



## **Thermal history, exhumation, uplift, and long-term landscape evolution of the Eastern Great and Northern Lesser Caucasus, Azerbaijan**

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The Caucasus orogen (Great and Lesser Caucasus) is the highest mountain range between Asia and Europe, whose growth takes place since the beginning of the Cenozoic (Mosar et al. 2010). The orogen has evolved as a result of the active north directed convergence of the Arabian plate (Nikishin et al. 2001). The Great Caucasus (GC) represents a doubly verging fold-and-thrust belt, with a per-and a retro wedge actively propagating into the foreland sedimentary basins to the south and to the north (Sholpo 1993).

Thermochronometric techniques (fission-track, (U-Th-Sm)/He, each on apatite and zircon) are used to reconstruct the thermal evolution of the upper crust, the subsidence, as well as the rock and surface uplift of the Eastern GC and Northern Lesser Caucasus and to connect them with the thrust kinematics of the GC.

Samples were taken along different transects in Eastern GC and Northern Lesser Caucasus in Azerbaijan. Most samples of Eastern GC are Lower Jurassic age sandstones (deep marine and slope facies). Several sedimentary rock samples of Cretaceous, Miocene, Pliocene and Quaternary age were taken from the outcrops in the Kura basin and along rivers in the Eastern GC. Samples of the Lesser Caucasus are igneous and sedimentary origin and have Lower Jurassic to Holocene age.

The first AFT-data in the Eastern Great Caucasus were investigated. All researched samples show recessed AF-ages. Most dated sedimentary samples have several populations of apatite minerals. Apatite minerals have low U-concentration (up to 10 ppm). Most dated samples taken in Aalenian sandstone have very young AFT-ages (up to 10 Ma). Some samples show Oligocene AF-ages of 23-28Ma. The preliminary data confirm orogeny in the Eastern Great Caucasus since Oligocene and propagation of orogeny since middle Miocene (Mosar et al. 2010).

### References

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