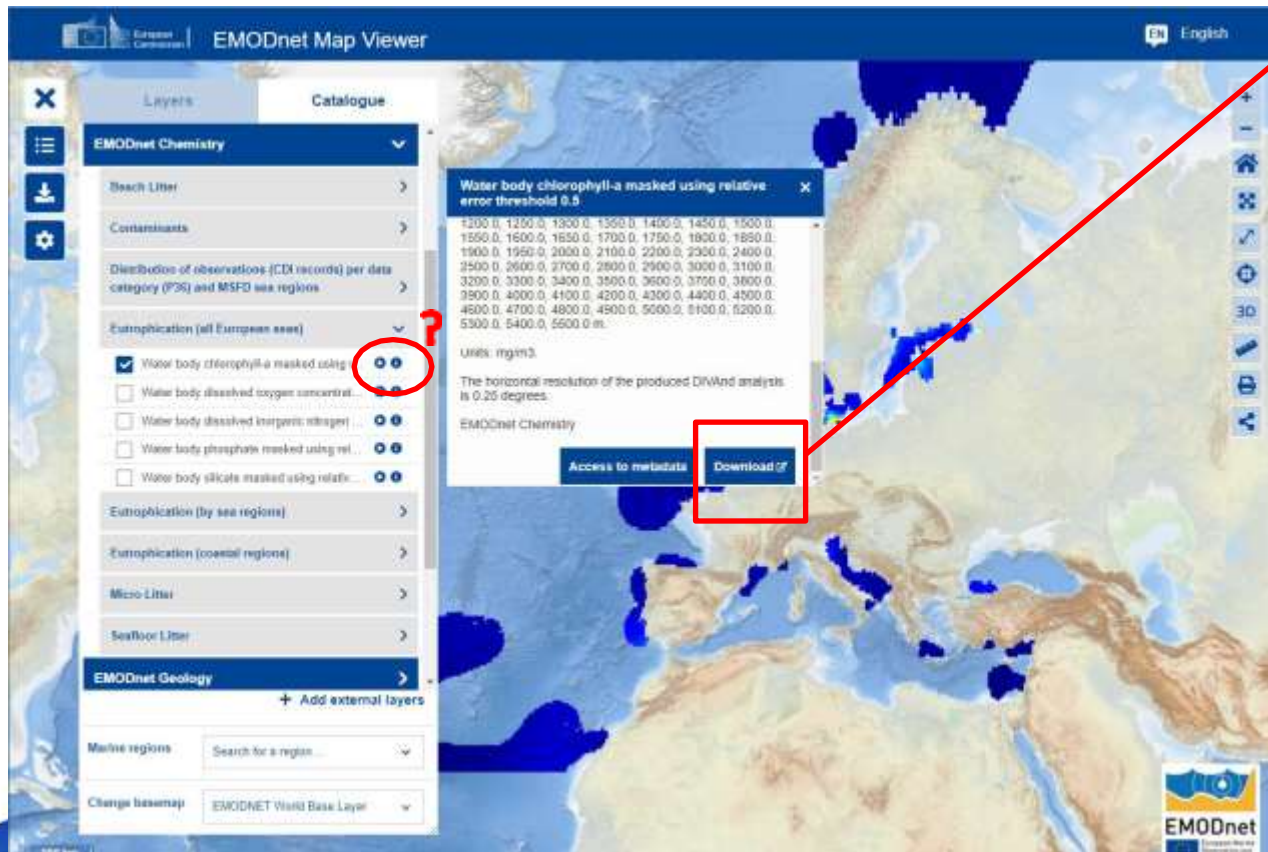


# Improvements in the Map Viewer

## Download full product

The Map Viewer implements two downloading options:

1. The main download icon that brings to a dedicated selection
2. Download of the full product → hidden under the **i** icon !



Download of the Shapefile for Marine Litter and Contaminants or netCDF files for Eutrophication

This is a very important functionality, placed in the wrong place (not an information linked to **i**)!


