



EMODnet



European Marine
Observation and
Data Network

EMODnet Thematic Lot n° 1 - Geology

EASME/EMFF/2018/1.3.1.8 - Lot 1/SI2.811048

Start date of the project: 25/09/2019 - (24 months)

EMODnet Phase III – Quarterly Progress Report (4/8)

Reporting Period: 01/04/2020 – 30/06/2020



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1. Highlights in this quarter

[Please make sure that progress in each of the tasks specified in Section 1.4.1 of the Tender Specifications is listed. For those tasks not experiencing progress, please give an explanation. Max 2 pages]

Task 1: Develop a common method of access to data held in repositories:

This reporting period has focused on technical coordination with the EMODnet Secretariat on preparing for the coming phase with a central portal.

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

Several data products hold temporal components in the form of geological time aspects. Submerged landscapes being last in terms of recent ages. However, in EMODnet Geology there are not actually simply parameters that are handled as we produce map products that mainly are interpretations of a multitude of different geospatial data, which themselves are not presented.

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

In this reporting period, all data products were quality controlled to improve machine-to-machine connectivity.

Task 4: Maintain and further develop a thematic web portal allowing users to find, visualise and download data and promote the data and data products of the portal:

The EMODnet Geology portal received content updates to reflect the current state of available data products. In corporation with GeoERA, the web-GIS improved with minor bug fixes and usability improvements. Users can now search through layers to find relevant layers.

Task 5: Ensure the involvement of regional sea conventions.

No activity, mainly due to lockdown in Europe.

Task 6: Install a process to monitor performance and deal with user feedback:

We are linked to a monitoring system hosted by the main portal (Piwik/Matomo). Here we can login and extract performance and user statistics. The portal offers users the possibility to write feedback. We participate in all statistical initiatives put forward by the EMODnet Secretariat and Steering Committee.

Task 7: Operate a help desk offering support to users:

We continuously run our help desk according to rules set in the Tender Specifications. No change.

Highlights of the different workpackages

WP1. Project Management. Many changes in plans due to the COVID-19 pandemic, see later in report.

WP1. Project Management. At the kick-off meeting in Athens in October 2019 general work plans for the entire project and detailed activities for the next six to twelve months were decided upon. These were to be checked and updated at the next project meeting in April 2020 in Utrecht, the Netherlands. However, this meeting has been cancelled due to the COVID-19 pandemic and a video meeting with all partners is instead planned for week 39 in September. Instead updates have been communicated by the coordination and the work package leads, respectively.

WP1. Project Management. The EMODnet Geology Coordinator has actively coordinated the planning of the work of the Caspian Sea task together with the Russian partner VSEGEI (EMODnet

Geology subcontractor). VSEGEI as the regional coordinator of the Caspian Sea task made in early stage contacts with organisations in the Caspian Sea countries Kazakhstan, Azerbaijan, Iran and Turkmenistan. Subcontracts with organisations in these countries are in different stage, mainly delayed due to the COVID-19 pandemic. The only problem encountered is Turkmenistan from where VSEGEI has not got response. Luckily that part of the Caspian Sea used to be a part of the Soviet Union and there are a lot of geological material obtained by investigations conducted by the USSR Ministry of Geology before 1991, as well as a number of modern publications. This will allow, if it is not possible to attract the Turkmenistan organisation to work on the EMODnet-Geology project, to create sets of geological maps for this part of the Caspian Sea in accordance with Tender specs. The situation has not changed during the last quarter, mainly due to the COVID-19.

WP1. Project Management. Many scientific contributions from the different WP's to two different Geological Society of London publications highlighting the work thus far. For accepted papers see chapter 5.

WP2. Geological data specification and sourcing. Partners and subcontractors were at the kick-off meeting asked to report new data and metadata, which now are in the process of being collected. The same applies to the Caspian Sea subtask where VSEGEI has started collection of Russian data and is prepared for input of data from the other Caspian Sea countries. Some delays are still to be expected due to the Corona virus.

General: Task guides and updated guidelines, vocabularies and new feature types have been distributed to partners by the different work packages.

