



EMODnet



European Marine
Observation and
Data Network

EMODnet Thematic Lot n°2 – GEOLOGY

EASME/EMFF/2020/3.1.11/Lot2/SI2.853812

Start date of the project: 25/09/2021 (24 months)

Centralisation Phase

Quarterly Progress Report (Q1/2023)

Reporting Period: 01/01/2023 – 31/03/2023



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1. Highlights in this quarter

Task 1: Maintain and improve a common method of access to data held in repositories

Collection and harmonisation of new datasets and first deliveries to the different work packages were scheduled for 2022, but deliveries continue until the end of the project. This is especially the case for the remote sea areas, the Caspian Sea and Caribbean Sea. Releases of the different data products are scheduled for the period from end of Q2 2023 to end of Q3 2023. Data flow from partners is rather continuous and if partners haven't been able to deliver their data in time, the data will likely be included in the next phase.

Caspian Sea data access has on 16.1.2023 been secured by contract with a new subcontractor: Caspian Locus Limited Liability Company, Azerbaijan.

Below are listed some examples of realized deliveries/actions regarding deliveries during Q1.

WP3 has received data updates on substates from Lithuania, Malta, France, Ireland, Latvia and Iceland as well as erosion data from Iceland and substrate data from Caribbean Sea from partner Iffermer, France.

WP4 received new contributions from Denmark (Quaternary) and Greece (geomorphology) and updates of data from Italy (geomorphology)

WP5 Meeting with NIOZ on Caribbean Sea data for Dutch territorial waters

WP6 Data updates were received during the reporting period from Greece.

WP7 Updates, including sub type information have been received from France, Spain and Turkey.

Task 2: Construct products from one or more data sources that provide users with information about the distribution and quality of parameters in time and space

All new and updated data submitted by the partners are added to our different data products which are updated in order to be migrated to the Central portal. Our deliveries continue until the end of the project. Work on the semantic and geometric harmonisation of Quaternary geology (WP4) in the Western Baltic Sea prototype area is progressing with partners from Denmark, Sweden, Poland and Germany.

Task 3: Develop procedures for machine-to-machine connections to data and data products:

We have several connections available to external applications – specifically OGC standards WMS, WFS, and CSW. All project partners can connect directly to the portal PostgreSQL-database and create advanced queries on the project's data products.

Task 4: Contribute data, data products and content to a central portal that allows users to find, view and download data and data products:

In this quarter we added redirection to our old web site, so now all incoming calls are redirected to the new Central Portal. We have also added a layer with geomorphology lines. The functionality of the Central Portal has been reviewed and smaller corrections are made.

Task 5: Contributing content to dedicated spaces in Central Portal:

We have been working in close cooperation with the Central Portal to have our data products available to any desired spaces on the Central Portal. We have also described a new use case about planning of wind farms in Denmark which was published on Central Portal and in EMODnet News Digest.

Task 6: Ensure the involvement of regional sea conventions:

Despite earlier efforts to advertise EMODnet Geology to the RSC's we have not managed to involve RSC's with EMODnet Geology. There have been discussions with the Secretariat and other lots to have meetings between EMODnet thematic lots and the RSC's, a forum which was dismantled some years ago. This situation has not changed yet.

Task 7: Contribute to the implementation of EU legislation and broader initiatives for open data

We have been working in close cooperation with DG MARE, CINEA, and the Secretariat to contribute to all joint EMODnet efforts on the implementation of EU legislation and broader initiatives for open data.

We are working on cooperation with the Seabed Habitats lot on "Vulnerable Marine Ecosystem (VME) Elements" of the Northeast Atlantic for ICES.

Connected to the new CSA Geological Service for Europe (GSEU), which will use EMODnet Geology both as a source of data/information and as a platform to disseminate GSEU-generated new data/information.

WP5 participated in the Open Sea Lab 3.0 Hackathon with two representatives, guiding four teams of participants.

Coordinator and deputy coordinator represented EMODnet Geology at the Twenty-seventh Session of the IOC Committee on International Oceanographic Data and Information Exchange (IODE-XXVII) in Paris, 22-24.3.2023.

