



Original Research Article

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Morphometric Analysis of Katra Watershed of Eastern Ghats: A GIS Approach

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ABSTRACT

Watershed is generally considered as the smallest unit to get hydrological response of any developmental activity. To work out a comprehensive development plan for optimum use of natural resources the study of watershed characteristics is necessary. Watershed characteristics can be understood from the morphometric analysis and which can be better analyzed by GIS. The aim of the present study is to understand the morphometric characteristics of Katra watershed of Koraput, Odisha, situated in part of Eastern Ghats, an ecologically sensitive region using GIS. The drainage area of Katra watershed is 34 km² and the drainage pattern is dendritic to sub-dendritic. The slope of the watershed varied from 0 to 82 % and the slope variation is chiefly controlled by the local geomorphology and erosion cycles. The watershed was classified as a forth order drainage basin and the controlling factors of the stream orders are physiography, rainfall, local lithology and structure. The lower order streams are mostly dominating in the watershed. Lithological, structural and geomorphological expression of the watershed controls the flow direction of the entire drainage network. The increase in stream length ratio from lower to higher order is an indication of geomorphically mature watershed. The work will be the input to evaluate the basin hydrology, water resources, and input and output components in the hydrology cycle.

Keywords

Morphometry,
Watershed, GIS,
Eastern Ghats,
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