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Dusty Heinrich-like events at low latitudes.

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It is well known that tropical zones played an important role in the climate variability that characterized the North Atlantic during the last glacial period (Broecker and Hemming, 2001). Tropical zones are the source area for heat and salinity that are eventually redistributed towards high latitudes. Modellers who tried to understand the origin of the Heinrich events, hypothesized that major, precursor events occurring at low latitudes, could have been the trigger for the typical "icy" Heinrich events observed in the northern North Atlantic?

In order to document that question, we studied IMAGES core MD03-2705 (18˚N; 21˚W), a core recovered on a seamount, located on the tropical northeastern Atlantic margin (Senegal latitudes). On such a seamount, the sedimentation is only due to settling from the surface: i. biogenic particles and ii. dust derived from the nearby African continent. In this core, during the last glacial period, we observe five dusty events which can be considered as Heinrich-like (H-L) events and which display climatic changes that occurred both in the ocean and on the continent. Our age-model confirms that they are synchronous with the northern "icy events" and with cold, dusty events observed in Greenland ice-cores (Mayewski et al., 1994).

During these H-Ls, terrigenous proxies reflect an increased aridity over North Africa (e.g. higher % dust, more lacustrine-derived clay minerals), along with intensified winds (higher Ti/Al ratios). The isotopic composition of dust ($^{87}Sr/^{86}Sr$ and $\varepsilon Nd(0)$) is used to determine possible changes in source location. In the ocean, foraminifer assemblages and SST derived from them exhibit decreases by about 1-2˚C in temperature, which is confirmed by SST derived from alkenones Uk'37 measured in a

neighbour core (Zhao et al, 1995). This cooling could have been be generated by the influx of fresh-water stemmed from the Heinrich event icebergs in the northern latitudes, and/or by an increase of the upwelling activity. These hypotheses will be discussed. We will discuss too why we think that low latitude, Heinrich-like events are more likely an atmospheric response to the high latitude, typical Heinrich events.