RECOGNIZING THE SEAFLOOR'S CHARACTERISTICS USING HABITAT SIGNATURES

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Seafloor images become increasingly available, both derived from video or photographs and from acoustic remote sensing. Very-high resolution acoustic imagery has indeed the potential of depicting a recognisable sign on an image that relates to a physical and biological nature, *i.e.* its habitat signature.

Still, most of this information is stored at institutes or universities and no up-to-date comprehensive compilation is yet available. Moreover, the acoustic imagery often remains hard to interpret; this is mainly because of the multitude of factors influencing the image and the lack of reference material. When an interpreter studies a remote sensing image, he indeed needs to refer to particular textures and patterns that are recognisable on the image and relate that to reality. Ground truthing remains crucial; still comparison with a large number of similar cases is a necessity. In the framework of marine environmental issues this becomes increasingly important and the need for sound interpretations is real.

To anticipate on this need, a web-based catalogue of seabed habitat signatures is being built in the framework of the MESH project (Mapping European Seabed Habitats), for both scientists and non-scientists. The catalogue contains a collection of images produced by different remote sensing techniques (acoustic and optically derived images, photographs and video). As such, the results of the different techniques can be compared and can strengthen interpretations in view of seabed assessments. The catalogue has a comprehensive list of metadata per habitat signature, both in terms of its physical and biological environment and the conditions under which the signatures were generated.

The web catalogue is easy manageable. Habitats can be searched using their own name or by typing a key word or choosing a EUNIS code or making a query on physical factors. For every habitat one or more significant locations in the Mesh area are chosen and every location displays all the signatures available. Every location is identified by its coordinates (lat., long.) to be easily positioned on the MESH webGIS (http://www.searchmesh.net/webGIS).

The signatures are presented as little thumbnails to let the web user have an easy overview. These link to a page where a description of the image, an enlarged image and all technical data referred to it can be found.

The catalogue will largely increase the visibility of how the seafloor looks like, but above all it is hoped that it will assist in the interpretation of newly acquired data in view of

environmental assessments. Any potential contributor to this catalogue is invited to share their images to a wider European community.

The web-catalogue is developed at Ifremer (http://www.ifremer.fr/mesh-malo/essai_signatures). RCMG is responsible for the input of imagery related to the Belgian part of the North Sea.