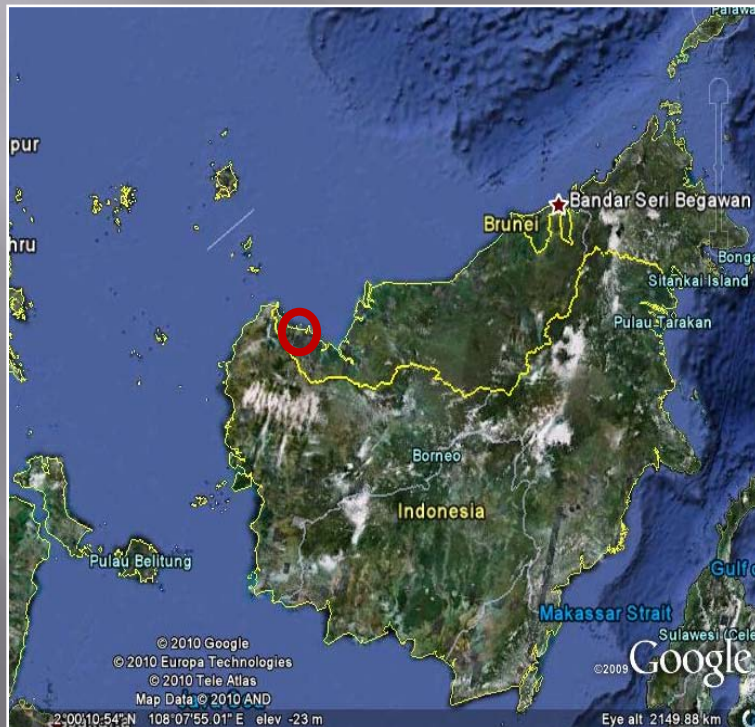


CADANGAN GEOPARK DELTA SARAWAK: KEPELBAGAIAN GEOLOGI, GEOWARISAN DAN GEOPELANCONGAN

*(THE PROPOSED SARAWAK DELTA GEOPARK: GEODIVERSITY, GEOLOGICAL
HERITAGE AND GEOTOURISM)*



Dana Badang, Richard Mani Banda dan
Alex Unya Ambun
Jabatan Mineral dan Geosains Malaysia,
Sarawak

**Persidangan WGM Ke-7 & WG MALAYSIA-
INDONESIA Ke-4 Kuala Terengganu
1 -4 Okt. 2011**

Outline of presentation

Introduction

Geodiversities

- Geological resources

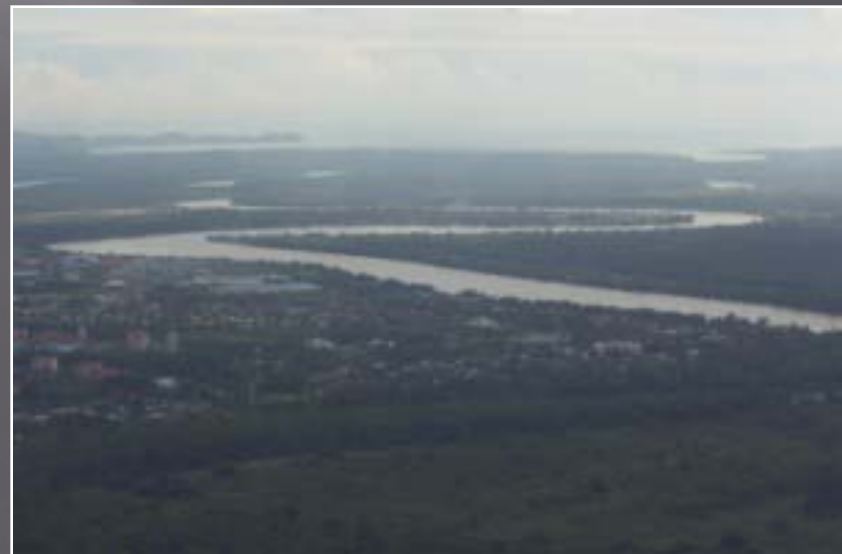
- Geological landscape

Geoheritage

- Geoheritage sites

Geotourism

Conclusion

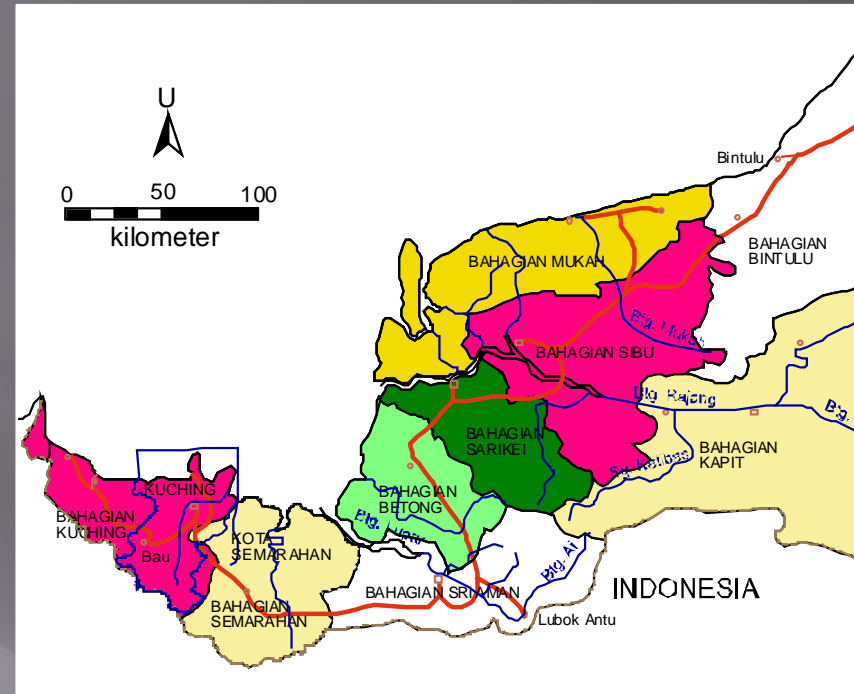


Introduction - Location

Kuching Division;

Kuching District, SD
Padawan, Bau District,
Lundu District (partly) &
Samarahan District (partly)
in Samarahan Division

