

**PEMETAAN LAHAN TERBANGUN DENGAN
METODE *OBJECT BASED IMAGE ANALYST* (OBIA) PADA
CITRA SPOT-5 MENGGUNAKAN PERANGKAT LUNAK *ECOGNITION
DEVELOPER 8.7***

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INTISARI

Pemetaan tipe klasifikasi lahan terbangun menurut USGS pada tingkat II. Objek lahan terbangun memiliki informasi spasial dan spektral unik. Daerah kajian adalah Kecamatan Kasihan, Kabupaten Bantul, Yogyakarta. Data utama adalah citra SPOT-5 Kecamatan Kasihan yang telah mengalami pengaturan mode *true colour* dan proses *pansharpening*. Penelitian ini bertujuan untuk menerapkan sistematika pemisahan lahan terbangun dan non-lahan terbangun menggunakan perangkat lunak *eCognition developer 64 8.7*, juga untuk mengetahui tingkat akurasi hasil klasifikasi.

Proses pengolahan yang dilakukan antara lain *Multiresolution segmentation*, klasifikasi dan *merge region*. Pengisian nilai parameter dalam *Multiresolution segmentation* tersebut ialah *scale parameter* 10, *layer weight* 1,1,1, *shape* 0,1 dan *compactness* 0,5. Hasil segmentasi dikelompokkan (klasifikasi) menggunakan algoritma *assign class* dengan *threshold condition* pertama *layer mean 1* >25, *threshold condition* kedua nilai *brightness* >32, *second condition* pertama nilai *layer mean 3* >25 dan *second condition* kedua nilai *rectangular fit* >0.6 untuk mendapatkan objek lahan terbangun. Segmen lahan terbangun kemudian dipecah menjadi permukiman dan perdagangan/jasa dengan menggunakan *manual classification*. *Merge region* digunakan untuk menggabungkan objek lain seperti awan dan non-permukiman.

Pengolahan data melalui perangkat lunak *eCognition developer 64 8.7* dan ArcGIS 10.2 menghasilkan peta klasifikasi lahan terbangun Kecamatan Kasihan, Bantul. Pengolahan data pada *eCognition developer* mencakup proses utama, sedangkan proses konversi data dan *layout* menggunakan perangkat lunak ArcGIS 10.2. Berdasarkan uji lapangan pada 110 titik sampel, didapatkan nilai akurasi untuk tipe lahan terbangun permukiman sebesar 86,04% serta perdagangan/jasa 89,65%. Akurasi total/*overall accuracy* tipe lahan terbangun sebesar 89,66%. nilai indeks Cohen's Kappa yang dihasilkan adalah 0,819 dengan klasifikasi nilai keamatan sangat kuat. Luas lahan terbangun Kecamatan Kasihan seluas 1051 Ha atau seluas 35,06% dari total luas Kecamatan Kasihan, Bantul.

Kata Kunci: SPOT-5, *Object based image analyst*(OBIA), Tipe lahan terbangun.

***BUILT-UP AREA MAPPING WITH OBJECT BASED IMAGE ANALYST
(OBIA) METHOD IN SPOT-5 IMAGE USING ECOGNITION DEVELOPER***

8.7 SOFTWARE

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ABSTRACT

The classification type mapping of built-up area is based on USGS in level II. The built-up area object has spatial information and typical spectral. The study area is Kasihan District, Bantul Regency, Yogyakarta. The main data is SPOT 5 Image Kasihan Regency having the setting mode of true colour and pansharpening process. This research aims to apply the urban soil and void soil separation systematic using eCognition developer 64 8.7 software, it is also to know the accuracy level of classification results.

The processing processes are Multiresolution segmentation, classification and merge region. The parameter value input in Multiresolution segmentation is scale parameter 10, layer weight 1,1,1, shape 0,1 and compactness 0,5. The segmentation results are grouped (classified) using assign class algorithm with the first threshold condition of layer mean 1 >25, the second threshold condition of the brightness is >32, the second condition of the first layer mean value is 3 >25 and the second condition of the second rectangular fit value >0.6 to get the built-up area objects. The land segment then is split into residential and commercial/ services using manual classification. Merge region is done to combine other objects such as cloud and non settlement.

The data processing is by eCognition developer 64 8.7 and ArcGIS 10.2 software to create the classification map of built-up area in Kasihan district, Bantul. The data processing in eCognition developer covers the main process, while the data conversion process and layout are using ArcGIS 10.2 software. Based on field test at 110 sample points, it is obtained the accuracy level of 86,04% for built-up area in type of residential, 89,65% in type of commercial/ services. The overall accuracy for built-up area is 89.66%. the Cohen's Kappa index value is 0,819 with the oscillating value classification is very strong. The area of built-up area in Kasihan district is 1051 Ha or 35,06% from the total area of Kasihan district, Bantul.

Keywords: SPOT-5, Object based image analyst(OBIA), built-up area.