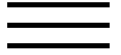


# Distant effects of India-Eurasia convergence and Mesozoic intracontinental deformation in Central Asia: Constraints from apatite fission-track thermochronology.

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## Distant effects of India–Eurasia convergence and Mesozoic intracontinental deformation in Central Asia: Constraints from apatite fission-track thermochronology

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### Abstract

During the Mesozoic, the active southern margin of Eurasia was the site of several accretion and collision events that fit into a framework of convergence between Eurasia and advancing (peri-) Gondwanan units. Far-field effects of the Mesozoic Mongol–Okhotsk and Cimmerian orogenies have been recorded deep within the interior of Eurasia. Convergence finally culminated in the massive India–Eurasia continent–continent collision in the Early Cenozoic. This collision, continued convergence between both continents, and resulting ongoing indentation of India into Eurasia have dominated the geological, tectonic and geodynamic evolution of Eurasia.

Amongst others, distant effects of these events have reactivated an array of mobile belts in Central Asia. Apatite fission-track dating and thermal history modeling performed on samples from the Kyrgyz Tien Shan and Siberian Altai Mountains record both Mesozoic deformation and Cenozoic reactivation of intracontinental Eurasia. The onset of the building and growth of the modern Tien Shan and Altai orogens is constrained to the Late Miocene and Pliocene, with a likely trend of activity younger towards the north. This would underscore the general model that deformation related to India–Eurasia convergence was progressively propagated northwards through Central Asia via the inherited structural fabric of the Eurasian crust.



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## Keywords

India–Eurasia convergence; Central Asia; Tectonic reactivation; Apatite fission-track thermogeochronology; Mesozoic–Cenozoic

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