



**Preparatory Actions for European Marine Observation and Data
Network**

**FIFTH PROGRESS REPORT
FOR THE PERIOD
FEBRUARY 2010 – MARCH 2010**

**Service Contract No. “MARE/2008/03 - Lot 1 Hydrography –
SI2.531515”**

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Date: 2nd May 2010

1. INTRODUCTION

EMODNET (European Marine Observation and Data Network) is a contribution to the EU Integrated Maritime Policy. Currently there are 5 Lots (pilots) under development. This progress report nr 5 gives an overview of the activities undertaken for the Hydrography Lot during the months February 2010 and March 2010. This is an extensive report also because there was a projectgroup meeting in March 2010 at which many important issues were discussed and agreed.

The EMODNET Hydrography pilot has officially started 29th May 2009, so the first important contractual milestone will be 29th May 2010. At that date the proto-type EMODNET Hydrographic portal must be operational and serving out a number of hydrographic data products and metadata, describing the background data sets, that were used for the making of the data products. The data products will also be provided as data layers to the European Atlas of the Seas and to the European broad-scale seabed habitat mapping project.

2. PROGRESS REPORT AND ACTIONS

Following the technical annex of the original tender proposal and the action list as agreed at the kick-off meeting end June 2009 further project progress has been made in this period. A concise report of activities and progress is given below.

- **Website and dissemination**

The website can be found at <http://www.emodnet-hydrography.eu/welcome.asp>. The new version of the EMODNET logo has been incorporated. The partner section mentions each of the partners. This will be extended with a section 'associate partners' mentioning possible external data providers. The partnership has identified a number of potential associate partners that can contribute with complimentary data and metadata.

The EMODNET Hydrography project has been presented by MARIS with a poster at the IMDIS conference, that took place 29th – 31st March 2010 in Paris – France. See <http://www.seadatanet.org/imdis2010> The poster can be downloaded as PDF file from the EMODNET Hydrography website from the section 'Promotion'.

- **Contractual arrangements**

MARIS prepared and submitted the 5th 2-months report for February 2010 – March 2010.

MARIS has asked permission from the EU to prepare subcontracts with a number of organisations that manage important and complementary data sets that will contribute considerably to the project data products. The subcontracts are required to arrange and compensate their efforts for preparing the metadata and the data in the specified formats and for establishing a good engagement in the project. Subcontracts have been negotiated with UNEP/GRID Arendal – Norway, ISMAR - CNR - Italy and the Norwegian HO. Further negotiations are underway with SeaZone - United Kingdom. The subcontracts are funded from a budget reserved by the partnership for that purpose. Note: the funding is not for purchasing data sets, but to compensate the efforts for preparing the metadata in the CDI format and to participate in the technical meetings, where appropriate.

Action: A positive response from the EU is needed a.s.a.p.!

- **EMODNET Hydrography Portal**

The EMODNET Hydrography portal will provide various services and functionalities to users for viewing and downloading the hydrographic data products. The central integrated DTM and the central integrated CDI metadatabase will provide the basis databases, on which the user applications will be provided. The Hydrographic portal will be embedded in the Hydrography website via a link and extra tab / new browser window. The Hydrographic portal will also communicate with the SeaDataNet CDI service to submit and follow-up requests by users for possible access to the background survey data sets.

ATLIS has finalized the document of portal functional specifications and types of formats, thereby distinguishing between Download services and OGC services, and including more user interface screens.

Between MARIS and ATLIS an exchange format has been formalized and a successful test has been done for transferring CDI V1 metadata from the SeaDataNet CDI service to the Hydrographic Portal. This implicates that partners have to submit their CDI metadata as XML files to MARIS for inclusion in the SeaDataNet CDI portal. MARIS will extract the CDI metadata as CSV and transfer this to ATLIS for import into the Hydrography portal. Users can view the metadata with hydrographic tracks and polygons in the Hydrographic portal and check the individual metadata. By a lat-lon box search users can also select surveys for which they want data access. At that moment the users are forwarded to the SDN CDI service, that

will give them the CDI metadata results for the lat-lon box and the option to request access via the CDI shopping basket mechanism.

ATLIS has defined the format in which the regional DTM's have to be delivered by the regional DTM coordinators for import into the central DTM. This will be tested on short term between partners.

The global DTM Boundaries are set to: N 63, W18, N30 and E37. For now only the sea areas will be covered that are included in the EMODNET Lot 1 contract. Within the global DTM the boundaries will be defined for the regional DTM's and the tiles for which users will be enabled to download the DTM data in various formats. .

- **CDI Metadata**

There has been made progress with upgrading the CDI V1 metadata format into the extended CDI V1.6 format with GML object and some extra fields, so that tracks and polygons can be described in much more geographical detail. The CDI extension has been accepted by the SeaDataNet TTT group and a complete documentation is now available. As part of this upgrading in joint cooperation with the Geo-Seas WP4 group also new terms have been added to the common vocabularies, especially for various positioning systems and survey systems.

The CDI metadata must be produced by using the editing tool MIKADO, that can be used in a manual way and an automatic way. Using a mapping analyses and a query wizard MIKADO can be set up for automatic generation of CDI files in the right XML format from the local metadatabase. IFREMER is making good progress with upgrading the MIKADO software for the new CDI V1.6 GML format. Soon a Beta version will be available for testing. MARIS will keep partners up-to-date on this, so that they can prepare CDI entries for their surveys.

