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Monitoring of Soil Moisture Variability and Establishing the Correlation with Topography by Remotely Sensed GLDAS Data

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Monitoring of temporal and spatial soil moisture variability is important to understand the surface hydrology of the region. The objective of this study is to analyze the spatial variability of soil moisture with the topography of the region. The study has been performed for the Maharashtra region of India. The monthly data of soil moisture has been taken from Global Land Data Assimilation System (GLDAS) NOAH model of 0.250 spatial resolution. For the topographic analysis of the terrain, CARTOSAT DEM data of 20m spatial resolution has been used. The soil moisture anomalies were calculated for available monthly data sets and correlated with the topography of the study area. The Pearson Product-Moment Correlation and Spearman's rank correlation coefficient have been used for establishing the spatial correlation between soil moisture and topography of the region. The results of the study indicate that correlation of soil moisture and topography of the study area harmonize well with each other.

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