



**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 (Q1/2022)**

**Reporting Period: 01/01/2022 – 31/03/2022**



## Contents

1. Highlights in this quarter .....	3
2. Identified issues: status and actions taken.....	6
3. User feedback.....	8
4. Meetings/events held/attended & planned.....	9
5. Communication assets .....	14
6. Monitoring indicators.....	17
7. Annex: Other documentation attached .....	20

### Disclaimer

The information and views set out in this report are those of the author(s) and do not necessarily reflect the official opinion of the CINEA or of the European Commission. Neither the CINEA, nor the European Commission, guarantee the accuracy of the data included in this study. Neither the CINEA, the European Commission nor any person acting on the CINEA's or on the European Commission's behalf may be held responsible for the use which may be made of the information.

# 1. Highlights in this quarter

---

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

Work on collection and harmonisation of new datasets and first deliveries to the different work packages are mainly scheduled to begin in Q1 or Q2 of 2022, but deliveries continue until the end of the project.

Data Deliveries from partner countries during Q1:

WP3 replies/information on the erosion topic from: Slovenia, Malta, Ukraine, Italy, Belgium, Cyprus, Latvia, Russia, France, Ireland, Turkey, Poland, and Finland.

WP4 Norway: Geomorphology. Data from France, Germany, Iceland, Ireland, Italy, Latvia, Malta, Montenegro, Norway, Portugal, Russia (data provided in Phase 4), Slovenia, Spain, and Ukraine (Q4 2021) were included in data products now under quality control.

WP5 GSI – QC of coastal-migration map base on satellite data. Edge Hill University, UK – map of georeferenced coastal-vulnerability studies provided by the entire partnership.

WP8 New data submissions have resulted in 24,807 new features for the work package representing the submerged landscape of our European Seas.

WP9 During Q1 2022 the data indexes were improved.

## **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 data submitted by the partners will be added to the different data products and will be updated on the web portal.

## **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:**

We have a fully maintained and developed web portal contributing with geological data, data products and content, ready for migration to Central Portal.

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

We are working in close cooperation with the Central Portal to have our data as well as our portal ready for all necessary measures regarding migration of EMODnet Geology data and products to any desired spaces on the Central Portal.

## **Task 6: Ensure the involvement of regional sea conventions:**

The RSC issue will be dealt with during this phase, mainly through the planned meetings between all EMODnet thematic lots and the RSC's, a forum which was dismantled some years ago.

## **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.

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

We regularly monitor and assess the running systems in terms of performance and quality of service. User feedback is handled, and problems resolved within hours.

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

We kept our thematic portal running for a maximum of six months from the start of the project in order to have it successfully migrated to the Central Portal – and in fact even further as long as necessary, provided that this is further approved by CINEA.

**Highlights of the different work packages:**

**WP1. Project Management.** The EMODnet Geology Coordinator was actively coordinating 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 subtask made during last phase contacts with organisations in the Caspian Sea countries Kazakhstan, Azerbaijan, Iran and Turkmenistan. Subcontracts with organisations in Iran are impossible due to the Iran sanctions since payments to any Iranian organisations are prohibited. Subcontracts with organisations in the other Caspian Sea countries have not yet been made, and are since 24.2.2022 on ice due to the war in Ukraine. This is since those have been designated to our subcontractor VSEGEI in Russia, whose all EMODnet activities are on hold for the moment. Luckily, however, we managed to get a lot of data from the Caspian Sea area by the end of the earlier EMODnet Geology phase that ended in September 2021, so we have data from the Caspian Sea for all our main data products.

For the partners the main activities of this quarter were in identifying and harmonising new data for this phase of the project.

**WP2. Geological data specification and sourcing.** This task will be completed by month 12 as partners and subcontractors were at the kick-off meeting asked to identify new data and metadata, which now are in the process of being collected and harmonised. Additional updates will be added during months 13-22 and used in final updates and/or new data products by end of phase IV.

**WP3. Sea-bed substrate.** WP3 distributed Caspian Sea coastline created in EMODnet Geology to EMODnet Habitats lot, February 2022. Seabed substrate Confidence workshop was organized in February by WP3. Summary of the partner query for Seabed Erosion rate was created and distributed to partners February 2022. Dissemination of EMODnet Geology project at IODE Conference 2022, Sopot, Poland and at FINMARI Researcher Day, Helsinki, Finland. Oral presentations by the EMODnet WP3 team at both conferences.

**WP4. Sea-floor geology.** Data of EMODnet Geology – Geomorphology line features uploaded at BGR Geoviewer (<https://geoviewer.bgr.de>) for quality check by the WP 4 data providers.

