Shoreline Extraction using Data Mining Technique: A Case Study at Northeast Coast of Peninsular Malaysia

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Abstract: Monitoring the shoreline of coastal zones helps establish the boundary of a country. Using remote sensing to extract shoreline as effective and cheaper method rather than using ground survey, topographic survey and aerial photo. In the case of lacking of tides data, vegetation line could be applied to extract shoreline. Specifically, the combination between existing and derived spectral, color properties to classify land cover more precise than using existing properties. However, extracting information from satellite images is challenging as it relies on a strong understanding of data mining techniques. Thus, the researchers discuss the study of the data mining technique will improve pixel-based image classification to classify land cover classes in terms of overall accuracy and kappa coefficient. The research findings showed that the optimised Artificial Neural Network was the most effective technique, compared with other techniques, hence reinforcing its importance in classifying land cover classes.

Keywords: Shoreline extraction, data mining, land cover, image classification, remote sensing