SEA BASIN CHECKPOINT
LOT4: BLACK SEA

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Glossary

CLS - Collecte Localisation Satellites (FR)
CLU - CLU s.r.l. (IT)
FONDAZIONE CMCC- Foundation Euro-Mediterranean Center for Climate Change (IT)
IFREMER - Institut Français de Recherche pour l'Exploitation de la Mer (FR)
IMS- Middle East Technical University Institute of Marine Sciences (TR)
IO-BAS - Institute of oceanology, Bulgarian Academy of Sciences (BG)
NIMRD -National Institute for Marine Research and Development "Grigore Antipa"(RO)
NKUA - National and Kapodistrian University of Athens (GR)
ORION- Joint research and development centre (CY)
RES - Renewable Energy Systems Limited (UK)
SCMR - SC Marine Research SRL (RO)
SIO-RAS- P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences (RU)
TSU-Ivane Javakhishvili Tbilisi State University (GE)
UkrSCES -Ukrainian Scientific Centre of Ecology of the Sea (UA)
UPL - Plymouth University (UK)
USOF -University of Sofia (BG)

Executive Summary

The present report provides an overview of the activities carried out by the Project "Sea Basin Checkpoint Lot 4: Black Sea", in the period ranging from the 15th July 2015 (starting date of the project) till the 15th January 2016.

The document consist of eight sections: the first one concerns the progress on WP1 activities, section 2 is related to the activities carried out by the 11 Challenges (WP2-12), section 3 to 7 describe progress of WP13 to WP17 activities respectively.

1. WP1: Literature Review (M1-9)

The WP1 general objective is to summarize findings of previous studies of the adequacy of the monitoring system in the Black Sea. In order to reach this objective, an MEDSEA Checkpoint literature review methodology has been applied. The methodology consists of a series of intermediate steps:

(i) A Template (T1) was organized to collect internally the required input data to the challenges. Monitoring was defined as the 'collection of information' for a specific usage, in this case the 'Challenges'. The Characteristics have been defined for:

- environmental matrices:

1. air
2. fresh water
3. marine water
3. riverbed/seabed
4. biota/biology
5. human activities databases

The purpose of this survey is multiple and is designed to get a preliminary list of characteristics needed by the challenge in order to search the datasets of potential interest for each challenge and to get a preliminary list of dataset sources.

(ii) Based on the literature and on ISO quality principles, a method has been identified to classify the upstream data potentially used by the challenges and to establish its fitness for purpose (in the Data Adequacy Report). The characteristics listed in Template T1 have been repeated in a second Template (T2) where the classification methodology needed to qualify the input data sets for each characteristic has been suggested to be done by means of 7 'elements':

1. Characteristics definition (variable or GIS data set) and category;
2. Data source specification: provider, originating programme and dataset/dataset series;
3. Overview elements: production purpose, quality assessment, processing level;
4. Spatial coverage: geographical code, long/lat
5. Temporal coverage: star and end date, time resolution
6. Accessibility: visibility, EU Inspaire catalogue, data policy, data cost and format.

An internal document (D1.1 "Methodology for classifying the existing upstream data according to Literature Survey") has been provided by WP1 leader to describe the elements used for the classification of the upstream data contained in the template T2 and how to fill the template, and distributed among the challenge participants. Two Webex meeting have been organize with challenge leaders to discuss the classification methodology.

2. Challenges (WP 2- 12)

During the first 6 months of the project each challenge collected information on the upstream data needed. This has been an iterative process, the identification of datasets and the collection of metadata relevant for the classification will continue throughout the project.
The characteristics needed by the challenges and the data sets they identified as upstream data have

been described in internal documents (D2.1, D3.1, D4.1, D5.1, D6.1, D7.1, D8.1, D9.1, D10.1,) and the methodology for classifying the existing upstream data according to challenge objectives has been described.
In the following subsections a summary of the work done is given for each challenge.

