

Contextualizing North Atlantic Sediment within Heinrich Events

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Events of iceberg discharge during the last glacial maximum, called Heinrich Events, left trails of ice rafted lithic grains along the floor of the North Atlantic. These events were caused by abrupt changes to the climate. Grousset, et al. (1993) noted that in sediment cores, Heinrich Events are distinguishable by dramatic increase of lithic grains, decrease of foraminifera, and resulting peaks in magnetic susceptibility. Six Heinrich Events are identified in the last 60000 years. Of these six, events 3 and 6 have comparatively weak signatures, consistent throughout the sediment record. Bond, et al. (1992) measured magnetic susceptibility at multiple North Atlantic sites. In that study, site VM29-181 displayed six peaks of magnetic susceptibility, five of which were relatively strong, making it difficult to associate these peaks with known Heinrich events. We studied site VM29-181 through radiocarbon dating and counts of ice rafted debris, planktic foraminifera, and the cold-water dwelling *N. pachyderma*. These methods aided in contextualizing the data from site VM29-181 into the larger picture of Heinrich Events in the last glacial maximum. Through radiocarbon dating, we were able to directly associate Heinrich Events 2 and 4 with magnetic susceptibility peaks in VM29-181. As a result of these direct associations, we were then able to identify events 1, 5, and 6 through elimination and ice rafted debris data. Of the six peaks in magnetic susceptibility in this core, we were able to identify five known Heinrich Events (1, 2, 4, and 5). We offer an opportunity for further investigation as to the signature of the final peak, which we find is anomalously high and possibly too old to represent Heinrich Event 3.