



## **Denudation history of the Rwenzori Mountains, Albertine Rift, Uganda**

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In the East African Rift system (EARS), only a few studies quantify the uplift and denudation history of the rift flanks, with their focus predominantly concentrated on the eastern (e.g. Kenya and Pangani Rift) and southern (e.g. Malawi Rift) part of the EARS. Thermochronologic data discussing the thermal history of the northern part of the Western Rift (Albertine Rift), however, are scarce or even lacking.

The Rwenzori Mountains, which are situated SW of Lake Albert form an outstanding feature within the Albertine Rift. They follow along the border of the Democratic Republic of Congo and Uganda, and extend about 120 km NS and 50 km NW. Due to their significant heights of more than 5 km, and their extraordinary position within an extensional setting, the Rwenzori Mtns, an old metamorphic basement block, represent a key area to study processes related to rifting.

As part of the RiftLink-research project, which addresses to the impact of long-term changing topography on atmospheric circulation and subsequent climate changes in Equatorial Africa, the presented study seeks to constrain the uplift and denudation history of the Rwenzori Mtns. Therefore results from apatite fission-track and apatite (U-Th)/He thermochronology were combined to establish the thermal, uplift and denudation history of this region. First results from a sample-set, spanning an E-W transect across the Rwenzori Mtns, clearly show a differentiated cooling path, with differentiated denudation rates indicating an asymmetric uplift of the mountain range.

Further transects across the Rwenzori Mtns and their foothills are in progress, but already seem to confirm the first results.