Challenge 1: Windfarm siting

Wind farm siting plays an important role in offshore engineering and relevant applications. Towards this direction, high resolution environmental data need to be analysed in different point of views in order to ensure credible selections. In the framework of Challenge 1 a variety of data will be collected and classified so to provide the necessary information for characterizing wind resource taking also into account restriction factors like depth, seabed geology, shipping lines and environmental limitations.

Challenge 2: Marine Protected Areas

Data extracted from the national and international databases and projects such as Bulgarian Information system of protected areas from ecological network NATURA 2000, SINCRON Project of the National Agency for Environmental Protection Romania, Emerald Network and SIMSHAB - Information Monitoring System of Species and Habitats in Romania, Copernicus, EMODNET and SEADATANET will provide the ground for the initiative of effective creation of a working MPAs network contributing to fulfill EU regulations and policies.

Challenge 3: Oil platform leak

In order to produce oil spill predictions in the Black Sea and to be able to deliver a Bulletin containing relevant information about the likely oil spill trajectory and probability of coastal impacts, this challenge has identified different data sources and characteristics that have been described and characterized according to Template 2.
The input data needed for the oil spill Bulletin are:

1) oil platform position
2) data/time of the leak
3) type of oil (API or oil type name)
4) rate of spillage or total amount of oil spilled
5) slick satellite observations provided by EMSA
6) the simulation length

Other necessary input data for the Bulletin are high resolution meteo-oceanographic forecasts and analyses for Black Sea (including winds, currents, stokes drift , Sea Surface Temperature and waves) provided by Copernicus, CYCOFOS and SKIRON. The coastal habitats and geology will be provided by EMODnet portals.

Challenge 4: Climate

This challenge has identified different data sources and characteristics in response to the Tender No. MARE/2014/09 - Sea basins checkpoints – Lot 4 concerning to sea temperature at surface and at different levels, sea ice coverage, annual internal energy and abundance of three most abundant species of phytoplankton. The challenge have described and characterized according to Template 2 requests the available data at basin scale that can answer the main questions addressed in the tender specifications. 115 characteristics have been identified for addressing the tasks related to Challenge 4, 106 related to marine water and 9 to biology/biota. The main input is Copernicus-GMES, Emodnet-Thematic, Seadatanet, National Databases, International Databases.

Challenge 5: Coasts

The objectives of the present Challenge are to detect and assess changes in sea-level rise and sediment mass balance for deferent time periods. This challenge has identified different data characteristics that have been described and characterized according to Template 2. The main input is coming from Copernicus-GMES.

Challenge 6: Fishery Management

The objectives of the present Challenge are is to deliver tables of mass and number of landings of fish by species and year and mass and number of discards and bycatch of fish, mammals, reptiles and seabirds by species and year using as long as possible time series. The final aim is to provide an overall picture of the trends over the years of landing, discard and bycatch by species. The main data inputs come form General Fisheries Commission for the Mediterranean (GFCM), EuroStat and Black Sea Commission.

Challenge 7: Fishery Impact

The object of the present challenge is to construct the fishery data sets to quality assess, extract the synergies between and identify the gaps of the present datasets on fisheries in terms of landings, discard and bycatch as well as in terms of spatial distribution of the bottom trawl fishing effort in order to evaluate changes in level of disturbance on the sea floor. Main inputs for the challenge come from Eurostat, Turkstat, General Fisheries Commission for the Mediterranean and national databases.

Challenge 8: Eutrophication

This challenge has identified different data sources and characteristics in response to the Tender No. MARE/2014/09 - Sea basins checkpoints – Lot 4 concerning to the eutrophication in the Black Sea basin. The total number of characteristics has been identified for addressing the tasks related to challenge is 45 including parameters and biological information related to nutrients concentrations (mainly P and N) ratio, chlorophyll, dissolved oxygen and phytoplankton abundance and biomass. The main input is from Black Sea Ecosystem Processes and Forecasting / Operational Database Management System, PERSEUS Oceanographic Mediterranean and Black Sea Data Management, EMODnet Chemistry, NASA Ocean Biogeochemical Model, Water Information System for Europe (WISE) database, Copernicus-GMES Black Sea Informational system (BSIS).