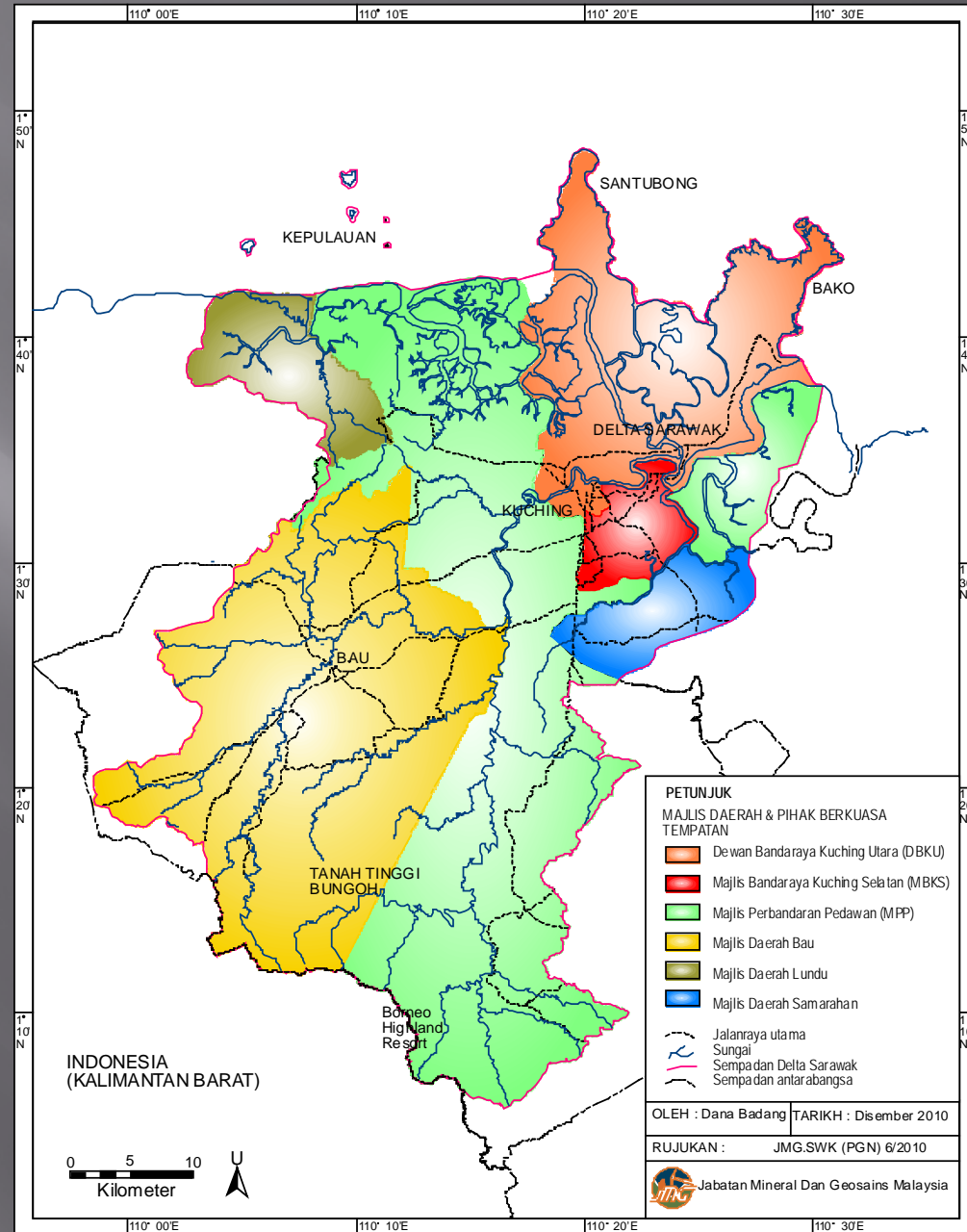
Approx. area of 2,375
square km



Location

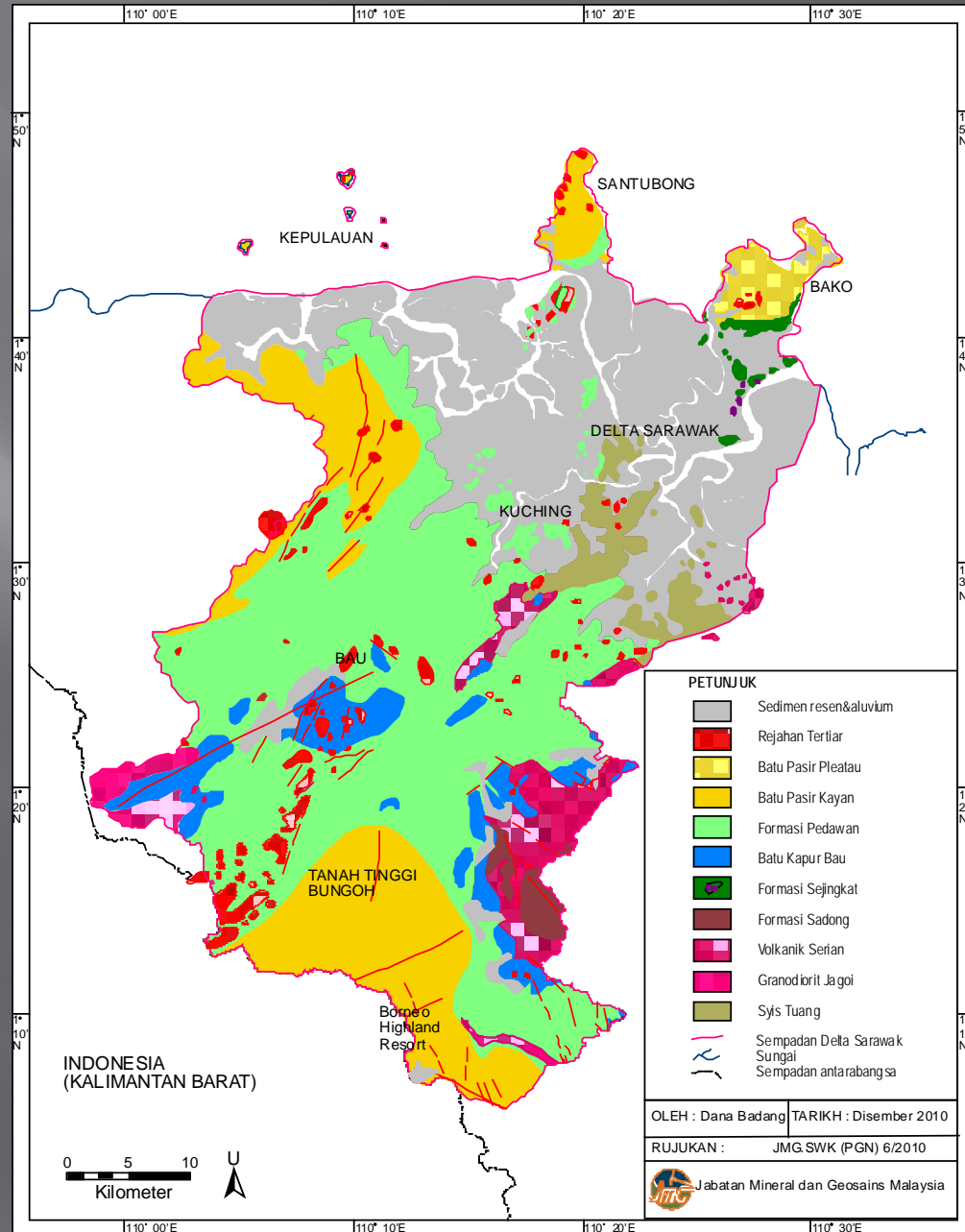
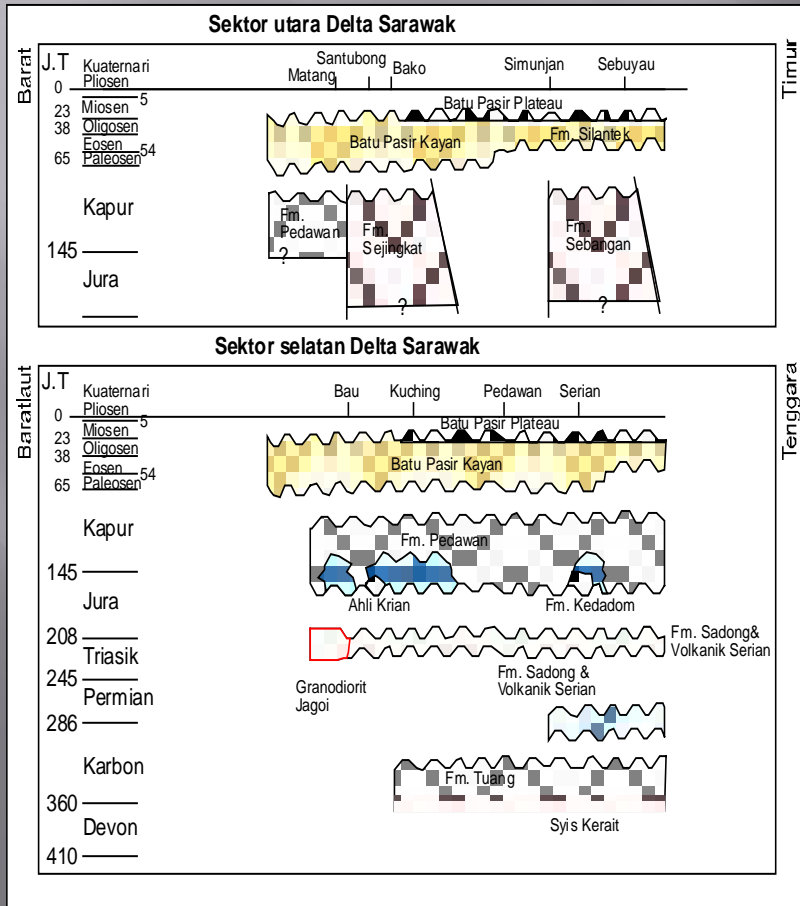
Main Local Councils;
Kuching City North
Commission (DBKU),
Kuching City South
Council (MBKS),
Padawan Municiple
Council (MPP), Bau
District Council

