STUDY OF FEATURE EXTRACTION FROM HIGH RESOLUTION SATELLITE IMAGE USING RULE-BASED AND SUPERVISED SEGMENTATION

Pendi Tri Sutrisno[1], Meysita Noormasari[1]

[1]Cartography and Remote Sensing, Faculty of Geography, Universitas Gadjah Mada (UGM), Jogjakarta 55281, Indonesia
Email : pendi_trisutrisno@rocketmail.com

Abstract : Study of information extraction from remote sensing data for land cover mapping at the present time are more developed. Extraction method used will affect the efficiency of remote sensing technology in presenting the earth's surface information. One method that can be developed is image segmentation, that is a technique for the separation of objects grouped into certain classes quickly. Information extraction studies in this research using rule-based and supervised segmentation methods on high-resolution imagery. All of these method of image segmentation is performed on Worldview-2 high resolution imagery some areas of Pulo Ampel, Serang district Banten. Rule-based method using the rules concerning the characteristics of spatial, spectral, and texture of the object to be separated by other objects. Recognizing the object composition and characteristics is needed to build a rule that will be used. So that each object has a rule in the process of grouping. While supervised image segmentation method is influenced by the training area used. Selection of training areas is very important in this method. The best results can be generated from a good selection of training samples. Object classification which occur directly as same as the training area so this method is relatively more quickly done than rule-based methods. Both methods are compared with the results of the manually digitized is considered a good method in object classification of high-resolution imagery. The conclusion of this research are rule-based segmentation need a long time and repeated trials to produce the precise rule for each object to be identified. While the supervised method depend on the selection of the training area is used as a reference classification. Image interpretation capabilities and sufficient spatial knowledge is needed in the study of the extraction information.

Keyword : Information extraction, Image segmentation, Rule-based, Supervised, High resolution