IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 1, February 2024

Morphometric Analysis for Flood Vulnerability

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Abstract: *Morphometric analysis is a quantitative analysis which is mainly relies on the geographical parameters of the earth. The morphometric parameters are differentiated as linear, areal and relief and comprises of thirteen distinctive parameters. The values of these parameters are calculated and based on the values; ranks are assigned to these parameters. Theses ranks are added to find out the total ranking of sub watersheds. Based on the ranks sub watersheds are prioritized.Flood is a natural disaster which occurred in Kerala in consecutive 3 years of time. During the months of July and August the monsoon strengthens and rivers overflow. Two days of torrential rain had filled all upstream dams on Chalakudyriver on August 15, 2018. As the flood gates of four dams (Thoonakadavu, Upper Sholayar, Lower Sholayar, Neerar Dam in Tamil Nadu) water came gushing to Peringalkuthu dam which started overflowing at 4.30am on August 16. All the streams, low-lying areas and agricultural fields in the river's proximity was flooded. All the towns and villages within 5 km of the river were flooded except the slightly high hill tops. It was the worst flood in Chalakudy in nearly a century. The Indian government had declared it a Level 3 Calamity, or "calamity of a severe nature". In this paper the study area is divided in to 4 sub watersheds and the thirteen morphometric parameters of each sub watersheds and prioritized.*

Keywords: Morphometric parameters, Prioritization, Ranking,

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DOI: 10.48175/568