

JOI/USSAC
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**EVOLUTION OF THE INDIAN OCEAN MONSOON: RESULTS FROM
ODP DRILLING AND CLIMATE MODELING**

Dr. Warren Prell, Brown University

Dr. Prell has participated in both DSDP and ODP cruises. He was a Co-Chief Scientist for DSDP Leg 68 (Columbia Basin) and for ODP Leg 117 (Arabian Sea). Leg 117 was specifically designed to test hypotheses about the origin and evolution of the Indian Ocean summer monsoon and its effects on global climate change. Using examples from this leg, Dr. Prell will focus on the sensitivity of Indian monsoon circulation and upwelling to changes in orbital, glacial, and tectonic boundary conditions. He will compare climate model experiments with the ODP sediment record of monsoonal indicators from the Arabian Sea in order to provide insights into the coevolution of the Tibet-Himalaya complex and the Indian monsoon. This comparison indicates that monsoon strength is equally sensitive to changes in solar radiation (on orbital time scales) and tectonic changes (on longer time scales). It also indicates that global cooling cannot intensify the monsoon, so that the onset of the monsoon is most likely related to increased mountain elevation.