Protecting our coasts: how to anticipate and monitor coastal risks?
The contribution of coastal data

Brussels, 28 February 2018
Venue : CPMR Offices in Brussels, 14 Rd Point Schuman.

The objective of the conference was to share the needs of different levels of management of coastal data for the protection of the coastal areas against climate change and evaluate the place of bathymetric data.

Coordinated by the Conference of Peripheral and Maritime Regions (CPMR http://cpmr.org/), participated to this meeting ; representatives of maritime regions, the DG MARE and EMODNET Secretariat, the DG Grow, the General Secretary of Eurogoos, Hydrographic offices (HOs) representing 13 countries and SPACETEC.

The representatives of the DG RTD, the DG Clima and the "knowledge of the seas" network were unfortunately unable to attend the meeting.

During the opening of the meeting, the representative of the CPMR (Mrs L. Guennal) explained in name of its 150 member regions, the needs of a better long term policy for bathymetry to consolidate the strategies for coastal activities respecting the health and integrity of marine ecosystems and habitats.

The representative of the IHO Secretariat (M Y. Guillam) presented the potential of hydrography that goes well beyond just mapping. He remembered the Memorandum of understanding signed between IHO and the EU Commission five years ago to strengthen the relations between the IHO and the EU Commission, through the European Hydrographic Offices (HOs). (video; https://www.youtube.com/watch?v=4YyFowCAA0Y&feature=youtu.be)

M Iain Shepherd; representing the DG MARE, coordinator of the MOU for the DG MARE, coordinator of EMODNET project, remembered the interest of the Commission and EMODNET community for the coastal mapping project and results and for the follow on of the proposed EU strategy for high resolution bathymetry which would be relevant for the coastal risks and climate change management.

The main questions were;
-Data needed and available in Europe for the anticipating and monitoring of coastal risks
-Which contribution from the EU to the production and accessibility of relevant data?

First session – Data needed and available in Europe for the anticipating and monitoring of coastal risks

-What are the needs of public authorities, including the regions, in terms of better mapping, access and use of coastal data to anticipate and monitor coastal risks?

-How can data produced and processes at EU level be made more accessible to public authorities and private stakeholders for this purpose?

-**M B. Frachon**, in name of the EU-IHO Network, presented the main results of the coastal mapping project and the proposition done to the parliamentaries by the partnership to design a long term strategy for a recurrent way of collection of high resolution bathymetry, base of all the others acquisition of marine data and development of maritime policies. The long term mutualized acquisitions, the lack of data, the lost of data because of a lack of use of standards and lack of pooling data financed with EU funds were evocated.

-**Mrs F. Jacq**, explained the investment of the DG Grow in the Copernicus marine service project. **http://marine.copernicus.eu/** . Copernicus adresses 6 main thematic areas ;

Land Monitoring, Emergency Management, Marine Monitoring, Atmosphere Monitoring, Security, Climate Change. *For instant hydrography is not included in Copernicus components.*

The coastal area services and products are under development in the Copernicus process. A work with coastal community stakeholders began to understand the needs and prepare high resolution satellite services. Two workshops in 2016 and 2017 invited the stakeholder community to describe their needs. R&D Studies are running with coastal Scientist and calls were opened for stakeholders to use observations that are dynamic obs.

-**The executive Secretary of Eurogoos, M G. Nolan**, described the Eurogoos organization and programs; http://eurogoos.eu/ before inform us about ***EOOS (European Ocean Observing System)*** ;

"EuroGOOS is an international non-profit association of national governmental agencies and research organisations, committed to European-scale operational oceanography within the context of the intergovernmental Global Ocean Observing System (GOOS). It was founded in 1994 and has today 41 members from 19 European countries providing operational oceanographic services and carrying out marine research."

