



Thermal and exhumation history of the southwestern Anti-Atlas, Morocco

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The NE-SW oriented Anti-Atlas of Morocco is located at the northwestern fringe of the West African Craton and south of the High Atlas. The Anti-Atlas represents the Phanerozoic foreland of the Late Paleozoic North African Variscides and the Cenozoic Atlas Belt. The presence of high surface elevations in the Anti-Atlas (2700 m) indicates a potential source area for the surrounding basins. Currently, phases of uplift and exhumation in the Anti-Atlas and places where the associated erosion products are deposited are poorly constrained and there is little quantitative data available at present. However, available apatite fission-track ages of 120-170 Ma and apatite (U-Th-Sm)/He ages between 115-165 Ma document a widespread unroofing during the Middle-Late Jurassic to early Late Cretaceous (Ghorbal et al., 2009). The objective of the study is to determine the thermal and exhumation history of the Anti-Atlas. For the determination four thermochronological analyses (fission-track, (U-Th-Sm)/He on apatite and zircon each) and furthermore 2-D Modelling with HeFTy software were performed at Precambrian rocks of the southwestern Anti-Atlas.

References:

Ghorbal, L., Bertotti, G., Andriessen, P.A.M., 2009. Post-rift unroofing of the NW Africa passive continental margin during the Central Atlantic opening. EGU General Assembly 2009