Asia-Pacific Forest Sector Outlook: Roadmap for primary forests conservation Online expert workshop 23-25 March 2021





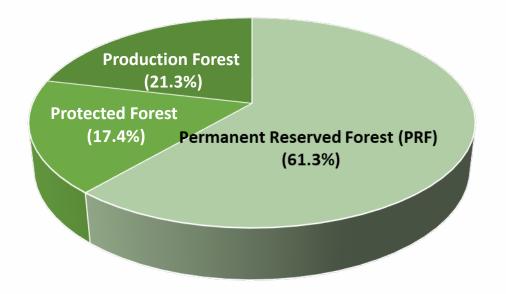
Geospatial technology for identifying and mapping priority areas of primary forest for conservation in Malaysia

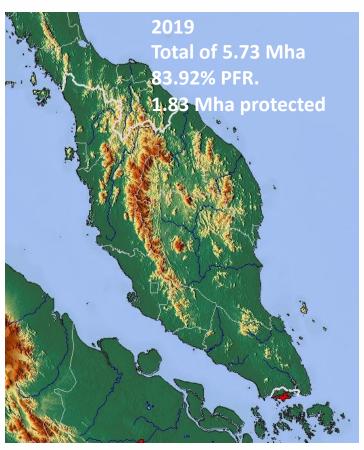
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Universiti Teknologi Malaysia
23 March 2021



Forest cover in Malaysia

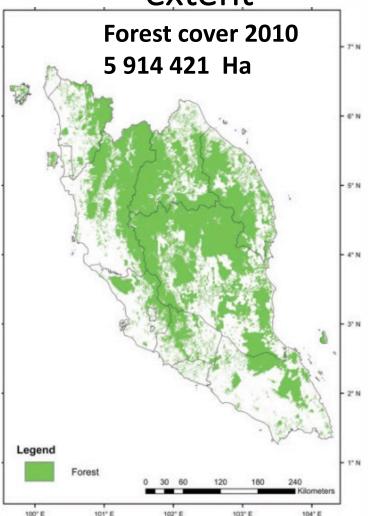
Total forests in 2016- 18.24 Mha (FAO, 2020)



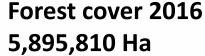


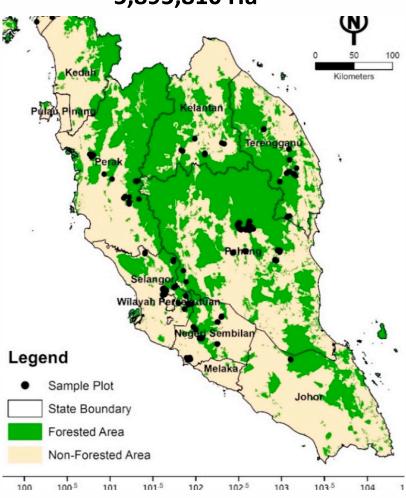
1,086,000 Ha of the tropical rainforests are classified as primary/virgin forests (FAO, 2020) PRF decreased from 4.91 Mha in 2011 to 4.81 Mha in 2019

Mapping forest cover extent









Source: Mohd Najib and Kanniah, 2019

Source: Omar et al., 2017

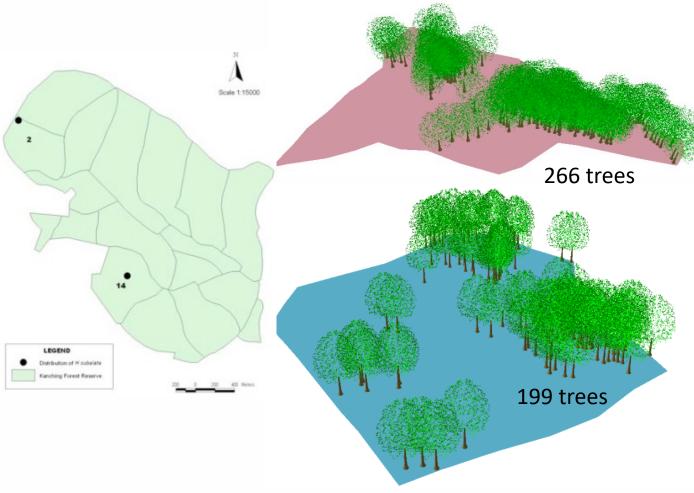


Conservation of Hopea subalata



Max. Height of 12 m,DBH 35 cm Critically endangered species Occur only in Kanching