WP3. Seabed substrates. EMODnet Geology seabed substrate data is presented and is also available via the Finnish Marine portal that opened in April 2020 (<https://www.marinefinland.fi/en-US>)

Updated WP3 Seabed substrate harmonisation guidelines were sent to partners 7.4.2020

WP4. Sea-Floor Geology. Update of the WP 4 Vocabularies provided to the participants including a new feature type: general physiographic features

Up-dated data transformation tables including additional metadata fields provided to the participants

Progress on editing the Geological Society of London Special Issue: From Continental Shelf to Slope - Mapping the Oceanic Realm: one more contribution from the EMODnet Geology project accepted for publication.

Preparations to present WP 4 results on-line via BGR web site started.

WP6. Geological Events and Probabilities. Due to the COVID pandemic confinement, the main activity of the reporting period has been the revision of submitted dissemination papers

WP7. Marine Minerals. The target is to further develop and update the mapping of marine minerals, raw materials and hydrocarbons across all European seas with the inclusion of the Caspian Sea.

New data received so far as well as updates to data already received is being processed. This will be made available in Q3 of 2020.

EMODnet WP7 data was included under marine aggregates and marine minerals subchapters of the EU Blue Economy Report 2020, just published.

The Report and its annexes, jointly prepared by DG MARE and the JRC, was published and can be found at: <https://blueindicators.ec.europa.eu/>. Link to press release (https://ec.europa.eu/commission/presscorner/detail/en/ip_20_986)

2. Identified issues: status and actions taken

[Provide an overview of the issues identified by EASME (Table A), if any, during the reporting period, the status of those issues and actions taken to address them and/or roadmap with remaining actions planned to resolve the issues. In Table B, provide information about issues and challenges identified by yourself, if any.]

A. Priority issues identified and communicated by EASME/ DG MARE/ SECRETARIAT			
Priority issue	Status (Pending/Resolved)	Action(s) taken / remaining actions planned	Date due

B. Issues / challenges identified by the thematic assembly group itself			
Priority issue / challenge	Status (Pending/Resolved)	Action(s) taken / remaining actions planned	Date due
The ongoing spread of the SARS-CoV-2 virus (COVID-19) pandemic all over the globe might affect the progress of the project, especially staying on schedule/meeting the deadlines.	Pending	Meetings changed to teleconferences or postponed. Working on online meetings on specific WP tasks in small groups	-
COVID-19. Some partner or subcontractor organisations have been virtually closed for some time, or it has been difficult to get in contact with them.	Partly pending	Additional efforts to contact	-
COVID-19. Cancellation of the second EMODnet-Geology meeting in April 2020.	Resolved	The project meeting has been postponed to be held as a remote video meeting back-to-back with the EMODnet Jamboree (which again was postponed).	week 39

		<p>Many remote work meetings, for instance:</p> <p>-Partner TNO (WP5 lead) had three meetings on harmonization of WP4 data products for southern North Sea, two meetings on WP4 geomorphological nomenclature and hierarchy.</p>	
<p>COVID-19. Cancellation of many meetings and conferences.</p>	Pending	<p>These are essential platforms to showcase the work of the WP, and liaise with end-users. Discussion with all WPs to address this 'advertisement', 'end-user' and valuable platform for feedback needs to happen.</p>	-
<p>Planned meeting between TNO/Deltares and DG MARE on Phase 4 data products as well as future possibilities is being switched to a web conference later in April or early in May.</p>	Resolved.	<p>Took place on April 30, with a follow-up on May 7 (European Atlas of the Seas).</p>	
<p>Organization of a WP5 release in the digital Covid age</p>	Pending	<p>Agreed on date and on all steps to be taken, made sure that holidays don't interfere.</p>	August 31

3. User feedback (Contact Us form, online chat & other communication means)

[Provide a list of all user feedback received on your portal in chronological order within the reporting period. Indicate the type of the feedback received, a clear description of the query, and the actions undertaken to resolve the issue (e.g. update of metadata, fixing a particular issue with the map viewer). Indicate the status of the query (i.e. has the query been resolved or not yet), and if not provide an explanation why. List any feedback you received on the portal that can be used to build EMODnet use cases. Provide information in the table.]

