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Constraining the thermal and erosional evolution of the Rwenzori Mtns, Albertine Rift, by detrital thermochronology

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In East Africa, the feedback between tectonic uplift, erosional denudation and associated possible climate changes is being studied by a multidisciplinary research group, 'RiftLink'. The group's focus is the Albertine Rift of the East African Rift System, and therein rising Rwenzori Mountains that stretch along the border of Uganda and Eastern D.R. Congo.
Data from low-temperature thermochronology analysis of hardrocks comprising apatite fission-track (AFT), zircon and apatite (U-Th-Sm)/He dating (ZHe, AHe) and thermal modelling point to a prolonged cooling history with differentiated exhumation in Neogene times. The final rock uplift in Plio- to Pleistocene times, thereby, was very fast that the erosion could not keep pace [1].
In order to narrow the final exhumation stage detrital thermochronology has proven to be very useful. Therefore, sedimentary successions of the Albertine Rift valley in western Uganda and Eastern D.R. Congo were sampled to perform AFT, ZHe and AHe dating of detrital sediments.
In the frame of the presentation we will present first results from the detrital thermochronology study of the Albertine Rift and will discuss its implications for the landscape evolution of this area.

References
[1] Bauer F.U. et al. (2010): Thermal and exhumation history of the central Rwenzori Mountains, Western Rift of the East African Rift System, Uganda. IJES, DOI: 10.1007/s00531-010-0549-7