Pollen analyses from a 50 000-yr rodent midden series in the southern Atacama Desert (25° 30? S)

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Precipitation in northern Chile is controlled by two great wind belts - the southern westerlies over the southern Atacama and points south (> 24° S) and the tropical easterlies over the northern and central Atacama Desert (16-24° S). At the intersection of these summer and winter rainfall regimes, respectively, is a Mars-like landscape consisting of expansive surfaces devoid of vegetation (i.e. absolute desert) except in canyons that originate high enough to experience runoff once every few years. Pollen assemblages from 39 fossil rodent middens in one of these canyons, Quebrada del Chaco (25° 30? S), were used to infer the history of vegetation and precipitation at three elevations (2670-2800 m; 3100-3200 m; 3450-3500 m) over the past 50 000 years. When compared to modern conditions and fossil records to the north and south, the pollen evidence indicates more winter precipitation at >52, 40-33, 24-17 k cal. yr BP, more precipitation in both seasons at 17-14 k cal. yr BP, and more summ