MESH ATLANTIC

MESHATLANTIC PROJECT
Compilation and Harmonization bathymetric data in the Atlantic Area

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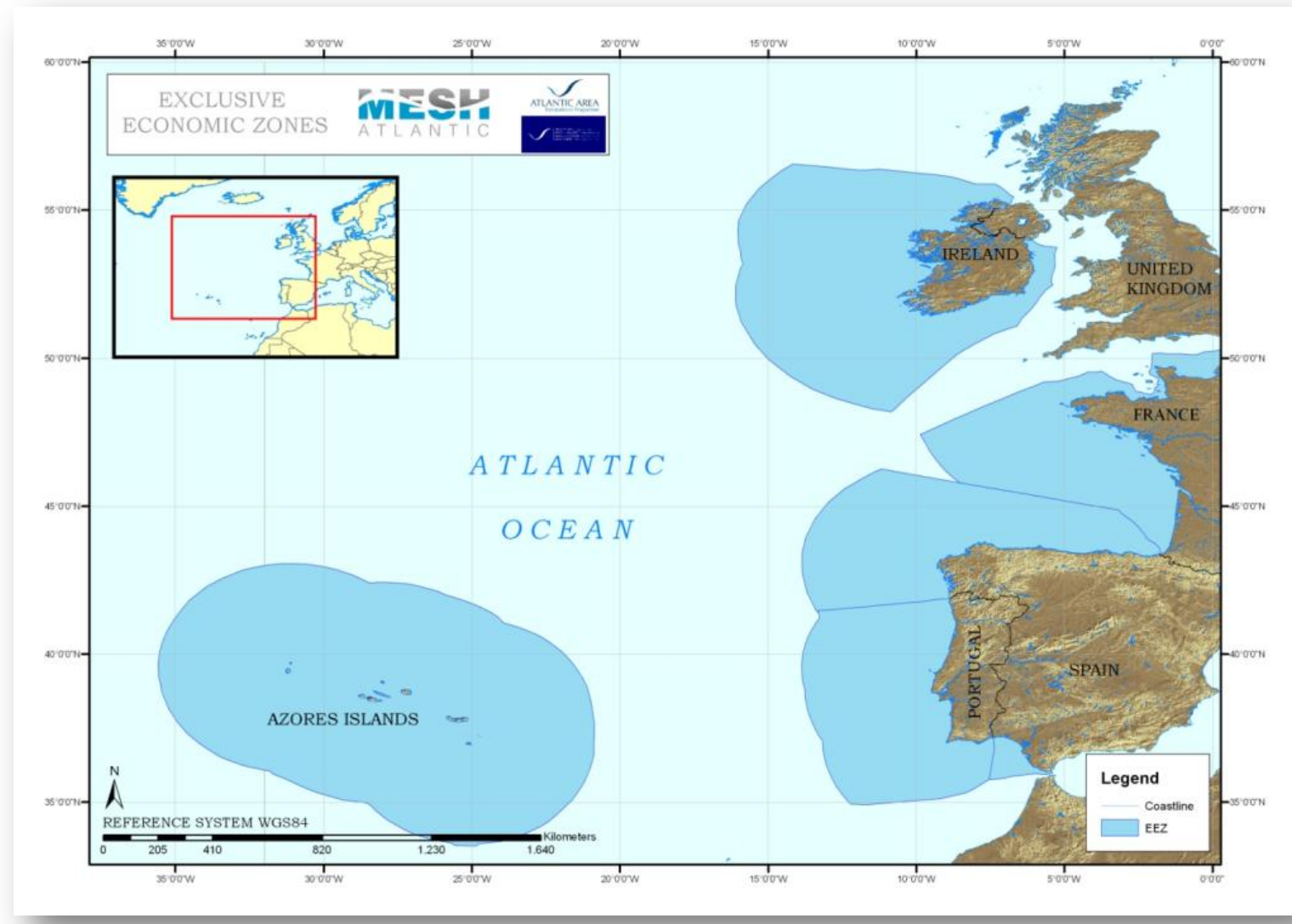
INTRODUCTION

Figure 1. MeshAtlantic study area

The Interreg Project MeshAtlantic has been developed by eleven partners from the four Atlantic Area countries: France, Ireland, Portugal and Spain (Figure 1) during the period 2010-2013. The MeshAtlantic Project has among its main objectives compiling historical maps, documents, and data with information about the bathymetry, substrate nature, marine habitats and physical data on the Atlantic area of study, as well as harmonizing the maps and data between the countries in order to obtain a Broad-scale Habitat Map.

