

## Investigation of Rainfall – Runoff modeling of the Ashti catchment by SCS Curve Number using Remote Sensing and GIS

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**Abstract:** The runoff volumes of the Ashti sub-basin on River Godavari are calculated by SCS Curve Number and GIS. IRS AWiFS satellite image, 1:50,000 scale topographic map, drainage map of Ashti and soil map on. 1:50,000 have been used. AWiFS image is classified by using digital techniques for extracting Land Use and Land Cover and integrated into GIS with hydrological soil map. Soil Conservation Curve Number method is used to determine Curve Numbers and runoff volume distribution of the basin. The Remote Sensing and GIS technologies are suitable for analysis of the runoff volume distribution of the basin area. The statistical analysis indicates that the SCS Curve Number method can be applied to predict runoff volumes or depths of ungauged watersheds and other water resource applications.

**Keywords:** Remote Sensing, GIS, SCS Curve Number, ArcCN tool,