# Paleoenvironmental changes in the semiarid coast of Chile (?32°S) during the last 6200 cal years inferred from a swamp-forest pollen record

Maldonado, Antonio

Villagrán, Carolina

Pollen analysis of two sediment records from a coastal swamp forest site in the Chilean semiarid region (31°50?S; 71°28?W) shows an alternation of dry and wet phases during the past ?6100 cal yr B.P. The most prominent vegetation changes occur at ?4200 cal yr B.P., with the expansion of the swamp forest taxa Luma chequen and Escallonia sp., followed by a regression of the forest beginning at ?3200 cal yr B.P. and ending with its replacement by a xerophytic scrub, between ?1800 and 1300 cal yr B.P. The swamp forest reexpanded after ?1300 cal yr B.P. and persisted, with minor variation, until the present. We interpret the establishment of the swamp forest at the study site to be the result of a rising watertable in response to increased rainfalls from ?4200 cal yr B.P. onward. Our results indicate that in north-central Chile the second half of the Holocene was climatically more variable than previously thought, suggesting significant changes in the position and/or intensity of the wester