Title: Physiographic study of Nag River watershed, Maharashtra, using remote sensing and GIS

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Abstract:

Physiography is the study of surface features of the earth. It involves looking at the distribution of land, water, soil and rock material that forms the land surface. In this study, physiographic features of the extinguishing Nag River watershed, Maharashtra, will be a boon for the conservation and sustainable development of the river. SRTM DEM, Landsat-08 data was processed using GIS tools so as to obtain the Elevation, Slope, Contour, Drainage pattern and Land use Land cover (LULC) of the study area. The results suggest that the Nag River watershed is having dendritic drainage pattern, indicative of homogeneous and resistant bedrock. Here the slope varies from 0-19 degrees giving rise to low sediment transportation. The spacing of contour lines is increasing from west to east signifying a decrease in slope. Land use Land cover (LULC) shows that more than 50% land is covered by built-up; however, water bodies cover only 1.71% area. This study comprehends that settlements along the river are the major contributors to the pollution and destruction of Nag River.

Keywords: Physiography, Nag River watershed, SRTM, GIS, LULC