

RUNOFF ESTIMATION FOR WEST SUVARNAMUKHI RIVER BASIN USING REMOTE SENSING AND GEOGRAPHICAL INFORMATION SYSTEM

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ABSTRACT

The water resources of late is becoming scarce due to various reasons *Viz.*, vagaries of monsoon, overexploitation, contamination etc. The available water resource in a basin has to be managed in a judicious way. Hence understanding the hydrological behavior in depth is essential for such management. Remote sensing and GIS are effective in managing the spatial and non-spatial database to elucidate the hydrologic characters in a basin in more realistic way. The study area falls under the semi-arid climatic zone and the average annual rainfall is 530 mm. Runoff estimation for the present study makes use of Soil Conservation Service Curve Number method (SCS-CN). The integration of SCS-CN with Remote Sensing and GIS techniques improves the runoff prediction and that too by making use of limited data parameters. Water resource Planning and managerial activities in a basin depends on the rainfall-runoff values estimated. In the present runoff estimation rainfall data from 1998-2010 has been used. The average runoff is 123.5mm. Thus the estimated rainfall-runoff model can be used for planning the planning of the precious water resource for optimum use in the basin.

KEYWORDS: Basin, Remote Sensing and GIS, Rainfall-Runoff, SCS-CN