Task 8: Monitor quality/performance and deal with user feedback:

We have been regularly monitoring and assessing the running systems in terms of performance and quality of service. User feedback has been handled, and problems have been resolved within the time limit specified by the help desk at the central portal.

Task 9: Maintain the existing thematic web portal for a maximum of six months from the start of the projects:

The original thematic portal is still running. It now takes care of the redirecting to the central portal. The database and web services work and are maintained as before, but the development of the website and web map viewer has stopped because the central portal takes care of this.

Highlights of the different work packages:

WP1. Project Management When Russia started its war in Ukraine, we lost our Caspian Sea subtask leader as we had to end the contract with our Russian subcontractor VSEGEI. Soon after that we started negotiations with an Azerbaijani team on subcontracting EMODnet Geology. In January 2023 a subcontract was signed between EMODnet Geology lead GTK and the Azerbaijani partner Caspian Locus Limited Liability Company who immediately started with the work to access and harmonize data to the different work packages of EMODnet Geology. Attempts on subcontracting entities from the other Caspian Sea countries (except Iran and Russia, which is impossible due to sanctions) remain, but are uncertain.

The partners were identifying, collating, and harmonising new national data for this phase of the project, including data from the Caribbean Sea. In order to incorporate also third parties from the Caribbean Sea area we want to connect with local geological surveys. Thus we have had discussions with Asociación de Servicios de Geología y Minería Iberoamericanos (ASGMI) in which many of the local surveys are members. The surveys of Colombia, Venezuela, Cuba, Costa Rica, Mexico, and the Dominican Republic have informed us that they

have marine geological data, and are interested in cooperation. In Q2 or Q3 2023 we plan to have a cooperation kick-off meeting where interested parties are invited to participate. Travel funding for this meeting will be provided by the EMODnet Geology coordination.

In Q1 also Brazil has informed us that marine geological data are available for inclusion to EMODnet, but since that data has to be evaluated and harmonized to EMODnet Geology standards, which takes time and resources, any such data can't be added to EMODnet Geology before the next contractual phase.

Our portal was successfully centralized to EMODnet Central Portal on 23. January together with the other thematic portals.

EMODnet Geology had two Steering group meetings during the reporting period and participated remotely in several EMODnet meetings; EMODnet Sea-basin checkpoint workshop, EMODnet Public Webinar: "EMODnet Centralisation: One Ocean, One EMODnet", EMODnet Chemistry Stakeholder Consultation.

WP2. Geological data specification and sourcing. This task was completed by month 12 (Q3 2022), but additional updates will be added during months 13-22 and used in final updates and/or new data products by end of this contract. Targeted focus is on data from the remote sea areas, the Caribbean Sea and the Caspian Sea. For this all work package leaders delivered guidelines for data submission to their respective work packages from our new Caspian Sea subcontractor Caspian Locus Limited Liability Company (CLLLC) with which GTK signed a subcontract In January. Some WP's had videomeeting with CLLLC in order to clarify the requirements to the new subcontractor.

WP3. Sea-bed substrate. SHOM World Seabed sediment (Garland et al 2018) map was by WP3 converted into EMODnet Folk classification and covers the whole Caribbean Sea at scale 1:500 000.

WP3 Seabed substrate data and harmonisation were presented at IODC-II, The Second International Ocean Data Conference at UNESCO Headquarters in Paris, France

Seabed substrate, Sedimentation rates and Seabed erosion Guidelines were delivered in February 2023 to our new subcontractor from Azerbaijan, CLLLC.

WP4. Sea-floor geology. Test layer of increased symbology (labels for lithology, age, event environment/process) is (with password protection) available at the BGR test viewer for the colleagues working on harmonisation of the Western Baltic Seafloor Quaternary geology.

Test layer at BGR viewer for optimized portrayal for the Quaternary seafloor geology on BGR Geoviewer and EMODnet Portal will be published in April.

Our partner from Albania started to work on study area to demonstrate the influence of genetic aspects to the Coastal Ribbon geology.

WP5. Coastal behaviour Continued literature search for field data on riverine sediment supply to coasts. Discussed possibility to link up this database with satellite data to be provided by EuroGeoSurveys Earth Observation Expert Group as part of project GSEU (Geological Service for Europe).

