Second Black Sea Checkpoint Data Adequacy Report

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The aim of the EMODnet Black Sea Checkpoint project is to assess the basin scale monitoring systems on the basis of input data sets for 11 prescribed Challenges, such as: Windfarm siting, Marine Protected Areas, Oil Platform leak, Climate, Coast, Fishery Management, Fishery Impact, Eutrophication, River inputs, Bathymetry and Alien Species. The goal is to assess the "Availability" and "Appropriateness" of the monitoring data sets used to produce the Challenge outputs. The second Black Sea Data Adequacy Report (DAR) concludes the development and implementation of the first assessment of basin monitoring gaps emerging from the generation of 61 Targeted Data Products for 11 Challenges.

The methodology of the DAR follow closely the one developed for the Mediterranean Sea which is based upon ISO and INSPIRE principles and the development of indicators. The indicators are constructed from the Black Sea Checkpoint metadatabase, which contains information on the upstream data used to construct the Challenge products. For each Challenge product, Checkpoint information on "What, Why, Where, When, How" data have been used to develop targeted products is given and statistically analyzed.

The metadatabase contains 503 data set descriptors related to 42 characteristics, i.e. monitoring environmental and human activity information. These descriptors identify potentially usable information for the construction of the Challenge products. Targeted products were constructed from 253 input data sets for the fulfillment of the Challenge products.

The assessment methodology is providing quantitative and qualitative information on "How" the input data sets are made available to Challenges (Availability Indicators) and "What" is the quality of the monitoring data for the Challenge products (Appropriateness Indicators). The assessment methodology has been based on five elements:

- the potential input data sets metadatabase and the availability indicators,
- the Data Product Specification (DPS) and related quality elements,
- the Targeted Data Products (TDP - requested by the call) information and the related quality elements;
- the Ustream Data (UD) used for the products and the related quality elements,
- the calculation of appropriateness indicators from the DPS, UD and TDP quality elements.

Indicator values have been grouped in three color codes (red-inadequate; yellow-partially adequate and green-totally adequate) in order to increase the readability of the results. Results are presented separately for the availability and appropriateness indicators and then they are combined to extract the monitoring gaps. Seventeen monitoring characteristics are found not adequate for the availability indicators. Six are instead found not adequate for appropriateness indicators from the metadatabase analysis. However, it is believed that this evaluation was biased by the fact that the Data Product Specification was not really about what it should have been expected but more what was available.

Thus we added the appropriateness scores coming from expert opinion and this raised the inadequate monitoring characteristics to 10 (mostly horizontal and temporal coverage).

In conclusion basin monitoring gaps emerging from this analysis point out to 23 different characteristics that are not monitored adequately in order to construct the 11 Challenge products requested by DG MARE.

In synthesis the Black Sea Checkpoint demonstrated that a quality assessment framework can be defined for the marine environment at basin scales. The framework allows for the first time to assess the monitoring from a customized end-product user point of view. Recommendations for the future development of the service are given in the conclusions.