Palaeoclimatology and palaeohydrography of the glacial stages on Celtic and Armorican margins over the last 360 000 yrs

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Résumé en anglais	Core MD03-2692 was retrieved in a water-depth of 4064 m on the Celtic margin (Bay of Biscay) during the SEDICAR cruise onboard the RV Marion Dufresne II. It covers the last 360 ka in a total length of 39 m. Multidisciplinary analyses have been applied to this sequence with the aim of studying the palaeoclimatic and palaeoenvironmental signals of the last few climatic cycles. The analyses undertaken include: (1) non-destructive logging with: physical properties (magnetic susceptibility, sediment colour), X-ray radiography and measurement of the major elements by X-ray-fluorescence, (2) analyses of planktonic and benthic foraminifera, lithic grains and stable isotopic measurements (oxygen and carbon). We have focused on the long-term evolution of glacial stages (with special attention to terminations and Heinrich events). The results obtained confirm the close correlation between deep-sea sedimentation recorded on the Celtic margin and changes in the terrestrial environment of the adjacent continent. Heinrich layers have been identified in MIS 2, 3, 6 and 8. We note the occurrence of laminated facies within deglacial sequences deposited during Termination I and MIS 6. These facies are closely linked to disintegration phases of the British–Irish Ice Sheet (BIS). The laminations contain lower ice-rafted detritus (IRD) concentrations than the equivalent Heinrich layers and are linked to abrupt changes in sea-surface palaeotemperatures. We suggest that the laminations are formed by an annual cycle of meltwater and iceberg release from the disintegrating BIS generating cascading plumes of dense turbid meltwater coeval with IRD release.

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