Overview of user feedback and/or requests received in this quarter							
Date	Organisation	Type of user feedback (e.g. technical, case study, etc.) and short description of the feedback received	Means of contact	Response time	Status of user query: resolved/pending	Measures taken to resolve the query	Status: if not (yet) resolved/pending, explain reason why and expected timeline
21-04	NOAA	Problems downloading	Email	1 day	Resolved	Error corrected	
28-04	Total	Problems downloading	Email	14 days	Resolved	Error corrected	The delay of 14 days was due to a spam filter
May 2020	Gavin & Doherty Geosolutions	Case study, question on legend units used	e-mail	4 weeks (due to Covid)	Ongoing	Provided the requested information and preparing the new data product so that it can be viewed offline.	User will receive a preview of data product that will be published on the portal on August 31).
28-05	Southern Cross High School	Internal assessment; enquiry on map of countries characterized by submarine	Contact Us form	2 h	resolved	email answer	

		volcanoes and how eruptions affect water					
03-06	GDGEO	Metadata question (units)	Email	1 days	Resolved	Answer with info	
15-06	Unive Italy	Download question	Email	0 days	Resolved	Guidance offered	

4. Meetings/events held/attended & planned

[Organisational meetings/events held/participated (incl. presentations, lectures, trainings, demonstrations, workshops, etc.) by the contractant since the last quarterly report and planned in the future. Please add a short description on the meeting as well as the nature and volume of the audience.]

A. Meetings/events organised and attended				
Date	Location	Type event (internal or external meeting, training (workshop), etc.)	Meeting attended (A) / organised (O)	Short description and main results (# participants, agreements made, etc.)
15.4	Web/on-line	EMODnet Geology internal Steering group video meeting	O/A	Introduction of the WPs interim results, discussion of practical project issues
21.4	Web/on-line	Internal WP4 meeting I, organized by RBINS	O/A	Harmonization of mismatching WP4 data products for southern North Sea (pre-Quaternary and Quaternary for BRGM, BGS, RBINS, TNO): state of the art, task list defined.
30.4	Web/on-line	External WP5 info meeting of TNO and Deltares with DG MARE	O	Citizen science and coastal migration: highlighted citizen-science opportunities linked to WP5, has now been added to agendas of CMEMS and European Atlas of the Seas.
4.5	online chat	Scientific session "Sub-aqueous mass movements: triggers, dynamics and hazards."	A	EGU 2020 (100 participants)
6.5	online chat	Scientific session "Submarine geomorphology, and advances in seabed mapping and classification"	A	EGU 2020 (100 participants)
7.5	Web/on-line	SG meeting of the European Atlas of the Seas	A	Citizen science now on the agenda.
12.5	Web/on-line	EMODnet Geology internal steering group meeting	O/A	Discussion on Project progresses and specific issues of each WP (7 participants)
13.5	Web/on-line	Internal WP4 meeting between TNO and BGR	O	Hierarchy of WP4 INSPIRE nomenclature: agreed on highest-level geomorphological units, discussed practicalities of

				involving INSPIRE community.
18.5	Web/on-line	EMODnet Geology internal Steering group video meeting	O/A	Introduction of the WPs interim results, discussion of practical project issues
25.5	Web/on-line	Internal WP4 meeting II, organized by RBINS	O/A	Inventory of units and corresponding descriptions discussed.
16.6	Web/on-line	EMODnet-CMEMS Thematic Workshop on Coastal Issues	A	Discussion of exchanging EMODnet and Copernicus services and of developments in this thematic area: state of the art, assessing existing capabilities and emerging areas for collaboration. Need for land-sea link emphasized. EMODnet Geology coordinator and 4 WP leads attended as presenters.
19.6	Web/on-line	Internal WP4 meeting III, organized by RBINS	O/A	First maps at different hierarchical levels visualized.
24.6	Web/on-line	Internal WP4 meeting with BGR	O/A	Hierarchy of WP4 INSPIRE nomenclature: set up task to assign absolute hierarchy to INSPIRE nomenclature and provide added structure if needed.
29.6	Web/on-line	Internal WP5 release meeting	A	Agreed with the EMODnet Secretariat of the release data of coastal migration (field data) and coastal type: August 31. Finalized the schedule for preparatory steps with WP9 (GEUS).
SUM			O	Total # of meetings organised = 9
SUM			A	Total # of meetings attended = 12

