



Changes in northeast Atlantic hydrology during Termination 1: Insights from Celtic margin's benthic foraminifera

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Résumé en anglais	<p>Using benthic foraminiferal-based proxies in sediments from the Celtic margin, we provide a well-dated record across the last deglaciation of the Channel River dynamics and its potential impact on the hydrology of intermediate water masses along the European margin. Our results describe three main periods: 1) During the Last Glacial Maximum, and before ~21 ka BP, the predominance of meso-oligotrophic species suggests well oxygenated water masses. After ~21 ka BP, increasing proportions of eutrophic species related to enhanced riverine supply occurs concomitantly with early warming in Greenland air-temperatures; 2) A thick laminated deposit, occurring during a 1500-years long period of seasonal melting of the European Ice Sheet (EIS), is associated with early Heinrich Stadial 1 period (~18.2–16.7 ka BP). The benthic proxies describe low salinity episodes, cold temperatures, severe dysoxia and eutrophic conditions on the sea floor, perhaps evidence for cascading of turbid meltwaters; 3) During late HS1 (~16.7–14.7 ka BP), conditions on the Celtic margin's seafloor changed drastically and faunas indicate oligotrophic conditions as a result of the ceasing of EIS meltwater discharges. While surface waters were cold due to Laurentide Ice Sheet (LIS) icebergs releases, increasing benthic Mg/Ca ratios reveal a progressive warming of intermediate water masses whereas oxygen proxies indicate overall well oxygenated conditions. In addition to the well known effect of EIS meltwaters on surface waters in the Celtic margin, our benthic record documents a pronounced impact on intermediate water depths during HS1, which coincided with major AMOC disruptions.</p>
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