

# Late Quaternary vegetation and climate history of a perennial river canyon in the Río Salado basin (22°S) of Northern Chile

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Plant macrofossils from 33 rodent middens sampled at three sites between 2910 and 3150 m elevation in the main canyon of the Río Salado, northern Chile, yield a unique record of vegetation and climate over the past 22,000 cal yr BP. Presence of low-elevation *Prepuna* taxa throughout the record suggests that mean annual temperature never cooled by more than 5°C and may have been near-modern at 16,270 cal yr BP. Displacements in the lower limits of Andean steppe and Puna taxa indicate that mean annual rainfall was twice modern at 17,520-16,270 cal yr BP. This pluvial event coincides with infilling of paleolake Tauca on the Bolivian Altiplano, increased ENSO activity inferred from a marine core near Lima, abrupt deglaciation in southern Chile, and Heinrich Event 1. Moderate to large increases in precipitation also occurred at 11,770-9550 (Central Atacama Pluvial Event), 7330-6720, 3490-2320 and at 800 cal yr BP. Desiccation occurred at 14,180, 8910-8640, and 4865 cal yr BP. Compared to oth