B. Meetings/events planned in the future

Date	Location	Type event (meeting, training (workshop), etc.)	Meeting to be attended (A) / organised (O)	Short description and main expected outcomes
01.07	web, on-line	EMODnet Geology internal Steering Group video meeting	O/A	Introduction of the WPs interim results, discussion of practical project issues
16.07	web, on-line	EMODnet Geology internal Steering Group video meeting	A	Introduction of the WPs interim results, discussion of practical project issues
29.7	Web/on-line	internal WP4 meeting IV, organized by RBINS	O/A	Comparison of different national unit descriptions, with focus on lateral facies changes (with possible solutions).
31.8	Web/on-line	release of WP5 data products	O	Official release, with press release, of WP5 coastal migration (field data) and coastal type.
23.-25.9	remote/on-line meeting	EMODnet Geology meeting	O	EMODnet Geology deliverables, deadlines and actions will be discussed.
24.09	Web/on-line	EMODnet geology WP 4 workshop	O/A	WP 4 Seafloor geology on-line workshop: Status of the work, work on vocabularies and harmonisation. Discussion of difficult issues

5. Communication and dissemination assets

[Please list all the relevant communication and dissemination products and assets you have developed during this period (e.g. development of communication materials such as brochures, videos, press releases, newsletters, etc.) and are planning to do. At the bottom of the table, provide a total number for every type of communication product you have developed (e.g. total # of press releases, etc.).]

A. Communication products				
Date	Communication action/ material	Short description (of the material, title, ...) and/or link to the activity	Main results	Name of event at which material was disseminated (if applicable)

B. Planned communication products			
Date	Communication action/ material	Short description (of the material, title, ...) and/or link to the activity	Main results expected

[Publications (e.g. peer-reviewed journals, book chapters, conference papers, etc.) that you are aware of using/referring to EMODnet data or data products within the reporting period.]

List of known publications using EMODnet data or data products

Date	Type and name of journal, conference, ...	Publication title including DOI (if known)	Author(s)	Organisation(s)
2020	European Commission (2020) The EU Blue Economy Report 2020	Chapter 6.4. MARINE MINERALS		Geological Survey Ireland and Geo-ERA MINDeSEA project.
2019	Goldschmidt 2019 Conference abstract	Analysing the distribution of marine mineral deposits across European Seas: A new perspective from the EMODnet-Geology project.	T.Medialdea, M. Judge, F.J.Gonzalez, L.Somoza, P.Terrinha, E. Marino.	IGME (Spain), IPMA (Portugal).
2019	X Jornadas de Geomorfología Litoral. Libro de Ponencias, Castelldefels, 4-6 de septiembre de 2019.	EMODnet: The European Marine Observation and Data Network ISBN: 978-84-09-12002-4, 65-67.	I. Rodríguez-Santalla and T. Medialdea.	Universidad Rey Juan Carlos, IGME (Spain)
31.3	Geological Society, London, Special Publications Special Publication: From Continental Shelf to Slope: Mapping the Oceanic Realm	Discover Europe's seabed geology. The EMODnet concept of uniform collection and harmonization of marine data	H. Vallius, A. Kotilainen, K. Asch, A. Fiorentino, M. Judge, H. A. Stewart and B. Pjetursson	GTK (Finland), BGR (Germany), ISPRA (Italy), UKRI – BGS (UK), GEUS (Denmark).
9.7	Geological Society, London, Special Publications Special Publication: From Continental Shelf to Slope: Mapping the Oceanic Realm	Revealing the secrets of Norway's seafloor – geological mapping within the MAREANO programme and in coastal areas	R. Bøe, L. R. Bjarnadóttir, S. Elvenes, M. Dolan, V. Bellec, T. Thorsnes, A. Lepland and O. Longva	Geological Survey of Norway - NGU (Norway)
15.6	Quarterly Journal of Engineering	Technical note:	L. Battaglini, S. D'Angelo and A. Fiorentino	ISPRA (Italy)

