

## GEOMORPHOLOGICAL ANALYSIS OF GADELA WATERSHED USING REMOTE SENSING AND GEOGRAPHICAL INFORMATION SYSTEM

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### ABSTRACT

In this study, the morphometric parameters of selected watershed have been calculated. The study area was classified in to 10 sub basins and linear, aerial and relief aspects, for each sub basin were found to understand the hydrology of the watershed. Satellite imagery from Cartosat, along with survey of India toposheet was used to delineate watershed boundary, with Arc GIS 10.3. The results revealed that, the study area is a sixth order drainage basin with total stream length of 1422.05 km. The mean bifurcation ratio varies between 3.06 and 5.50, which shows that the region is subjected to less structural control, by which there is no distortion of drainage pattern. Drainage density value of 3.38 Km/Km<sup>2</sup> shows that, there is a mountainous relief with fine drainage texture in the study area. The shape parameters such as form factor, elongation ratio and circulatory ratio calculated indicates that, the basin is elongated in shape in which, flow can be managed efficiently.