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**IMPACT OF PREHISTORIC PASTORALISM ON ALPINE ECOSYSTEMS AT DIFFERENT SPATIAL AND TEMPORAL SCALES: A CASE-STUDY FROM VAL DI SOLE (ITALY)**

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Archaeological and palaeoecological research in mountain environments has long shown that the impact of pastoralism on alpine and subalpine ecosystems dates back to prehistoric times. Forest clearances have permanently changed the vegetational composition of the montane uplands. Thousands of years of intense animal grazing has changed the local soilscape and contributed to soil erosion. Different proxies enable these dynamics to be investigated at different spatial and temporal scales. Pollen data and the analysis of soil profiles reveal the slow transformation of vegetation and soil, associated to the growing human pressure on local environments. On the other hand, archaeological contexts at high altitude provide unique 'snapshots' of the impact of pastoral activities at local scale and within the lifetime of the investigated site. The analysis of archaeological contexts has the potential to unravel how and why pastoral strategies contributed to the long-term landscape transformations disclosed by palaeoecology and soil science.

In this paper we discuss the case of MZ051S, a Bronze Age (ca. 1900-1400 BC cal) pastoral site at 2250 m asl in Val di Sole (Italian Alps). Evidence of the activation of slope processes in the site following its first occupation might indicate an early human impact on alpine ecosystem in the area. In order to validate this hypothesis, the analysis of the archaeological context have been compared/contrasted with palaeoecological and geoarchaeological data from the area (and surrounding areas). A computer modelling framework has been used to integrate and examine data with different spatial and temporal resolutions. Preliminary results highlight the benefits (and challenges) of using multi-proxy approaches and working across scales to assess human impact on mountain environments.

**Keywords**

pastoralism, Alps, high-altitude ecosystems, landcover change, soil erosion

**Note/comment**