Out and About – with Outreach

Integration is one of the key elements of MarBEF and is continually highlighted in scientific integration throughout this newsletter.

Here is a successful story of outreach integration between MarBEF and a number of organisations – namely MarLIN, HERMES and the European Census of Marine Life. The outreach officers from each of these organisations came together one year ago to investigate the possibilities of

joining forces and arranging an educational outreach exhibit under the banner of marine biodiversity.

The chosen location was York in the UK, and the occasion was the BA (British Association) Festival of Science in September. Here, we introduced students from 5 to 18 years of age to the variety of marine life in the oceans, from the deep seas to the seashore.

Several of the students took up the

challenge to enter a quiz where they would have to decide whether a number of different plants or animals were winners or losers as a result of a number of different human activities, including climate change, dredging, litter and fishing.

Some 8,000 students visited the festival over the five-day period and we received a very positive response from both the students and their teachers on our interactive exhibit and the educational outreach

provided. This, we hope, is only the start of a very successful collaboration resulting in many more future outreach ventures.

MarBEF was showcased in the European Commission's stand at the prestigious Oceans '07 Conference in June 2007, in Aberdeen, Scotland, where a Power Point presentation on the MarBEF network was on show during the event.

Róisín Nash

MarBEF Progress

MarBEF Data Management

The European Marine Gazetteer
– its development and applications

The Global Oceanic Boundaries on Google Earth. The KML files are derived from the EEZ boundary data provided by the Flanders Marine Institute (VLIZ). The data were converted to Google Earth KML by Price Collins of Alphabet Systems LLC, USA.

By Simon Claus, Ward Appletans, Bart Vanhoorne, Nathalie De Hauwere, Francisco Hernandez and Jan Mees

Geographic Information Systems have become indispensable tools in managing and displaying marine biodiversity data. Within MarBEF, we have developed a standardised register of place names, called the *European Marine Gazetteer.*
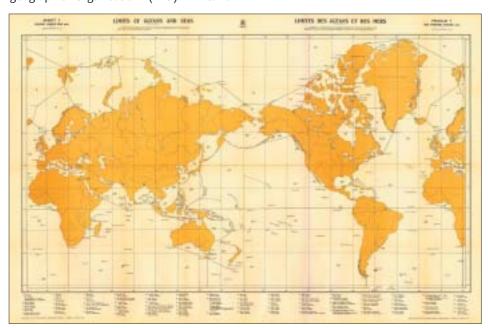
The word 'gazetteer' goes back to the Latin word *gazetta* and can be defined as a geographical dictionary. There are several good international, internet-accessible gazetteers for the terrestrial environment, but no such system has existed for the seas and oceans. With the creation of the *European Marine Gazetteer* we have laid the foundations for such a system. The ultimate goal is to have a hierarchical

standard list that includes all the marine geographical names of Europe, and of other areas in the world where European marine scientists have taken samples.

At the moment, the gazetteer covers all the names that are in use by the MarBEF network as geographical key-words for the description of, for example, datasets and publications. The

list, as of September 2007, has 946 records, including names of seas, islands, sandbanks, ridges, estuaries, bays, sea-mount chains, submarine lava tubes and standard sampling stations that are used in the different MarBEF data systems. Besides the name and place type, the following geographical features are attached to each record: minimum and maximum latitude and longitude, precision (defined as the radius of the circle corresponding to the geographic shapefile), sources of information, the relationships (parent-child, adjacent to, streams through, rises and flows out) with other place names

European Marine Gazetteer Placedetails

Name	Language	Name	Source
	English	Adriatic Sea (preferred)	IHO 23-3rd: Limits of Oceans and Seas, Special Publication 23, published by the International Hydrographic Organization.

PlaceType Sea

Latitude 42° 44' 14.2" N (42.7373°)

Longitude 16° 4' 55.7" E (16.0821°)

Precision 466189 meter

Min. Lat 39° 41' 28.3" N (39.6912°)

Min. Long 12° 0' 15.2" E (12.1542°)

Max. Lat 45° 46' 60" N (45.7833°)

Max. Long 20° 0' 36.1" E (20.01°)

Source IHO 23-3rd: Limits of Oceans and Seas, Special Publication 23, 3rd Edition 1953, published International Hydrographic Organization.

Relation Part of Eastern Basin (General Sea Area) [View Hierarchy]

Map

The gazetteer contains coordinates, sources of information, precision and relations. A dynamic map provides a visual interface.

and links with available shapefiles. This relational structure allows for browsing through a hierarchical tree – comparable to browsing through the taxonomic classification of the European Register of Marine Species (ERMS) – and enables the user to list all places located in a particular area. Important sources of information are: the International Hydrogeographic Organisation (IHO) Limits of Oceans and Seas, the IHO-IOC GEBCO (International Hydrogeographic Organisation – International Oceanographic Commission General Bathymetric Chart of the Oceans) Gazetteer of undersea feature names, the Exclusive Economic Zones, the Large Marine Ecosystems of the World, the FAO Fishing Areas and the ASFA Codes.

The higher classification of oceans and seas in the European Marine Gazetteer is based on the chart Limits of Oceans and Seas 3rd edition (1953), published by the International Hydrogeographic Organisation (IHO).

While ERMS is the taxonomic backbone of the MarBEF data system, the *European Marine Gazetteer* can be seen as the geographical backbone that is connected to the other databases. For example, users can search for all datasets holding data on a specific area, and subsequently find the people and the institutes that are actively doing research in that region. The fact that the place names are related to each other makes it possible to automatically display all the information of the underlying sub-areas. The gazetteer is thus used to describe a species distribution in ERMS. This means that, through a single data entry, a species can be listed as belonging to, for example, Italy, the Adriatic Sea, the Mediterranean, and Europe.

VLIZ has developed an online Maritime Boundaries Geodatabase (http://www.vliz.be/vmdcdata/marbound) that includes the shape-files of all the Exclusive Economic Zones (EEZs) of the World. By adding this layer on top of the species distribution data in the European Ocean Biogeographic Information System (EurOBIS), national species check-lists can easily be created.

MarBEF has played an important role in the development of the gazetteer. Through the involvement of VLIZ in several other international projects, the initial geographical scope is now expanding, covering many more locations from all the world's oceans (e.g. Antarctica through the SCAR-MarBIN project, http://www.scarmarbin.be/) and now includes all the major marine places of the world. Today, the VLIMAR gazetteer holds nearly 18,000 place names. The further development of the gazetteer is a continuous activity for the MarBEF data management team.

Websites

European Marine Gazetteer
www.marbef.org/data/gazetteer.php
VLIZ Marine Gazetteer
www.vliz.be/vmdcdata/vlimar
VLIZ Maritime Boundaries Geodatabase
www.vliz.be/vmdcdata/marbound

References

Claus, S, Deckers, P, Vanhoorne, B, Hernandez, F and Vanden Berghe, E (2006). Developments and geographic interface of the VLIMAR gazetteer. In: Mees, J and Seys, J (eds) (2006): VLIZ Young Scientists' Day, Brugge, Belgium 31 March 2006: Book of Abstracts. *VLIZ Special Publication* **30**, pp25.

Deckers, P and Vanden Berghe, E (2006). The VLIZ Maritime Boundaries Geodatabase as a biogeographical tool. In: 2006 ICES Annual Science Conference, 19-23 September; Business meetings 17-26 September, 2006; Maastricht, The Netherlands. *Handbook, Contributions, Agendas and Orders of the Day: Abstracts,* pp228.

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