

## **Determining the effect of sorting on the radiogenic isotope record of terrigenous (aeolian) detritus off NW Africa over the last deglaciation**

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**Introduction:** Dust has an important influence on Earth's climate. The presence of dust in the atmosphere can scatter and absorb radiation, affect cloud formation, and change the atmospheric chemical composition. Dust production is related to the moisture balance in dust source areas, which may be influenced by changes in water bodies and vegetation cover. Fluctuations in wind patterns, wind speed, and precipitation alter the dust loading. Dust deposition on land has implications for land-use (agriculture) and deposition in oceans can be an important source of limiting nutrients for biological productivity. Studies have shown high frequency and large scale shifts in dust flux associated with glacial to interglacial transitions.

The Saharan region is one of the world's greatest producers of dust. Changes in Saharan dust supply can be related to changes in precipitation, especially droughts, which allow for increased wind deflation of soils, ephemeral streams, and lake deposits. Researchers have linked variations in the terrigenous component of marine cores off the African continent to climatic shifts. (e.g., Francois and Bacon, 1991; Tiedemann et al., 1994; Matthewson et al., 1995).

This project seeks to study the causes of compositional variations in terrigenous input to the eastern equatorial Atlantic Ocean over the past 25,000 years by examining the detrital record from ODP Hole 658C (20°N, 18°W, 2263m) off Cap Blanc, Mauritania. Large and abrupt changes over the deglacial transition are apparent in many paleoclimate proxies and records, and one of the most notable changes is in dust production and deposition (deMenocal et al., 2000a, 2000b).