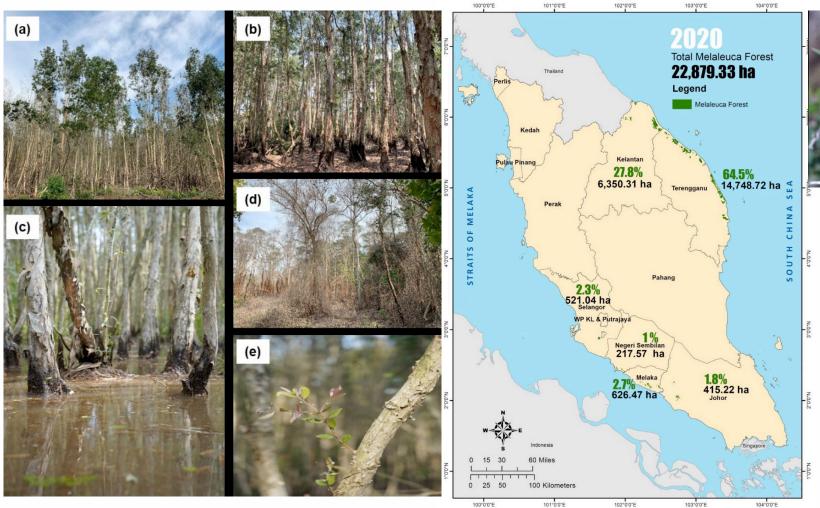
Source: Hamidah and Chua, 2021



3D view of *H. subalata* in Compartments 2 and 14 of Kanching Forest Reserve, Selangor, Malaysia



Conservation of Melaleuca swamp forest



Source: Omar et al.,2020



Iskandar Malaysia(study area)

104°0'0"E

1°50'0"N

-1°40'0"N

1°30'0"N

103°40'0"E

Mapping forest cover extentlocal scale



1°20'0"N -1°20'0"N 20 Kilometers 03°20'0|E 104°0'0"E 103°48'0"E 103°33'30" 103°26'30"E 1°28'0"N-**(b)** 1°28'0"N Sungai Pulai, best example of a tropical river basin 1°24'30"N-1°24'30"N 1°21'0"N--1°21'0"N Pulau Kukup - the only mangrove forest island 1°17'30"N--1°17'30"N Tanjung Piai - southern most tip of mainland Asia 103°33'30"E 103°26'30"E

0 2.5 5

103°20'0"E

1°40'0"

1°30'0"N

(a)

Source: Kanniah et al., 2015

10 Kilometers



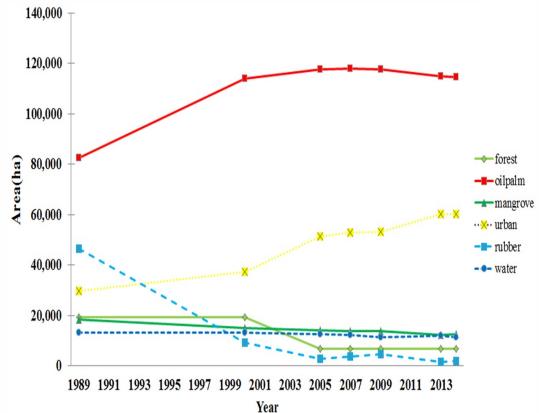
Satellite Images for Monitoring Mangrove Cover Changes in a Fast Growing Economic Region in Southern Peninsular Malaysia