Users can download:

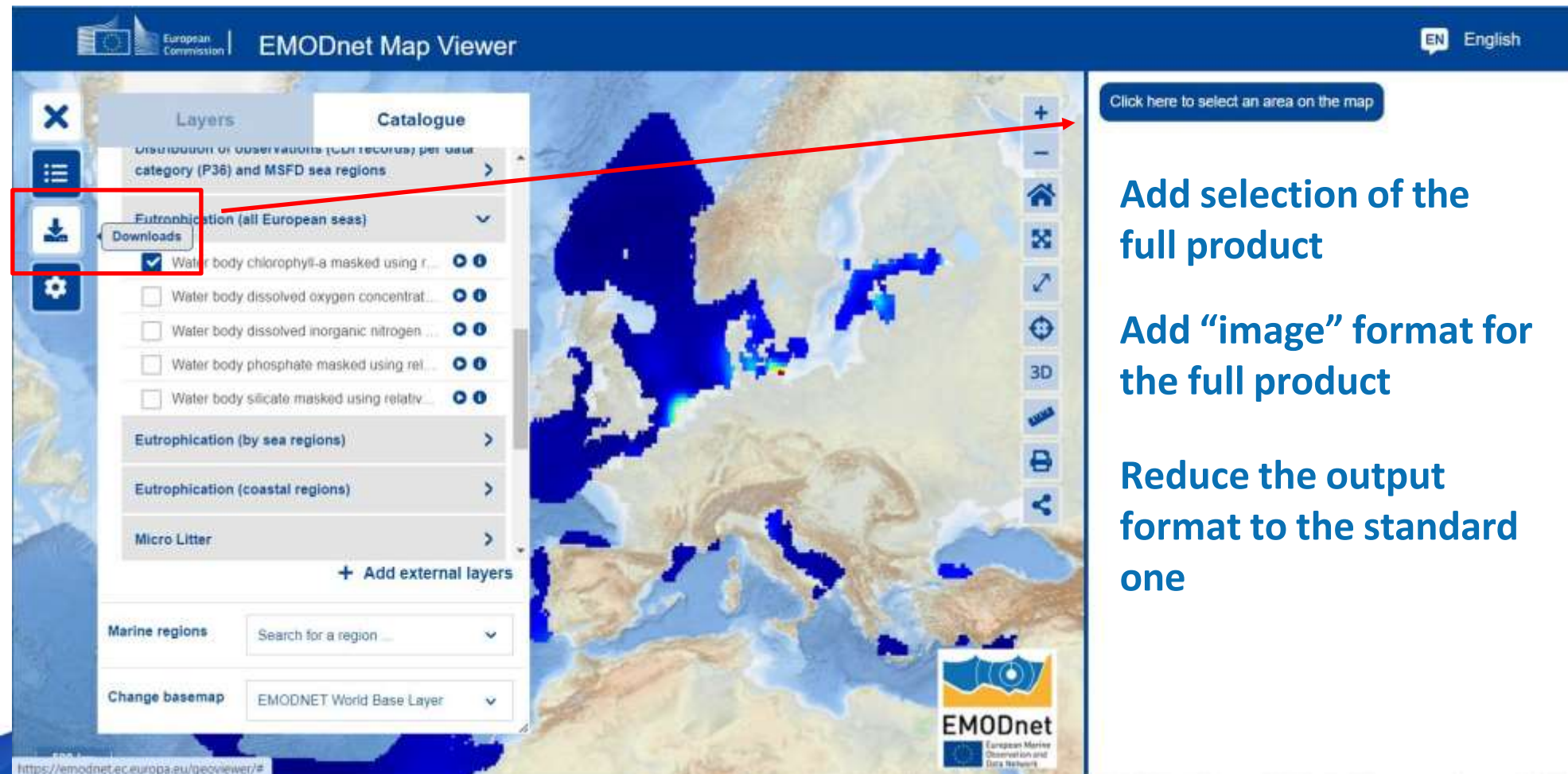
- the full product (data product)
- the image of the full product (.jpg, .tiff, ...).
- a selection of the product with bounding box

# Improvements in the Map Viewer

## Download full product

The Map Viewer implements two downloading options:

1. The main download icon that brings to a dedicated selection
2. Download of the full product → hidden under the  icon ! → Add it in the Downloads icon



European Commission | EMODnet Map Viewer | EN English

Layers | Catalogue

Downloads

Water body chlorophyll-a masked using r...

Water body dissolved oxygen concentrat...

Water body dissolved inorganic nitrogen ...

Water body phosphate masked using rel...

Water body silicate masked using relativ...

Eutrophication (by sea regions)

Eutrophication (coastal regions)

Micro Litter

+ Add external layers

Marine regions | Search for a region ...

Change basemap | EMODNET World Base Layer

Click here to select an area on the map

Add selection of the full product

Add “image” format for the full product

Reduce the output format to the standard one

EMODnet  
European Marine  
Observation and  
Data Network

<https://emodnet.ec.europa.eu/geoviewer/#>



# EMODnet



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[emodnet.ec.europa.eu](https://emodnet.ec.europa.eu)

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