**WP5. Coastal behaviour.** A literature-based map of coastal-vulnerability indices was finalized. It is presently being QCd, in preparation of WMS publication on the portal.

Representatives of WP4, 5 and 6 held four preparatory meetings to ensure alignment of work and contributions on the coastal ribbon. An inventory questionnaire on data, information and knowledge concerning the coastal ribbon was created, including a short explanatory document. It will be disseminated to the EMODnet Geology partners in April 2023.

**WP6. Geological events and probabilities.** WP6 Guidelines for the current phase was delivered to partners. Inventory on availability of events probability data from partners ongoing.

**WP 7. Minerals** Dissemination of EMODnet Geology project at INFOMAR seminar 2022 by presenting EMODnet achievements and future portal centralisation: “EMODnet geology and Bathymetry”. Sessions was on European projects. Audience was international. More than 80 delegates.

**WP8. Submerged landscapes.** New data submissions have resulted in 24,807 new features for the workpackage representing the submerged landscape of our European Seas. The soon to go public database now comprises more than 40,000 (up from ~16,000) features representing 27 classes of submerged landscape and palaeoenvironmental indicator.

**WP9. Data management, web portal and services.** In this quarter we provided statistics on monthly downloads and dealt with incoming JIRA issues. Main focus is preparing for the portal migration taking place 2022. The migration is being prepared in close cooperation with the Secretariat. We have split the task into four sub-tasks: Main portal (CMS), data product downloading, data dissemination on maps, and metadata handling. This work is on track according to JIRA (EM-394, EM-414, EM-415, EM-416, and EM-418). In this quarter we improved the data entity indexes by splitting point data into boreholes and grab samples. We contributed with numbers and volumes of downloaded data and data products. Currently, we have two open issues on the Jira that require further discussions.

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
<b>M1: Thematic data products updated T0+6 months</b>	WP9, all WP's	25.03.2022	Delivered	25.03.2022	Our data products have been ready for uploading to CP according to plan.
<b>M2: Data specification and sourcing ready</b>	All WP's	24.09.2022	To do	-	-
<b>M3: Interim report and evaluation of progress</b>	WP1&WP9	24.09.2022	To do	-	-
<b>D1.1: Quarterly report 4/2021</b>	WP1/all	15.01.2022	Delivered	15.01.2022	-
<b>D1.2-8: Quarterly reports</b>	WP1/all	15.4.2022, 15.7.2022, 15.10.2022, 15.1.2023, 15.4.2023, 15.7.2023	This Q report, To do (all the rest)	14.4.2022	-
<b>D2.1: Interim report</b>	WP1/all	24.9.2022	To do	-	-
<b>D2.2: Final report</b>	WP1/all	24.9.2023	To do	-	-
<b>D3.1: Thematic data products/maps updated on Central portal</b>	WP9/WP1/all	24.03.2022	Delivered	-	Our data products have been ready for uploading to CP according to plan.
<b>D3.2: Final data products/maps available</b>	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
<b>Secretariat Assessment:</b> There are more Deliverables listed in the quarterly report than listed in the GANTT chart of the technical workplan	Resolved	The deliverables listed in the Q report are intended for internal EMODnet Geology use, and unnecessarily included in the Q report, but could be used in Q reporting in a later phase.	-	14.4.2022
<b>Secretariat Assessment:</b> Sea areas and their boundaries. The Secretariat recommends EMODnet Geology to refer to section 1.4.3 of the Tender Specifications, where it is indicated which boundaries and shapefiles should be taken as reference by all thematic lots (i.e. 'Europe's seas' dataset published by the EEA).	Resolved	EMODnet Geology reported already during the previous phase in spring 2021 that the EEA dataset of Europe's seas' does not cover all the sea areas that we report. Thus, we have used own Region shapefiles to assess the coverage of the products (maps), this was also reported a year ago.  After a meeting with the Secretariat on 2 <sup>nd</sup> March, it was unanimously agreed upon a new division of sea areas in the reporting worksheet, with sea areas covered by EEA and those that are not.	-	2.3.2022
<b>EM-525</b> Request to update two layers to use different styling on the European Atlas of the Seas.	Pending	Dialogue with the Secretariat		
<b>EM-85</b> Request for better mime-type on a layer	Resolved	Simple Geoserver setting		8.4.2022
<b>EM-415</b> Provide database dump	Resolved	Provided a database dump		2022-02
<b>EM-518</b> Request for SSL-certificate upgrade on portal	Pending	Further investigation required		

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
WP1, WP3, all: War and Russian army invasion in Ukraine have already affected the progress of the project.	Resolved (partly)	All ongoing cooperation with Russian organizations has been suspended for the time being. EMODnet Geology WP3 workshop on seabed erosion has been postponed.		