Consists of the whole
Sarawak River valley &
its tributaries



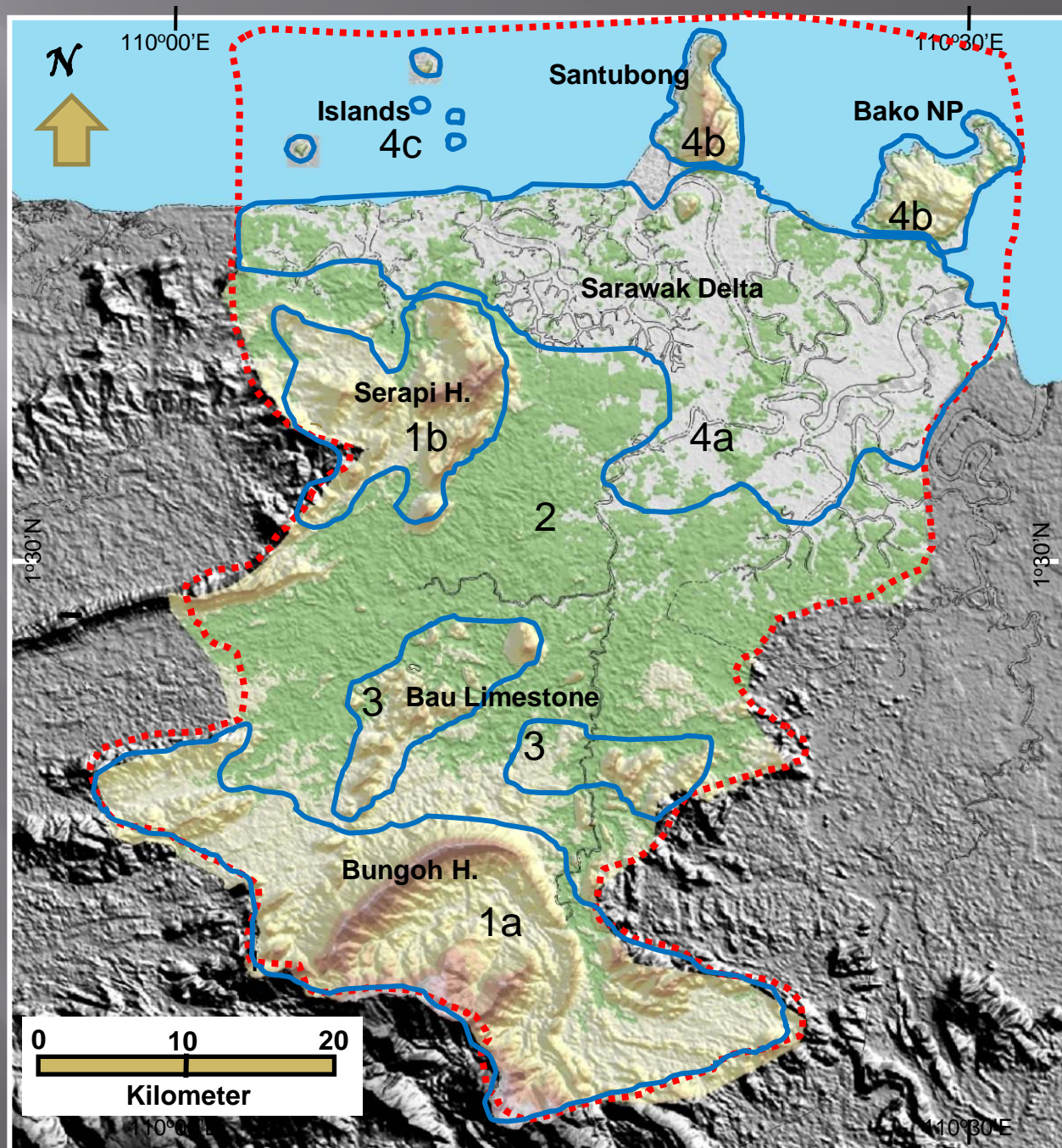
Geodiversities

Formed by at least 11 rocks formations



Geological landscape

1. Highlands; Bungoh & Serapi H
- **Kayan Sst**
2. Lowland & Inland Alluvial Plain
- **Pedawan Fm**
3. Karst
- **Bau Limestone**
4. Coastal & Islands; Coastal alluvium, Isolated Hills & Islands
- **Alluvium, Kayan & Plateau Sst**



