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Hydrograph simulation for a rural watershed using SCS curve number and geographic information system

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Floods emerge due to various reasons depending on the climate, vegetation cover and geology prevailing in that area. The threats to floods are prejudiced by the rate and alacrity of rural land runoff within the watershed. Proper flood management system must be executed to tone down the flood induced hazards. This paper focuses on simulation of hydrograph by integrating Remote Sensing (RS), Geographic Information System (GIS) and hydrological models. SCS curve number method is employed to determine the right curve number of the Dasarikuppam sub watershed, a rural watershed in Chennai which defines the runoff potential. A simplified procedure is adopted to generate flood inundation hydrograph using Shuttle Radar Topography Mission (SRTM) Digital Elevation Model (DEM), hydrologic soil group number, land use and rainfall data. Results suggest that combination of RS, GIS and hydrological model is reasonable, reliable and flexible when compared with traditional solutions.

Biography

S Suriya has completed her PhD at the age of 27 years from Anna University under South Asia Water fellowship (SAWA) from Wagnenignen University, Netherlands and currently working as an Assistant Professor in B. S. Abdur Rahman University, Chennai. She has published five papers in international journals and presented nine papers in international conferences. Her areas of interest include surface water hydrology, hydraulics, integrated water resources management, remote sensing and geographical information system.

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