Assessing hazards and risks associated with the shrinking of ice in mountain areas is facilitated by quantitative data on present and past rates of change and by a general understanding of landforms and landscape evolution. The present study focuses on the Río Chuchún and Auquischocha catchments above the city of Carhuaz (Fig. 1). The aim was to reconstruct earlier glacial phases in the SW slope of Nevado Hualcán, in order to compile quantitative information on surface areas and Equilibrium Line Altitudes (ELAs).

### ELA CALCULATIONS

The Equilibrium Line Altitude (ELA) is the theoretical contour line dividing the accumulation and the ablation zones, where net mass balance is zero. We used four methods to calculate the ELAs (Table 2): 1) the mid-range elevation, 2) the Accumulation Area Ratio (AAR), 3) the Area x Altitude Balance Ratio (AABR), and 4) the Area x Altitude Balance Ratio (AABR).

### CONCLUSIONS

The present study shows a strong glacier shrinkage in the SW slope of Nevado and 0.8°C since the maximum glacier extent of LIA. These values are close to the mean global temperature change during the corresponding intervals.

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### REFERENCES