SCS AND GIS BASED RUNOFF ESTIMATION FOR JAKKUR LAKE CATCHMENT OF BANGALORE, KARNATAKA

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ABSTRACT

Runoff is one of the most important hydrological variables used in most of the water resources applications. .In this study, estimation of runoff for Jakkur lake catchment, located in north of Bangalore district of Karnataka state, India is carried out using SCS and GIS techniques. The study area is located between 13° 2′ to 13°12′ N Latitude and 77°31′ to 77°39′ E Longitude forming a part of Cauvery river basin. The study area covers an area of 81.6 km^2 and comprises of sixteen micro watersheds draining into river Pinakini in Bangalore district of Karnataka. Physiographically the area is characterized by undulating topography with plains and shallow valleys. The Soil Conservation Service Curve Number (SCS CN) also known as hydrologic soil group method was used in this study. This method is a versatile and popular approach for quick runoff estimation and is relatively easy to use with minimum data and it gives adequate result. From the study, monthly as well as annual rainfall and corresponding runoff were estimated.

KEYWORDS: Estimation, Infiltration, Landuse, Rainfall, Runoff, Watershed