

Contents

1	Explanation of Data Monitoring per Data Unit	3
1.1	Data	3
1.2	Data Products	3
1.3	GEO Density	4
2	Primer for the Technical Working Group Meeting November 2020	5
2.1	Reporting Method- Options	5
2.1.1	Reporting per Data Unit	5

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EMODnet Work Package 2:

Discussion document for Monitoring Indicators 1 (data) and 2 (data products)

The process of collating progress monitoring information from each of the EMODnet thematic lots is complex. A more structured/effective way of recording progress should therefore be an objective. In close dialogue with the thematic lots, the Secretariat has worked to improve the efficiency and harmonisation of monitoring processes to track progress made at the thematic level, both for data availability through the portal, as well as to have a measure of the pace of data product creation.

The need for this effort to be undertaken has also been indicated through related exercises which highlight the need to have a 'Macro' level view/ statistical breakdown, of what data and data products are available for each EMODnet Thematic lot.

To be constructive about the process, the disparity in reporting had been flagged in both the Q1 and Q2 2020 quarterly assessments, and has been on the radar to resolve effectively. **Therefore, and in order to prepare for the upcoming Q3 2020, it has been proposed that each EMODnet thematic lot, continues to report as before, but to provide a detailed description of their process in the narrative part of the report.** This explanation would need to include an explanation from each EMODnet Thematic lot on the figures which are being used to make the calculations per Sea-Basin.

The ongoing communication with the EMODnet Thematic lots and the EMODnet Secretariat, has highlighted the need for a type of **monitoring which centres mainly on trend analysis**. Although this is not a new concept, trends are important to highlight intra-portal progresses, as analysis focuses on the change from one reporting period to the next, rather than solely on the collation of absolute figures.

The approach of using trend analysis is aimed to facilitate each EMODnet thematic lot to more effectively present their respective progress for each of the indicators included each quarter, interim and final reports. The Secretariat has requested that for each indicator where the calculation of trends is possible, that the EMODnet Thematic lot includes details in the excel and narrative parts of the reporting templates.

In addition, there is recognition of the fact that each EMODnet Thematic lot records their respective thematic data using different data units, i.e., the data type for each thematic is unique, and the choice of data unit also therefore individual. This must be understood in terms of the data unit being used, e.g. the Physics Portal reports their data in terms of 'Platforms', whilst Seabed Habitats will use 'Records'.

As such, it is proposed that each EMODnet Thematic lot would display trends from one quarter values to the present reporting period value for their data and data products. This system would be reliant upon each EMODnet Thematic lot maintaining the unit they choose each time the information is reported. This proposal will be elaborated in Section 2 of this discussion document once initial feedback has been gained from each of the EMODnet Thematic lots, on the method which is being used to both compile and report data and data products. Prior to examining the appropriate methods, it is necessary to standardise the terminology of the data units being used in reporting (Please see Section 1).

1 Explanation of Data Monitoring per Data Unit

The purpose of this section is to have a coherent definition of the data units through which monitoring is carried out, and therefore upon which assessment is reliant. This standardisation of terminology is aimed to assist the process of coherent monitoring across the EMODnet Thematic lots.

1.1 Data

The term 'data' as used for reporting, varies from EMODnet thematic lot to thematic lot, due to the variety of data formats used by EMODnet.

Portal	Reported Unit	Typical Size of Unit (MB)	Main Data Type
Bathymetry	TBD		TBD
Biology	TBD		TBD
Chemistry	TBD		TBD
Physics	TBD		TBD
Geology	TBD		TBD
Seabed Habitats	TBD		TBD
Human Activities	TBD		TBD

1.2 Data Products

Products are produced by the EMODnet Thematic lots using data that is accessible through EMODnet. It is important that we curate and manage the products to maximise their potential. These products can address a number of issues and are regarded as:

- Distinct from the data.
- Covered by an Open Data like license
- Are the property of the EU Commission

Portal	Product	Total size of product (MB)	Format of product
Bathymetry	TBD		TBD
Biology	TBD		TBD
Chemistry	TBD		TBD
Physics	TBD		TBD

Geology	TBD		TBD
Seabed Habitats	TBD		TBD
Human Activities	TBD		TBD

1.3 GEO Density

The way that sea-basin coverage data has been reported (indicators 1 and 2) varies across thematic-lots. Although there are some guiding figures supplied within the indicator template, they are not very well understood.

As part of the ongoing fine-tuning for reporting and monitoring, it is being proposed that the reporting of data per sea-basin is formalised so that it leverages the functionality of the geospatial tools and data that are inherent to functioning of EMODnet.

In addition, it is important that a metric for geo-data density can be agreed upon. Naturally this will vary between point source and spatial data. The purpose of the metric is to provide a macro-level view of the data density and the statistical veracity. The metric should provide an insight into:

- spatial resolution, i.e. gaps in coverage, and to indicate the location;
- temporal resolution, difference between fixed points and geospatial areas, i.e., How many samples do we have per point or polygon and over what time-span.

Both of the above objectives can be accomplished through the creation of additional data products, i.e., each of the Thematic lots that map the data density (spatially and temporally) can outline each of the parameters collected and offered as data by the thematic lot. As an example, EMODnet Biology is already producing density grids to show users an overview of the occurrence data available for a specific species. This may already be the case for other Thematic portals as well, however this approach has thus far not been standardised across portals and is not being described in the narrative of the reports.

The resulting density maps can then be used to extract the coverage of data over each of the sea-basins (whose outline is defined by e.g. <https://www.marineregions.org/>) in a standardised way.

A few points to note:

- In order to standardise these data density maps across portals, it would be useful to decide on a specific bin size (spatial grid & time bins) for these products.
- While straightforward for some portals (e.g. Bathymetry, Physics, Chemistry), the definition of a “parameter” for which to create a density map may be more ambiguous for others (Human Activities, Biology) and should be decided on a case by case basis.
- These data density map products should receive regular updates to allow users of EMODnet data to have the most up to date information when looking for data and to allow to accurately track the evolution of data coverage over time.
- We need to consider that this does not entail an equal workload for each of the thematic lots as the effort required depends on the type of data and number of parameters collected by each of the lots (e.g. one for Bathymetry, many for Physics and Chemistry).

2 Primer for the Technical Working Group Meeting November 2020

2.1 Reporting Method- Options

2.1.1 Reporting per Data Unit

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