

# Marine radiocarbon reservoir effect along the northern Chile-southern Peru coast (14-24°S) throughout the Holocene

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Through an extensive sampling and dating of pairs of associated shells and charcoal fragments combined with reanalysis of all the available previous data, we reconstruct the evolution throughout the Holocene of the regional marine radiocarbon reservoir effect ( $\Delta R$ ) values along the northern Chile-southern Peru area (14°-24°S). After elimination of the cases in which the terrestrial component yielded older ages than the marine shells to which they were associated, the study is based upon data from 47 pairs of associated marine and terrestrial material. Our results suggest major changes in both the magnitude and variability range of  $\Delta R$  during the whole Holocene Period: (1) between 10,400 and 6840 cal yr BP, high values ( $511 \pm 278$  yr) probably result from a strengthened SE Pacific subtropical anticyclone and shoaling of equatorial subsurface waters during intensified upwelling events; (2) between 5180 and 1160 cal yr BP, lower values ( $226 \pm 98$  yr) may reflect a major influence of subtropical water