

Annotated Bibliography - Teton Range

Geo111

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Love, J.D., Leopold, E.B., and Love, D.W., 1978, Eocene rocks, fossils, and geologic history, Teton Range, northwestern Wyoming: U. S. Geological Survey : Reston, VA, United States, .
Roberts, S.V., and Burbank, D.W., 1993, Uplift and thermal history of the Teton Range (northwestern Wyoming) defined by apatite fission-track dating: Earth and Planetary Science Letters, v. 118, p. 295-309.

I found this source using the GeoRef database through the BYU-I Library's website.

Teton Range is 2 roughly billion years old. The fission-track analysis uses the apatite and zircon found in the gneiss, granite, and sandstone of the Teton Range. The Tetons are composed of Laramide structures, Cenozoic volcanic terranes, and Neogene extensional structures. Samples for fission-track analysis were taken from three east escarpment sections of the Tetons, spaced 12-17km apart. Fission-track analysis measures the fission-track lengths of apatite grains by fissioning the apatites with mica and calculating their age using radiation somehow (I don't really get how it works). This method provided a mean age of 73.1 ma +/- 7.5 ma for the upper elevation samples and 78.1ma +/- 9.5ma for the lower elevations samples from the Harbell Formation. Oddly, the fission-track ages of all three samples showed a positive correlation between age and elevation. It appears that the southern Tetons uplift started earlier than the rest of the Tetons. Rather than providing geologic ages, this study provided cooling ages from the Late Cretaceous period.