



## Benthic Foraminifera as indicative of Austral Summer monsoon precipitation and winter monsoon wind-driven upwelling

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During IODP Expedition 363, a hemipelagic sediment succession was retrieved for the first time off NW Australia (Site U1483: 13°5.24'S, 121°48.25'E, water depth: 1733 m, sedimentation rate: ~10 cm/kyr). This carbonate- and clay-rich sequence provides an ideal archive to monitor intensity and variability of the Australian Monsoon (AM) and to better constrain monsoon sensitivity to changes in radiative forcing. Due to the location at the southern edge of the largest amplitude seasonal swing of the Intertropical Convergence Zone (ITCZ) within the large-scale Asian-Australian monsoon system, the AM subsystem is sensitive to tropical hydroclimate variability. However, this sensitivity to changing climate boundary conditions such as ice volume and greenhouse gas concentrations remain poorly understood across the Calabrian, in the Pleistocene Epoch (add ages?). Here we report on benthic foraminiferal assemblages as a tracer for terrigenous runoff (Austral Summer monsoon precipitation). We find shallow, fresh water-tolerant to transitional environments species *Bolivina striatula*, *Buliminella elegantissima*, *Dentalina* spp., *Oolina* sp., and paleo productivity indicator *Melonis* spp (winter monsoon wind-driven upwelling) from 1.34 Ma. through 1.61Ma. Principl component analysis (PCA) indicates that *Melonis* is present in 4 out of 5 PCA axes. It prefers organic matter in a more altered form, and migrates in the sediment depending on the quality of the organic matter supply and remineralization, which indicates surface upwelling during this time. The genera *Stilostomella* spp. is present in 3 out of 5 axes, and it is indicative of intermediate water temperature. These records will be compared to C org wt (%), TN wt (%) and a benthic foraminiferal stable isotope record to related faunal patterns to carbon cycling and global climate.

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