O-3175

Late Holocene Demographic Trajectories and Human Subsistence Change: Exploring Patterns in the Subtropical Andes

Adolfo Gil[1,2], Gustavo Neme[3], Jacob Freeman[4], Erick Robinson[5], Eva Peralta[3], José Manuel Lópéz[6], Gisela Quiroga[7]
[1]CONICET/UTN (Instituto de Evolución, Ecología Histórica y Ambiente), San Rafael, Argentina. [2]UNCuyo, Mendoza, Argentina. [3]CONICET (Instituto de Evolución, Ecología Histórica y Ambiente), San Rafael, Argentina. [4]Anthropology Program and Ecology Center, Utah State University., Logan, USA. [5]Department of Anthropology, University of Wyoming,, Laramie, USA. [6]CONICET (IADIZA), Mendoza, Argentina. [7]Laboratorio de Isótopos Esatbles en Ciencias Ambientales (CONICET), San Rafael, Argentina

Abstract

Historical records from the Subtropical Andes reveal a surprising mosaic of human subsistence strategies, ranging from intensive reliance on domestic plants to a sole reliance on wild resources. This presentation focuses on this diversity in Central West Argentina by developing summed probability distributions of radiocarbon data and stable isotope on human bone collagen for different regions in order to reconstruct and compare Late Holocene demographic and dietary trajectories. We compare the northern area, where historic farmers lived, with the southern area, where historic hunter-gatherers lived. We find just one significant difference between both areas throughout the entire Late Holocene, which occurred between 800-1100 AD. During this period, a significant positive change in demographic growth in the north was associated with an increase and abrupt drop in maize consumption. At the same time, the southern area shows a drop in demography. Stable isotopes on human bone collagen (13C and 15N) show a similar pattern between both areas, with values being more enriched in the north than in the south. In both areas, the inter-individual variation was high. This variation spikes when individual bone collagen δ13C values cross -14‰ in both areas. Higher standard deviations suggest that individuals have more diverse subsistence adaptations when 13C bone collagen (maize) reached the highest values. This strategy could reflect the adaptability and flexibility of subsistence systems under highly variable environment conditions. Maize diets were unstable as a consequence of high interannual variation of climatic conditions. Subsistence that focused predominantly on maize was not viable over the long-term, and prevented high-energy extraction necessary for driving sustainable population increases.