

Land cover dynamics of Sungai Pulai Mangrove Forest using Remote Sensing and GIS- preliminary results

ABSTRACT

Nowadays, mangroves, the most diversified ecosystem facing anthropogenic threats from various development activities. Remote Sensing (RS) data can provide spatio-temporal information on mangrove status for monitoring and management. This study was conducted to monitor the land cover dynamics of Sungai Pulai Mangrove Forests (SPMF) in Johor, Peninsular Malaysia between 2004 and 2014. Satellite data such as landsat TM and Landsat OLI were processed by using Envi and ARCGIS Software. A total of five land cover types were classified using supervised Maximum Likelihood (MLC) algorithm. Accuracy for the classification was assessed by using confusion matrix table. For 2004, 2009 and 2014 year's imageries, the overall accuracies obtained were 76, 87 and 85% and Kappa coefficient were 0.71, 0.85 and 0.82, respectively. Results showed a continuous mangrove cover reduction from 2004-2009 and from 2009-2014. Approximately, 2,498 ha of mangrove cover was reduced and 3,905 ha 'other vegetation' cover increased between the 10 years period.

Keyword: Mangroves; Forest change; Land cover dynamic; Remote sensing; GIS