Challenge 9: River inputs

The mission of the challenge is to give an overview on the temporal and spatial variability of riverine mass, material fluxes and eels distributions in the Black Sea. The collate data on riverine inputs to the Black Sea consist of infoamation for water discharge, river water temperature, total suspended sediments (TSS), nitrates/ total nitrogen, phosphates/ total phosphorous and eels. 76 characteristics have been identified for addressing the tasks related to Challenge 9, 34 related to the fresh water, 25 to the marine water and 3 to riverbed/seabed. The input is GDRC (Global Runoff Data Centre) data base the RivDIS (Global River Discharge) database, EMODnet Chemistry EWA

(European Water Archive), the Water Information System for Europe (WISE) database and Copernicus-GMES.

Challenge 10: Bathymetry

Main inputs for the Challenge 10 come from the existing data sets from EMODnet thematic portal, National Oceanic and Atmospheric Administration (NOAA), General Bathymetric Chart of the Oceans (GEBCO). The total number of collected characteristic is 33.

Challenge 11: Alien Species

Main inputs for the Challenge 11 related to Mnemiopsis leidyi and Beroe ovata abundance and biomass come from the existing data sets from national and regional databases.

WP13: Web site development

Black Sea check point web portal has been release at month 4 (middle of November 2015), the official website address is: www.emodnet-black sea.eu.

The Portal has been deployed and is running on IO-BAS web server.

The model applied is specified within "EMODNET web portal style guide" and use the existing MEDSEA checkpoint web site as a reference to copycat: http://www.emodnet-mediterranean.eu/.

The realisation of the web site has shown good implication of project partners to reach required harmonization issues. The following items have been developed:

- Home
- About
  - Principles
  - Concept
  - Target Audience
  - Policy Framework
  - Black Sea Consortium
  - Expert Panel
- Challenges
  - Overview of challenges
  - One page by challenge
- Checkpoint Assessment
  - Data Collection Framework
  - Various checkpoint information
  - Practical outputs
  - FAQ
  - Vocabulary used
- Secured section for document sharing between project partners

The bottom signature or project moto is: "EMODnet BlackSea Checkpoint for assessment of observational data systems towards target applications."

