

Study of Coastal ‘Blue Carbon’ in Indonesian Waters

By

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Participation of Indonesia to the Global Climate Change Programme

President Yudhoyono

- Initiating of the **Coral Triangle Initiative**, a cooperation among Indonesia, Malaysia, Philipina, Papua New Guinea, Solomon islands, Timor Leste & Brunei Darussalam, to protecting coral reef ecosystems & its biodiversities.
- Initiating of the **Forest - 11 (F-11)**, a group of tropical forest countries.
- Received the **UNEP Award Leadership in Marine and Ocean Management**, on The 11th Special Session of The Governing Council/Global Ministerial Environmental Forum on February 2010 in Bali.

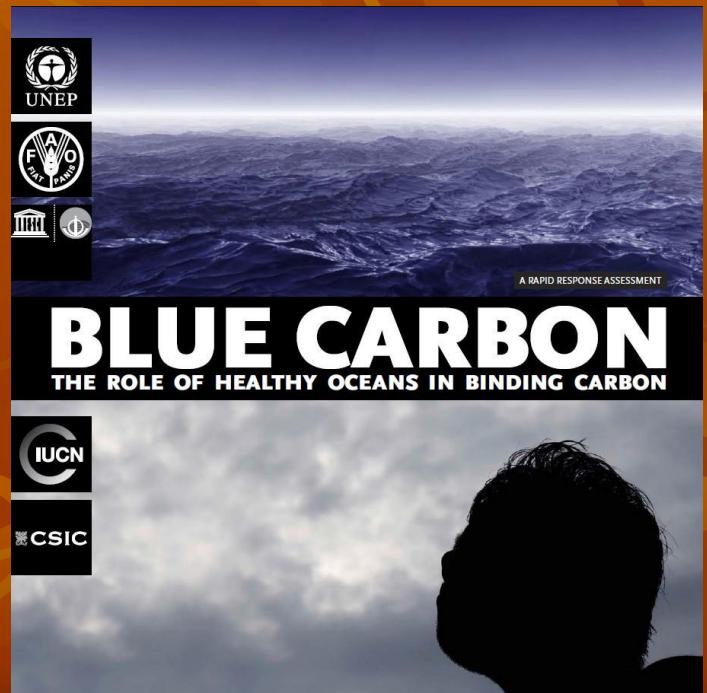


Participation of Indonesia to the Global Climate Change Programme

*Minister of
Marine Affairs & Fisheries
11 May 2011*



Ms.Kerri Ann Jones Ass Secretary of State for Ocean,
Environment,Scientiffic Affairs (20 July 2011)



