

Paper for consideration by NSHC**[Coastal Mapping and EMODnet]**

Submitted by:	France
Executive Summary:	This paper provides a follow-up on the Coastal mapping project and the perspective of a joint initiative in the scope of the next EMODnet call]
Related Documents:	IENWG report for NSHC (B.4.1 item)
Related Projects:	-

Coastal Mapping Project

In 2012, following up the signature of the MoU between IHO and DG MARE, the IHO-EU Network Working Group (IENWG) was created to foster the cooperation between HOs and the European Commission. One of the first outcomes of the discussions within that WG was the interest of a design study on “Joint European Programme on Coastal Mapping (JECMap)” from both European Union and European Economic Area HOs. As a matter of fact, implementation of integrated maritime policy in European waters requires similar type of hydrographic knowledge regardless the Member State, under the jurisdiction of which these waters are. Policy makers and future investors need access to marine data, for protection of the marine environment, physical marine spatial planning, etc.

In that scope, a draft paper addressing the need of a design study and estimating its time and costs was sent to DG Mare on April 2014 by the IENWG. A call for tender was then issued by the European Commission on August 2015 on that matter. SHOM on behalf of 18 partners including 11 European HOs and also regions representatives coordinated a proposal. This proposal was awarded by the Commission by end of May 2016 and the service contract was signed on 26th March 2016.

The project's strategic objective is to develop an innovative analysis of the needs and means in Europe for the acquisition of marine data in coastal areas, as well as concrete propositions for the development of European strategy for marine data acquisition. This analysis is focused on the characterization of the coastal area, including bathymetry and topography, and covers typology information, vegetation and sediment properties, considering also other kinds of data which may be assessed jointly (depending on the operating sensors). To address these objectives, the project Work Plan has been drawn up around three work packages:

- a first work package (WP1 - Digital Mapping) that proposes an infrastructure enabling partners to autonomously prepare, update, aggregate and disseminate the data they produce through aggregative layers based upon data from several partners resulting in a European layer and specific complementary layers on detailed areas. The work package also aims to provide operating tools to prepare, optimize and efficiently disseminate data in order to offer a good user experience and high performance services with respect to INSPIRE recommendations.
- a second work package (WP2 - Share experience, standards and best practice) aims at developing systems approaches and methodologies for geographic and spatial

observations of environmental parameters in coastal areas, producing a heuristic help to assess economic impacts, such as the submersion risks, and socio-economic benefits of successive coastal survey acquisitions. The main task of WP2 is to set up the foundation of a set of protocols, organized knowledge and algorithm that helps EU data acquisition plan and to eliminate discontinuities between the national systems for a consistent and homogeneous survey method and strategy.

- the third work package (WP3 - Future programme) aims at proposing a method to draw a Joint European Coastal Mapping Programme in the shallow waters for bathymetric data, taking into account: WP2 outcomes, existing data, organizations like European Environment Agency, EMODnet and Copernicus programmes, the needs of bathymetric data, data governance and funding opportunities offered by EU 2014-2020 budgets to achieve such a Joint European Programme.

EMODnet

The global EMODnet bathymetry initiative first started in 2009. Its current phase, EMODnet II, started 3 years ago and is finishing during the summer 2016. The major achievements of this phase are:

- higher resolution (1/8 arcminute – 250m),
- wider coverage (including Baltic, Black Sea and Norwegian Sea),
- facilities for data providers to display their data and make aware users where to go for high resolution data access, while preserving the data holder to choose how he wants to apply his data policy,
- premises of a quality indicator, to describe the limitations of the digital terrain model (DTM), mainly for habitat mapping uses,
- map services enabling easier access to the DTM grid and survey/tracklines meta-data.

In June 2014, at the last NSHC Conference, Member States confirmed the vital interest to respond to the forthcoming EMODNET III tender as part of a consortium formed by the respective RHCs with assigned responsibilities of European waters. The IHO-EU Network Working Group (IENWG) was then tasked to draft a concept for the composition of a Consortium to answer that tender.

The expected EMODNET III call was then launched by the European Union (EU) in late May 2016 and is due to be answered by the 2nd of August 2016. The allocated budget is 5.1 million euros for two years (renewable). Budget will be mainly divided with respect to project involvement and data contribution.

The Main technical issues specified by the EU tender is to build a global digital elevation model (DEM) at a resolution of 100 m or better, where data allows it. Secondly, an estimation of the geometry of the coastline is needed. Previous EMODNET calls had the great benefit to build a detailed inventory of bathymetric dataset all over Europe and to unify the global process of generating the EU digital terrain model (DTM). The Common Data Index successfully unified the description of each individual dataset and tracked their relative contribution in the final DTM compilation.

In that scope, participants from the Coastal mapping project have been contacted to join force with the EMODNET participants to build a stronger Consortium to answer that new tender.

The overall philosophy adopted by the Consortium driven by SHOM and Maris, as technical co-leaders, is to keep data producers comfortable with the data they would provide for this global DEM. So far, data was merged on the basis of major basins, bringing the data provider and the data integrator close together in order to understand the local constraints (tidal reference, density of data, dynamic morphology). This approach will definitely be kept by the new Consortium, but new IT solutions will be added to improve data management (including tailored role and functions for the different actors of the process).

SHOM and Maris are currently working on the technical tender that would be shared shortly as soon as the status of the consortium will be cleared.

The benefits for HOs in taking part of that EMODNET III Consortium are various:

- take back the lead on a theme which is in the core of their role,
- suggest and converge on methodologies relative to the processing of bathymetric data,
- provide an entry level DEM product for all their non-strictly hydrographic customers,
- gain knowledge on available data.
- strengthen as a HO community, with the support of IHO to further elaborate new acquisition strategies in Europe and raise public and political awareness on hydrography.

Action required by NSHC

The NSHC is invited to:

- take note of that information paper;
- encourages Member States to join the EMODnet III Consortium
- consider NSHC conclusion 104 as effected.