



U-Th/He dating of the Cenozoic Uplift of Sinai

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In relationship to the opening of the Red Sea, Sinai Peninsula (Egypt) experienced substantial uplift and erosion in the younger Cenozoic producing a topographic relief of over 2500 m in the southern part of the Peninsula. In order to document how much uplift and erosion occurred in total, a vertical profile covering about 2500 m in elevation was dated. U-Th/He dating was used because of its very low closure temperature of 60°C.

We found that uplift was enough to penetrate the 60°C isotherm, at least in the lowest elevation parts of the region of highest topographic relief around Mount Catherine in southern Sinai. We already presented these results at EGU2012.

In order to expand upon these results and understand the horizontal distribution of surface uplift across Sinai, we dated 19 further samples along five profiles on the west and east coast, with the purpose to find the level of the prior 60°C isotherm. 200 vertical metre intervals were used for the sampling. Analytical results are currently being processed and will be presented at EGU. The idea after which we took the samples was to get at least one sample per profile above, and at least one sample below the former 60°C isotherm prior to the Cenozoic denudation history. It is planned that these results will allow to construct a two dimensional distribution of uplift across Sinai. The final goal is, in conjunction with published fission track ages, to get a pretty detailed image of the uplift of Sinai for the Cenozoic.