



The sediment cover between Nazaré Submarine Canyon and Ericeira, Portugal

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The main objective of the present work is to provide detailed analysis of the unconsolidated sediment cover of the Portuguese continental shelf and upper slope, between Nazaré Submarine Canyon and Ericeira, and relate it to their geological history.

The sediment cover of the studied area is predominantly sandy. A muddy deposit was detected near Ericeira, covering an area of dozens of square miles, at depths above 100 m. Textural and compositional characteristics of sediments allow the recognition and characterization of different sedimentary deposits. Several sandy, muddy, silt-sandy, gravel-sandy deposits were detected in the study area, some of which are apparently connected with the rocky outcrops of the shelf or with fluvial drainage. Distribution maps show a strong contrast between northern and southern outer shelf.

The following aspects are subsequently discussed on sand fraction: textural (grain-size) and compositional characteristics of sediments; the general characteristics of different sediment deposits (compared using statistical non-parametrical methods); different kinds of sedimentary particles (modern and relic); and the analysis of present supply and distribute particles processes which allow the deduction of modern/relic characteristics of the sediments.