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Change Detection Analysis on Support Vector Machine Classifier of Land Use and Land Cover Changes: Case Study on Yangon

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Abstract : The dynamic changes of Land Use and Land Cover (LULC) changes in Yangon have generally resulted the improvement of human welfare and economic development since the last twenty years. Making map of LULC is crucially important for the sustainable development of the environment. However, the exactly data on how environmental factors influence the LULC situation at the various scales because the nature of the natural environment is naturally composed of non-homogeneous surface features, so the features in the satellite data also have the mixed pixels. The main objective of this study is to the calculation of accuracy based on change detection of LULC changes by Support Vector Machines (SVMs). For this research work, the main data was satellite images of 1996, 2006 and 2015. Computing change detection statistics use change detection statistics to compile a detailed tabulation of changes between two classification images and Support Vector Machines (SVMs) process was applied with a soft approach at allocation as well as at a testing stage and to higher accuracy. The results of this paper showed that vegetation and cultivated area were decreased (average total 29 % from 1996 to 2015) because of conversion to the replacing over double of the built up area (average total 30 % from 1996 to 2015). The error matrix and confidence limits led to the validation of the result for LULC mapping.

Keywords : land use and land cover change, change detection, image processing, support vector machines
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