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Morphotectonics of Wan River Sub-basin Using Remote Sensing and GIS Approach

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Abstract

The Wan river sub-basin of Amravati district, Maharashtra was investigated using remote sensing and GIS techniques of drainage and morphotectonic indices. The most common tectonic indices like channel sinuosity (S), basin elongation ratio (Re), mountain front sinuosity (Smf), drainage basin asymmetry and valley floor width/valley height ratio (Vf) are applied for investigating the study area. The transverse topographic symmetry factor (T) for this sub-basin range between 0.06 and 0.73, approaching toward more asymmetric pattern, indicating basin tilt. Mountain front sinuosity (Smf) values range between 1.11 and 2.34, suggest association of active mountain fronts with active faults of the area due to tectonic influences of ENE-WSW trending Gavilgarh/Salbardi fault.

Keywords: Morphotectonics, Wan River, Gavilgarh/Salbardi fault, Son-Narmada North Fault, GIS and Remote Sensing.