



## EMODnet Thematic Lot n° 2 - Geology

7th Bi-monthly Report

Reporting Period: 4 November 2014 – 5 January 2015

Date: 20/1/2015

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# 1. Highlights in this reporting period

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- **Re-launch of the EMODnet-Geology website.**
- **Participation in the ‘Galway Statement Implementation – Atlantic Seabed Mapping’ meeting in Dublin on December 2nd 2014 to present the EMODnet-Geology Project.**
- **Appointment of the EMODnet-Geology Project Co-ordinator as the Chair of the Working Group on Atlantic Seabed Mapping with European-US-Canadian participation.**
- **Distribution of Guidelines for WP6 ‘Geological Events and Probabilities’**
- **Development of a Working Group on Geomorphology and Landforms to agree definitions for input to WP4**
- **Modification of coastline map with updates from Spain, Malta and Russia**

## **2. Meetings held since last report**

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No meetings were held during the reporting period; however plans were initiated for a meeting of the 'Working Group on Geomorphology and Landforms' to be held in Paris on the 18<sup>th</sup> February 2015 and the full (third) EMODnet-Geology Project Meeting, which will take place in Madrid on the 10/11 March 2015.

### 3. Work package updates

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#### ***WP1 – Project Management.***

The Project Co-ordinator attended the 'Galway Statement Implementation – Atlantic Seabed Mapping' meeting in Dublin, Ireland on December 2nd 2014 to present the EMODnet-Geology Project. Subsequently he was appointed as the Chair of the Working Group on Atlantic Seabed Mapping with European-US-Canadian participation. These activities contribute to the dissemination objectives and provide the opportunity to influence the development of a trans-Atlantic approach to seabed data collection and sharing similar to the approach taken by the EMODnet-Geology partners. The Project Co-ordinator attended the EMODnet Steering Group Meeting in Brussels on 9/10 December 2014.

#### ***WP2 – Geological data specification and sourcing.***

Although WP2 officially ended after 3 months of the project start, the process of identifying information that can be used in the EMODnet-Geology is ongoing and will continue until the end of the project.

#### ***WP3. Sea-bed substrate.***

An updated coastline maps was made by the WP3 leader for use in all of the EMODnet-Geology outputs. The main changes were in Spanish, Maltese and Russian waters where the existing coastline was not adequately detailed to show the marine information in each country. Data continues to be added to the seabed substrate map layer.

#### ***WP4. Sea-floor geology.***

A 'Working Group on Geomorphology and Landforms' was established at the project meeting in Malta in October 2014 to agree the definition of features that will be used to construct the preliminary 'Quaternary' maps for the project. These definitions will also be of value to other WPs, such as WP6, Geological Events and Probabilities. The WP4 Leader distributed a spreadsheet listing the terms, synonyms (if they exist), definitions and source of the definition to the group in late October and this has gradually developed during the reporting period. The group will meet in Paris on February 18 to make further progress with this aspect of the project.

#### ***WP5. Coastal behaviour.***

A meeting between the Project Co-ordinator and the WP5 leader was held in Edinburgh in November 2015. Subsequent discussions have taken place between the WP leader and other project members to agree on responsibilities. The project partner from the University of Sussex will have responsibility for working on coastal cliff vulnerability, sensitivity and an erosion index for the project. A matrix of features to be mapped is in preparation for distribution to the project team. Updates are being added

to the existing GIS map (shapefile) and metadata for coastal behaviour as reported in previous progress reports.

### ***WP6. Geological events and probabilities.***

A revised version of the WP6 Guidelines was issued by the WP leader on December 19 2014. A deadline of March 2015 has been given for each partner to provide information on geological events and probabilities.

In summary, the method to be used is that each partner will identify the location and type of geological event in their national waters. The characteristics of the geological events will include:

- Feature: name of the item
- Status: sets if the item is mandatory or not
- Format: identifies the format (numeric, text, etc.)
- Definition: defines a data domain, a value range, a measure unit or a single code
- Description: provides tips and information to fill in the item
- Reference: references used for the definition
- Remarks: details, comments and any explanation.

Regarding landslides and volcanic centres, a shape file for each geometric feature: polygons, lines, points re expected in order to represent any occurrence of geological events. The use of different geometric features is related to the peculiar characteristics of each occurrence as well as to the scale of representation. For example, at 1:250,000 scale, a landslide area larger than 60 hectares (about 10 mm<sup>2</sup>) can be represented by a polygon; a landslide area smaller than 60 hectares can be represented by a point. As agreed at the Malta meeting it was decided to rely on the catalogue of the European-Mediterranean Seismological Centre (EMSC). Not all events will be identified (e.g. submarine landslides) depending on the available information. However, it is important to distinguish areas of no occurrences from areas of no data. This information will be provided by means of confidence layers.