EuroGOOS Task Teams are operational networks of observing platforms ; They ***promote collaboration*** *among European observing infrastructures; Hydrography is not included*

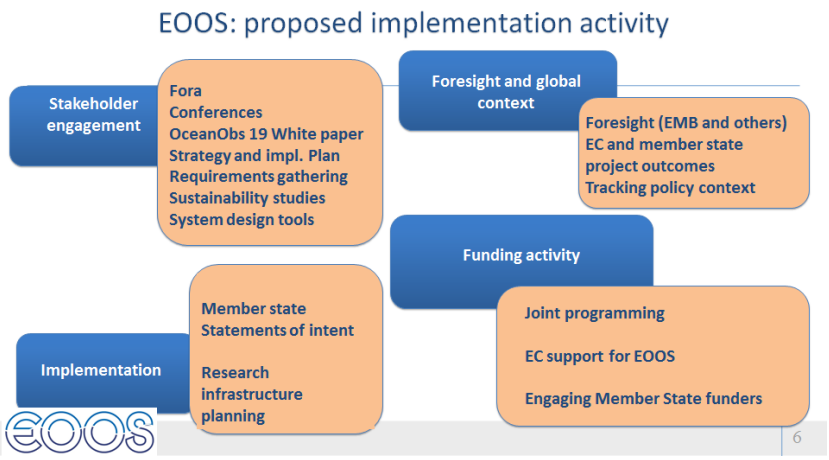
His suggestions for better anticipating and monitoring coastal risks;

- Better river inputs, coastal bathymetry and meteorological forcing are among the requirements to improve current coastal services
- High resolution (spatial and temporal) satellite imagery is also a strong precursor for coastal services
- Many "local" measurements made that are not currently in Copernicus and EMODnet, these could be made available to improve forecasts at bay scale.
- All the above lead to better ocean forecasts + response to risks
- Work underway on making more data available: Data Ingestion, EuroGOOS, EEA

Concerning EOOS (*www.eoos-ocean.eu/)* ***;***

EOOS is a coordinating framework designed to:

- ***align*** *and* ***integrate*** *Europe's ocean observing capacity;*
- ***promote*** *a systematic and collaborative approach to collecting information on the state and variability of our seas;*
- ***underpin sustainable management*** *of the marine environment and its resources*



The Marine Board, EUrogoos, EMODNET…, are promoting the development of the EOOS strategy and are co-building a proposition to be approved during an important conference organized in November 2018 in Brussels.

M Nolan, approved by Iain Shepherd, explained that the Hydrography, represented by IHO-EU network is invited to join the initiative of EOOS. The IENWG is represented in the Executive board of the organization of this conference.

A Forum organized on 8th of March permitted to brought together many organizations interested by the EOOS perspective and enrich the future propositions and next steps (see report about the 8th March meeting joined and preparation of the November's event).

EOOS seems to be a very important possibility for hydrography to be considered in the area of H2020 programs and next FP9 (EU Research program 2021-2027).

M B Thenail; responsible of geodata office for Normandy Region (FR) gave a witness of their daily experience. The regions are key actors for the use and re-use of coastal data for the management of the meteorological extreme events in the coastal area and the fighting against erosion and marine flood.

He expressed that **they need coordinated data collection in the coastal area of their region and among the Regions** in the same hydro-sedimentary cell or marine basin. In some countries, the municipalities are in charge of these policies and without a global vision of the processes, the coastal defences risk to be ineffective and sometimes negative for the neighbour areas.

He confirmed that they **need high resolution bathymetry, as a base of work, validated and with a legal value.** He promoted a **long term planning of re-actualization** of such a data, because of the rapid evolution of the seabed due to the acceleration of climate change.
A better understanding of the coastal change is crucial for the development of integrated coastal and maritime policies taking into account the impacts of the type of protections put in place on the marine ecosystems and habitats.

EMODNET; An ecosystem based approach needs national and transnational coordination of different levels of governance for the data management aspects. EMODNET is one of the answers to transnational coordination.