The most important type of information have been the bathymetry and substrate data (Figure 4), although the distribution of seabed habitats is also the result of changes in other factors as light penetration, geomorphology, wave energy, thermal stability, temperature and salinity. The analysis of the crossing of these base layers allows obtain a homogeneous base layer for the seafloor characteristics that have influence on the marine habitat or community types.

The result of the bathymetric data compilation covers the Atlantic Area in a homogeneous way with existing maps and associated geophysical data. (Figure 2).
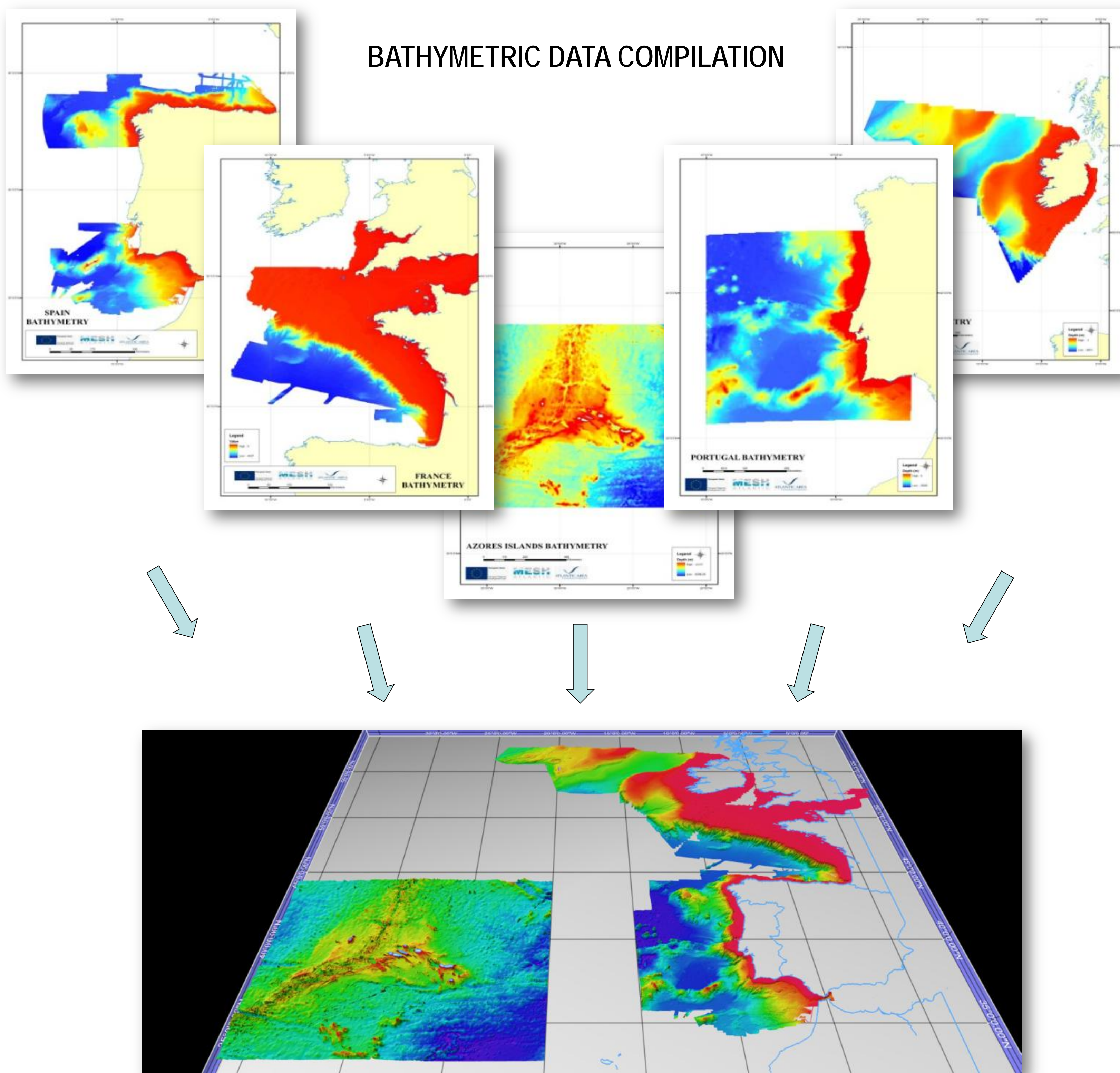
BATHYMETRIC DATA COMPILATION