### ***WP7. Minerals.***

Following the project meeting in Malta, an updated Task Guide' for WP7 was issued by the WP leader on the 3<sup>rd</sup> November 2014.

### ***WP8. Web Services and Technology.***

As reported previously, it was decided that the EMODnet-Geology portal would be built using 'GeoNetwork'. <http://geonetwork-opensource.org/>, an open-source catalogue application to manage spatially referenced resources. The revised portal was re-launched on December 8<sup>th</sup> 2014 and partners have been invited to provide feedback to the WP leader. Recommendations for changes to standardise the appearance of the website with the other EMODnet web pages have been received from the EMODnet Project Secretariat.



The screenshot shows the EMODnet-Geology portal home page. At the top, there is a navigation bar with 'HOME', 'CATALOG', 'MAP', 'PORTALS', 'LINKS', 'CONTACT US', 'HELP', and 'ABOUT'. A search bar is located below the navigation bar, with options for 'Online data', 'Data for download', and 'No direct download'. The main content area features three featured workpackages: 'workpackage 4. sea-floor geology', 'workpackage 5. Coastal behaviour', and 'Workpackage 6. Geological events and probabilities'. Each workpackage includes a brief description and a 'Read More' link. To the right, there is a 'Tags' section with various geological terms and a 'LATEST' section with small map thumbnails. The footer contains a paragraph about the EMODnet-Geology project and its objectives.

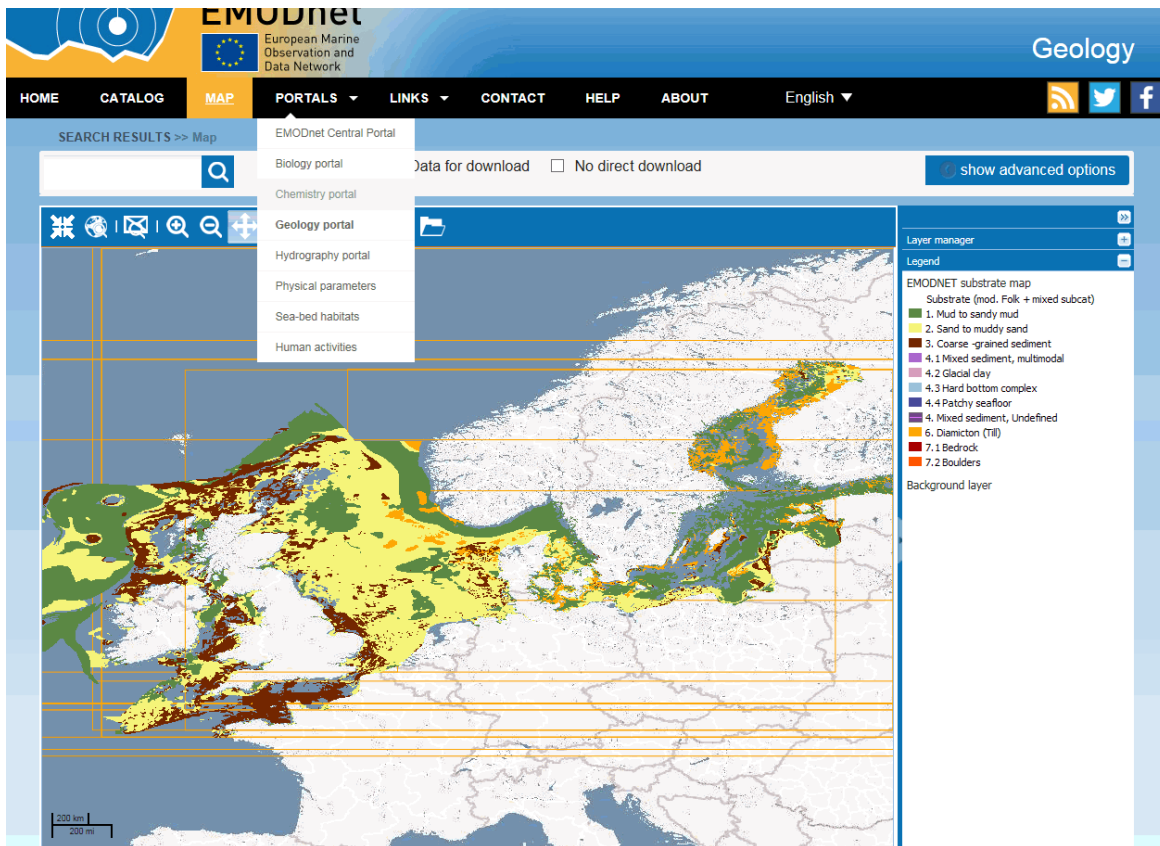
**Figure 1.** Home page of the EMODnet-Geology portal re-launched in December 2014.

