SPATIALLY DISTRIBUTED UNIT HYDROGRAPH FOR VARUNA RIVER BASIN OF INDIA

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ABSTRACT

Geographic Information System (GIS) has been used for SDUH model which is a time-area unit hydrograph technique to develop a cumulative travel time map of the watershed based on cell by cell estimates of overland and channel flow velocities. The model includes slope, land use, watershed position, channel characteristics, and rainfall excess intensity in determining flow velocities. The cumulative travel time map has been divided into isochrones which are used to generate a time-area curve and the resulting unit hydrograph. SDUH has been applied to estimate the flood hydrograph of Varuna River basin in India.

KEYWORDS: Unit Hydrographs, Spatial Distributions, Geographic Information Systems, Hydrologic Modelling