



Detrital and diagenetic features in Late Pleistocene and Holocene sediments from the Galician Bank slope inferred from enviromagnetic and geochemical records.

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The special morphodynamical setting of the Galicia Bank Margin, some 200 nm off the NW Iberian coast, constitutes a singular sedimentary context in which climatically forced detrital signatures and early diagenetic processes can be studied without the interference of direct detrital continental shelf inputs. This has provided a novel insight into the interweaving and time sequencing of across- and along-slope sedimentation processes between Late Pleistocene to Holocene times in the area.

U-channel-based studies of geochemical and magnetic proxies carried out on six sediment cores recovered from the Galicia Bank slope and scarp demonstrates the applicability of magnetochemical proxies as recent climatic events tracers. The records showed climatically forced detrital signatures of regional importance. These are mostly associated with continental slope sedimentary processes (i.e. hemipelagic, contouritic, turbiditic) and Heinrich events. The magnetochemical data supported by radiocarbon dating and SEM analysis, have provided an insight into some of the original environmental conditions of the sediments which are relevant for inter-core correlation and age model inference, and subsequently for the geological evolution of the area.

The importance of these enviromagnetic records is that they show climatically forced flow-sorting processes in hemipelagic facies and the occurrence of distal ice-rafted debris interbedded in a mostly turbidite sequence that were undetected by other tech-

niques. The reliability of the detrital signals inferred by the enviromagnetic techniques were assessed using magnetochemical proxies of diagenesis.

The cores were recovered as part of the geological risk assessment of Prestige's wreckage area special program of the Spanish Government. U-Channels were measured at The University of Bremen in 2004 as part of Paleostudies program of the EU