



EMODnet

 European Marine
Observation and
Data Network

Technical Update EMODnet Geology

Uffe Larsen, WP9 Geology

**16th EMODnet Technical Working Group
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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.

Review of the usability of our products

Based on the tickets we have received from the help desk the last year

- **Problems with download (EMODNET-1699, -1706, -1736, -1798)**
- **Problems with understanding data (EMODNET-1776, EMODNET-1837):** Questions about the classification of substrate and data gaps
- **How to use WMS from QGIS (EMODNET-1746)**
- **Problems with Metadata (EMODNET-1643 - Coordinate axis order in your metadata)**

Problems with download (EMODNET-1699, -1706, -1736, -1798)

- The download problems were primarily due to our server being overloaded (high CPU and memory usage). It turned out that the overload was caused by the GeoServer struggling to handle the borehole layer after an update. The problems were resolved after trimming the geometries and reconfiguring the layer.
- We have since acquired a new server, which should also help alleviate performance issues (more on that later)
- Users generally had difficulty finding the download button that does not use WFS. Perhaps this download button should be more visible in the menu – or at the top of the box with the layer description, as it sometimes requires scrolling to see it.

The screenshot shows the EMODnet Layers Catalogue interface. On the left, there is a search bar labeled 'Search layer' and a list of layers. The 'EMODnet Geology' layer is expanded, showing sub-layers like 'Coastal behaviour', 'Geological events and probabilities', 'Index', 'Marine Minerals', and 'Seabed Substrate'. Under 'Seabed Substrate', three 'Multiscale - folk' layers are listed: 'Multiscale - folk 16', 'Multiscale - folk 5', and 'Multiscale - folk 7'. On the right, a detailed view for 'Multiscale - folk 16' is shown. It contains a description of the reclassification scheme and two buttons: 'Access to metadata' and 'Download'. The 'Download' button is circled in red, indicating the location of the problem mentioned in the text.

Problems with understanding data (EMODNET-1776, EMODNET-1837)



These were questions regarding the classification of substrate and data gaps.
In the zip file that can be downloaded, there is a document that describes this.

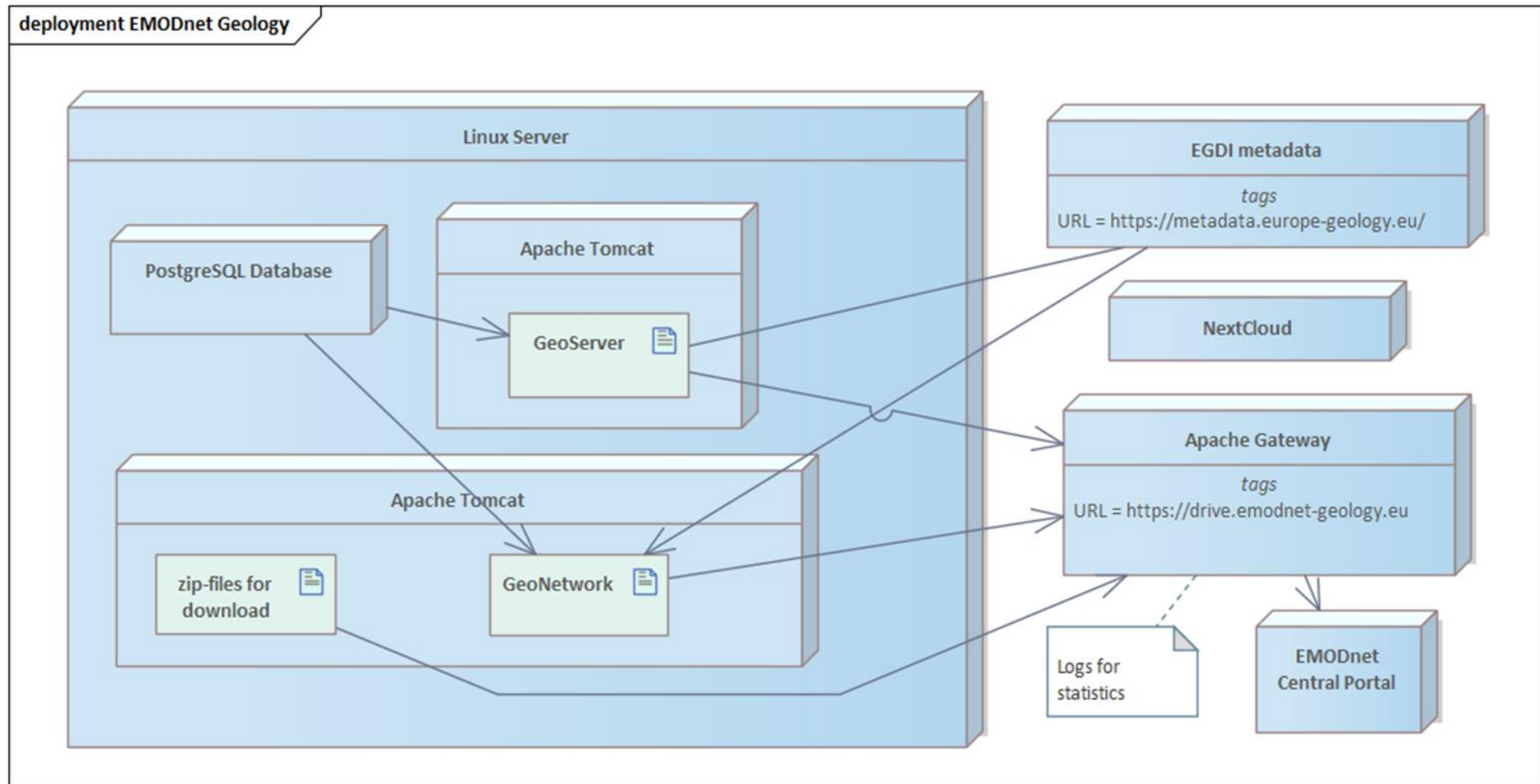
Not sure exactly how to solve this in a more user-friendly way

