Abstract

This study was aimed for determining the plausibility of applying Logistic Regression for classifying and detecting the change of land use from digital remotely sensed data. The digital image data covering some areas in Amphoe Mueang Kanchanaburi, Amphoe Bo Phoi, Amphoe Phanom Thuan, Amphoe Tha Muang and Amphoe Makham Tia, Kanchanaburi Province, retrieved from SPOT-4 path/row 260/322 acquired on January 9, 2006 and December 21, 2008 was used. A field survey was carried out for collecting two groups of sample sets; one was called training area used as basis for classifying and detecting the change of land use, and the other was called reference data, used for determining the validity of the classification. The original DNs were used as variables for analyses. Several types of accuracies; including overall, producer and user, were determined and the Kappa coefficient as well.

The classification was done over the reference data resulted from hybrid classification in 2008 yielded the highest overall accuracy of 64.99 percent while the classification from Logistic Regression analysis in 2006 and 2008 yielded the overall accuracy of 53.78 and 60.00 percent, respectively. The Kappa coefficient showed the same tendency as overall accuracy of 0.4148 and 0.4987, respectively. In addition, the entire outcome resulted from classification using logistic regression analysis were ranked in the class of “acceptable.”

Previously being Urban and Built-up area showed the highest potential of predicting changed/unchanged with the percentage accuracies of overall, producer’s and user’s and the Kappa coefficient of 99.24, 95.02, 98.76 and 0.9361, respectively.