

## Differences and similarities between mountain building in the Northern and Central Andes of South America based on a thermochronologic database

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Here we show a set of maps of the Andes based on a compilation of thermochronologic studies. In this study mainly apatite fission-track (AFT) data were compiled (references cited in [1]) all across the Northern and Central Andes, Amazonas Basin, Caribbean Mountains, Trinidad, Tobago and Dutch Antilles. The database consists of 905 AFT ages, with 592 ages from the Andes. Sample locations, AFT ages and a 250 m resolution Digital Elevation Model (DEM) (SRTM, NASA) were used in ArcGIS® to generate the compiled map. This map should be considered as a first-order approximation. We focused on areas with high sample densities in order to determine patterns of regional exhumation. From the age elevation profiles different exhumation and deformation events can be inferred in different areas of the Andes. Different plots do reinforce the idea of a ubiquitous more important Late Miocene-Pliocene deformation event with associated higher exhumation rates. The lesser representation of those Late Miocene higher exhumation rates in the Ecuadorian and Peruvian Andes appear to be biased by the presence of more samples to the west, where deformation in the Andes is expected to be older. Other thermochronometry data (K-Ar, zircon fission-track, apatite (U-Th)/He) show many periods of reactivation across the Andes. The mountain building of the Andes has implications for geological evolution and biodiversity in the major rivers of South America as the Amazon, the Orinoco, and broad regions such as Amazonia, Orinoquia, plains and other areas surrounding.

### References

[1] Hoorn, C., Wesselingh, F.P., ter Steege, H., Bermúdez, M.A., Mora, A., Sevink, J., Sanmartín, I., Sanchez-Meseguer, A., Anderson, C. L., Figueiredo, J. P., Jaramillo, C., Riff, D., Negri, F.R., Hooghiemstra, H., Lundberg, J., Stadler, T., Särkinen, T.,

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