

Land cover change detection in Kuching, Malaysia using satellite imagery

ABSTRACT

Land cover maps symbolize integrated information about the universal status of specific areas. Land cover critical in many purposes as the baseline in the planning and monitoring of each development of a place in creating a balance of development between the environment and humans. The objective of the study to detect the land cover change in Kuching for 46 years which between 1972, 1988, and 2018. Literature reviews concrete utilized on Landsat 2,3,4,5,6,7 and 8 at studies in generating of landcover maps. The still limited studies done with Landsat 1, which start operating in July 1972 and stop operating in January 1978. To achieve the objectives of this study, the first step is to do pre-processes such as radiometric correction, atmospheric correction and geometric correction. The second step is to carry out the process of classifying the ground cover for three years of data for the manufacture of ground cover maps. To measure and confirm the accuracy of the ground cover map, this study uses Google Earth map and land use from the Department of Survey and Mapping Malaysia. Statistical kappa tests were used to determine the accuracy of land cover maps from satellites with 95 percent accuracy using 100 random sample points. The next step with GIS applied Change Detection to generated map land cover change in this study. Land cover maps are important land use planning and land use regulation in an effort to avoid land use conflicts. Land cover and land use plans are implemented through land allocation and the use of rules and regulations, such as zone regulations. Management consulting firms and non-governmental organizations often try to influence this rule before it is codified.