

# **GEO BON WG 5**

**Progress report**

**Activities and Funding**

## **Activity/Deliverable 5.4.1.**

### **Pilot study to further detail marine ecosystem classification with associated biological data series**

Based on ongoing developments of two marine ecosystem classifications, one for the open ocean and one for the coastal regions, a pilot study will be performed to integrate and refine these ecosystem classifications for a selected region. Based on the outcome of this pilot study a further attempt will be made to implement a global ecosystem classification that will integrate biodiversity and physico-chemical information.

#### **Progress:**

- Pilot study to fine tune ecosystem classification. This study is in progress for the Wadden Sea through the ZKO(NWO) program (NIOZ) and possibly through a new proposal.
- Improving Marine Ecosystem classifications on a global scale will be done in very close cooperation with UNEP-WCNC

## **Activity/Deliverable 5.4.2.**

### **Inventory of past and present sustained observation programs and associated data series**

Based on existing inventories of sustained observation programs and associated databases an exhaustive database of past and present observations and databases will be constructed. This will help to identify gaps in marine observations, to promote future observation programs and to standardize observations and databases.

#### **Progress (incl. Coordination):**

- POGO and GEOBON (WG5) are making a comprehensive database on sustained marine observations
- Carlo had a meeting at IOC/Unesco where the creation of a World Association of Marine Stations was in principle accepted. Although this has to go through a long procedure (probably to go before the General Assembly of IOC in 2013), the signs are that this will be welcomed by IOC as a major step towards supporting marine biodiversity observation. The meeting in Paris was attended by the relevant European (MARS), US (NAML), Japanese (JAMSTEC) and Australian networks and mention was made of several more (including Canada's CHONE).
- US GEO BON meeting. Linda Amaral (ICoMM exec. secretary) has participated for the marine issues. Minutes will be available soon.
- Contact with NRIC's and CoML to explore future relationships between GEOBON and Future CoML activities.
- Contact with Marine Board. Marine Board Position paper on microbial marine biodiversity in progress.

### **Activity/Deliverable 5.4.3.**

#### **Inventory of historical, anecdotal, archaeological and fossil biological data series**

An attempt will be made to produce a database based on inventories of biodiversity related data of the last centuries and millennia, realizing that the present status of biodiversity is already a reflection of rapidly changing biodiversity mainly due to human activities. Therefore it is necessary to define the state of diversity before human impact in order to better understand the present state of biodiversity and to predict future biodiversity changes among others by identifying ongoing trends in biodiversity worldwide and reregionally. This activity will be supported with two subactivities:

***An inventory of past and present marine organizations (research institutes, marine stations, university departments, museums, governmental bodies, (inter)national programs, etc.)***

***An inventory of existing databases of cruise summary reports related to biological activities, identifying responsible PI's and their host organizations.***

#### **Progress:**

-IODP-GEOBON connection regarding deep biosphere diversity in the sub surface through Deep Carbon Observatory Program to be funded by Sloan; White paper on deep life has been accomplished.

## **Activity/Deliverable 5.4.4.**

### **List of data providers regarding invasive species**

Changes in marine biodiversity are more and more due to accidental or deliberate introductions of invasive species. It is therefore very important to have a worldwide comprehensive inventory of past and present events related to invasive species. A complete overview of data providers regarding invasive species is considered as a first and crucial step in this process.

#### **Progress:**

None

## **Activity/Deliverable 5.4.5.**

### **Review of modelling needs for marine biodiversity**

Modelling marine biodiversity as such and modelling of biodiversity processes, among others to better predict consequences of changing biodiversity, is not an easy task. An attempt will be made to make an inventory of past and present modelling exercises related to biodiversity change and based on that to review modelling needs for marine biodiversity.

#### **Progress:**

None

## **Activity/Deliverable 5.4.6.**

### **Report on strengthening capacity building and taxonomy training**

Capacity building focussed on less developed countries is an absolute condition to extend comprehensive and sustained (biological) observations of the coastal and open oceans from the photic zone to the deep sea and the surface sediments, realizing that two thirds of the oceans is in the southern hemisphere. The increasing loss of marine taxonomists is alarming and has to halt if we are to understand marine biodiversity, in particular when it comes to identify the huge amount of novel micro- and macro species encountered in the ocean realms.

### **Progress:**

- Discussions with POGO, SCOR, IOC to explore common future calls for fellowships, workshops, etc.

## Funding:

- The EC has issued a call in FP7 on Marine and Freshwater Biodiversity Observatories that will develop an Infrastructure Network in the coming years. The call will be supported by MarBEF, Life Watch, PESI, 4D4 and a freshwater biodiversity network, probably BIOFRESH, but we will certainly consider partnership of our GEO-BON freshwater working group. GEO-BON is also explicitly mentioned in the call which closes in November.
- Recently the legal association MarBEF+, which is the continuation of MarBEF (EU Network of excellence on Marine Biodiversity and Ecosystem Functioning) was signed. The seat is at NIOZ. MarBEF+ is already involved in three other EU projects, among which EuroMarine which will be a joint project of the three NoE's and MarCOM+ that involves organizations such as ICES, CIESM, MARS etc