

**Estimates of High Resolution Ventilation Age from  
the Equatorial Indian Ocean during last 40 ka:  
Implications to Paleo Deep Water Circulation.**

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AMS (Accelerator Mass Spectrometry) radiocarbon dating of planktic and mixed epifaunal benthic foraminifera along with its carbon and oxygen stable isotope concentration in monospecific benthic foraminifera was carried out to backtrack paleo deep water circulation in the Indian Ocean using two cores; one from Central Equatorial Indian Ocean (CEIO) and another from East Equatorial Indian ocean (EEIO). The present study, which attempts to estimate paleo ventilation ages of deep waters from the Indian Ocean for the first time, suggests that changes in ventilation age as estimated for CEIO and EEIO are synchronized with earlier estimates in the Atlantic and Pacific Ocean, peaking at same time i.e. during Heinrich stadial-1 (15.6 ka BP), in both regions of the Indian Ocean. Depleted  $\delta^{13}\text{C}$  of benthic foraminifera in CEIO during deglaciation period post-LGM suggests poorly ventilated deep water, while, enriched  $\delta^{18}\text{O}$  during the same interval suggests the increased contribution of Southern Ocean sourced cold bottom water. The extent of the slowdown of NADW during HS1 in the Equatorial Indian Ocean is higher compared to the earlier reported slowdown of deep water in the Pacific and the Atlantic Ocean.