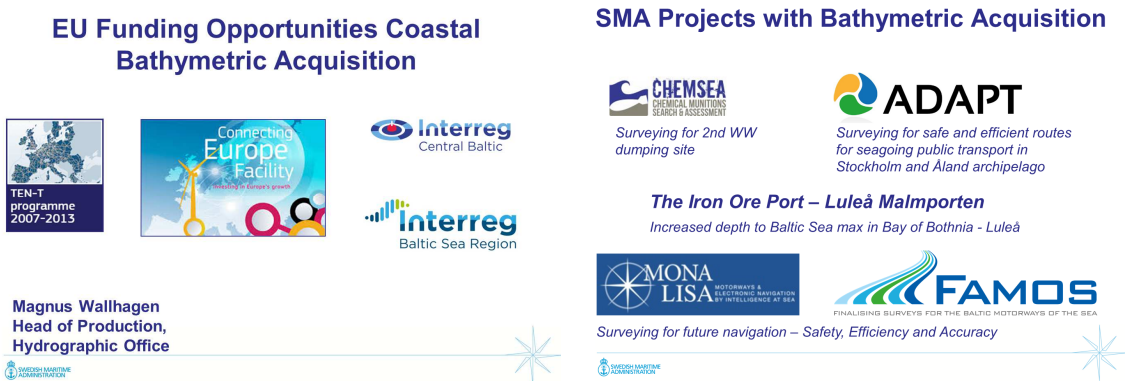
Mrs B. Martín Míguez presented the EMODNET project and its portals. After a first phase of building the different portals, a central portal is now available to permit to overlap the layers and help the stakeholders to built an overview of the situation.
To improve the possibilities offered by EMODNET, Sea Basin Checkpoints were put in place to assess the quality of the current observation monitoring data at the level of the regional sea-basins. The objective is to test the data against specific end-user challenges to evaluate their relevance for the needs of users, data gaps and duplications.
To promote the interest to bring the data from all around Europe in EMODNET, a very attractive video was realized and presented during the meeting; "Wake up your data" https://www.youtube.com/watch?v=p3vwngxyXuo&feature=youtu.be
A small debate took place to point the necessity to increase the compliance of EMODNET to INSPIRE and Mrs Martin Miguez answered that is underway in the EMODNET strategy.

In conclusion of this first part of the meeting; different levels from the Region to the European one presented needs and organizations in capacity, or, with the intention to, answer to coastal and maritime questions around the coastal risks and climate change in coastal areas.
The needs of coastal managers are to access to actualized and validated data, specially high resolution bathymetric data, at their scale and at the necessary scale for a correct modeling of the phenomena that impact their coastal area.

The EOOS project, with the objective to federate actual platforms like EMODNET, EuroGOOS, Copernicus and put around the table Hydrographic offices, metrology actors.., seems to be an important step for the EU. It will take benefit for the integrated maritime policies and in the way to manage the common data in special policies like the adaptation to our coastal areas to climate change.
However, it will be really efficient if the stakeholders are on board to confirm the good orientations of this crucial strategic design.
The EOOS project could help to answer to the suggested Axis 1 of our "European coastal mapping strategy" ; Set up coordinated programs of acquisition of data at basin scale.

Second session – Which contribution from the EU to the production and accessibility of relevant data?

M M. Wallhagen representative of Swedish Maritime Administration presented a panel of projects on the theme of the safety of navigation.



He concluded that *it is possible to find European budget for the acquisition of bathymetric data but; Hydrographic Surveying (improved seabed surveys) is only mentioned in the CEF Motorways of the Seas programme.*
You need to be very innovative in order to get a hydrographic surveying project approved
Hydrographic Surveying is needed for many different stakeholders –
There is no overall funding programme for mapping.
EU is spending for funds on space projects then mapping its own coastal waters?

Mrs L. Guennal ; CPMR, presented the tool developed by the CPMR during the coastal mapping project to help the community of Hydrographic offices and stakeholders to better use the possibilities of INTEREG programs for the acquisition of bathymetric data.

https://www.google.com/maps/d/viewer?mid=1Os6nnSbI7-IAGvdlYYqTgNK3mgI&ll=46.32171120486922%2C0.4908112499999788&z=3

Some programs were analysed and the better axis to use for bathymetric data acquisition were explained in the tool. It would be useful that this tool would be developed and re-actualized permanently. This draws a very complex mosaic of possibilities without a major program of data acquisition for the reuse of all users.

