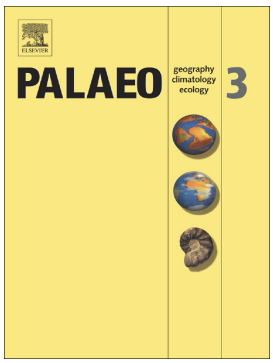

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Variation in monsoonal rainfall sources (Arabian Sea and Bay of Bengal) during the late Quaternary: Implications for regional vegetation and fluvial systems

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ABSTRACT

Indian summer monsoon (ISM) rainfall is contributed by two moisture sources; Arabian Sea (AS) and Bay of Bengal (BoB). While monsoonal rainfall in eastern and central India is dominantly contributed by the vapor derived from BoB, the source of rainfall in western India is mostly from AS vapor. Meteorological conditions in these regions also differ. In contrast to the BoB component of monsoon in central India, temporal variations in the AS sourced rainfall from western India are poorly constrained due to lack of paleohydrological records. Towards this, pedogenic carbonates were collected from two chronologically constrained cliff sections in the Gujarat alluvial plain, western India. Oxygen isotopic ratio of carbonate ($\delta^{18}O_{carbonate}$) was used to reconstruct variation in AS derived rainfall and its influence on vegetation and fluvial systems in western India for the last 75 ka. A negative