WP5. Key employee responsible for all WP5-related map making left TNO – Geological Survey of the Netherlands in March 2022; between January and March	Resolved	Employee who left spent his EMODnet time on knowledge and skills transfer.	31.3.2022	31.3. 2022
WP6 lead has limited remote access to GIS resources	Resolved	Refurbishment of ISPRA office after extended fire	January 2022	04.04.2022
WP9. Splitting up boreholes into boreholes and grab samples	Resolved	The borehole index will be split in at least two categories (boreholes and grab samples).	1.4.2022	1.4.2022
WP9. Splitting up geophysical index into seismic and multibeam	Pending. Rescheduled due to lack of content.	The geophysical index will be split in categories seismic and multibeam.	1.7.2022	

### 3. User feedback

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
25.1.2022	University of Oldenburg	The request to provide the data in a format that Matlab can read, e.g., an ESRI shape.	E-mail and SharePoint Microsoft	1 day	resolved		
4.3.2022	University of Bologna	Requesting further information about substrate	E-mail	1 day	resolved		
22.03.2022	University of Bologna	Request for variation of sediment distribution in the Adriatic Sea through time	email	same day	Resolved	Answer provided; requested data are not available	
27 January 2022	University College Cork, Republic of Ireland	Issue with downloading the WP8 products.	Direct Email	WP8 leader contacted user same day (27 <sup>th</sup> January), and website developer from GEUS same day.	Resolved	Technical coordinator rectified downloading issue on web portal.	N/A
2022-02-28	DDS	Request for website reference	e-mail	3 hrs	Resolved	Information	
2022-03-04	UNIBO	PhD data usage	e-mail	3 hrs	Resolved	Information	



## 4. Meetings/events held/attended & planned

A. Meetings/events organised and attended in the quarter					
Date	Location	Type event (internal or external meeting; training/ workshop)	Was a presentation given? (yes/no + short description)	Meeting attended (A) / organised (O)	Short description and main results (# participants, agreements made, etc.)
14.1.2022	Remote, Teams-Meeting	Internal EMODnet 5 Geology WP3, GTK Meeting	no	O	discussions related to the progress of the project
19.1.2022	Remote, Teams Meeting	Internal EMODnet Geology vocabulary group meeting	no	O	discussion on harmonization of vocabularies across EMODnet Geology WPs (6 participants)
19.1.2022	Remote, Teams Meeting	Internal EMODnet Geology Coastal Ribbon group meeting	no	O	Coastal Ribbon start drafting inventory for coastal ribbon data. With WP leaders of WP's 3,4,5,6, and 8 and supporter. Discussions on coastal ribbon (6 participants).
25.1.2022	Remote, Zoom meeting	EMODnet Central Portal Technical team meeting with Geology	No	A	Discussion on EMODnet Geology migration progress to central portal
01.2.2022	videoconference	meeting of institutions contributing to Italian WP6 deliveries (CNR-ISMAR, OGS, INGV, ENEA, University Genova, Palermo, RomaTRE and Trieste)	No	O	discussion on the most appropriate terminology and symbols to be adopted to represent features within WP6 (18 participants)
2.2.2022	Remote, Teams-Meeting	Internal EMODnet Geology Seabed substrate Confidence Group workshop, organized by WP3	yes, Confidence Presentation by SGU	O	Discussion on confidence issues concerning data collated (20 participants)
7.2.2022	Remote, Zoom meeting	EMODnet Central Portal Technical team meeting with Geology	No	A	Discussion on EMODnet Geology migration progress to central portal

10.2.2022	Remote	Internal EMODnet-Geology WP8 Palaeogeographic Framework Workshop Workshop Presentations included recent research on submerged landscapes by project partners, summary of working groups across 7 case study regional sea areas, methodology and other partners we need to approach.	Yes. 8 presentations	O	The online workshop was held to discuss and identify the regional study areas to progress the palaeogeographic reconstruction element of the WP8 aims and deliverables. This was attended by 32 participants. A realistic timeline towards delivery in 2023 as per D3.2 was the main outcome.
15.2.2022	Sopot, Poland, Hybrid event, (Remote presentation)	External International Ocean Data Conference 2022, Sopot, Poland	yes, presentation by SK/WP3, GTK	A	dissemination of EMODNET Geology project, over 590 online and 60 on-site participants
16.2.2022	Remote, webinar	External Webinar on Baltic Sea, The Finnish association of nature conservation, Helsinki branch	Yes, presentation by AKa/WP3	A	dissemination of EMODNET Geology project
18.2.2022	Remote, Teams-Meeting	Internal EMODnet 5 Geology WP3, GTK Meeting	no	O	discussions related to the progress of the project
21.02.2022	Dublin (Ireland)	INFOMAR seminar 2022	Yes. Present the EMODnet achievements and future portal centralisation: EMODnet geology and Bathymetry	O	Sessions was on European projects. Audience was international. More than 80 delegates <a href="https://www.infomar.ie/node/529">https://www.infomar.ie/node/529</a>
24.2.2022	Remote, Teams-Meeting	Meeting between EMODnet Geology and EMODnet Secretariat	no	A	Discussion on Sea regions to be used in reporting