WP6. Geological events and probabilities. Contacts with colleague from Azerbaijan to provide information on Guidelines for WP6 products delivery.

WP 7. Minerals WP7 lead (GSI) is now a partner in the new Geological Service for Europe (GSEU) project WP2-T2.2 dealing with critical offshore raw materials. GSI will lead a WP within this project with the objective to integrate the results into the EMODnet portal.

Seabed Minerals has received data updates and is expecting data from the Caribbean Sea during next quarter.

WP8. Submerged landscapes. This quarter, we successfully secured palaeobotanist Dr E. De L. based at Università La Sapienza, Roma, Italy who will compile palaeoenvironmental indicators such as pollen at a European level in order to produce a high-level assessment of environmental evolution during the following timeframes: 20-15, 15-10, 10-7, and 7-5 ka BP. Dr De L will significantly progress work on the palaeogeographic reconstructions by filling an acknowledged skill gap, bringing expertise in reconstructing the environment across exposed areas of continental shelf during periods of lower sealevel.

WP9. Data management, web portal and services.

A layer with geomorphology lines has been added to the Central Portal. The geomorphology line layer was created during the migration process from EMODnet Geology portal to the Central Portal. It has already been added to the old map viewer for geology, but we waited to put it on the Central Portal until this was up and running (Tickets: EM-687 and EMODNET-1518)

After the launch of the Central Portal, we were asked to redirect the pages on EMODnet Geology to the equivalent pages on the Central Portal. On the old portal the user had to fill out a form to be able to download data. These forms were not redirected because these did not comply to the GDPR rules. Unfortunately, this means that we do not know the purpose for downloading anymore (tickets: EM-321 and EM-720).

An additional review of filters, links and legends on the Central Portal was done and smaller corrections were made (tickets: EM-85, EM-649, EM-741 and EM-759)

We reviewed and corrected the description of layers in the Atlas of the Sea EM-525.

We also answered a request from a private company about data for a wind farm project in the Baltic Sea (Ticket: EMODNET-1531)

Status of the Milestones and Deliverables listed in the workplan					
Milestone/Deliverable in numerical order	WP	Date due	Status (To do/ Delivered/ Delayed)	Date delivered	If Delayed: reason for delay and expected delivery date
M1: Thematic data products updated T0+6 months	WP9, all WP's	25.03.2022	Delivered	25.03.2022	Our data products were ready for uploading to CP according to plan.
M2: Data specification and sourcing ready	All WP's	24.09.2022	Delivered	-	-
M3: Interim report and evaluation of progress	WP1&WP9	24.09.2022	Delivered	-	-
D1.1-3: Quarterly reports 4/2021, 1/2022, 2/2022, 3/2022	WP1/all	15.01.2022, 15.04.2022, 15.07.2022 15.10.2022 15.01.2023, postponed by	Delivered (and accepted)	15.01.2022, 14.04.2022 15.07.2022 14.10.2022 15.02.2023	-

		CINEA to 15.02.2023			
D1.4-8: Quarterly reports	WP1/all	15.04.2023, 15.07.2023	This Q report, To do	11.04.2023	-
D2.1: Interim report	WP1/all	24.9.2022	Delivered (and accepted)	22.9.2022	-
D2.2: Final report	WP1/all	24.9.2023 + 60d	To do	-	-
D3.1: Thematic data products/maps updated on Central portal	WP9/WP1/all	24.03.2022	Delivered	-	Our data products were ready for uploading to CP according to plan
D3.2: Final data products/maps available	All WP's	24.9.2023	To do	-	-

2. Identified issues: status and actions taken

A. Priority issue(s) identified and communicated by CINEA/ DG MARE/ SECRETARIAT				
Priority issue	Status (Pending/ Resolved)	Action(s) taken/ remaining actions planned	Date due	Date resolved
Progress solving identified issues • EM-525 – ‘Updating of EMODnet Geology - Seafloor Geology layers in the European Atlas of the Seas’ is pending input from the Portal.	Resolved	We have reviewed and corrected the description of layers in the Atlas of the Sea.	Q1 2023	Q1 2023

