



Hydrographic oscillations in the northeastern Arabian Sea during the past 80 ka

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Paleoclimatic studies have shown that abrupt changes in monsoon intensity in the Arabian Sea are correlated to the Dansgaard/Oeschger (DO) and Heinrich events known from Greenland ice cores and marine sediment cores. However, the extent, timing and modes of interaction with high-latitude climate are still under debate. To explore this issue, we present a high-resolution paleoceanographic reconstruction for the past 80,000 years from sediment core SO130-289KL (23°07.34'N, 66°29.84'E), which was retrieved off the Pakistan coast. Interstadials (DO events and the Holocene section) are characterized by laminated sediments enriched in organic carbon (up to 4 % TOC) whereas bioturbated sediments with low TOC contents (< 1 % TOC) appear during stadials. The stable oxygen isotopes of the surface-dwelling planktonic foraminifer *G. ruber* (white s.s.) and the thermocline dweller *P. obliquiloculata* show a strong correspondence to Greenland ice core temperature records. The deepwater stable oxygen isotope signal of benthic foraminifera (*U. peregrina* and *G. affinis*) primarily reflects patterns recorded in temperature reconstructions in ice cores from Antarctica. Vertical $\delta^{18}\text{O}$ gradients are more pronounced during DO events, suggesting stronger water-column stratification. Alkenone-derived sea-surface temperatures varying between 25 and 28°C follow the benthic oxygen isotope record suggesting a strong seasonal component of the Uk₃₇ signal. The detailed paleoceanographic reconstruction of hydrographic conditions in the northeastern Arabian Sea implies a close atmospheric teleconnection to high northern latitudes as well as a water mass conversion originating in the southern hemisphere.