

EUROGEO SURVEYS

MARINE ENVIRONMENT POLICY SECTOR

Most European nations border on seas. These seas provide an abundant supply of various resources, but also present Europe with a range of problems, many of which are easily exported from one country to the next. Sustainable development and minimisation of the problems can only be achieved through an EU-wide effort.

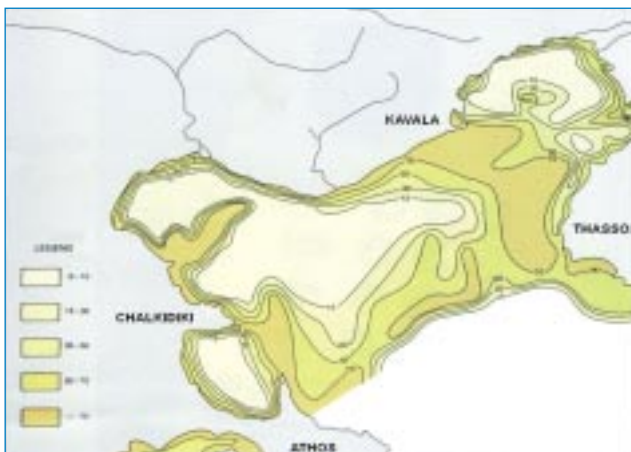
PRESERVING MARINE HABITATS

Marine habitats vary widely within and between European seas. Although they are located under water, and therefore not visible in everyday life, they have an immediate and lasting relevance to the population. As nursing and feeding grounds for fish, marine habitats are essential for maintaining a healthy fish stock. Large-scale mapping and monitoring of these habitats, a necessary tool in their preservation, has become possible by recent advances in systems imaging the seafloor. The combined use of multibeam and side-scan sonar, coring equipment and grab-sample devices allows rapid seafloor-sediment classification, identification of erosion and sedimentation patterns, recognition of relations between seafloor sediment, morphology and benthos, and the influence of seabed trawling.



MULTIBEAM RECORD IN A SANDWAVE AREA WITH TRAWLING SCARS, 6 METERS APART.

SAND AND GRAVEL RESOURCES



PERCENTAGE OF SAND (%) IN N. AEGEAN SEA

Increasing amounts of sand and gravel are abstracted from the seas. The construction industry needs raw materials to produce concrete and mortar for masonry, to raise low-lying surfaces and to build harbour extensions into the sea. Coastal-zone managers need sand to nourish eroding beaches. Identification of recent and fossil sand and gravel resources on the seafloor is increasingly important as nearby onshore sources are exhausted or deemed off-limits for environmental reasons. Therefore, outlining suitable reservoirs, becomes increasingly important.

MARINE AND COASTAL PROCESSES

Extraction of sand and gravel as well as offshore construction both result in disturbance of the seafloor. Pollutants and fine-grained sediment particles, including those from dredge spoils, may be introduced into the water column. Once released, dissolved matter and mud are easily transported across national boundaries. Geochemical and sedimentological studies are useful in limiting and monitoring the effects of such release.

Many European coasts are affected by erosion mainly due to wave and current action that can be increased in part by the anticipated sea-level rise. In the future, more coasts will be affected by large-scale extraction of offshore resources or by changing current patterns around man-made structures on the seafloor. In heavily developed areas, this erosion is undesirable. It exposes the vulnerable coastal zone and eroded sediments fill up down-drift harbour entrances, including those in other countries. Locally, long-term beach – and shoreface – nourishment programmes provide a solution. The success of these programmes depends on the proper analysis of available geoscience information. New seafloor-imaging systems enable coastal-zone managers to monitor the behaviour of nourishment units on the shoreface.

THE MARINE ENVIRONMENT POLICY SECTOR OF EUROGEOSURVEYS

The Marine Environment Policy Sector of EuroGeoSurveys aims to provide the baseline for decision-making by Member State government and industry action programmes in natural resources and the environment. Its scope is:

- to keep under review and to promote the development of networks for standardising the numerous sources of marine geoscience information in the European seas (including the enlargement countries) and integrating them into sustainable information banks;
- to improve public access to and interoperability of this information;
- to develop systems for strategic thematic mapping of the European seafloors and support for integrated coastal-zone management and EU policy formulation.

ACHIEVEMENTS AND FUTURE PLANS

During 1998 – 2000, a European Marine Sediment Information Network was established within the framework of the EUMARSIN project. Sixteen organisations co-operated to develop and operate a public-domain meta-database network, designed to give wide access to information needed for the integrated management of the European marine and coastal environment.

In a recent initiative another three year program called EUROSEISMICS (2002 – 2004) has started that aims at developing a similar network of metadatabase of seismic profiles imaging the European sea-bed and sub-seabed. Both EUMARSIN and EUROSEISMICS projects are funded by the European Commission.

FOR MORE INFORMATION

If you would like to know more about the activities of EuroGeoSurveys in this area, please contact the Marine Environment Policy Sector Head:

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