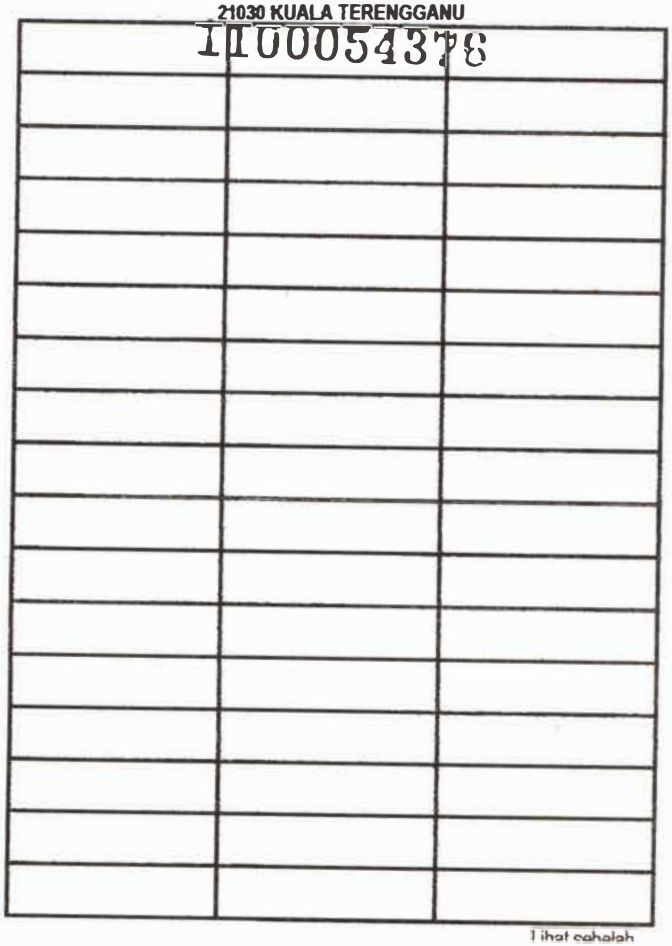
Application of geographical information systems (GIS) in land cover mapping at UMT using quickbird image / Rina Sharlinda Zabri.



Lihat sebalah

APPLICATION OF GEOGRAPHICAL INFORMATION SYSTEMS (GIS) IN LAND COVER MAPPING AT UMT USING QUICKBIRD IMAGE

By

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PENGAKUAN DAN PENGESAHAN
LAPORAN PROJEK PENYELIDIKAN I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk **Application of Geographical Information Systems in Land Cover Mapping at UMT Using QuickBird Image** oleh **Rohaidah Hassan**, no matrik **UK10918** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Marin sebagai memenuhi sebahagian daripada keperluan memperolehi ijazah Sarjana Muda Sains (Sains Samudera) Fakulti Pengajian Maritim dan Sains Marin, Universiti Malaysia Terengganu.

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LIST OF ABBREVIATIONS

ABBREVIATION	DESCRIPTION
GPS	Global Positioning System
GIS	Geographical Information Systems
RMS	Root Mean Square
UMT	University Malaysia Terengganu
HSV	Hue Saturation Value
U.S	United States
EMR	Electromagnetic Radiation
NIR	Near Infrared
RGB	Red, Green and Blue
IHS	Information Handling Services
PCI	Peripheral Component Interconnect
RAM	Random Access Memory
Ha	Hectares
Km	Kilometers
Id	Identity
Sp.	Species

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ABSTRACT

Study on Land Cover and Land Use by using QuickBird Image 2005 at UMT is important to gain more information which will aid in the future management strategies. It also provide a data and the information obtained based on this study also can be applied as a research reference and management of development at UMT in the future. Land cover mapping serves as a basic inventory of land resources for all levels of government, environmental agencies, and private industry throughout the world. Whether regional or local in scope, remote sensing offers a means of acquiring and presenting land cover data in a timely manner. Land cover refers to features of land surface or surface components. These can be natural, semi-natural, managed or totally man-made. For instance, forest, water, vegetation (wetlands), soils, rocks, and urban infrastructure (constructed materials covering the land surface) physically present and directly observable. Meanwhile Land use can be defined as economic or recreation and cultural activities that are practiced at a place. Mapping and digitizing of image using GIS software (Arc View version 3.2) at UMT is essential to provide or to produce total value of land use and land cover in UMT. Additionally, Comparison can be obtained through editing and compilation method in this study. The comparison of Land cover and land use were done between the year of 2005 and 2007. After done an analysis, I found that UMT have 74.861 hectares of total land area and 0.0559 Km long of stream. In the year of 2005, UMT had already used as much as 47% of its land for development. Meanwhile, by the year of 2007 UMT had use 54% of its total land for development.

ABSTRAK

Kajian litupan bumi dan penggunaan tanah dengan menggunakan imej QuickBird 2005 di sekitar UMT penting untuk mendapatkan maklumat terperinci yang boleh membantu strategi pengurusan pada masa depan. Berdasarkan kajian, ia juga menyediakan satu data dan maklumat yang boleh digunakan sebagai rujukan bagi sesuatu kajian serta pengurusan pembangunan di sekitar UMT pada masa depan. Pemetaan litupan bumi berfungsi sebagai satu inventori asasi untuk mendapatkan maklumat sumber di semua peringkat kerajaan, agensi alam sekitar dan industri swasta seluruh dunia. Penderiaan jauh menawarkan satu cara perolehan dan pembentangan data isi tanah dalam dengan cara lebih tepat. Litupan bumi merujuk kepada ciri-ciri permukaan tanah atau komponen permukaan. Sebagai contoh, hutan, air, tumbuh-tumbuhan (bakau), tanah, batuan, dan infrasturuktur urban (dibina menutupi permukaan tanah) hadir secara fizikal dan boleh dilihat secara langsung. Sementara itu penggunaan tanah boleh ditakrifkan sebagai menguntungkan termasuk kegiatan kebudayaan yang dilaksanakan di sesebuah tempat. Memeta dan mendigit imej menggunakan perisian GIS (Arc View version 3.2) di UMT amat penting untuk mendapatkan jumlah penggunaan tanah dan litupan tanah di sekitar UMT. Selain itu, perbandingan juga boleh dilakukan melalui suntingan dan kaedah kompilasi dalam kajian. Perbandingan litupan bumi dan penggunaan tanah telah selesai dijalankan untuk tahun 2005 dan 2007 di sekitar UMT. Setelah menjalankan analisis, saya dapati UMT jumlah keluasan tanah sebanyak 74.861 hektar dan 0.0559 km panjang anak sungai. Pada tahun 2005, UMT telah pun menjadikan 47% daripada tanahnya untuk pembangunan. Sementara itu, sehingga tahun 2007 UMT mempunyai jumlah penggunaan tanah sebanyak 54% untuk pembangunan.