

Tree Species Identification Using High Resolution Remotely–Sensed Data

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SUMMARY

Mapping and identification of tree species is a key component in forest conservation and management. The spatial mapping of tree species has becoming more important due to location interest of high market value timber or can be used for medication purposes. Conventional method using surveying techniques was adopted in order to identify the location of different tree species in forests. This technique is rather challenging at inaccessible area, labour intensive and time consuming. Recently, high resolution remote sensing imagery and LiDAR technology provide a very high spatial resolution information of Earth surfaces. This study presents an approach for mapping individual tree species using combination of airborne LiDAR and WorldView-2 imagery. The overall accuracy of tree species classification was 89%. The RMSE for tree location X and Y were 0.4m and 0.2m for tree height. Combination of both WorldView-2 imagery and airborne LiDAR data provides a very promising remote-sensing sources for mapping tree species of the study area.