



Action 2: Developing standards and protocols for marine habitat mapping

Aim: to ensure local, regional and national mapping initiatives are compatible and can be used to build integrated habitat maps across NW Europe.

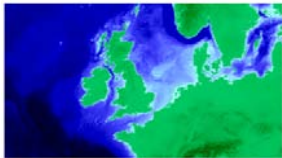
Scope:

Our studies cover the four elements of the mapping process: Acquisition – processing – interpretation - presentation

Acquisition:

We have reviewed existing standards and protocols for a spectrum of remote survey and direct sampling techniques. Many could be adopted or adapted for habitat mapping. MESH is developing standards and protocols where they were previously deficient or absent.

Review of standards and protocols for seabed habitat mapping



Techniques reviewed

Intertidal & shallow sub-tidal:

- Satellite imagery
- Airborne techniques
- Shore surveys

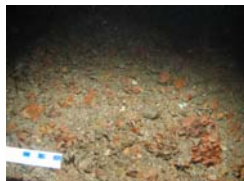
Deeper sub-tidal:

- Acoustic techniques
- Video imagery
- In-situ sampling

One such area is the recording of metadata. We are developing a standard for survey metadata to ensure that information relevant to the quality assurance and subsequent interpretation of data is properly captured.

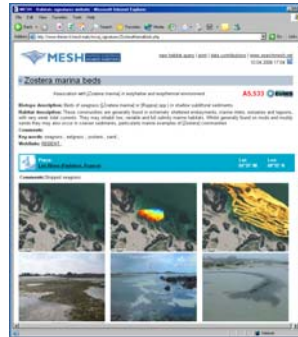
Processing:

Many remote survey techniques require a degree of flexibility in the way data is processed. Conversely, ground-truthing techniques require firmer controls on sample processing to ensure compatibility of data across studies. Developments were particularly needed to standardise the processing of video and photographic material and to achieve consistency of backscatter across acoustic image mosaics.



Interpretation:

It is important to try to standardise the interpretation of images from individual remote sensing techniques, as this can be very subjective. Also, there is a need to standardise interpretation across different techniques, as each will detect different properties of the same habitat. To help this standardisation and inter-calibration, MESH is compiling a catalogue of habitat signatures, that will be accessible over the internet.



The catalogue describes each habitat type and provides images showing how it appears to a variety of remote survey techniques.

These images are complemented with photographs of actual samples taken from the site, showing the characteristics of the sediments and fauna.

MESH is using the EUNIS system to classify habitats. It is critical that different mapping studies apply this system in the same way. To aid this process, MESH has developed a Biotope Matching Programme that seeks the best matches between sample data and the EUNIS habitat categories.

EUNIS is a categorical system with 6 hierarchical levels. MESH is helping to extend this system by describing new marine habitat categories that we have recognised in littoral, shallow water and deeper sub-tidal surveys.

For more information, contact the Action 2 Leaders:

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Presentation: Confidence and Accuracy of maps

MESH is investigating ways of representing some form of confidence rating on mapped outputs. This will help end-users assess how far the maps meet their specific needs. Factors influencing confidence include data quality, classification and positional accuracy, and map validation.

A Guidance Framework for Habitat Mapping:

Action 2 will deliver its major outputs through an interactive guidance framework that will cover:

Scoping new surveys

- purpose, scale, resolution, information content
- capabilities of different techniques
- selecting complimentary techniques
- survey strategies

Conduct of surveys

- survey design
- standards and protocols; SOPs
- ground-truthing requirements
- metadata requirements

Data and sample processing

- techniques and SOPs

Interpretation

- single and multiple techniques
- seabed/habitat signatures
- applying the EUNIS classification

Confidence & Accuracy

- positional accuracy
- classification accuracy

Presentation

- representing interpretations and data on GIS