Geoheritage - Main geoheritage sites

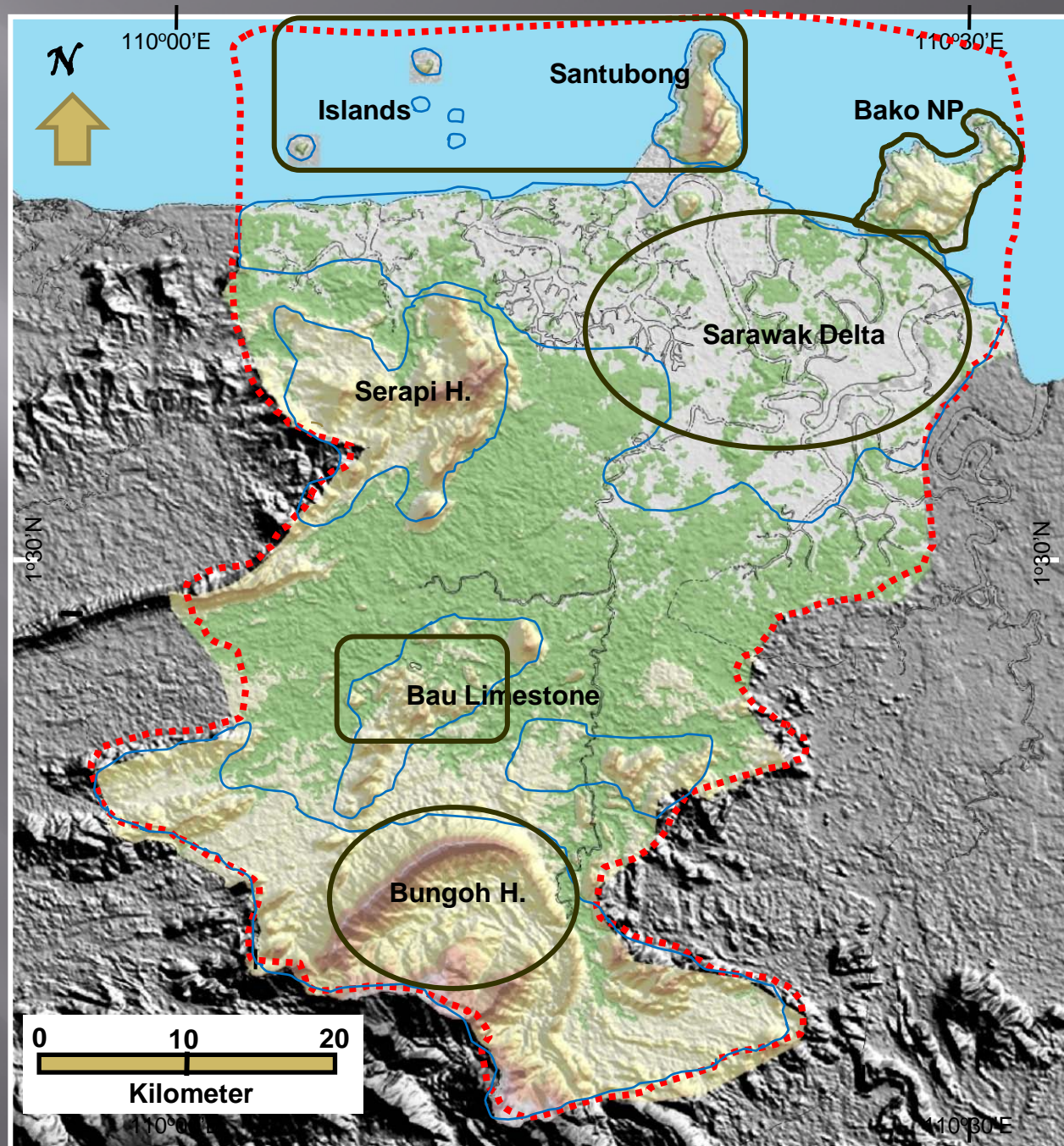
Sarawak Delta

Bako National Park

Santubong & Islands

Bau Limestone

Bungoh Highland



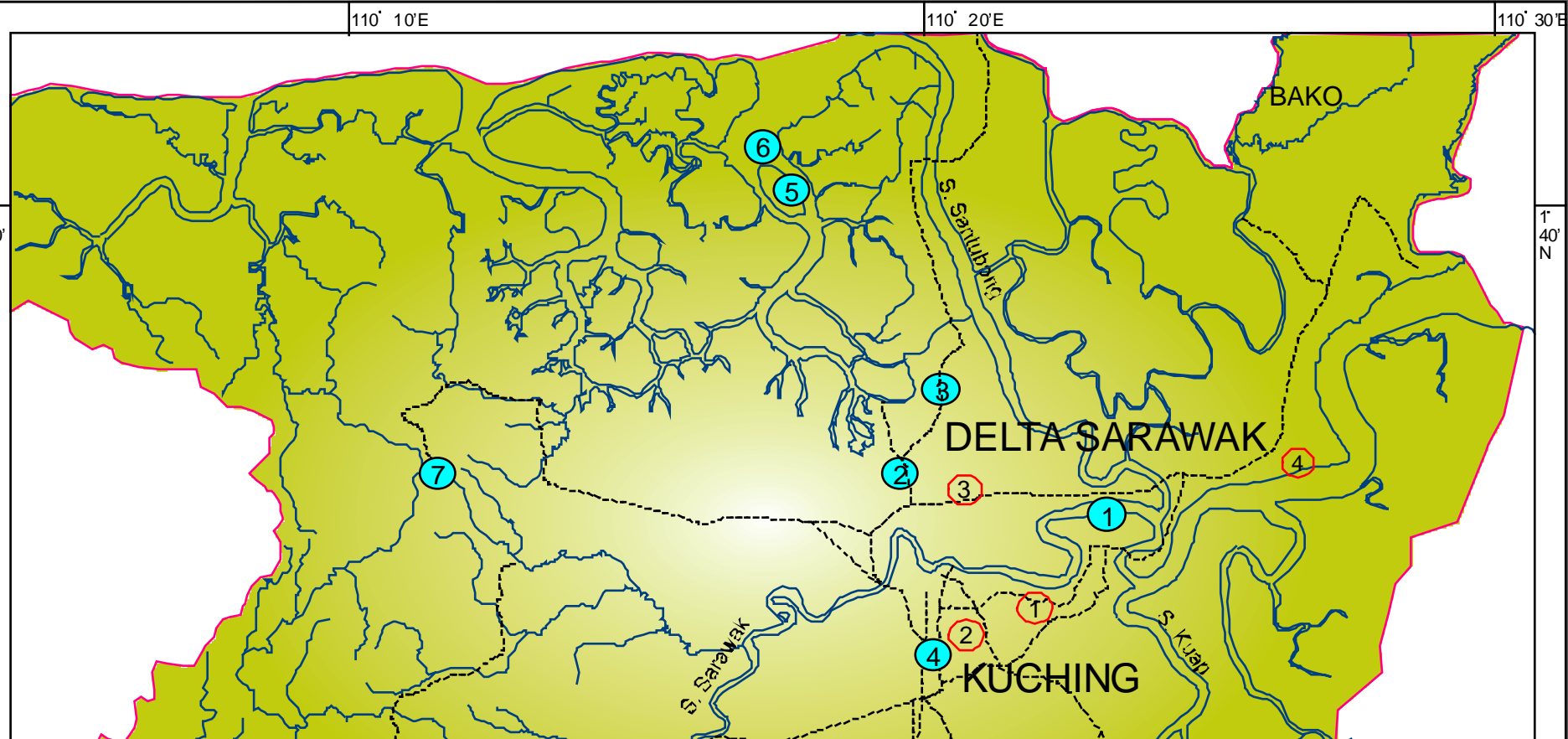
Sarawak Delta

Geoheritage Significance

Unique delta system with diverse biodiversities & spectacular river morphology



Sarawak Delta



SENARAI GEOTAPAK

- 1 Delta Sarawak
- 2 Sinklin Bukit Sioi
- 3 Enapan Teres Semariang
- 4 Batu Kinyang
- 5 Pulau Salak
- 6 Pulau Kalasah
- 7 Sinklin Banjaran Serapi

POTENSI GEOTAPAK

- 1 Stok Tonalit Sekama
- 2 Tonalit Bukit Antu
- 3 Kompleks Perpustakaan Negeri
- 4 Gunung Sejingkat

PETUNJUK

- ① Geotapak
- ② Potensi Geotapak
- Sempadan Delta Sarawak
- Jalanraya utama
- Sungai

0 2.5 5
Kilometer



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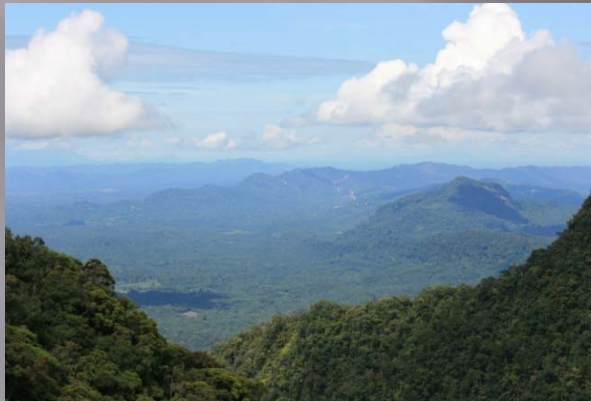
Geosites



