

**Watershed prioritization and reservoir sedimentation using remote sensing data**

Katiyar, R., Garg, P.K. and Jain Sanjay K.

**ABSTRACT**

To limit siltation, it is essential that soil conservation measures are undertaken in the drainage basin upstream of the reservoir. In this study, the catchment for the Ramganga reservoir has been divided into nine sub-watersheds to determine the sub-watershed most prone to soil erosion. Also, temporal IRS-1B LISS-III images between years 2000-2001 are used on ILWIS image processing and GIS software for the assessment of reservoir sedimentation in Ramganga catchment. An approach, based on land surface factors mainly responsible for erosion, which include slope, landuse, brightness and greenness etc., are used in this study. The catchment of reservoir is divided into 9 sub-watersheds to assess the sub-watershed contributing maximum sediments to the reservoir. Palain sub-watershed of Ramganga catchment is identified as being most susceptible to sedimentation. The LISS III images are used to compute the water index, while the GIS system is used to analyse the topography. The integrated effect of all the parameters is evaluated to find sedimentation rate in the reservoir.