

IMPROVING THE ACCURACY OF LAND COVER MAP BY USING LANDSAT TM AND TEXTURE IMAGES

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ABSTRACT

Accurate land use and land cover information is prerequisite for many planning and management activities and is considered as an essential element for various applications including modeling urban growth, determining land suitability for future development and monitoring environmental change. In this paper a conceptual procedure to integrate the textural information with pixel-based land cover classification is described and evaluated. The study area is in upper part of Kinta river basin in Perak State, Malaysia. Landsat TM image was used to produce five land use classes using textural/spectral approach. The texture features are based on the grey-level co-occurrence matrix. A supervised classification method was applied first to the spectral bands and then to the spectral bands combined with textural images. The accuracy of the supervised classification accuracies were measured using kappa coefficient. The results indicate that the incorporation of the texture analysis show considerable improvement of from supervised classification of spectral bands alone. Overall improved from 68.1% to 88.1% and Kappa coefficient from 0.57 to 0.69.8.