Sarawak Delta



Bukit Siol
Syncline



Serapi
Syncline



P. Salak
Diorite Intrusion

Significant geological outcrops



Semariang
Terrace

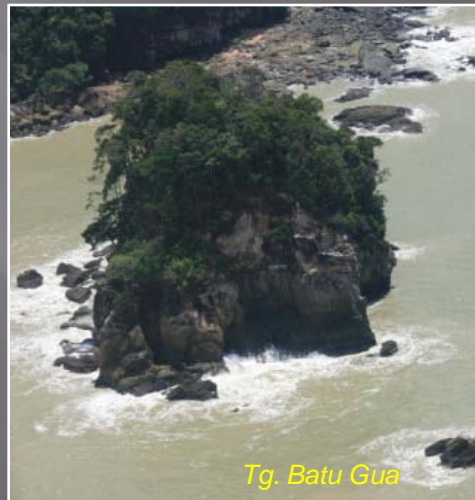


P. Kalasah
Metamorphic

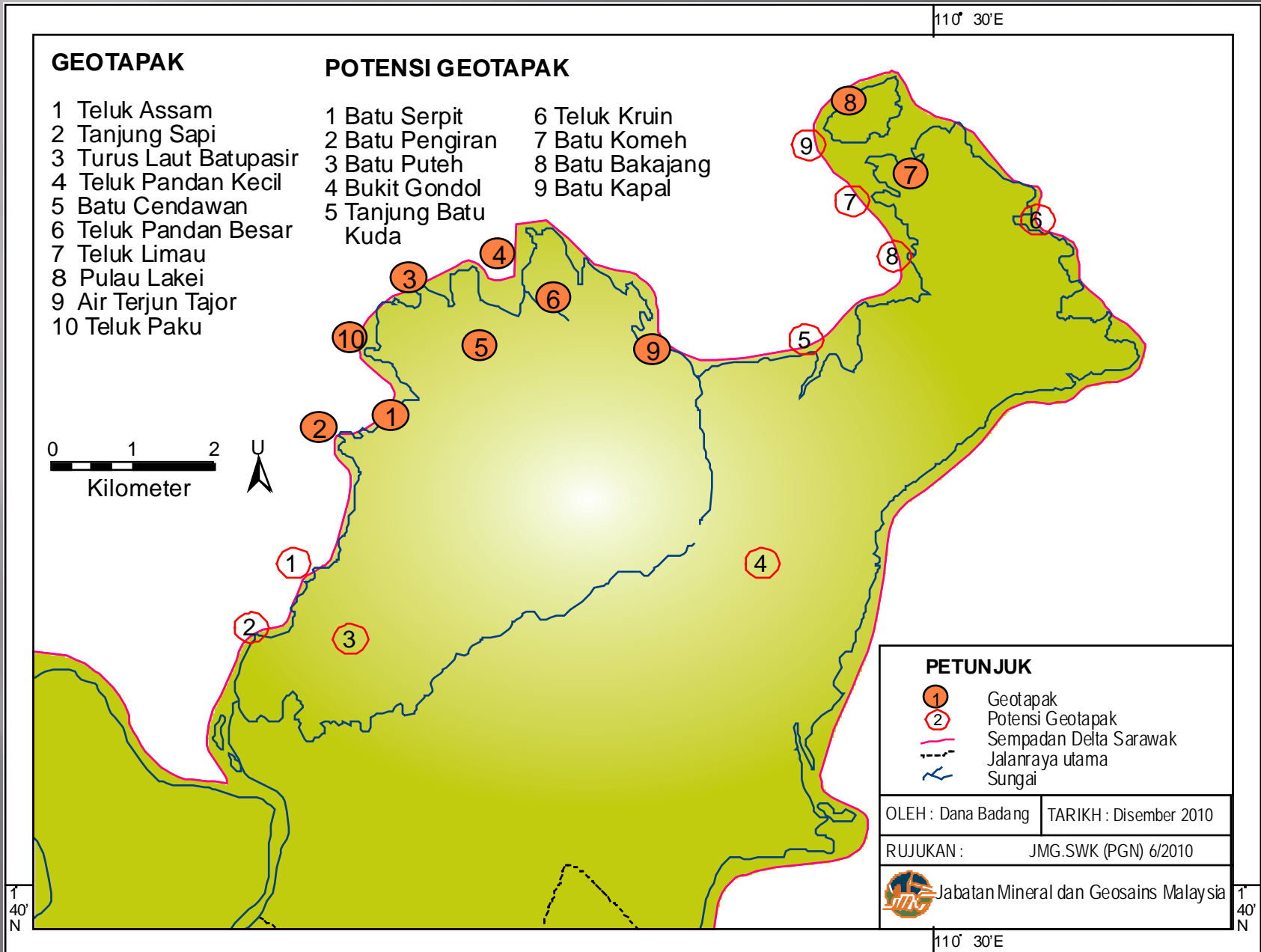
Bako National Park

Geoheritage Significance

Unique coastal morphology characterized by rich geological and biological heritage



