

EXTRACTING VEGETATION INFORMATION FROM SATELLITE DATA FOR THE NILWALA CATCHMENT AREA, SOUTHERN SRI LANKA

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It is evident that increasing human activities on forest resources can lead to floods, soil erosion, loss of bio diversity, and increase in atmospheric gases causing global warming. Sustainable management of forest resources requires accurate data on the current status of the environment as well as tools to support the decision making process. Remote Sensing and Geographical Information Systems have increasingly been used as decision support tools. Particularly, recent advancements in satellite remote sensing have facilitated acquiring valuable data and information in assessing the current status of the environment at varying levels of detail. The purpose of this study is to assess the potential of satellite remote sensing in vegetation mapping of the Nilwala catchment area of Southern Sri Lanka. The paper presents the preliminary work aimed at extracting vegetation information from Landsat TM and ETM data. The maps produced applying image processing techniques such as image differencing, Normalised Difference Vegetation Index (NDVI), ISOCUSS unsupervised classification and Tasseled Cap Transformation show the extent, quality and change of vegetation in the catchment area. Information derived from satellite data can further be used in modeling erosion potential in agricultural areas, mapping the flood risk, and land cover and land use change analysis when combined with geographical information.