	Geology and Hydrogeology Thematic Issue: Mapping the Geology and Topography of the European Seas (EMODnet)	Environmental management; Geohazards		
16.6	Quarterly Journal of Engineering Geology and Hydrogeology Thematic Issue: Mapping the Geology and Topography of the European Seas (EMODnet)	Research article: INFOMAR data in the EMODnet Geology data portal supports marine spatial planning and offshore energy development in the Irish offshore	J. Guinan, C. McKeon, E. O’Keeffe, X. Monteys, F. Sacchetti, M. Coughlan and C. Nic Aonghusa	GSI (Ireland), Marine Institute (Ireland), Irish Centre for Research in Applied Geosciences, Ireland and Gavin and Doherty Geosolutions (Ireland).
2020	OKEANOS	I. Herrera, D. Mentado Rodríguez, F.J. González.	Pesca, energías marinas, recursos minerales y la planificación espacial marina. Revista de la Sociedad Atlántica de Oceanógrafos	IGME (Spain)
2019	Minerals	E. Marino, F. J. González, T. Kuhn, P. Madureira, A. V. Wegorzewski, J. Mirao, T. Medialdea, M. Oeser, C. Miguel, J. Reyes, L. Somoza, R. Lunar	Hydrogenetic, Diagenetic and Hydrothermal Processes Forming Ferromanganese Crusts in the Canary Island Seamounts and Their Influence in the Metal Recovery Rate with Hydrometallurgical Methods.	IGME (Spain), Complutense University of Madrid (UCM), Geosciences Institute (IGEO-UCM-CSIC)(Spain), BGR (Germany), HERCULES Laboratory (Portugal), Leibniz Universität Hannover Institut für Mineralogie (Germany).

6. Monitoring indicators

[Please refer to the standardised monitoring tool i.e. Matomo to complete the designated excel template on monitoring and progress indicators in annex, and provide a comment or short explanation on numbers and trends in the table below for each indicator when possible/applicable. If monitoring was carried out using tools other than Matomo, please indicate clearly.]

Comments on the progress indicators in the excel template	
Progress indicator	Comment
1.1 Status/Volume and coverage of all available acquired data	
A) Volume and coverage of available acquired data	We do not acquire <u>data</u> in this project.
B) Usage of data in this quarter (formerly indicator 4)	We do not acquire <u>data</u> in this project.
1.2 Status/Total number and the coverage of all built & external data products	
A) Volume and coverage of available built & acquired data products	Data products consisting primarily of points and lines marked with "n/a". Total volume is based on a compressed file format. Unchanged since last report.
B) Usage of data products in this quarter (formerly indicator 4)	Map requests are implicit in WMS stats. We see a dip usage. Possibly caused by seasonal fluctuations and COVID-19.
2. Organisations supplying/approached to supply data and data products within reporting period	No change since last report.
3. Online 'Web' interfaces to access or view data	No change since last report.
5. Statistics on data volunteered through download forms	Users are not required to state country of residence. Address is freetext. We see a small increase in the number of downloads. More working from home.
7. Published use cases	No published use-cases during this reporting period.
9.1. Technical monitoring	The technical setup of monitoring is working satisfactory.
9.2. Portal user-friendliness (Visual Harmonization score)	Minor improvements made to the web-GIS.
10. Visibility & Analytics for web pages	Trend is unchanged since last quarter except contribution which may be because few new projects are being planned at this time of year.
11. Visibility & Analytics for web sections	Trend is unchanged since last quarter.
12. Average visit duration for web pages	Trend is unchanged since last quarter.

The monitoring numbers reported as part of the progress monitoring of EMODnet performance are collected through Matomo. In some cases, numbers from other monitoring systems may also be reported (e.g. Awstats, Google Analytics). Each system uses different technical approaches and therefore has its strengths and shortcomings. Therefore, results are indicative and care should be taken with interpreting absolute numbers or comparing results from different tools. It is often more sensible to consider trends over time collected by the same monitoring tool.

7. Annex: Other documentation attached

List of partner organisation abbreviations:

BGR Bundesanstalt für Geowissenschaften und Rohstoffe
GTK Geologian tutkimuskeskus – Geological Survey of Finland
GSI Geological Survey Ireland
GEUS Geological Survey of Denmark and Greenland
IGME Instituto Geológico y Minero de España
IPMA Instituto Português do Mar e da Atmosfera
ISPRA Istituto Superiore per la Protezione e la Ricerca Ambientale - Servizio Geologico d'Italia
NGU Norges Geologiske Undersøkelse - Geological Survey of Norway
RBINS Institut Royal des Sciences Naturelles de Belgique
TNO Nederlandse Organisatie Voor Toegepast Natuurwetenschappelijk Onderzoek
UKRI – BGS United Kingdom Research and Innovation – British Geological Survey
VSEGEI Russian Geological Research Institute named after A.P. Karpinsky