

Title: E-BABE-Comapriosn of Maximum Likelihood Classification and Support Vector Machine for Land Cover Classification Using ASTER Imagery

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Land cover maps are one of the most fundamental datasets that can be used by many sectors such as agriculture, water, forest, environments. Satellite images had been widely used in land cover classification due to its large coverage, efficiency over in situ measurements. This study aims to compare SVM and MLC in the land cover mapping of Lake Naivasha catchment, Kenya using ASTER Imagery. Results indicate that SVM linear, SVM RBF(Radial Basis Function) and MLC all can achieve high accuracies, higher than 94%. When built-up, vegetation, water and bare are classified. When vegetation is split into crop, forest and grassland. Classification accuracies of SVM linear, RBF, MLC reduced to 81.6%, 77.7%, 77.7%, respectively. Including of NDVI increases the accuracies of SVM linear, RBF, MLC by 2.5%, 4.5%, 0.1%. To conclude, if the land covers are spectrally separable, both methods can achieve high accuracy. However, if some of the land cover types are spectrally not separable, SVM can have a larger improvement in accuracy when NDVI added.

Biography

Na Chen has completed her bachelor at the age of 21 years from Gannan Normal University, China. She is currently a student of Faculty of Geo-information Science and Earth Observation, University of Twente, Netherlands.

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