

MORPHOMETRIC ANALYSIS OF SUB-BASINS IN JAISAMAND CATCHMENT USING GEOGRAPHICAL INFORMATION SYSTEM

PRAVIN DAHIPHALE¹, P.K.SINGH² & K.K.YADAV³

¹Research scholar, SWE Department CTAE, MPUAT, Udaipur, Rajasthan, India

²Professor and Head, SWE Department CTAE, MPUAT, Udaipur, Rajasthan, India

³Assistant Professor, SWE Department CTAE, MPUAT, Udaipur, Rajasthan, India

ABSTRACT

In the present paper, an attempt has been made to study the detail morphometric characteristics of Jaisamand catchment. The parameters computed in the present study includes stream order, stream length, stream frequency, bifurcation ratio, drainage density, stream frequency, form factor, circulatory ratio, elongation ratio, relief ratio and ruggedness number by standard methods and formulae. The total length of stream segments is maximum in first order streams and decreases as the stream order increases. The total stream length in the Jaisamand catchment is 7351.83 km. The values of the stream length ratio vary from 2.31 to 6.29 for the whole Jaisamand catchment. The average relief of the catchment is 413 m and it varies from 83 m to 413 m in the sub-basins of the study area. The catchment displays the ruggedness number 1.74, indicates that the area is extremely rugged with high relief and high stream density.

KEYWORDS: Jaisamand Catchment, Morphometric Analysis, Prioritization