

DETERMINATION OF BOUNDARIES AND PRELIMINARY CHANGES
IN THE DIFFERENTIAL GLOBAL POSITIONING SYSTEM FROM
ANALYSIS OF GPS DATA IN BEHANG LUTUNG

AND ABU BAKAR BIN HUSAINI

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DETERMINATION OF BOUNDARIES AND PRELIMINARY CHANGES USING
DIFFERENTIAL GLOBAL POSITIONING SYSTEM FROM KG. GONG BATU
TO KG. BETING LINTANG

By

Kim Asbiyallah Shah Bte Akim

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Faculty of Science and Technology
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA
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**PENGAKUAN DAN PENGESAHAN LAPORAN
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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: **Determination of Boundaries and Preliminary Changes Using Differential Global Positioning System from Gong Batu to Benting Lintang** oleh **Kim Asbiyallah Shah Bte Akim**, no. matrik **UK6526** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh **Ijazah Sarjana Muda Sains Gunaan (Pemuliharaan dan Pengurusan Biodiversiti)**, Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

Disahkan oleh:

Penyelia Utama

Nama: En. Kasawani Bin Ibrahim

Cop Rasmi:

Kasawani Ibrahim
Pensyarah
Jabatan Sains Biologi
Fakulti Sains dan Teknologi
Kolej Universiti Sains dan Teknologi Malaysia
21030 Kuala Terengganu.

Tarikh: 5.4.05

Penyelia Kedua (jika ada)

Nama: Prof. Madya Sulong Ibrahim

Cop Rasmi:

PROF. MADYA SULONG BIN IBRAHIM
Fellow
Institut Oseanografi
Kolej Universiti Sains dan Teknologi Malaysia
Mengabang Telipot
21030 Kuala Terengganu.

Tarikh: 5/04/05

Ketua Jabatan Sains Biologi

Name: Prof. Madya Dr. Nakisah Mat Amin

Cop Rasmi:

PROF. MADYA DR. NAKISAH BT. MAT AMIN
Ketua
Jabatan Sains Biologi
Fakulti Sains dan Teknologi
Kolej Universiti Sains dan Teknologi Malaysia
(KUSTEM)
21030 Kuala Terengganu.

Tarikh: 5/04/05

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LIST OF ABBREVIATION

DGPS	-Differential Global Positioning System
GIS	- Geographic Information System
GPS	- Global Positioning System
ICSM	-Intergovernmental Committee of Surveying and Mapping
ICZM	-Integrated Coastal Zone Management
ISMP	-Integrated Shoreline Management Plan
NCES	-The National Coastal Erosion Study

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ABSTRACT

GIS are commonly used tools in coastal zone management, forestry and land use planning. This research contributes to the monitoring of short term shoreline changes along beaches from Kg. Kuala Setiu Lama until Kg. Beting Lintang. The methodology that used in this research is tracking along the beach using DGPS or Differential Global Positioning System. Changes and movement of boundary can recognize with the appearances of foreland, a new island and a new opened estuary along research area. Changes rate will be happen accompany with erosion, accretion and displacement of sand. Occasionally, the appearances of these new islands, foreland and estuary can contribute to disproportion of the year. In entirely, from year 1980 until year 2004 the new island, sand spit and estuary that appear in this research area are already changed. The total changes of rate occur about 14.00 meters per year. In 24 years, the whole average in mangroves area per hectares is depleted and reduced the species distribution especially in this study. The percentages of shoreline in 3 types of changes are 22.45% for accretion, 39.61% for erosion and 37.94% for unchanged. For the island and after simple calculations the percentage are 23.92% for accretion, 21.25% for erosion and 54.84% for unchanged.

Pengenalpastian Sempadan Dan Kadar Perubahan Dengan Menggunakan Sistem Kedudukan Global Berbeza Daripada Kg. Gong Batu Ke Beting Lintang Di Setiu Wetland.

ABSTRAK

GIS adalah kaedah yang lazimnya digunakan dalam bidang pengurusan zon pantai, perhutanan dan perancangan guna tanah. Kajian ini turut menyumbang ke arah pengawasan jangka pendek bagi perubahan garis di sepanjang pantai Kg. Kuala Setiu Lama ke Kg. Beting Lintang. Kaedah yang digunakan dalam kajian ini adalah dengan menggunakan DGPS iaitu mengambil data sambil berjalan di sepanjang pantai. Perubahan dan pergerakan garis pantai dapat dikenalpasti dengan adanya pembentukan tanjung, kemunculan pulau baru dan pembukaan muara baru di sekitar kawasan kajian iaitu di sepanjang Kg. Kuala Setiu Lama ke Kg. Beting Lintang. Kadar perubahan ini berlaku seiringan dengan proses hakisan, penambahan dan peralihan pasir sekaligus menyumbang ke arah pembentukan yang tidak stabil pada setiap tahun. Secara keseluruhannya pada tahun 1980 hingga tahun 2004 tanjung, muara dan pulau-pulau yang terbentuk di kawasan kajian ini dan mengalami kadar perubahan 14.00 meter setahun. Secara purata, dalam masa 24 tahun ini keluasan hutan paya bakau di sekitar kawasan kajian semakin berkurangan dan seterusnya mengurangkan kadar taburan spesies. Peratus pantai yang mengalami perubahan di kategorikan kepada hakisan, penambahan dan tidak berubah. Peratus bagi kadar penambahan adalah 22.45%, 39.61% untuk hakisan dan 37.94% adalah tidak berubah. Bagi peratus pulau pula, 23.92% adalah untuk kadar penambahan, 21.25% untuk hakisan dan 54.84% adalah tidak mengalami perubahan.