remote sensing

Kasturi Devi Kanniah ^{1,*}, Afsaneh Sheikhi ¹, Arthur P. Cracknell ², Hong Ching Goh ³, Kian Pang Tan ¹, Chin Siong Ho ⁴ and Fateen Nabilla Rasli ¹

www.mdpi.com/journal/remotesensing

Remote Sens. 2015, 7, 14360-14385; doi:10.3390/rs71114360



- 65% reduction in forest from 1989 to 2000
- 33% Reduction between
 1989 and 2014





Mangrove Conservation action plans for Iskandar Malaysia

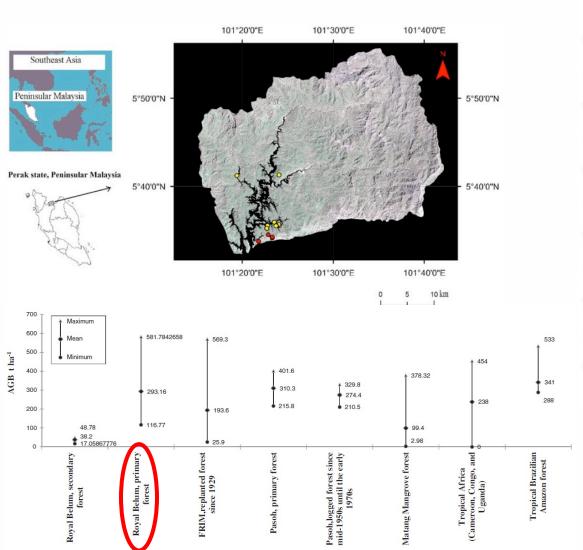
Action 10: Green and Blue Infrastructure and Rural Resources

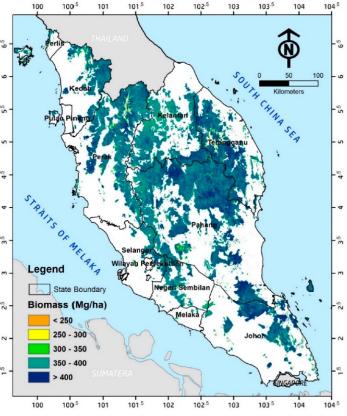
Sub-action: Conservation of Mangrove Forests

Measures	Programs
Reinforce protection of existing mangrove areas	 Gazette all mangrove areas as protected forests
	 Strict enforcement against illegal mangrove clearing
	3. Ongoing mangrove species audit
Mangrove area regeneration	 Corporate sectors adoption of mangrove regeneration projects
	Involving students and schools in mangrove trees planting



Aboveground biomass of forests





Source: Omar et al.,2017

Source: Kanniah et al.,2017



Protected and conservation priority zones encroached by oil palm plantations

Location of the oil palm plantation

Level 1 CPZ

Level 2 CPZ

Level 3 CPZ

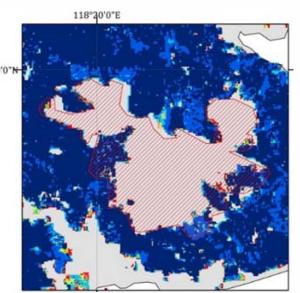
Non CPZ

Non CPZ

110-bro E 115-bro E 120-bro E 120-bro E 120-bro E

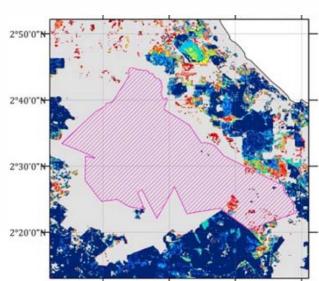
Category I

Mount Pock
Protection Forest
Reserve designated
in 1984



Category II

Endau Rompin National Park designated in 1993



Source: Leyu et al., 2021