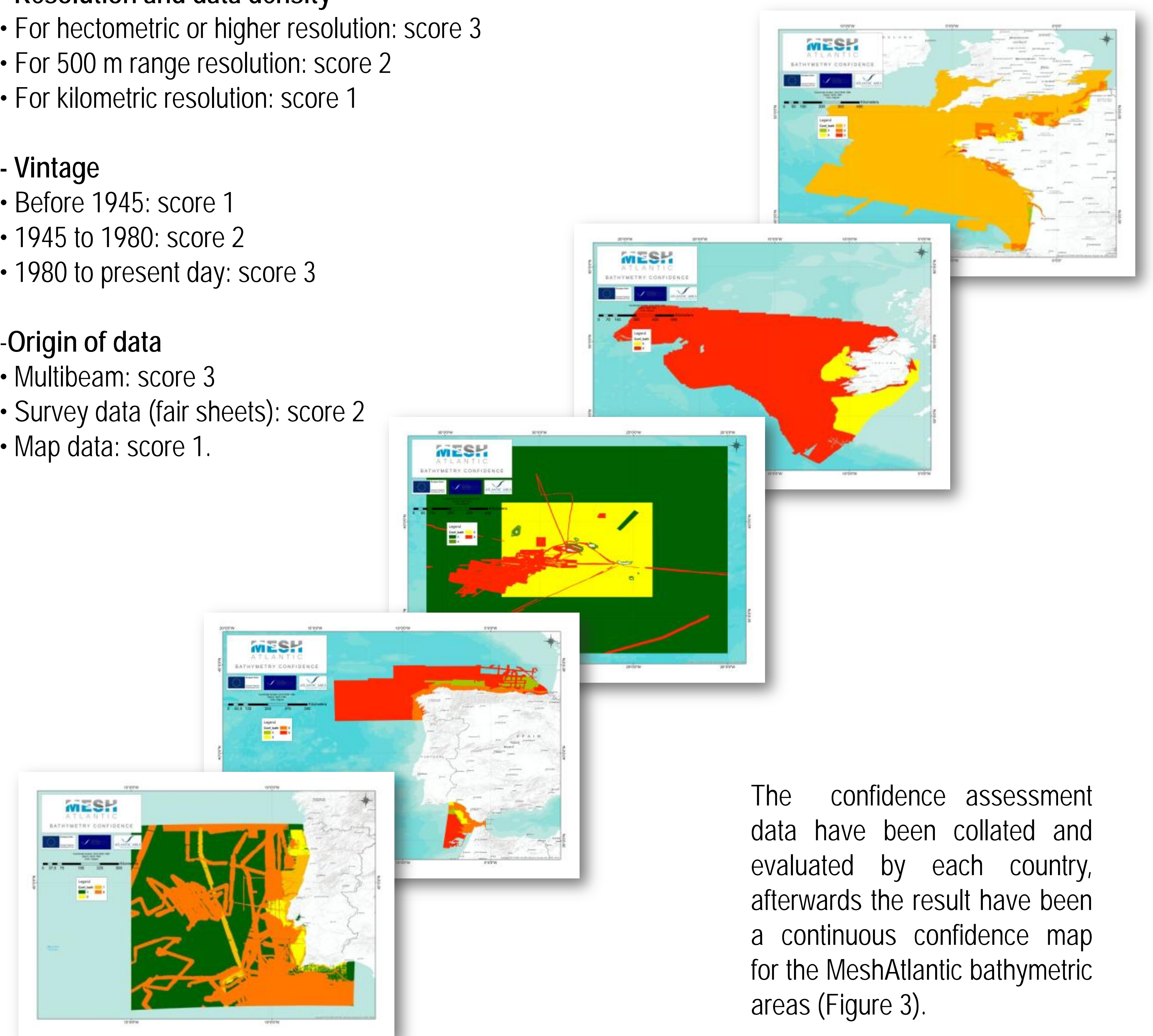*Figure 2. Bathymetric Areas collected by MeshAtlantic Project*