As explained in Axis 2 and 3 of the proposed strategy, these possibilities would be better useful if **IHO standards for acquisition or data mutualization would be required**. **Actually, for these reasons, a large amount of data financed by these European programs is not shared or cannot be used in the implementation of maritime policies, particularly adaptation to climate change.**

Mme P. Morbioli representing the Emilia Romagna Region (IT), (*in partnership with C. Lochet (Shom)* representing the Coastal mapping project) introduced the Bologna Charter initiative and confirmed the motivations expressed by the Normandy Region about the needs of more coordinated acquisition of data and a better long term perspective for funding of the protection of the coastal areas against erosion.

The Bologna Charter (*www.bolognacharter.eu/*) is a near 20 years old coordination around the Mediterranean, initially built to develop transfer of knowing, good practices, coastal policies helped by European projects.

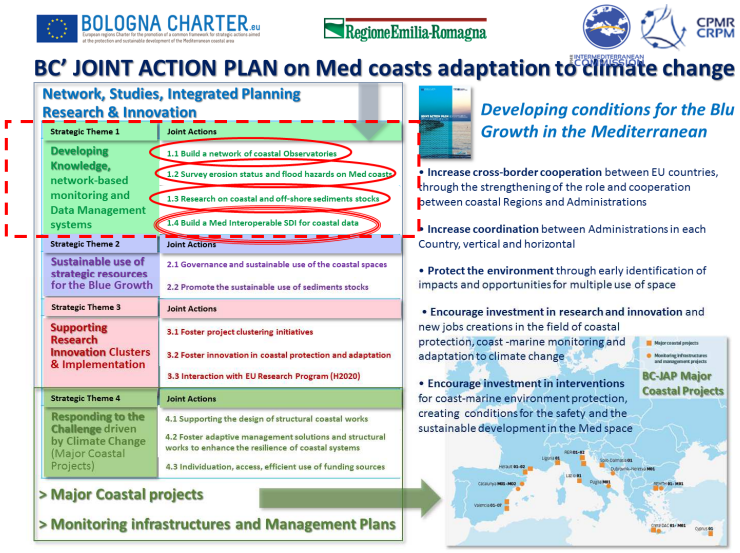
Facing the challenge of the lack of global program to manage the climate change in the sensible Mediterranean coastal area, near 30 Mediterranean Regions and the CPMR, decided to design a Joint Action Plan to better orientate the mosaic of financements to fight angainst the lack of interoperability of data and results and lack of integrated vision of the results and solutions to use.

The joint action plan begins naturally by the strategic theme of developing knowledge, network based monitoring and data management systems.

It is very important to notice for these key stakeholders, the lack of mention, in their JAP, of EMODNET, EUROGOOS, IHO, or other EU initiatives.

The building of links among the different levels of management of coastal areas in Europe seems to be our next challenge.

Their budget come in majority from INTEREG programs but without obligation, coming from the coordinators of the EU funds, of use of standards and sharing at national or EU level. The Bologna charter permitted to introduce better practices.



In conclusion ; the meeting was very fruitful and thanks to the CPMR the different levels of coastal management could be invited**.**

All Participants;
- confirm the bathymetry, *or hydrography in a more general way,* as a key data for the management of climate change in coastal area, erosion matters and the basis to guide the coastal policies. It is too a basis for the acquisition of the other data needed to brush the mandatory integrated picture of our coastal areas, and land-sea interactions.

- highlight the need of better coordination among the different levels of management of our coastal areas for the acquisition of data.

- welcome the initiatives taken by EMODNET, EUROGOOS and COPERNICUS to associate end-users to the development of their strategy

The IHO-EU network would thank the CPMR to help them to work better with the working group constituted by the responsibles of the INTEREG programs “knowledge of the seas” network.

At the end it is a matter of fact that hydrography must be considered as a common foundation for all the marine research programs and it must be better integrated into the H2020 programs and next FP9.

Finally, the IHO representatives identified the crucial need to integrate hydrography in the future EOOS.