



Carbonate mound provinces and cold water corals along the NE Atlantic margin

H. de Haas, F. Mienis, T.C.E. van Weering, H.C. de Stigter and T.O. Richter

Royal Netherlands Institute for Sea Research (NIOZ), P.O. Box 59, 1790 AB Den Burg, The Netherlands (haas@nioz.nl/fax +31 222 319674)

Carbonate mounds characterised by the presence of cold water corals are present at various locations along the NE Atlantic margin. In the present study the mounds at several of these locations are described and compared. At the W Rockall Trough margin large mounds (up to 380 m high) are present, often occurring in elongated clusters which can be several kilometres in length. The summits of these mounds are marked by the presence of large quantities of living cold water corals and associated fauna (bivalves, echinoids, fish, crinoids, etc.). Mounds found at the E Rockall Trough margin are much smaller in size (several tens of metres high), usually occur as isolated structures and show a less abundant cold water coral and related fauna. At the SW margin of Rockall Bank isolated small (<20 m) mounds are found. Only dead cold water corals were observed here. Similar sized mounds are present at the Pen Duick Escarpment in the SE Gulf of Cadiz. At these mounds only limited amounts of living (gorgonian) corals are present.

While all mound sediments in the Rockall Trough area consist of silty sands with large amounts of biogenic carbonate debris (corals and other compounds), the mounds in the Gulf of Cadiz consist of silty clays with fluctuating coral contents.

All areas were studied using seismic equipment, box and piston cores, seabed photographic and video imagery, benthic landers and CTD profiling in order to explain the formation of these mounds, the relation with cold water corals and the differences between the mounds in the various mound provinces.