

Mangrove mapping using Landsat imagery and aerial photographs: Kemaman District, Terengganu, Malaysia

ABSTRACT

Classification and distribution of mangrove vegetation are vital information for the proper development of a mangrove management plan. In this study, classification for the mangroves of the district of Kemaman were done using both 1 : 5000 aerial photographs and Landsat TM imageries. The coverage by aerial photographs is limited to the coastal and estuarine areas only. Thus, for areas further upstream of the aerial photo coverage, Landsat TM imageries were used. Analysis of aerial photographs and remote sensing images revealed that the mangroves of Kemaman could be classified into 14 different classes of vegetation. All the 14 classes were identified from areas covered by the aerial photographs. For areas covered by the Landsat images only 7 classes of vegetation were identified. The accuracy for aerial photograph and Landsat images are 91.2% and 87.8%, respectively. It can be concluded that although both techniques are useful in determining the mangrove vegetation classes, the large 1 : 5000 aerial photographs are more accurate and provided more detailed information comparatively.

Keyword: Aerial photograph; Classification; Malaysia; Mangrove; Remote-sensing