25.2.2022	Remote, Teams Meeting	Internal EMODnet Geology Coastal Ribbon group meeting	no	O	Coastal Ribbon discuss inventory draft, and next actions. With leaders of WP 3,4,5,6, and 8 and supporter. Discussions on coastal ribbon and exploring potential synergies (6 participants).
14.03.21	On-line	meeting	o	O	Second meeting of the WP 4 vocabulary group: first draft of comparison tables cross-WPs. With WP leaders of WP 3,4,5,6, and 8 and supporter.
16.3.2022	Remote, Teams-Meeting	Internal EMODnet 5 Geology, GTK Meeting	no	O	discussions related to the Central Portal
21.3.2022	Remote, Teams-Meeting	Internal EMODnet Geology Steering Group meeting	no	O	Discussion of EMODnet Geology issues related to the progress of the project (10 participants)
23.3.2022	Remote, Online Conference	External FINMARI Researcher Day	yes, presentation by Aka/WP3, GTK	A	dissemination of EMODNET Geology project, 153 participants
24.3.2022	Remote, Teams Meeting	Internal EMODnet Geology vocabulary group meeting	no	O	discussion on harmonization of vocabularies across EMODnet Geology WPs (6 participants)
25.03.2022	videoconference	meeting of institutions contributing to Italian WP6 deliveries (CNR-ISMAR, OGS, INGV, ENEA, University Genova, Palermo, RomaTRE and Trieste)	No	O	discussion on the most appropriate terminology and symbols to be adopted to represent features within WP6 (15 participants)
31.3.2022	Remote, webinar	External GMME Webinar	Yes, presentation by Aka/WP3	A	dissemination of EMODNET Geology project

A. 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
April 2022	Online	Meeting	A	Meeting with palaeobotanists at Università La Sapienza, Roma to discuss broad scale palaeovegetation on the continental shelves during the 4 palaeogeographic intervals defined for reconstruction for WP8.
7.4.2022	On-line	meeting	O	Coastal Ribbon review of drafted text for a round mail, work on finalizing of Inventory
22.4.2022	online	EMODnet Geology meeting	O	3 <sup>rd</sup> Meeting of the Vocabulary Group to complete the tables comparing related terms and definitions across WPs
6.5.2022	videoconference	meeting of institutions contributing to Italian WP6 deliveries (CNR-ISMAR, OGS, INGV, ENEA, University Genova, Palermo, RomaTRE and Trieste)	O	discussion on the most appropriate terminology and symbols to be adopted to represent features within WP6
17.-19.5.2022	Utrecht, Netherlands	EMODnet Geology Project meeting	O	EMODnet Geology Project meeting. Discussions on project progress and future steps, including breakout sessions on regional sea basins as well as dedicated sessions on the Caribbean and on cooperation with other EMODnet Lots.
17.-19.5.2022	Utrecht, Netherlands	EMODnet Geology Project meeting	O	EMODnet Geology Project meeting: presentation and discussion of WP 4 results, tasks, and schedule

17.-19.5.2022	Utrecht, Netherlands	EMODnet Geology Project meeting: WP 4 workshop	O	EMODnet Geology Project meeting: WP 4 workshop to discuss the results, vocabulary and harmonisation issues and pen questions
19.5. 2022	Utrecht (Netherlands) and online	Discussion session under WP11, as part of EMODnet Geology partner meeting	O	Discussion about EMODnet theme collaboration (including discussions with Dutch representatives of other EMODnet themes)
4-6.6.2022	Online / Teams / In Person To be decided	Conference	A	Abstract submitted (Title: “Submerged Landscapes Across European Seas”) to the International Conference for Seafloor Landforms, Processes and Evolution. Opportunity to engage with wider community, gain feedback on products and source new data contributions.
TBD	Remote Teams meeting	Workshop: Seabed erosion (postponed from March 2022)	O	Discussion on erosion rate data and approach
TBD	TBD, will be discussed during EMODnet 5 Project Meeting	Interdisciplinary workshop on EMODnet in the Netherlands	O	Higher visibility and more focused applicability of EMODnet in Dutch societal issues and questions

