



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

**SIXTH PROGRESS REPORT
FOR THE PERIOD
JUNE 2010 – JULY 2010**

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

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Date: 2nd September 2010

1. INTRODUCTION

EMODNET (European Marine Observation and Data Network) is a contribution to the EU Integrated Maritime Policy. Currently there are 6 Lots (pilots) under development. This progress report nr 6 gives an overview of the activities undertaken for the Hydrography Lot during the months June 2010 and July 2010.

The EMODNET Hydrography pilot has officially started 29th May 2009, and the first important contractual milestone has been 29th May 2010. From that date onwards the prototype EMODNET Hydrographic portal has been 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 can also be used as data layers by the European Atlas of the Seas and the European broad-scale seabed habitat mapping project.

2. PROGRESS REPORT AND ACTIONS

A concise report of activities, progress and further actions is given below.

- **Project group meeting**

The EMODNET Projectgroup has been together with the extra partners in the complimentary Seabed Mapping contract in Voorburg, The Netherlands, 16th – 17th June 2010. Also the associate partner CNR-ISMAR from Italy has participated in the meeting. This meeting has been held to discuss the progress and further planning of the EMODNET Hydrography project. It has also been the official kick-off for the EMODNET Seabed Mapping project. During the meeting a number of actions have been formulated that are listed in this report.

- **EMODNET feedback from EU Copenhagen meeting**

The progress and deliverables in the 1st year of the EMODNET Hydrography project have been presented 25th May 2010 in Copenhagen – Denmark at the EEA office in the EMODNET concertation meeting with EU, Experts and stakeholders. The meeting has been joined by a number of partners. During the meeting MARIS has given a progress presentation while the initial version of the operational viewing service for the hydrographic data products has been presented live by ATLAS. During the discussion in Copenhagen there has been an emphasis on securing high quality and a clear presentation of the QA/QC aspects. The proposed quality map layer and QA/QC indicators will be important products to fulfil this requirement. Also there should be a balance in the user interface between ease and functionality as well as an overall harmonisation in presentation. This sets conditions for converting and finetuning the present user interface of the viewing service to a dedicated EMODNET service. Also we must aim for a seamless integration between the metadata service and the viewing service, all in favour of the users. Finally it was asked to include an active disclaimer that users consent with the fact that the data products will not be used for navigation before being able to enter the viewing service. All these requirements must be incorporated in the coming activities with priority for finetuning the initial viewing service because the portal is now officially launched.

- **Contractual arrangements**

MARIS has prepared and submitted the 1st Annual Progress report for the period May 2009 – May 2010. This report has been accepted by the EU. Following the acceptance the EU has released the bank guarantee and transferred the second payment to MARIS. MARIS has undertaken action to inform all partners and to transfer their shares.

- **EMODNET Hydrography Portal – Product Viewing Service**

The feedback from the Copenhagen meeting has been analysed and a distinction has been made in issues that required action on short term and longer term issues. The short term issues for the Product Viewing Service have been executed by ATLAS before end of June 2010. One improvement is that the service now starts up with a default map so that users immediately can see the present coverage. Also the user interface has been adapted for easier understanding. Moreover the system has been transferred to an operational server environment providing better performance and back-up facilities.

The list of improvements also includes a number of items that will be undertaken and implemented as part of the second year activities. These will not be ready end June 2010. This also includes a further improving of the quality of the central DTM with updated contributions of partners and by resolving a number of identified errors such as a difference in the overall agreed resolution and the one delivered by GSI and NOC.

Action: ATLAS will continue to improve and extend the functionality of the viewing service in the second year.

- **DTM metadata format and service**

In addition to the CDI metadata, describing survey data sets, it is agreed that we will also include metadata for describing the DTM's that have been delivered by data providers, such as the HO's, and that have been incorporated in the resulting EMODNET DTM's. The proposed format is a subset of the CDI format and is in use by MyOcean for describing its data products. This CAMIOON already supports a service for editing, managing and retrieving these metadata records of aggregate data input, that we can adopt..

Action: ATLAS and MARIS will explore how the DTM metadata info and service can be integrated into the functionality of the viewing service next to the CDI metadata for original survey data.

Action: IFREMER will prepare a short guideline how partners can use the CAMIOON online editor for completing relevant references.

Action: Partners will study the provided example and prepare references for used composite data products.

- **CDI Metadata**

Considering the present status of the Hydrography CDI service:

- All software components and documents are ready and can be found at the SeaDataNet website: http://www.seadatanet.org/standards_software
- All CDI services are operational at the EMODNET Hydrography portal.
- So far CDI contributions have been produced and included for hydrographic surveys managed by IFREMER and SHOM.

Action: It is strived that all data providers produce CDI records for the survey data that they have contributed and explore how to connect to the CDI service.

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

Good progress has been made with gathering high resolution survey data as well as composite data sets for several regions as reported in the 1st Annual Progress report. These data contributions already provide quite a good input for the EMODNET DTM production, but additional data sets might be retrieved to improve the geographical coverage. Also the metadata and the quality statistics per grid cell should be made more complete. This results in the following actions:

Action: IEO will complete the metadata descriptions for each of the 8 DTM's following the now adopted CAMIOON format for composite data products.

