



Sea surface temperatures did not control the first occurrence of Hudson Strait Heinrich Events during MIS 16

B.D.A. Naafs (1,2), J Hefter (1), P Ferretti (3), R Stein (1), G.H. Haug (2,4)

(1) Alfred Wegener Institute for Polar and Marine Research, Department of Marine Geology and Paleontology, Bremerhaven, Germany, (2) Leibniz Center for Earth Surface and Climate Studies, Institute for Geosciences, Potsdam University, Potsdam, Germany, (3) CNR-IDPA Institute for the Dynamics of Environmental Processes and Department of Environmental Sciences, Informatics and Statistics, University Ca' Foscari of Venice, Venice, Italy, (4) Geological Institute, ETH Zürich, Zurich, Switzerland

Hudson Strait (HS) Heinrich events, massive ice-rafting events in the North Atlantic originating from the Laurentide ice sheet (LIS), are among the most dramatic examples of millennial-scale climate variability [Hemming, 2004]. However, it is debated as to whether the occurrence of HS Heinrich events in the (eastern) North Atlantic depends on greater ice discharge, or simply from the longer survival of icebergs in cold waters [Hemming, 2004; Hodell et al., 2008]. Using sediments from North Atlantic IODP Site U1313 spanning the period between 960 and 320 ka, here we show that sea surface temperatures (SSTs) did not control the first occurrence of HS Heinrich(-like) events. Similar to results from IODP Site U1308 [Hodell et al., 2008], we detect the first HS Heinrich(-like) event in our record around 643 ka (Marine Isotope Stage (MIS) 16), but this first HS Heinrich(-like) event did not coincide with low SSTs. Thus, the HS Heinrich events do indeed indicate enhanced ice discharge from the LIS at this time, not simply the survivability of icebergs due to cold conditions in the North Atlantic.

References:

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