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Multidisciplinary study of sediments deposited in the Ross Sea (Antarctica) during the last 50 ka: information on changes of ice extent during the glacial-interglacial transition

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In the Ross Sea (Antarctica), sedimentation is controlled by the dynamics of the ice shelves, fluctuations of the ice sheets extensions (Eastern and Western) and volcanic activity from several volcanic complex of the Victoria Land. Marine sediments consisting of alternated glacigenic, biogenic and volcanic deposits can be interpreted in terms of changes in paleoclimate and paleoenvironment conditions.
In this project we present a multidisciplinary study (comprising tephrostratigraphy, petrology, paleomagnetism, rock magnetism, TIC/TOC geochemistry, Ar/Ar dating, palinology and integrated biostratigraphy of forams and calcareous nannoplankton) of the sediments recovered in selected cores from Ross Sea during 1999 and 2000 cruises and stored in the Italian archive at Museo Nazionale dell'Antartide (Trieste). Results provide new data on local and/or global changes of paleoclimate and paleoenvironmental conditions over the past 50 Ka. Furthermore, the study of the recovered volcanic deposits adds new information about the poorly known, recent volcanic activity in the Victoria Land area.