Geophysical Research Abstracts
Vol. 16, EGU2014-1063, 2014
EGU General Assembly 2014

Thermal history, exhumation and long-term landscape evolution of the South Atlantic passive continental margin, Kaoko Belt, NW Namibia

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After the Damara Orogeny at the end of the Neoproterozoic the Kaoko Belt in northwestern Namibia was affected by deep erosion of the Damara Sequence, followed by the depositon of the Karoo Supergroup from Permo-Carboniferous to Early Cretaceous. The lithostratigraphic units consist of Late Proterozoic to Cambrian metamorphosed rocks and intrusive complexes of the Damara Group, with ages of 534 (7) Ma to 481 (25) Ma (Miller 1983), that are unconformably overlain by terrestrial deposits of the Karoo Supergroup (Stollhofen 1999), comprising two flood basalt events: the Karoo flood basalts, at 183 (1) Ma (Duncan et al. 1997), and the Early Cretaceous Paraná-Etendeka flood basalts, at 132 (1) Ma (Renne et al. 1996). The latter marking the rift stage of the opening of the South Atlantic.

The “passive” continental margin along the Kaoko Belt in northern Namibia is a perfect location to quantify exhumation and uplift rates, model the long-term landscape evolution and provide information about the major processes controlling the landscape evolution in this region. The poster/talk will present thermochronological data, t-T-models and exhumation rates for the Kaoko belt, NW Namibia.

References

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