Maybe the metadata description should be more comprehensive – maybe the document should be made more visible – maybe it should be handled as it is now via the help desk.

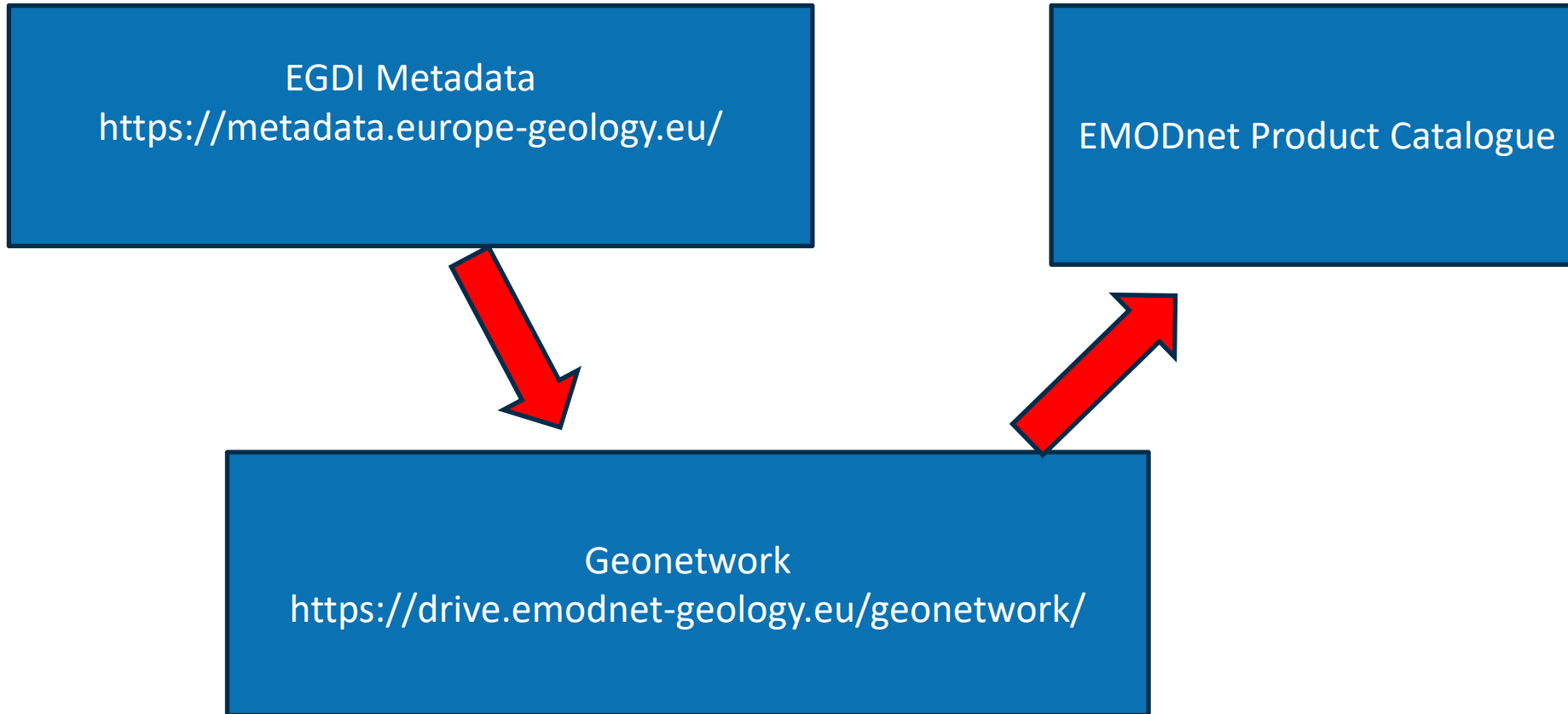
Problems with Metadata (EMODNET-1643 - Coordinate axis order in your metadata)

