From Data to Knowledge

Webinar - EMODnet
A decade of achievements
connecting marine data to knowledge

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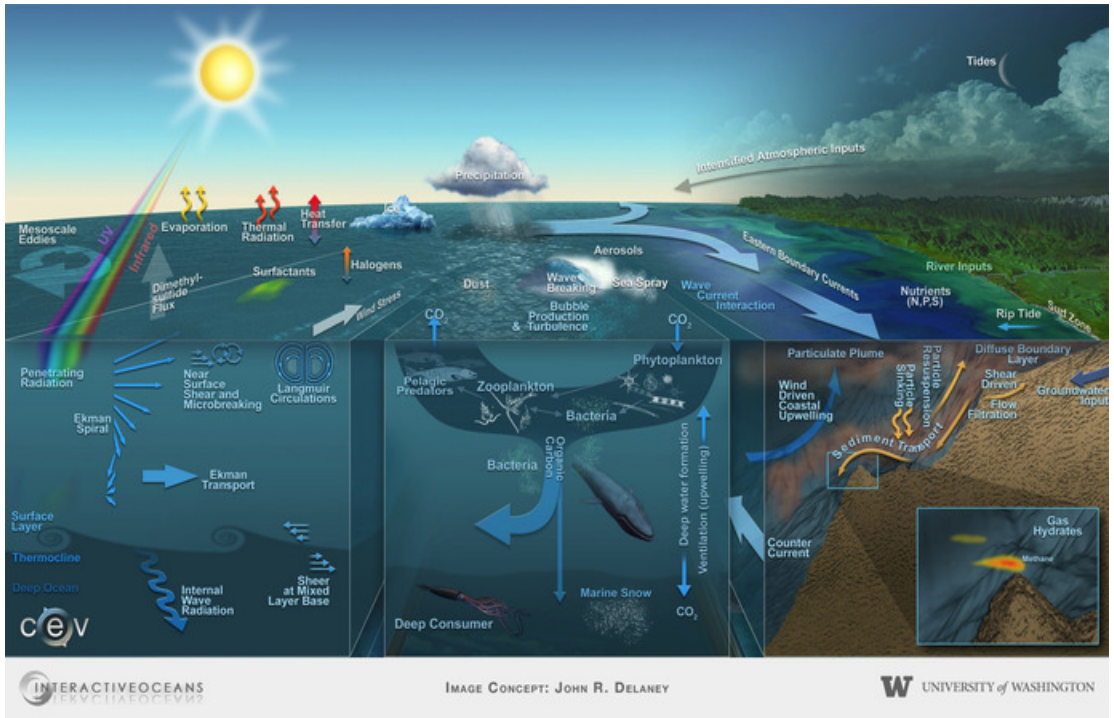

HOW DO WE USE EMODNET

Advantages of EMODNET from the **data supplier point of view**:

1. Acquire experience in the treatment and conservation of oceanic data (biological, geological, …);

2. Belonging to a European network of institutions providing biological data where data organization experiences can be exchanged (standardization);

3. Ease in providing historical data that the institution alone would not be able to do;

4. Strengthens the institution's visibility as an international reference in the acquisition and monitoring of ocean data, namely through references in publications that cite the collections of data made available online;

5. Collecting data from the ocean at sea is an expensive activity so, once collected, they can serve several purposes in addition to those initially planned, the data thus have a longer life and end up being cheaper.

6- It gives us the formal possibility (duty) to collect geological and environmental information from our entire margin and deep sea, treat it and insert it in the EMODNET database following commonly accepted methodologies;

Advantages of EMODNET from the **data user point of view**:

1. Access to long-term historical data important for various scientific studies, namely to detect and understand changes in marine habitats, manage marine resources in a sustainable way and understand global changes in the marine food web;

2. Possibility of creating international and multidisciplinary partnerships;

3. Time series of biological data are essential in marine policy and conservation at national, regional and global scales;

4. Contribute to the integration of biological data with other environmental data to better support the decision;

5. Make sure you are working with and using quality data.

6- It gives us greater knowledge about the data available internationally (although any citizen has access) and in this way can use that knowledge for lobbying, projects, scientific production and most important for science based policy and decision making.

TO NOTE:
There is no substitute for adequate observations made *in situ* and those that we did not make today are lost forever.

Existing data if not made accessible is useless and it is more valuable the more it is part of a larger collection of data.

The models will continue to evolve and improve, but without data, they are not tested.

Today's climate models are unlikely to be of interest in a few years' time. But if supported by data that has been collected with quality, they will be useful indefinitely for any model that will be developed.

Examples

SPECIAL ISSUE of GEOLOGICAL SOCIETY OF LONDON

Integrated thematic geological mapping of the Atlantic Margin of Iberia

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Abstract: This paper synthesizes the geology of the Atlantic Margin off the coast of Iberia and surrounding Abyssal Plains using published thematic mapping freely downloadable from EMODNET-Geology portal at different scales. Selected information was chosen in order to highlight mineral occurrences and natural hazards overlaid on geological and morphological maps. Altogether, this information is published and interpreted here for the first time; nevertheless this exercise can be carried out by anyone interested and allows different visualizations of geological objects. Cross-correlations of geological objects and processes can easily arise. Because all of the information (each piece of data and metadata) in the EMODNET-Geology portal has bibliographic references associated, readers are able to find the original source of information. It is shown that clicking in and out of layers of information (that cannot be found all together in a single scientific paper) allows quick cross-correlation using the EMODNET Geology thematic portal. This allows a free, versatile and quick way of cross-correlating geological objects and processes in vast marine areas and their comparison with onshore geology.

