



Climate and ocean variability during the past 1000 years in Pescadero basin, southern Gulf of California, Mexico.

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We analyzed a laminated sedimentary sequence, box core C-2 (30.5 cm length); it was recovered in the eastern part of Pescadero Basin at 670 m depth collected aboard of the R/V "El Puma". Pescadero Basin is one of a series of deep tectonically active basins developed in the Gulf of California from south to north, which are characterized by their distinct climatic, oceanographic and geologic conditions.

The purpose for this study is to contribute to the understanding of the paleoceanographic variability during 1000 years in the southern Gulf of California, using geochemical data, X-ray fluorescence and Corg analyses. The Core C-2 is characterized by silty clay sediments with visible laminated structure throughout the core. The preliminary chronology for core C-2 was obtained with the isotopic ^{210}Pb dating method, based on this we estimated a sedimentation rate of 27 mm/yr for the first 5 cm. The data were extrapolated to the base of the core (30.5 cm); according to this the C-2 core covers the period from 900 to 2003 years EC. The geochemical proxies suggest three main changes in sedimentary sequence, considering Al, K, Fe, Si as terrigenous proxies, Ti as precipitation proxy, Zr/Al ratio as aeolian supply proxy and Corg as productivity proxy. At the bottom of the core, low values of Al, K, Si and Fe suggest a decrease in terrigenous input, low values of Ti concentration are associated with reduction in precipitation and high values of the Zr/Al ratio are shown increase aeolian supply. In this context, the proportion of aeolian sediments in the terrigenous record indicates dry conditions. In the middle of the core, high values Al, K, Si and Fe are interpreted to reflect increased terrigenous input, Ti high values suggest an increase in precipitation, low values of Corg reflect diminish in productivity. Also, within the period it is possible to recognize an episode with an abrupt decrease of terrigenous input, but aeolian supply is greater, it suggested a multi-centennial drought interval. On the top of the core, high values of Al, K, Si, Fe and Ti suggest an increase in terrigenous input via fluvial. Variations in multi-elements and Corg recorded along the sequence indicate that Pescadero basin is sensitive to the paleoceanographic changes in the region, associated with changes in atmospheric dynamics.