- According to the standard for SRID 4326, the first ordinate should be the y-axis. GeoServer swaps this around, and since we have been harvesting metadata from GeoServer, the axis order in our metadata is incorrect. As mentioned at the last TWG meeting, there are also other issues with our metadata flow, such as some information like “use condition” not being transferred.
- We are solving this by changing the data flow. We have done this in connection with being required to use a new server environment.

The new architecture



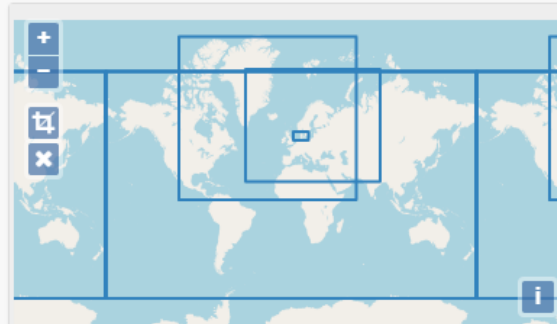
Metadata flow



Screen dump EGD Metadata

metadata.europe-geology.eu/?Bbox=&Text=EMODnet+Central+Portal&wtxt=0&GeProj%5B0%5D=https%3A%2F%2Fdata.geoscience.earth%2Fnd%2Fproject%2F8&sort=title&sd=A

EGDI Metadata + New Settings Map Documents ? Help Cookies Contact



Search text
EMODnet Central Portal

Everywhere Title Title + Abstract

Resource type
select

INSPIRE theme
select

GeoERA keywords
select

Project name
x EMODnet-Geology x

Metadata contact
select

Metadata 6

- Borehole Index**
This dataset shows the location of offshore boreholes and samples. The purpose of this dataset is solely to get an overview and find out to get the actual data. The attributes "source" and "metadata_uri" tells the user who to contact to get more information. The attributes detailedDescription and geologyDescription occasionally contains links to more detailed information.
Public, Metadata Contact: Geological Survey of Denmark and Greenland (GEUS), Denmark, Date Stamp: 2024-10-01
- Borehole Index Denmark**
Offshore boreholes and samples from Denmark. These data come from the Jupiter database managed by the Geological Survey of Denmark and Greenland.
Public, Metadata Contact: Geological Survey of Denmark and Greenland (GEUS), Denmark, Date Stamp: 2024-06-28
- Geophysical data index**
This data set is a compilation of marine geophysical survey lines. In cases where the positions of lines are confidential and a polygon that covers the survey area is shown instead. From this index, you can get an overview on available geological knowledge for European seas together with contact information for further details.
Private, Metadata Contact: Geological Survey of Denmark and Greenland (GEUS), Denmark, Date Stamp: 2024-09-19
- Geophysical data index (Lines)**
This data set is a compilation of all known marine geophysical survey lines. From this index, you can get an overview on available geological knowledge for European seas together with contact information for further details.
Public, Metadata Contact: Geological Survey of Denmark and Greenland (GEUS), Denmark, Date Stamp: 2024-09-19
- Geophysical polygon data index**
Geophysics that are shown as polygons. Sometimes the real position of geophysical lines cannot be shown because of confidentiality reasons and in this case a polygon that shows the approximate location is used instead. In other cases the geophysics is best represented by a polygon – for example for 3D seismic surveys.

Usability Factors

- Usability Factors
- First of all: Fit for use
- Next:
 - 1. Ease of learning. The system must be easy to learn for both novices and users with experience from similar systems.
 - 2. Task efficiency. The system must be efficient for the frequent user.
 - 3. Ease of remembering. The system must be easy to remember for the casual user.
 - 4. Understandability: The user must understand what the system does.
 - 5. Subjective satisfaction. The user must feel satisfied with the system.



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