CONFIDENCE ASSESMENT

Bathymetry confidence assessment

It has been considered appropriated in MESH Atlantic to use the same methodology used for the EUSeaMap confidence assessment of bathymetry.
The assessment of the bathymetric data was carried out considering three criteria scored separately (Resolution and data density, Vintage, Origin of data) and each criterion is scored between 1 and 3.
The scale of confidence assessment of bathymetry is from 3 to 9.

- Resolution and data density
• For hectometric or higher resolution: score 3
• For 500 m range resolution: score 2
• For kilometric resolution: score 1

- Vintage
• Before 1945: score 1
• 1945 to 1980: score 2
• 1980 to present day: score 3

-Origin of data
• Multibeam: score 3
• Survey data (fair sheets): score 2
• Map data: score 1.

The confidence assessment data have been collated and evaluated by each country, afterwards the result have been a continuous confidence map for the MeshAtlantic bathymetric areas (Figure 3).
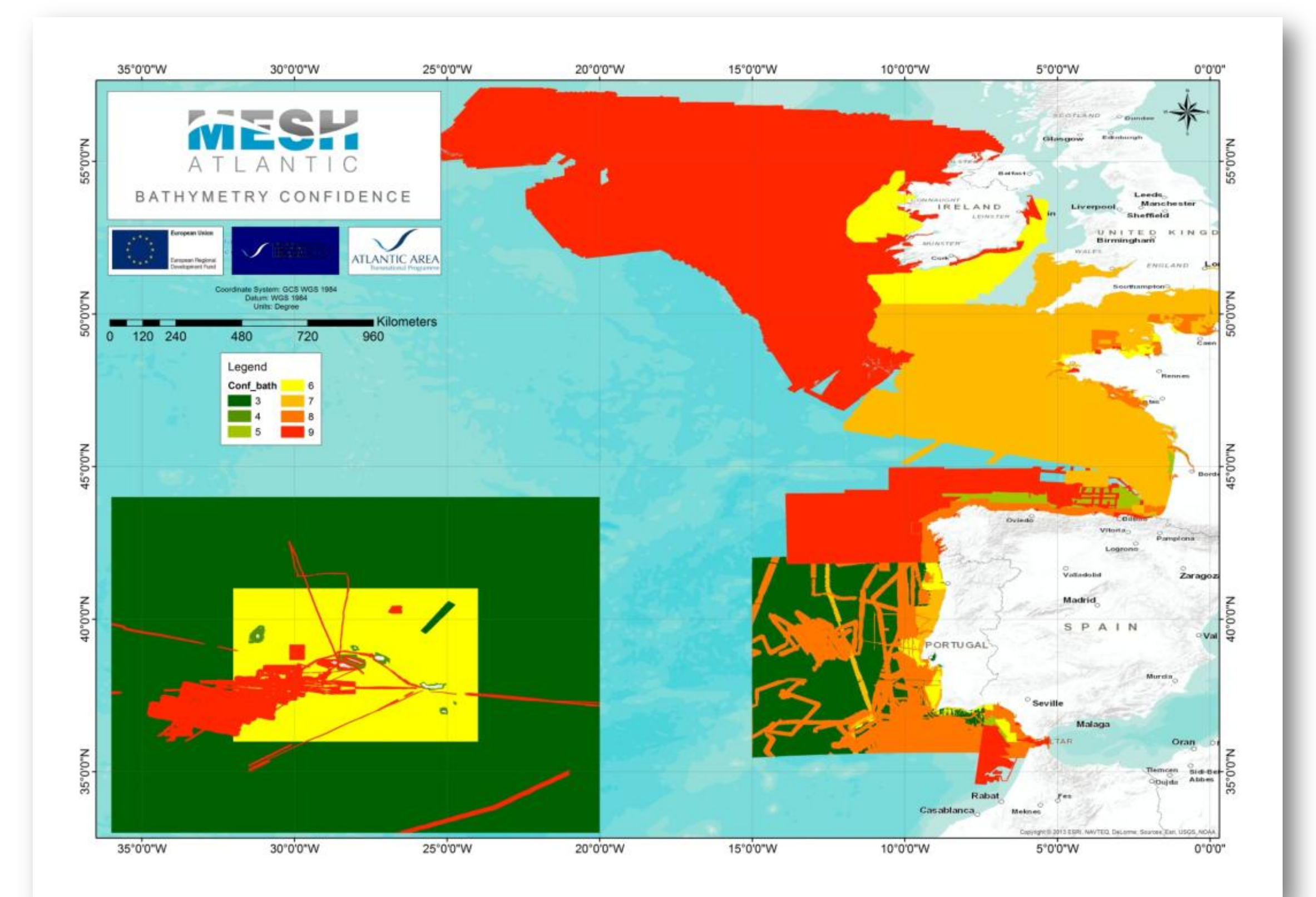
Figure 3. Bathymetric confidence Areas collected by MeshAtlantic Project

