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## Uplift history of the Western Ecuadorian Andes: new constraints from low-temperature thermochronology

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The Cenozoic growth of the Ecuadorian Andes has been strongly influenced by the compressional reactivation of inherited crustal anisotropies, strike-slip faulting and uplift, and the erosional effects of a wet tropical climate superposed on the deforming orogen. Some authors have linked uplift in the Western Cordillera to the interaction between the South American Plate and the subduction of the oceanic Carnegie Ridge. However, recent studies have alternatively suggested that the tectonic evolution of a northward-escaping crustal sliver in western Ecuador along the Pallatanga strike-slip zone may equally well explain mountain building and topographic growth in this region. While the importance of the Pallatanga Fault has been recognized in the context of seismic hazards, its long-term impact on the development of topography and relief has not been explored in detail. To evaluate the possible roles of oceanic ridge subduction and/or strike-slip motion in prompting the growth of the Western Cordillera, we present new thermochronological data to constrain the deformational history of the Western Cordillera at different latitudes. We focus on two sites in the vicinity of the Pallatanga strike-slip fault (3°S and 1°30'S) and a location farther to the north (0°30'N). Our apatite and zircon (U-Th-Sm)/He dates range from  $26.0 \pm 0.4$  Ma to  $3.9 \pm 0.1$  Ma and from  $23.7 \pm 0.3$  to  $5.9 \pm 0.1$  Ma, respectively. The three sampled sites record a clear age-elevation relationship. The inverse modeling of apatite and zircon (U-Th-Sm)/He dates and upcoming apatite fission-track data is expected to provide new constraints on the recent uplift and exhumation history of the Western Ecuadorian Andes and thus furnish information on the paleo-geographical evolution of the northern Andes.