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

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Forest cover in Malaysia

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

- Production Forest (21.3%)
- Protected Forest (17.4%)
- Permanent Reserved Forest (PRF) (61.3%)

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

2019
Total of 5.73 Mha
83.92% PFR.
1.83 Mha protected
Mapping forest cover extent

Forest cover 2010
5,914,421 Ha

Forest cover 2016
5,895,810 Ha

Source: Mohd Najib and Kanniah, 2019

Source: Omar et al., 2017

Legend
- Forest
- State Boundary
- Forested Area
- Non-Forested Area
- Sample Plot
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

266 trees
199 trees
Conservation of Melaleuca swamp forest

Source: Omar et al., 2020
Mapping forest cover extent-
local scale

Source: Kanniah et al., 2015
Satellite Images for Monitoring Mangrove Cover Changes in a Fast Growing Economic Region in Southern Peninsular Malaysia

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- 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**

<table>
<thead>
<tr>
<th>Measures</th>
<th>Programs</th>
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| Reinforce protection of existing mangrove areas | 1. Gazette all mangrove areas as protected forests  
2. Strict enforcement against illegal mangrove clearing  
3. Ongoing mangrove species audit |
| Mangrove area regeneration | 1. Corporate sectors adoption of mangrove regeneration projects  
2. 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

**Category I**
Mount Pock Protection Forest Reserve designated in 1984

**Category II**
Endau Rompin National Park designated in 1993

Source: Leyu et al., 2021