B. Issues / challenges identified by the thematic assembly group itself				
Priority issue / challenge	Status (Pending/ Resolved)	Action(s) taken / remaining actions planned	Date due	Date resolved
Identified issue (projection) with WP8 database – some data not displayed/downloadable on portal.	Pending	Data expert @BGS to rectify. Liaison with WP9 to reschedule delivery.	End April 2023	

3. Communication assets

A. (Co-)Authored peer-reviewed publications in the quarter					
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No
-	-	-			

B. Other/non-peer reviewed types of publications (co-)authored in the quarter					
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No
15.02.2023	conference abstract...	Asch, K., Müller, A. M., and Blischke, A.: Ocean mapping: Finding and compiling spatial data on extreme environments – key information even for a general mapping project such as EMODnet geology , EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023, EGU23-16050		https://doi.org/10.5194/egusphere-egu23-16050 , 2023.	y

For a compressive overview of publications referring to/making use of EMODnet data and/or data products, please consult Google Scholar.

4. Monitoring indicators

Comments on the progress indicators in the indicators spreadsheet		
Progress indicator	Means of collecting figures	Comment
1. Current status and coverage of total available thematic data A) Volume and coverage of available data		We don't publish data with coverage, only point information on accumulation rate, no coverage.
What is your opinion on the data coverage within EMODnet for your thematic?		no coverage of data, only for data products, see below.
B) Usage of data in this quarter		
2. Current status and coverage of total number of data products A) Volume and coverage of available data products	other	<p>There is no uniform digital definition (in GIS format) of the European sea areas and their boundaries used in the EMODnet Lots. Therefore, EMODnet Geology has used its own Regions shapefile to assess the coverage of the products (maps) (WP3, WP4).</p> <p>Updates on data products with coverage (WP's 3 and 4) are being processed and releases are planned for the mid- second part of the second year of the project (Q2-Q3 2023).</p> <p>WP3: No changes during this Phase yet. The latest seabed substrate map update (21.9.21) includes 4 data products at different scales: 1:1 000 000, 1: 250 000, 1: 100 000 and multiscale. The multiscale data includes 11 layers at varying scales (1:70 000 – 1: 1500). The seabed substrate data at 1 M scale covers about 43 % of the Geology Regions, data at scale 250 k covers about 12 % and more detailed scales cover less than 5 %. The coverages by sea-basin are indicated in the excel file (Indicator 2).</p> <p>WP4: No changes during this Phase yet. No report on new numbers of area coverage, as the latest project contributions consists of a line feature layer (marine geology -</p>

		geomorphological line features) on the BGR Portal. Due to the characteristics of the line geometry, we cannot assess its areal coverage. Coverage: Pre-Quaternary geology: complete; Quaternary Geology: rather good coverage, partly with excellent detail data, several data gaps remain; Geomorphology: Excellent detail data from mapping campaigns of numerous regions. General physiographic features: rather good coverage with several data gaps.
B) Usage of data products in this quarter	other	There has been a big increase in the number of downloads and webservice calls in March 2023. The reason for this is probably the Open Sea Lab Hackathon. The statistics for the quarters 2022Q4 and 2023Q1 are generally not very reliable because people have used the services of the new portal before the official launch. This for example explains the high increase in the use of Sedimentation rate data in Q1 because the previous reported number for Q4 was too low.
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	other	Reminder: All-Russia Geological Research Institute (VSEGEI) was excluded from the consortium on 30.8.2022 and is thus not a data provider anymore. No Russian data are expected in near future. We are expecting Caspian Sea data later (Q2 or Q3 2023) from our new subcontractor in Azerbaijan: Caspian Locus Limited Liability Company.
5.1 Daily number of page views of EMODnet Thematic entry page	Europa Analytics	1468
5.2 Quarterly total number of visitors, page views, unique page views and percentage of returning visitors	Europa Analytics	We cannot say anything about trends since we do not have comparable statistics for the last quarter. We only have statistics for the current Q. If one compares the geology lot to the other lots the popularity of geology is about average, and this is satisfactory.

The monitoring numbers reported as part of the progress monitoring of EMODnet performance are collected through Europa Analytics, unless reported otherwise.

5. Annex: Other documentation attached

[List in Annex if you wish to provide any additional information.]