

Local environmental responses to regional climatic changes during the Holocene: a case study from Palmetto State Park, Texas

Thursday, October 23, 2025 10:40 AM (20 minutes)

Reconstructing paleoenvironmental history is important not only for understanding how local environments responded to climate changes in the past, but it also offers insight into how these places might be affected by future climate trends. Proxy records embedded in the banks of the San Marcos River are effective for analyzing changes that occurred throughout the Holocene. This study focuses on XRF weathering indices, XRD mineralogy, magnetic susceptibility, and particle size analysis to reconstruct the paleoenvironmental history of Central Texas recorded in the river's floodplains. According to radiocarbon dating, the oldest sediments collected in this study dated back to ~1290 BP. Proxy records indicate that prior to that date, the floodplain developed during a period of stability, increased precipitation, and few flood events. After 1290 BP, the floodplains reveal a period of instability marked by low overall precipitation and increased flashy floods. These findings support earlier research discoveries and fill gaps in our understanding of Central Texas paleoenvironmental history.

Is there a SINGLE day you are unavailable to present?

October 22, 2025

Is there a time of day you are unavailable to present?

Organized Session Details

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