



INTISARI

Penelitian ini dilakukan untuk mengkaji pengaruh karakteristik permukaan lahan kawasan kota Cilacap terhadap informasi spektral hamburan balik citra radar. Citra Digital Radarsat bulan Agustus 1997, foto udara pankromatik berwarna skala 1 : 20000 tanggal 5 Mei 1999 dan data lapangan dimanfaatkan untuk keperluan tersebut.

Nilai piksel Citra Digital Radarsat dikaji kaitannya dengan persentase jenis liputan obyek di daerah penelitian dan arah hadap obyek terhadap sensor radar. Jenis liputan obyek disadap dari foto udara dan arah hadap obyek terhadap sensor radar diketahui dari pengamatan lapangan.

Berdasarkan analisis korelasi dan regresi linier diperoleh model persamaan yang paling signifikan adalah : $DN = 48,6 + 6,3S + 1,4V$. Nilai piksel (DN) mempunyai hubungan linier yang nyata dengan persentase luas atap yang menghadap sensor ($r=0,707$), dengan liputan vegetasi ($r=0,505$), dengan liputan bangunan ($r=0,605$) dan dengan permukaan yang kasar ($r=0,737$). Variabel hadap sensor (S) dan liputan vegetasi (V) secara bersama-sama berpengaruh paling signifikan pada tingkat kepercayaan 95% dan sekaligus sebagai prediktor terbaik terhadap nilai piksel (DN).



ABSTRACT

This research was conducted to assess influence of earth surface features characteristics of Cilacap City to the radar return (backscatter) energy. The Radarsat digital data acquired on August 1997, color aerial photographs on May 5th 1999 at scale 1 : 20,000 and field data were used in the experiment.

The relation of pixel value (DN) of Radarsat data with the percentage of object coverage in the study area and the direction of it to the sensor were studied. The percentage of object coverage in the study area was extracted from aerial photo and the direction of it to the sensor was known from ground observation.

The correlation and linier regression analysis produce the following formula : $DN = 6.3S + 1.4V + 48.6$. The analysis show a significant linear correlation between the pixel value with the percentage of roof area facing to the sensor ($r=0.707$), with vegetation coverage ($r=0.505$), with building coverage ($r=0.605$) and with rough surface ($r=0.737$). The direction to the sensor (S) and vegetation coverage (V) collaborate as the most significant variables wich influence pixel value (DN) for 95% level of confident and act as the best predictor.