RESULTS

The compilation and harmonization of the MeshAtlantic substrate and bathymetry data (Figure 4) wants to promote harmonised production and use of marine habitat maps covering homogeneously the Atlantic Area across countries. To fill the gaps with missing information was used the GEBCO_08 Grid, thereby allowing harmonization bathymetry requirements.
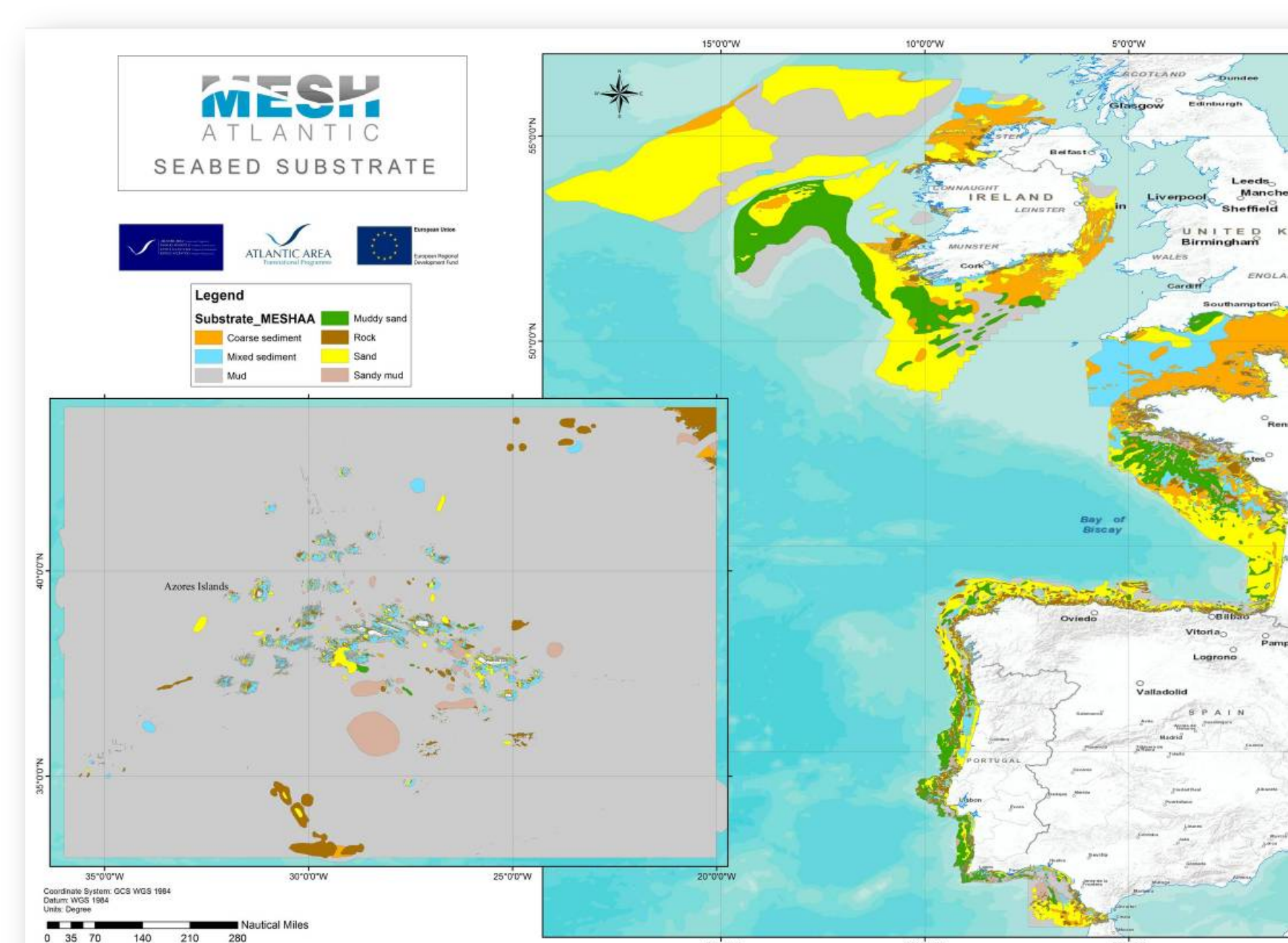