We strive for a complete coverage of background data surveys, but in practice this will be difficult, because external data suppliers might provide composite data products (DTM's) themselves with limited references to used background data surveys, and in a number of cases only GEBCO data might be available without background references. CDI's can only be used for describing survey data sets and not for DTM data sets or GEBCO data sets.

In case CDI metadata are not provided, then aggregated documentation of DTM data products and GEBCO must be supplied and kept in reference documents. These can be linked to the DTM values as documentation references next to the CDI_Local_ID's for associated background surveys.

- **Progress of data gathering and processing for the Mediterranean region**

The Mediterranean is divided in Western part, coordinated by IEO and the Central part, coordinated by IFREMER with contributions of SHOM. IFREMER and SHOM have a substantial number of single and multibeam surveys and older echo soundings for the area. It is agreed that IEO will make their data sets and CDI metadata ready for transfer to IFREMER, that will integrate the data sets into the Mediterranean DTM.

UNEP/GRID has been subcontracted to identify and intermediate for additional data sets for the Central Mediterranean. UNEP/GRID has identified and delivered additional surveys via BSH, and several US data sources (NGDC, Lamont, Woods Hole, USGS).

For the Italian coast (Tyrrhenian sea and Adriatic sea) it has been identified that ISMAR from Bologna has many valuable multibeam surveys. Therefore negotiations have been held with ISMAR to become an associate partner, which has been received positively by ISMAR.

MARIS will explore with SACLANT (NATO) if we can get access to their multibeam surveys for the Ligurian sea.

- **Progress of data gathering and processing for the Greater North Sea, Channel and Celtic sea**

The Greater North Sea is a cooperation of NOCS, SHOM, GSI, IFREMER and AT LIS.

AT LIS makes progress for the Greater North Sea area. The Norwegian and Netherlands HO's have delivered DTM data sets and underwater features from ENC's. A subcontract is required for converting the data to the right format. Negotiations are underway with the HO's of Denmark, Germany, Belgium and Sweden. Most material will focus on the coastal areas. For the Central North Sea the fine grained GEBCO data set will be the only available material. In a later stage this might be updated with multibeam surveys from industry.

For the UK waters an extensive programme of multibeam surveys is undertaken as the UK Civil Hydrography Programme by the Maritime and Coastguard Agency (MCA). These data sets have been QA/QC'ed by UKHO and NOCS has arranged that we are allowed to use that data on a 5 – 10 meter spacing. NOCS will give a follow up to get copies of the data sets.

SeaZone has digitized fairsheets for the UK coastal waters and has a digital bathymetry with high resolution. A meeting took place at the IMDIS conference with the managing director of SeaZone. A draft agreement was reached that SeaZone will participate as subcontractor to provide aggregated DTM data and to prepare CDI metadata for the surveys. This covers especially the UK shallow waters. A license from UKHO will be needed.

NOCS is working on the DTM production following the agreed methodology, using data from NOCS and other sources. GSI has a large collection of multibeam surveys for the Celtic seas and will make these available for NOCS and will prepare the related CDI metadata.

NOCS has asked the producer of the GEBCO bathymetry to produce a GEBCO_08 data set at the EMODNET grid. This will be used to fill gaps. GEBCO already incorporates OLEX data.

SHOM will provide additional data for the Channel and the French coast.

- **Tuning with other EMODNET portals**

It is strived for a common look & feel between the EMODNET pilots. For that purpose MARIS will prepare a Styleguide and templates, that will be distributed to all EMODNET Lots.

IFREMER will configure the SeaDataNet WMS registry and CAMIOON data products catalogue that will be used to describe the EMODNET WMS layers with product metadata and to enable exchanging WMS layers between the different EMODNET portals.

- **Planning**

The partners have agreed on the following planning to be ready with a good product and service at the EMODNET Concertation meeting 25th May 2010 in Copenhagen – Denmark at EEA:

- **May 3rd: First release of regional DTM's by IFREMER and NOCS to AT LIS (including IEO, SHOM and ISMAR data)**
- **May 3rd – 14th : Import and testing of regional DTM's in central DTM by AT LIS and tuning portal functionalities, including coastline, underwater features and metadata**
- **May 3rd - 17th : Improving and final release of regional DTM's by IFREMER and NOCS to AT LIS for presentation (including IEO, SHOM, ISMAR and possible additional data)**
- **May 7th: Release of CDI metadata by SHOM and IFREMER to MARIS for inclusion in EMODNET CDI service**
- **May 10th: Release of central DTM by AT LIS to JNCC for use in EMODNET Marine Habitat Lot**
- **May 14th : Exchange of CDI metadata from MARIS to AT LIS for inclusion in portal**

- **May 17th: Release of metadata documents for aggregated DTM's to ATLAS for inclusion in DTM**
- **May 17th – 21st: Import and finalization of regional DTM's and CDI metadata into central DTM by ATLAS, preparing download tiles and finetuning exchange with CDI service portal at MARIS. Operational testing between ATLAS and MARIS of combined portal services and finetuning with support of IFREMER, IEO, SHOM, GSI and ISMAR**
- **May 25th: Presentation at EMODNET Concertation meeting**