Bako National Park



Geotopes

Batu
Cendawan



Sea-stack

Geosites



Tk Assam Strata



Liesegang



Tg Sapi



Wood Fossil Tk Cincin



Tk Paku Beach

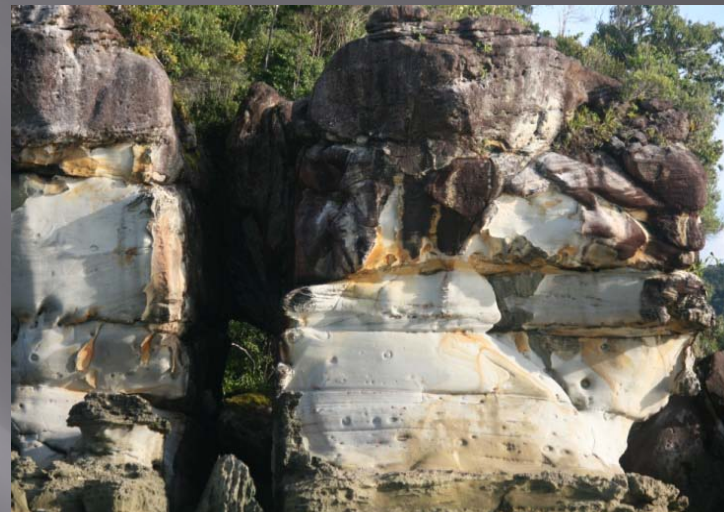


Tk Pandan Beach

Geosites



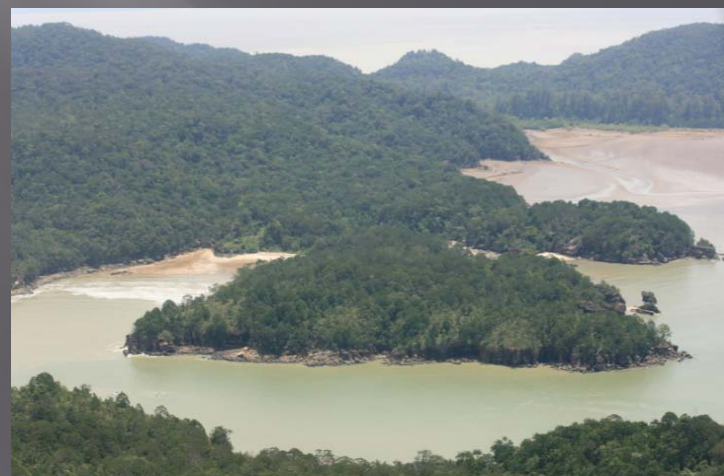
Pulau Lakei



T. Batu Belah,



Wood Fossil, Muara Tebas



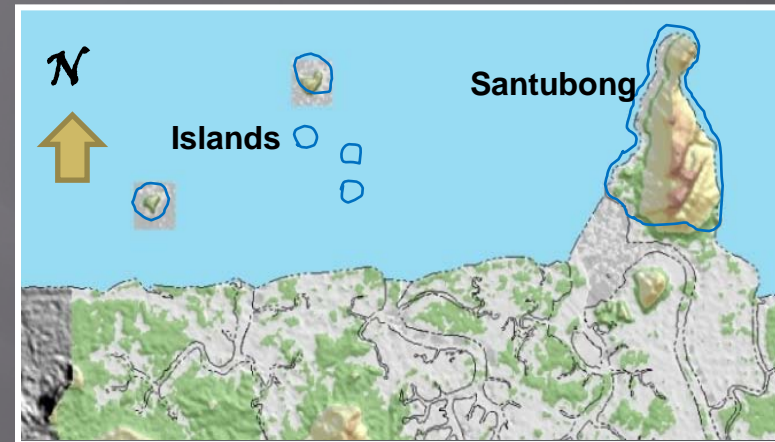
Teluk Cincin-Tg. Wading

Santubong & Islands

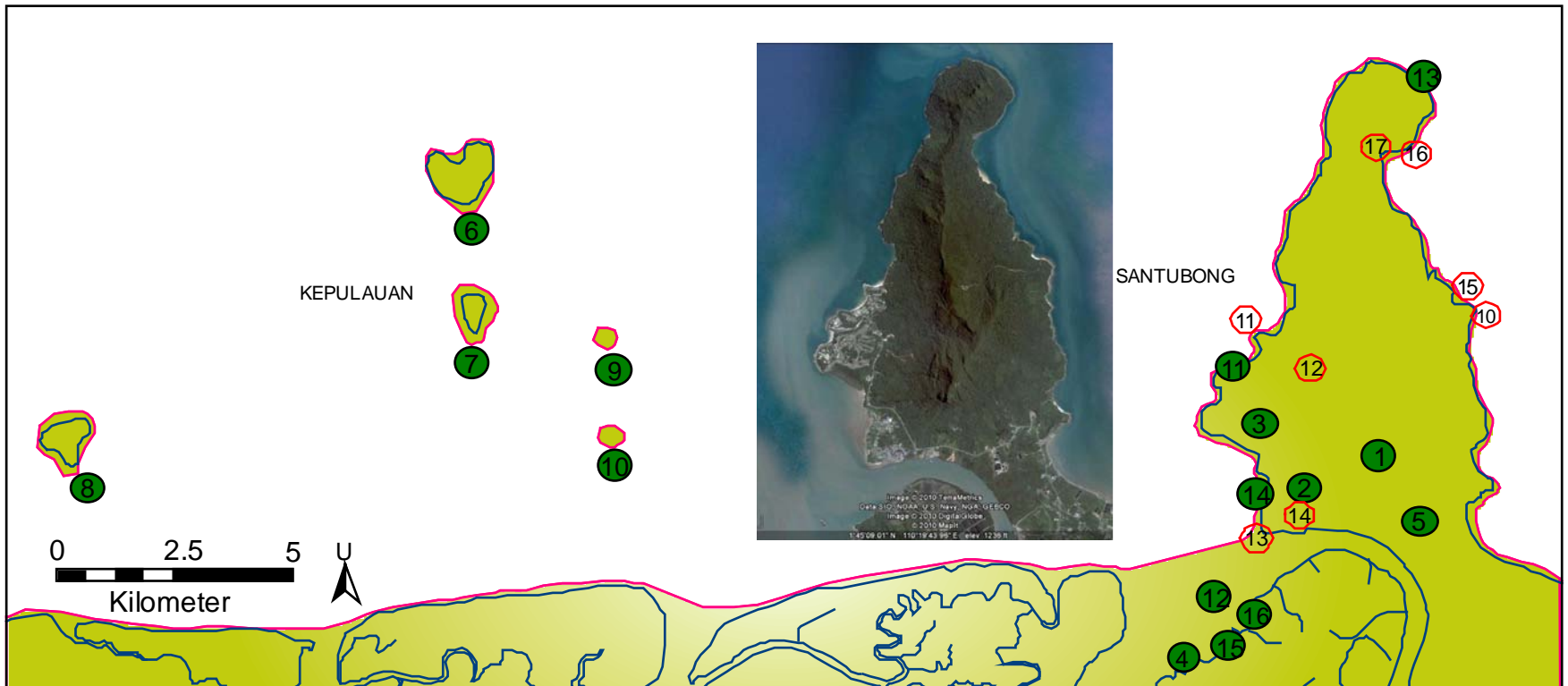
Geoheritage Significance

Natural coastal landform
partly developed as recreational
and cultural centre

Important archeological &
historical site for
international biological
research



Santubong & Islands



SENARAI GEOTAPAK

- 1 Puncak Santubong
- 2 Ketakselarasan Santubong
- 3 Strata Kayan
- 4 Hornfels Tanjung Said
- 5 Batu Gambar
- 6 Pulau Satang Besar
- 7 Pulau Satang Kecil
- 8 Pulau Sampadi

- 9 Pulau Tukong Ara
- 10 Pulau Tukong Banun
- 11 Pantai Damai
- 12 Pulau Kera
- 13 Igneus Tanjung Sipang
- 14 Pantai Puteri
- 15 Pantai Pasir Panjang
- 16 Pantai Pasir Pandak

POTENSI GEOTAPAK

- 1 Tanjung Embang
- 2 Lapisan Silang Tk Bandong
- 3 Air Terjun Santubong
- 4 Batu Boya (Buaya)
- 5 Wallace Viewpoint
- 6 Pantai Embang
- 7 Pantai Karang
- 8 Air Terjun Karang

PETUNJUK

- 1 Geotapak diciri & ditarafkan
- 2 Potensi Geotapak (dikenalpasti)
- Sempadan Delta Sarawak
- ~ Sungai