## 5. Communication assets

A. Communication products developed				
Date	Communication material	Short description (of the material, title, ...) of the asset	Main results	Name of event at which material was disseminated (if applicable)
15.2.2022	Oral presentation and abstract	Susanna Kihlman, Henry Vallius and EMODnet Geology partners, 2022. EMODNET Geology – harmonizing geological data of the European seas and beyond.	Public dissemination	Oral (Remote) presentation at International Ocean Data Conference 2022, 15. February 2022. Sopot, Poland
23.3.2022	Oral presentation	Anu Kaskela, Susanna Kihlman, Aarno Kotilainen, Ulla Alanen, and Henry Vallius: EMODnet Geology provides access for marine geological data.	Public dissemination	Oral presentation at FINMARI Researcher Day Conference, 23 March 2022, Helsinki, Finland, online event
31.3.2022	Oral presentation	Anu Kaskela (GTK): EMODnet Geology WP 3– Aspects of Compiling seabed Substrate Map Data.	Presentation given and discussed	Oral presentation at EuroGeoSurveys Geological Mapping & Modelling Expert Group seminar on EMODnet Geology 31.3.2022, online event.
31.3.2022	On-line presentation	Kristine Asch (BGR): EMODnet Geology WP 4 – Aspects of compiling seafloor geology and geomorphology map data	Presentation given and discussed	Oral presentation at EuroGeoSurveys Geological Mapping & Modelling Expert Group seminar on EMODnet Geology 31.3.2022, online event.

<b>B. Planned communication products</b>			
Date	Communication material	Short description (of the material, title, ...) and/or link to the asset	Main results expected
May 2022	Vocabulary brochure and product description	A product of the workshop held on 10. February 2022 has been a vocabulary describing all the features compiled for WP8. Additionally, more information on the format of the data available on the portal has been summarised. This is being QC'd at the moment by project partners before delivery online.	A webpage or pdf available to view by end users.

A. (Co-)Authoried peer-reviewed publications in the quarter					
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No
	e.g. paper; conference proceedings; book chapter; ...				

B. Other/non-peer reviewed types of publications (co-)authoried in the quarter					
Date of publication	Type of publication	Full reference	ISBN	DOI	Is it open access? Yes/No
<b>Summer</b>	e.g. paper; conference proceedings; book chapter; ...	Introduction to the Geological Society of London Special Issue: From Continental Shelf to Slope: Mapping the Ocean Realm			y

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



## 6. 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	Matomo/ Europe Analytics/ other <b>Please specify</b>	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?	other	no coverage of data only for data products, see below.
B) Usage of data in this quarter	Matomo	Se tab 5 in the spreadsheet.
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>WP3. The latest seabed substrate data 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). Updated seabed substrate data was published in September 2021. There have not been any updates yet in this phase.</p> <p>WP4: No changes to end of Phase IV yet. No report on new numbers of area coverage, as the latest project contributions consists of a line feature layer (marine geology - geomorphological line features) on the BGR Portal. Due to the characteristics of the line geometry, we cannot assess its areal coverage.</p>

		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  The last update of the seabed substrate data was in September 2021.
B) Usage of data products in this quarter	Matomo	Map requests are implicit in WMS stats. We see a slight increase in usage per quarterly report. Numbers are quite volatile due to machine-to-machine interfaces.
3. Internal and external organisations supplying/approached to supply data and data products within this quarter	other	No change since last report.
4. Online 'Web' interfaces to access or view data	-	No change since last report.
5. Statistics on information volunteered through download forms	-	Due to GDPR we do not register place of origin.
6. Published use cases	-	-
8.1. Technical monitoring	Matomo	See graph in spreadsheet. Satisfactory both response time and up-time
9. Visibility & Analytics for web pages	Matomo	See graph in spreadsheet. We see a steady increase and/or stable situation in general. We see a slight increase on all parameters except the contribute page which has moved to a less prominent location on the portal.
10. Visibility & Analytics for web sections	Matomo	See graph in spreadsheet. Previous trend continued, that users are more keen to accessing maps and downloads directly. This is a common trend to jump directly from Google to sub pages.
11. Average visit duration for web pages	Matomo	See graph in spreadsheet. The outliers are difficult to explain. The numbers show no clear trend for this reporting period. We are averaging on approx 1 minute per page view and 1 hr average per visit which can be seen as satisfactory.

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



## 7. Annex: Other documentation attached

---

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