Iberia is a trapezoidal continental block located between stable Eurasia and NW continental Africa. The onshore geology of Iberia has a stratigraphic record spanning from terranes of Proterozoic age involved in the Paleozoic Wilson cycle through the Alpine Wilson cycle, from Triassic through Quaternary times. The Paleozoic cycle ended with the formation of Pangea during Permian times when Iberia was trapped at the westernmost tip of the Tethys Ocean between Laurasia and Gondwana (Nance *et al.* 2012; Terrinha *et al.* 2019*a*; Vergés *et al.* 2019 and references therein).

The Atlantic Margin of Iberia (Fig. 1) encompasses three different tectonic sectors, the West Iberia Margin (WIM), the North Iberia Margin (NIM) and the SW Iberia Margin (SWIM) that formed as a result of rifting and seafloor spreading of the North Atlantic Ocean, Bay of Biscay and Western Tethys Ocean (or Neo-Tethys), respectively. The NIM and SWIM were strongly involved in continental collision and subduction during the Alpine orogeny and both abut two orogenic belts, the Pyrenees and the Betics, respectively in the north and south of the Iberia Peninsula. The Pyrenees resulted from continental collision between Iberia and stable Eurasia in Late Cretaceous–Paleogene times (Boillot and Capdevila 1977). The Betics formed as a result of a complex tectonic history of oceanic subduction of the Tethys Ocean, slab roll-back and formation of back-arc basins that ended with accretion of the Betic terranes in southern Spain (e.g. Maldonado *et al.* 1999; Schettino and Turco 2011; Vergés *et al.* 2019). The West Galicia Margin that experienced the rifting of the North Atlantic Ocean is described here together with the NIM.

Mesozoic rifting structures are very well exposed in the NW of the WIM, in the Galicia Bank region. However, further south, the nature of the highly

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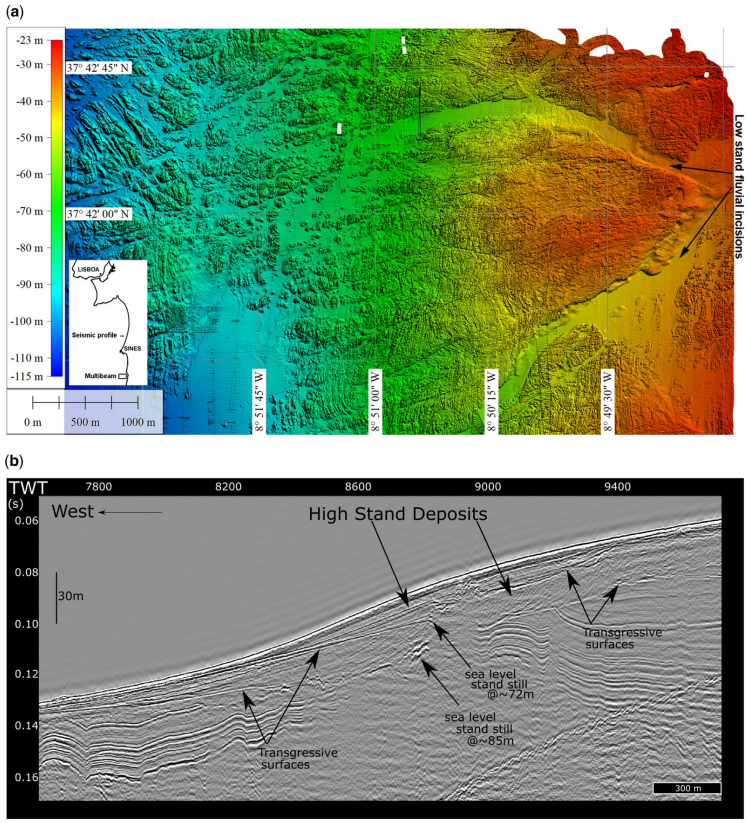

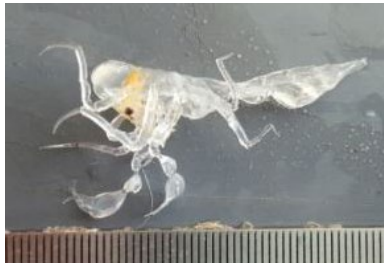

Fig. 4. Mapping for mineral resources in the continental shelf. (a) Morphology of a segment of the Alentejo shelf off SW Portugal; note the fluvial incision of cold Quaternary periods and the contrast of different outcropping terrains (multibeam map location in the inset). (b) Ultra-high-resolution seismic reflection profile showing sedimentation traps conditioned by palaeocoastal escarpments (seismic profile location in the inset). The joint use of multibeam bathymetry, backscatter and ultra-high-resolution reflection seismics allows for locating adequate sites for ground truthing the mobile deposits for mineral content characterization. (PROJECT MINEPLAT)

Data availability statement The datasets generated during and/or analysed during the current study are available in the EMODNET repository, https://www.emodnet-geology.eu/; https://www.emodnet-bathymetry.eu/.

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