

## **A STUDY ON ESTIMATION OF RUNOFF BY SCS CURVE NUMBER METHOD USING GIS**

**SUNIL AJMERA & ATIKUR RAHMAN KHAN**

SGSITS, Department of Civil Engineering and Applied Mechanics, Indore, India

### **ABSTRACT**

Reliable prediction of quantity and rate of runoff from land surface into streams and rivers is needed in dealing with many water resources planning, designing of hydraulic structures and management problems. Conventional methods of runoff estimation are expensive, time consuming and difficult process and these method of runoff measurement are not easy for hilly and inaccessible terrain. The problem most often encountered in hydrological studies is the need for estimating runoff from a watershed for which there is record of rainfall and no record of runoff. Geographic Information System (GIS) can effectively use to manage spatial and non spatial database that represent study, an attempt has been made to estimate runoff a catchments using SCS CN method which is a widely used and popular method.

In present study land use land cover description of catchment have been use satellite image of IRS LISS II. The major part of the area has steep to very steep slopes associated with undulating landscapes. the soil and Land cover that have been identified in the part of catchment is clay and agriculture, middle part of catchment is confined by loam soil and forest land cover.

**KEYWORDS:** A Study on Estimation of Runoff by SCS Curve Number Method Using GIS