Figure 4. Bathymetric and substrate Areas collected by MeshAtlantic Project

SUBSTRATE CLASSIFICATION

The classification adopted on the basis of modified Folk triangle presents six substrate classes (mud, sandy mud, muddy sand, sand, coarse sediment, and mixed sediment) and takes into account one additional class: rock (Figure 5).
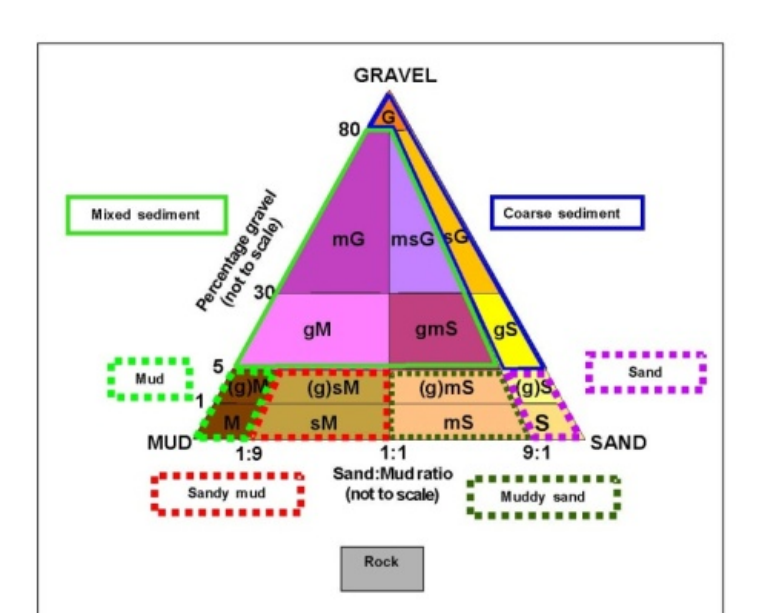

Figure 5. The modified Folk Classification system for substrate types of MESH Atlantic Project

REFERENCES

- www.meshatlantic.eu
- Mesh-Atlantic Interim report: WP2 Collation of historic maps
- The GEBCO_08 Grid is available for download from the British Oceanographic Data Centre.
- http://jncc.gov.uk/euseamap

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