

THE MAKING OF IDENTIFICATION KEY OF SURFACE COAL MINING AREA ON LANDSAT 7 ETM+ IMAGE (A case at Kotabaru Regency, South Kalimantan Province)

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Abstract.

The objective of this research is to find out identification keys for the interpretation of activity area of surface coal mining by using Landsat 7 ETM+ image with the case of location at a part of Kotabaru Regency, South Kalimantan Province.

The method adopted in this research is digital image processing, compilation of composite image and multispectral classification to digital image by using ENVI software version 3.4. Digital image processing of Landsat 7 ETM+ is aimed to increase the quality of image presentation by lessening or eliminating external factor which have affected to image spectral information, while compilation of composite image by using Optimum Index Factor parameter, meant to get the assess contrast information of object in the land cover classification process. Multispectral classification was conducted to get land cover classification image of the surface coal-mining activity areas and as classification reference using land cover classification which have been modified to equip limitation which have been faced by previous researcher.

Based on the analysis result, from 9 (nine) land cover classes or landuse which have been determine as a identified references, all can be recognized at the image, that is the dig area, stock pile, outcrop (spoil and overburden), transportation network, ponds, reclamation area, reboisation area and also extinct mining area and extinct mining pond.

Whereas from the result of sighting and field examination to the interpretation result of surface coal mining activity area on Landsat ETM image at Kotabaru Regency, South Kalimantan Province, only 5 (fifth) from 9 (nineth) land cover class can be used directly as an identification keys in the surface coal mining interpretation on Landsat ETM image, that is dig area, stock pile, outcrop (spoil and overburden), transportation network, and ponds.

Keyword : Landsat ETM image, multispectral classification, identification keys, surface coal mining.

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