Users of the website can access online data using a Catalog to select the information of interest and then display on a the map interface. As the map layers are updated these will be accessed from each of the WP Leaders servers using Web Map Services (WMS). The portal allows you to:

- search for WMS services of interest
- view information on the service
- view and interact with the service via a map interface
- obtain a link to the service to incorporate into a desktop GIS or other mapping application

Links to the WMS which can be used to incorporate into a desktop GIS or other mapping application can be found on the Metadata information page and the Map page.

Frequently Asked Questions (FAQ's), Tutorials, Reference Manuals and other information on the use of GeoNetwork Opensource ca be found on the Documentation center on The GeoNetwork opensource Community website.



**Figure 2.** Sea-bed substrate information displayed in the EMODnet-Geology website.

There are many different ways to search the catalogue for maps and other geographic data. The most common way is via the Catalogue or the search bar. The search bar allows you to enter a freetext term and also offers a list of options depending on the text entered. Clicking on the search button (the icon of a magnifying glass) takes you to the catalogue page showing the results of your search. Clicking on the 'show advanced search' button opens additional search options. This allows for detailed searches based on:

- What - searches are based on data content
  - Keyword - select from a list of keywords. More than one keyword can be selected
  - Organisation - select from a list of organisations who have data available. More than one keyword can be selected
  - Kind - select the type of information to be searched for. More than one keyword can be selected
  
- INSPIRE - searches are based on INSPIRE metadata within the catalogue
  - INSPIRE annex - select a specific INSPIRE annex. The Inspire annexes for a metadata are based on the Inspire theme keywords assigned to it.
  - INSPIRE theme - select from a list of keywords from the INSPIRE themes thesaurus.
  - Service type - select from a list of INSPIRE service types.



- Where - searches based on spatial extent
  - Select an area of interest on the map by first selecting the extent tool
- When - searches are based on temporal extent
  - Metadata change date - select a date or range where the metadata record has been updated.
  - Temporal extent - select the time period covered by the content of the dataset
  - Date type - select from the creation, modification or publication date of the dataset

Note: The term data refers to datasets, maps, tables, documents, etc, in fact anything that can be linked to the metadata record that describes it. The results of a search are dependent on the quality of the metadata associated with the resource.

The GeoNetwork search engine allows you to search on the following fields:

- Title
- Abstract
- Keywords
- Location
- Free text (any metadata field)

### *Catalogue*

The simplest way to find data of interest is to go to the catalog and use the filter option.

The catalog provides access to EMODnet geology metadata and consists of three main panels:

- Filter panel
- Results panel
- Map preview
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From here is it possible to filter the metadata catalog and view data layers on the map.

### *Filter panel*

The filter panel provides a list of options to help find data of interest. The filter options are derived from the current metadata list displayed in the results panel. To filter simply click on the option required.

### *Results panel*

The results panel displays a list of records based on the search and/or filter criteria. Clicking on the result title opens the full metadata record. Included are a number of options depending on the type of record:

- View in Google Earth - Downloads the metadata record as kml.
- Add to Map - Displays the web map service in the map window
- Image Link - Displays any images associated with the record, usually the legend for the WMS service

### *Map preview*

The map preview displays a small overview map which includes:

- boundary outlines of all records in the current results list
- Any WMS layers currently added to the map

The icon in the top right of the preview map toggles between the full sized map.

### *Map*

The map window displays any WMS services that have been added to the map. While it is possible to add WMS services from within the map it is easier to do so via the catalog.

### *Metadata*

The metadata screen displays a full metadata record for the selected result. The contents of this screen are dependent on the level of metadata associated with the selected result and can vary from record to record. commonly included are:

- A description of the record
- Links to associated resources
- Information on the dataset
- contact information

## ***WP9. Dissemination.***

See WP1 progress for dissemination activities by the Project Co-ordinator. A number of dissemination activities are planned, including a poster at the EGU Conference in Vienna in April 2015.

## ***WP10. Liaison with other EMODnet lots.***

The project Co-ordinator attended the EMODnet Steering Committee Meeting where discussions took place with the EMODnet lot Project Co-ordinators.

## 4. Specific challenges or difficulties encountered during the reporting period

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No specific challenges or difficulties were encountered during the reporting period.

## 5. User Feedback

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No feedback available at present.

## 6. Outreach and communication activities

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Date	Media	Title	Short description and/or link to the activity
2/12/14	Present ation	<i>Presentation including EMODnet-Geology in session on 'Progress on Large Scale Seabed Mapping Data Integration &amp; Exchange Initiatives Overcoming data integration challenges, making data relevant, and accessible'</i>	<i>Workshop to develop the seabed mapping aspects of the Galway Statement on Atlantic Research Co-operation.</i>

## 7. Updates on Progress Indicators

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No indicators available at present.