The BlackSea checkpoint web portal home page is shown in Figure.1

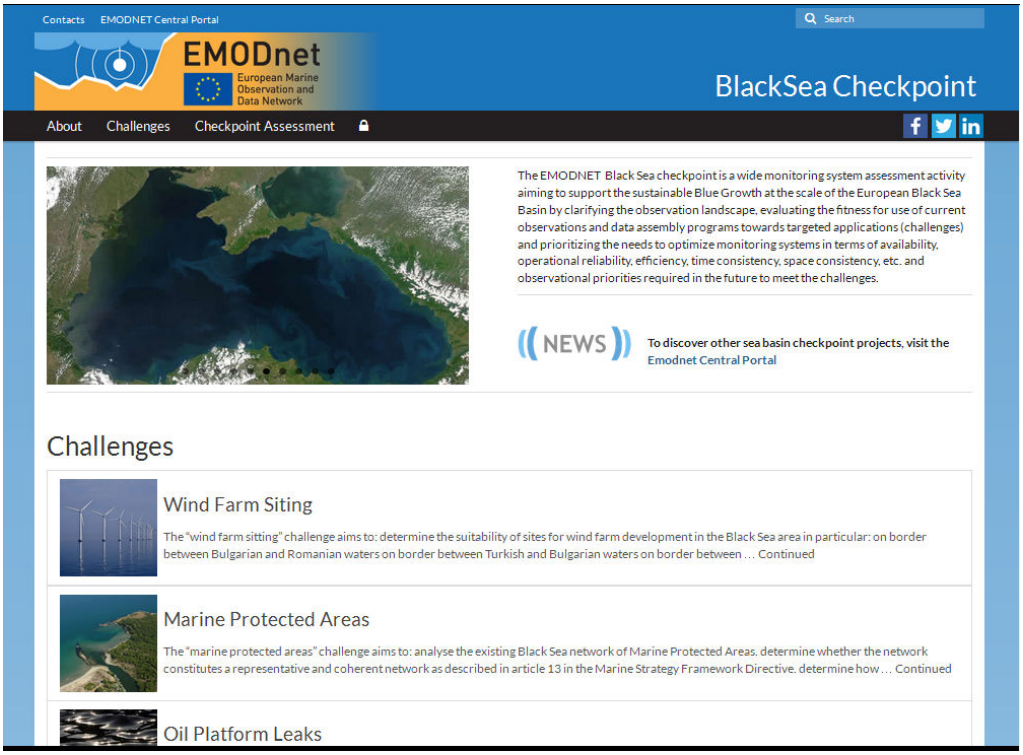

Figure 1. BlackSea Checkpoint web portal home page

In order to describe the organization and content of the editorial website of the project to help each participant understand, review and validate the inputs, an internal deliverable has been provided by WP13 leader: D13.2 " First version of the Portal containing preliminary information about project".

The web site has been communicated to DG MARE and EMODNET secretariat early in December. No comment has been provided since.

4. WP14: Organization of Panels (M1-M36)

The WP 14 leader provided at month 3 the "terms of reference" for the Panel which in synthesis contains:

- precise definition of the mission of the Panel;
- the avoidance of conflicts of interest;
- task and duties of the Panel

The main duties and Tasks of the Panel will be to review the two Data Adequacy Report prepared by WP15. The Data Adequacy Reports will be sent one month before the Panel meetings to give enough time for the review.

5. WP15. Data adequacy reports (M10-36)

WP15 activities will start at month 9 (March 2016).

6. WP16: Organization of stakeholder workshop

WP16 activities will start at month 18 (January 2017).

7. WP17: Project Management

Contact and Consortium Agreement

The contract (EASME/EMFF/2014/1.3.1.3/LOT4/SI2.709436) has been signed the 15th July 2015. The Consortium Agreement has been signed by all partners at month 3 (October 2015).

Project repository

A project repository has been created in order to share the documentation and the deliverables related to the project development. Each participant can access the repository, create, delete, upload and download documents and directories.
The repository web address is: http://emodnet-blacksea.eu/project-shared-point/.

Project meeting

During the reporting period three meetings have been carried out, as two of them has been organized on the web platform to reduce travelling costs and time. In the following the organized meetings are listed and briefly synthesized.

Kick-off meeting: 12-14 October 2014

The project kick off meeting took place in Varna from 12 to 14 October 2015. All the partners and some subcontractors participated to the meeting. The kick off meeting objectives was:

- to share among the project partners the plan and the milestones scheduled in the technical tender proposal;
- to clarify all the deliverables (internal and compulsory)
- to discuss next year meeting.

In particular the following points have been discussed:

- presentation of overall project and single WPs workplan with particular effort on WP1 –Literature survey and WP 13 - Web site development;
- discussion on the full workplan, Data Adequacy Report, deliverables and meeting schedule.

1st Web- meeting on: „Template of monitoring data classification" 26/10/2016

A webex discussing the "Template of monitoring data classification" has been held the 26th October 2015 with the participation of the all Challenge leader and representative. The web-meeting was carried out in order to proceed to formulate a template concerning the classification methodology for the different challenges to be filled in order to have their inputs for the deliverable: "Methodology for classifying the existing upstream data according to challenge objectives".

2nd Web- meeting on: „Template of monitoring data classification" 02/11/2016

A second webex has been participated by WP1 and challenges leaders. Discussion revolved around the completion of Template which gives important elements for the Literature survey to the WP1 partners.

Meeting Participation

The Black Sea Checkpoint coordinator took part in the following meetings :

- Sea basin checkpoints - stress tests on marine data: review of progress and inauguration of new projects, held in Wallingford, Oxfordhire, UK.
- 5th EMODnet Steering Committee Meeting held in Brussels on 9 and 10 December 2015.