



Monsoon reconstruction in the western Arabian Sea in Terminations I and II

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High-resolution stable oxygen isotope records were obtained from piston core TY93-929P2 (NW Arabian Sea), to assess the history of the W-Asian monsoon during Termination I and II. The location of core TY93-929P2 to date is affected by the seasonal change between the SW-monsoon (upwelling) and the NE-monsoon (non-upwelling) season. This change in seasonality is reflected in the oxygen isotope records of the planktic foraminifera species *G. bulloides* and *G. ruber*. The almost exclusively summer-dwelling species *G. bulloides* solely records the summer situation, whereas the year-round abundant *G. ruber* reflects mean annual seawater properties. Accordingly, the difference in their oxygen isotope values can be used as a proxy for seasonal difference in SST. A strongly negative value is indicative for strong summer upwelling and warm winters. The oxygen isotope time series of *G. bulloides* and *G. ruber* were measured in the time intervals 150-90 ka BP (sample spacing ~180a) and 22-1 ka BP (sample spacing ~50a). These records show that, in Termination II, the seasonal contrast changes from colder winters to colder summers at the onset of the deglaciation. This situation persists for 30 ka. The succession of events related to Termination I differs considerably. Colder winters prevail well into the deglaciation. The first change in seasonality occurs at the end of the Younger Dryas, followed by a sharp change toward colder summer SST's at 8 ka BP, generally establishing modern day conditions. The latter findings suggest a different Glacial-to-Holocene history of the W-Asian monsoon, then previously deduced from other proxy records. Potential implications will be assessed and discussed in view of temperature records for both terminations.