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1° 40' N

1° 40' N

Geotopes



Santubong Uncomformity



Turtle shape P. Satang Besar



P. Tukong Ara

Geosites



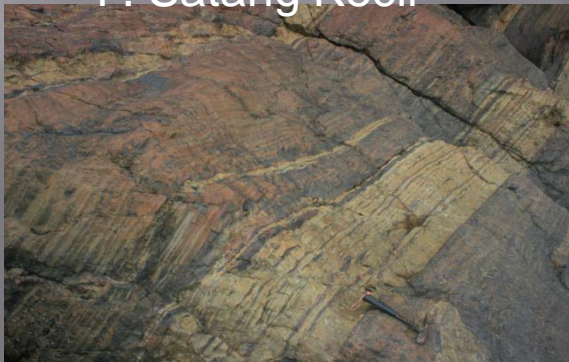
P. Satang Kecil



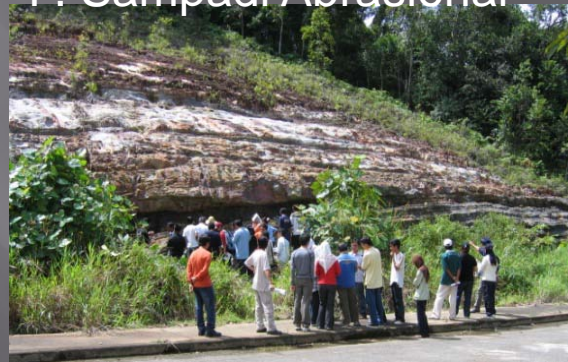
P. Sampadi Abrasional



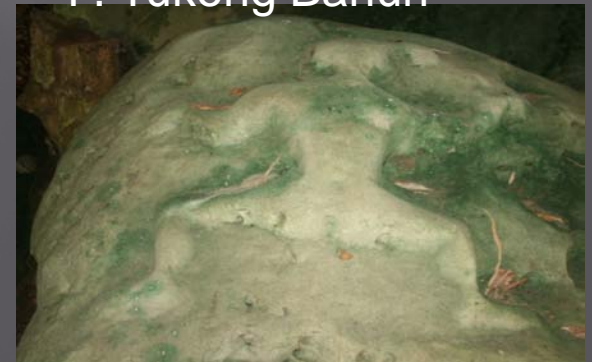
P. Tukong Banun



Hornfels Tg Said



Strata Kayan



Batu Gambar Boulder

Geosites



Santubong from Tk Asam Beach



Tk Nipah, Buntal



Pantai Puteri



Rocky Beach, P. Sempadi

Geosites



P. Tukong Banun

P. Satang Kecil

P. Satang Besar

P. Tukong Ara

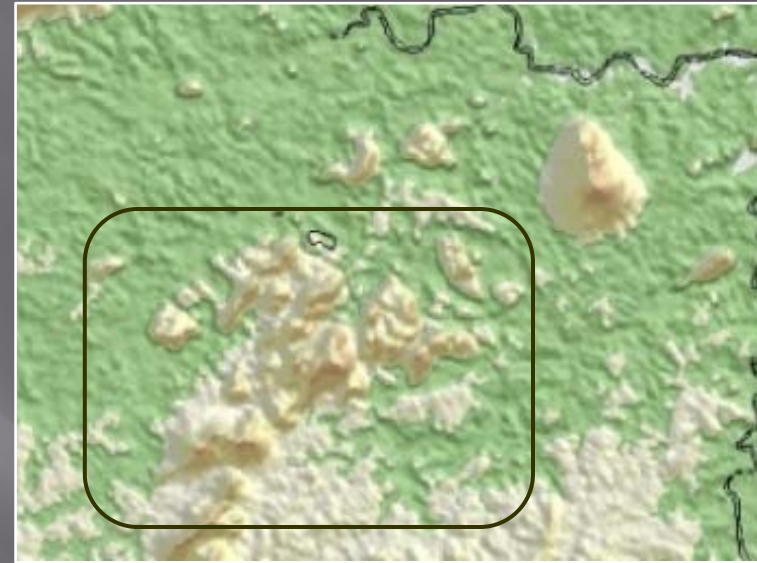
Bau Limestone

Geoheritage Significance

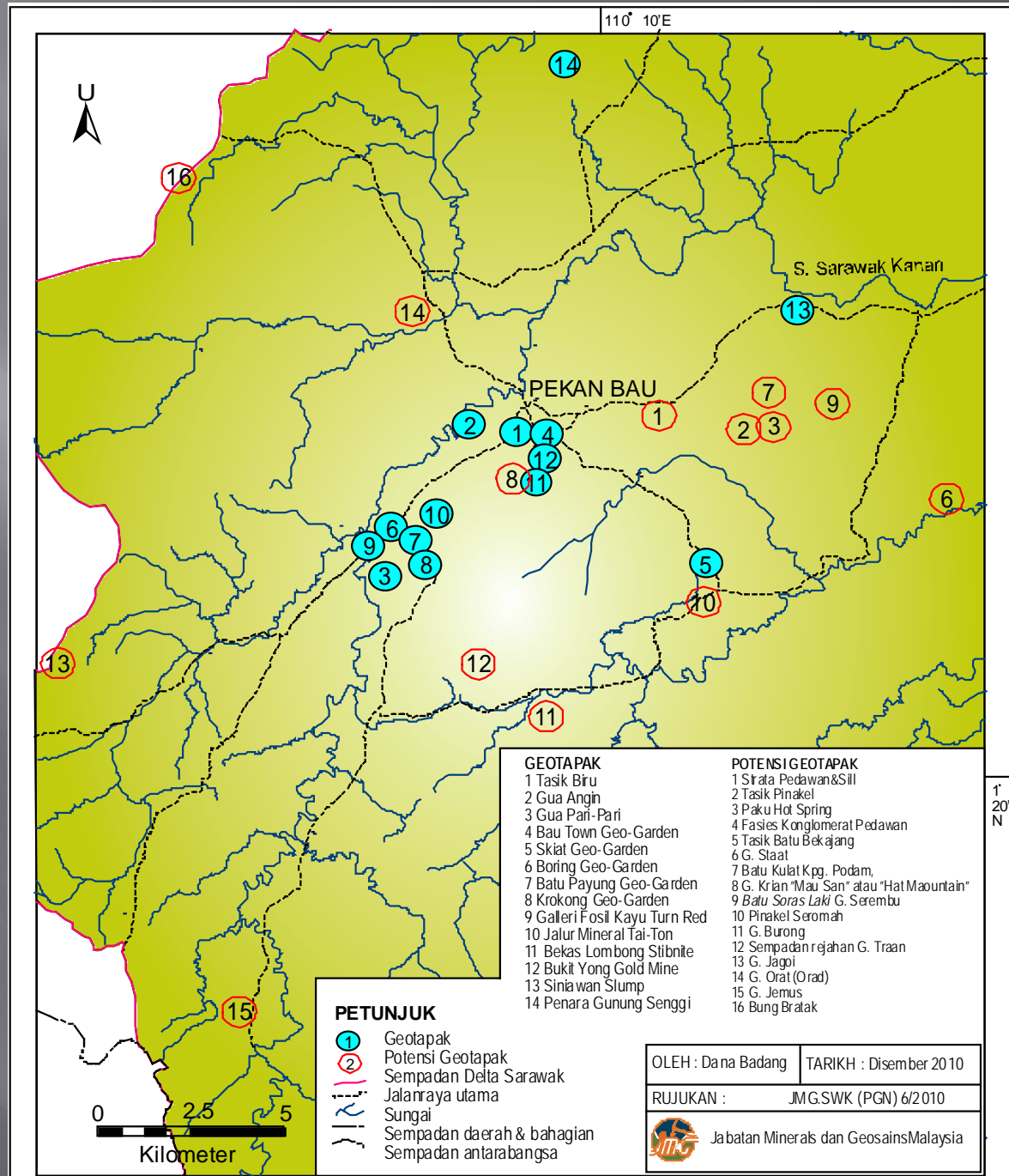
The tropical karsts landscape

Historical mining site

Fossil sites



Bau Limestone



Geotopes



Tasik Biru



Skiat Geo-Garden



Pinnacle



Wood Fossil Gallery



Tai Ton Mineralization

Geosites



Fossil



Fairy Cave



Wind Cave



Bau Geo-Garden



Siniawan Slump



Batu Payung Geo-Garden



Boring Geo-Garden



Krokong Geo-Garden



Senggi Plateau

Geosites



Tasik Biru



Wind Cave NR



Skiat's Pinnacle



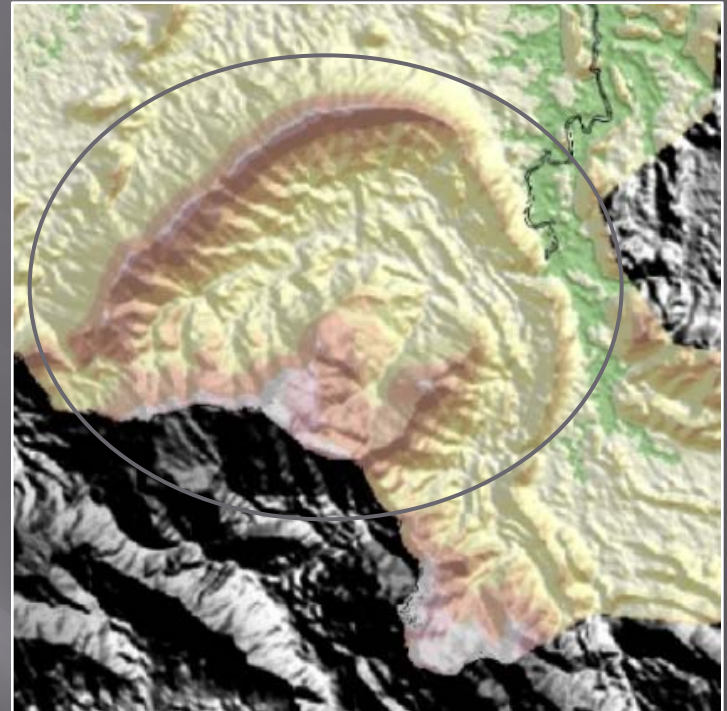
Fairy Cave NR

Bungoh Highland

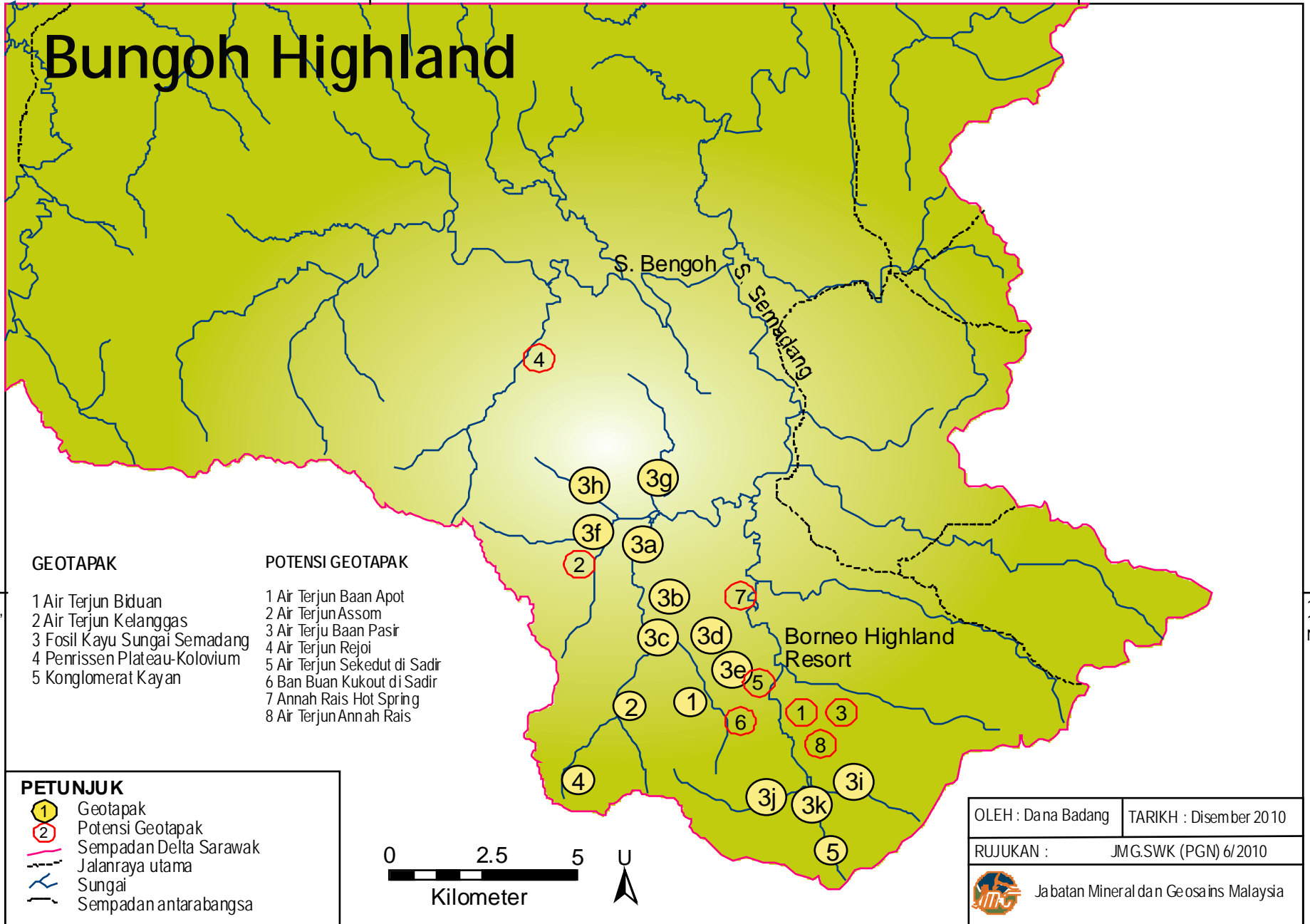
Geoheritage Significance

Unique basinal landform

Oldest continental deposit in
Borneo



Bungoh Highland



GEOTAPAK

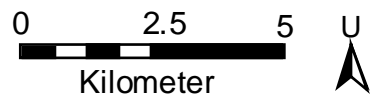
- 1 Air Terjun Biduan
- 2 Air Terjun Kelanggas
