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Morphotectonic evaluation of Southern part of Nayband fault, Iran

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Morphotectonic indices are useful for investigating the effect of tectonic activity in a region. Analysing of these indicators could be applied for zoning an area by using advantages of Geographical Information System, GIS, especially for areas where few morphotectonic studies have been conducted. An example of such areas is the southern end of Nayband Fault located in Central Iran. Nayband fault with a length of about 400 km is a right lateral strike slip fault, that by N-S trending eliminated Lut desert at the west. In this study, the drainage basins of this region are surveyed to analyse the morphotectonic situation. Form Factor, Compaction Coefficient, Ratio of Circularity, Ratio of Elongation, relative Basin Height, and Ruggedness Number, are some of the morphometric indices that are calculated for this purpose. After measuring the indices and preparing different zoning maps, it was found that the drainage basins of the region have different rates of morphometric values that could be related to the activity of the Nayband fault and the tectonic regime of the area.