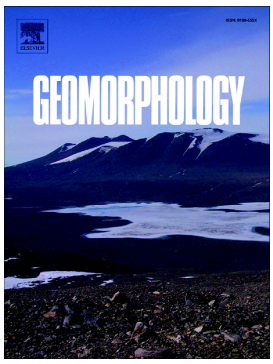

The role of intraplate strike-slip faults in shaping the surrounding morphology: The Ovacık Fault (eastern Turkey) as a case study

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The role of intraplate strike-slip faults in shaping the surrounding morphology: the Ovacık Fault (eastern Turkey) as a case study

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Abstract

Although the westward extrusion of the Anatolian Block is mainly compensated along its boundary faults, the North Anatolian and the East Anatolian shear zones, it is internally deformed in a dominant manner by some strike-slip faults as well. To obtain a better understanding about this intraplate deformation of the Anatolian Block, we investigate the tectonic geomorphology of the Ovacık Fault (OF), which is the northeastern member of the Malatya-Ovacık Fault Zone (MOFZ). Further, we apply the most common geomorphic indices, such as the hypsometric curve and integral, longitudinal channel profiles, channel steepness and concavity, mountain front sinuosity, and valley height-width ratio to characterise and quantify the deformation along the OF and the surrounding region where the regional morphology is shaped with the joint effect of palaeo- and neotectonics and other morphological factors such as palaeoglacial processes. The highest hypsometric integral, steepness and concavity values are generally observed along the northeastern strand of the OF (the Munzur Mountains) and the Kemaliye region. Further, we interpret that high HI and