Action: IEO will contact again its data suppliers in a new attempt to get CDI metadata on the underlying surveys and where possible, access to these surveys themselves, also to improve the Quality statistics. IEO should explain the EMODNET Hydrography philosophy and demonstrate the portal to convince its suppliers.

Action: ISMAR will prepare CDI entries for the Tyrrhenian Sea surveys and configure the 'Interim solution' as data provider

Action: ISMAR will explore whether the project can get access to surveys along the Italian coast (ongoing project), eastern Sardinia, Northern Sicily and Ionian Sea (University of Trieste?) and will write a short report on this search.

Action: SHOM will contact the Italian HO for possible contributions.

Action: MARIS will contact SACLANT (NATO) for possible contributions.

Action: Another department of OGS has multibeam surveys for the Ionian Sea. OGS will negotiate the availability of those surveys and related CDI records for the EMODNET project..

Action: IFREMER will seek to retrieve data sets from French harbours and Regional Equipment Services of the State. Also there are possibly new surveys from a cooperation of IFREMER with Italy for Sardinia and Corsica (to be confirmed). Furthermore a few old multibeam surveys of J. Charcot will be reprocessed for better data.

Action: IFREMER will contact IBCM (eg for Russian data off Lybian coast), Tunisia, where there exist a few multibeam surveys, and CIESM for a possible cooperation.

Action: IFREMER will seek to deliver an updated version of the EMODNET Mediterranean DTM to ATLAS for inclusion in the Hydrography portal in September 2010 and using additional data in December 2010

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

For this area a good cooperation and data supplier commitments have been achieved by ATLAS with the Hydrographic Offices of Norway, Denmark, Germany, Netherlands and Belgium. These services have provided composite data sets in a number of resolutions. In a number of cases the HO's were prepared to deliver a high resolution DTM for their area.

Action: ATLAS to undertake further efforts to the HO's to get improved metadata for these DTM's adopting the CAMIOON format, more quality information and where possible, to gather CDI records for underlying surveys. The Netherlands HO ATLAS might be approached by ATLAS and MARIS because of its NODC link.

In the Southern North Sea hydrographic surveys were provided by SHOM and associated CDI records have already been produced and included in the portal.

All these deliveries implicate that high resolution data sets have been gathered for generating the digital bathymetry for the Eastern part of the North Sea and the Kattegat with high quality. However for the Western part of the North Sea and in fact the shallow waters around the United Kingdom use is made of the GEBCO 30" data set.

For the UK sector high resolution digital bathymetry has been produced by **SeaZone**, which until recently was a company owned by the UK Hydrographic Office (UKHO). SeaZone has digitized **UKHO** fair sheets and other UKHO surveys to produce a digital bathymetry up to a 25 meter grid. Negotiations have been undertaken by NOC and MARIS with SeaZone to retrieve a composite data set for these areas at the EMODNET grid size and CDI metadata for the underlying survey data, where available. The negotiations took place in March 2010 and seemed to go well until SeaZone was sold by UKHO to HR Wallingford. Therefore negotiations were started directly with the UKHO, also to get access to additional surveys undertaken by the UK Maritime Coastguard Agency's (MCA) Civil Hydrography

Programme. The MCA already has given permission to NOC to use these surveys for the EMODNET project, but the surveys have been processed by the UKHO, so permission and cooperation by the UKHO is required. So far the negotiations with the UKHO have not led to a satisfactory solution because UKHO is only willing to release a license with limited options and pay per view while the EMODNET consortium has a golden rule and policy that it will not pay for data and that the resulting EMODNET data products must be published and be available for viewing and downloading by users without any restraints. At the same time information is coming forward that the UKHO is changing its policy under pressure of the UK government.

Action: NOC to pursue availability of the UKHO (/ SeaZone) data and metadata for the EMODNET Hydrography project and to report on negotiation progress.

The data gathering for the Channel and Celtic Sea is coordinated by NERC-NOC and the Geological Survey of Ireland (GSI). Except for the still missing data sets as indicated for SeaZone / UKHO for the English part of the Channel and the waters between Ireland and the UK, there has been gathered a lot of high resolution survey data from NERC cruises, SHOM, IFREMER and the extensive mapping programme of the GSI.

The main components are:

- Multibeam bathymetric data collected under the Irish National Seabed Survey (INSS) and the Integrated Mapping for the Sustainable Development of Ireland's Marine Resources (INFOMAR) programme, jointly managed by GSI and the Irish Marine Institute
- Bathymetric surveys collected by SHOM in the Channel
- The CartoPEP survey by IFREMER
- Six multibeam bathymetry cruises by NERC

For the SHOM and IFREMER surveys already CDI metadata have been produced and these are included in the EMODNET Hydrography portal.

Action: NOC to prepare CDI records for the survey data and to configure as a full connected data centre or as interim data centre.

Action: GSI to to prepare CDI records for the survey data and to configure as a full connected data centre (also as part of the Geo-Seas project).

Some DTM points are missing in the global DTM for the areas of GSI and NOC because of differences (GSI has applied resolution of 0,005 arc minute; NOCS has 0,0041; the agreed resolution was: 0,00416667).

Action: NOC to regrid the DTM in communication with ATLIS.