- 3 Fossil Kayu Sungai Semadang
- 4 Air Terjun Rejoi
- 5 Konglomerat Kayan

POTENSI GEOTAPAK

- 1 Air Terjun Baan Apot
- 2 Air Terjun Assom
- 3 Air Terju Baan Pasir
- 4 Air Terjun Sekedut di Sadir
- 5 Air Terjun Sekedut di Sadir
- 6 Ban Buan Kukout di Sadir
- 7 Annah Rais Hot Spring
- 8 Air Terjun Annah Rais

PETUNJUK

- 1 Geotapak
- 2 Potensi Geotapak
- Sempadan Delta Sarawak
- Jalanraya utama
- Sungai
- Sempadan antarabangsa



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Geosites



Biduan Waterfalls



Simangas Waterfalls



Kayan Conglomerate



Piin Wood Fossil

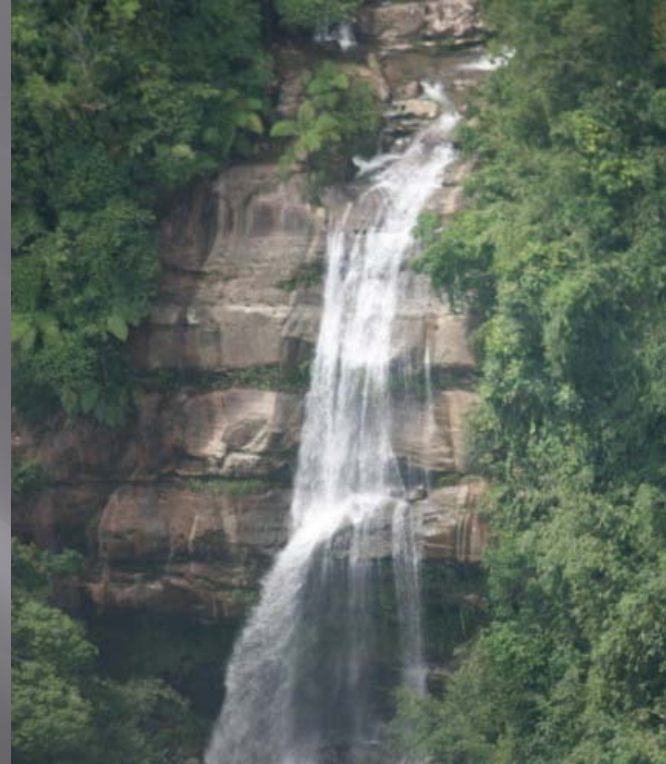


Colloviu Plateau

Geosites



Borneo Highland Resort



Assom Waterfalls



Penrissen Syncline



Wood Fossil

Geotourism

The whole proposed Sarawak Delta Geopark area

Particularly in Bako, Santubong & the Islands, Bau and Bungoh Highland

For education, appreciation and recreational purposes

Geological strata, beautiful landscape, mountains, coastal beaches & waterfalls



Geotourism activities

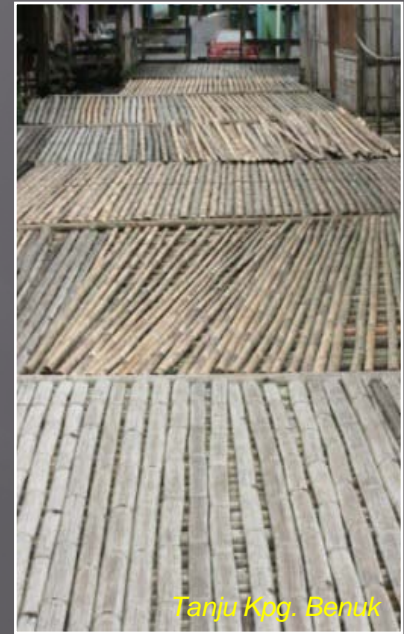


Conclusion

Rich in various types of geological & geomorphological features that contain many intrinsic, aesthetic, cultural and recreational values.

Worth developing for the geotourism industry to enhance the socioeconomic development of local communities.

Through the establishment of the proposed Sarawak Delta Geopark.



SEKIAN, TERIMA KASIH





Sirimu Homestay



Baruk Kpg. Opar



Sirimu Homestay