Participation of Indonesia on Coastal-Marine Carbon Programme

Study of Coastal '**Blue Carbon**' in Indonesian Waters



Scientific Findings



*Coastal **Blue Carbon** Policy*

Oceans → Controlling Greenhouse Gases

Deforestation



+

Fossil Fuels



BROWN CARBON

Atmosphere

46%



GREEN CARBON

Land

29%



BLUE CARBON

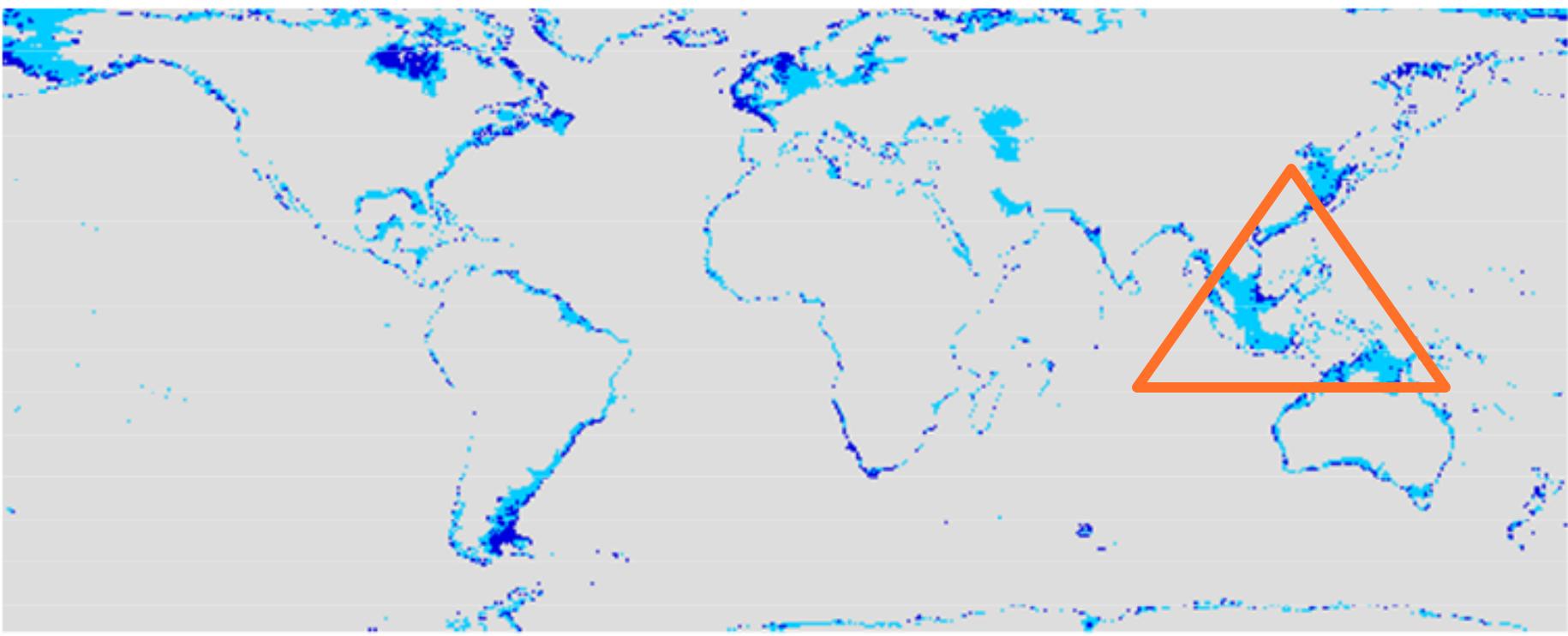
Oceans

26%



Coastal ???

Coastal-Ocean (0 to – 200 m) Region



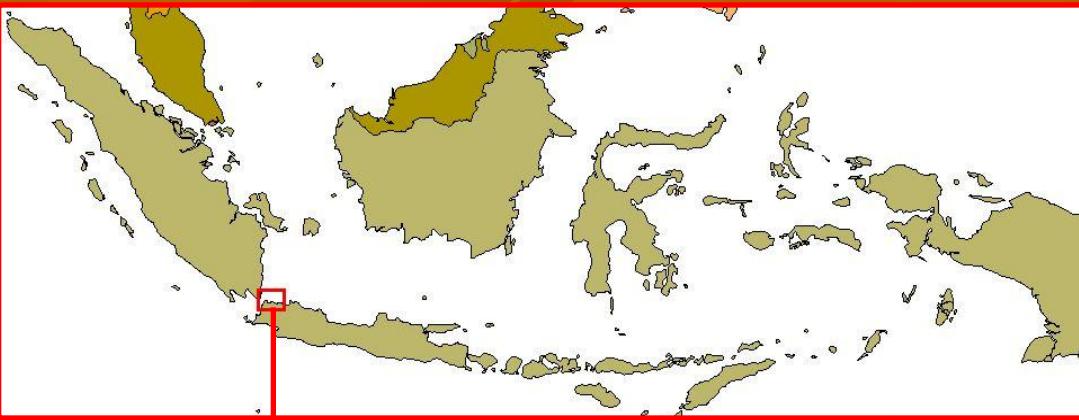
about 5% of global area

Biogeochemically reactive:
20-33% of total marine
primary productivity
(50 Gt yr⁻¹)

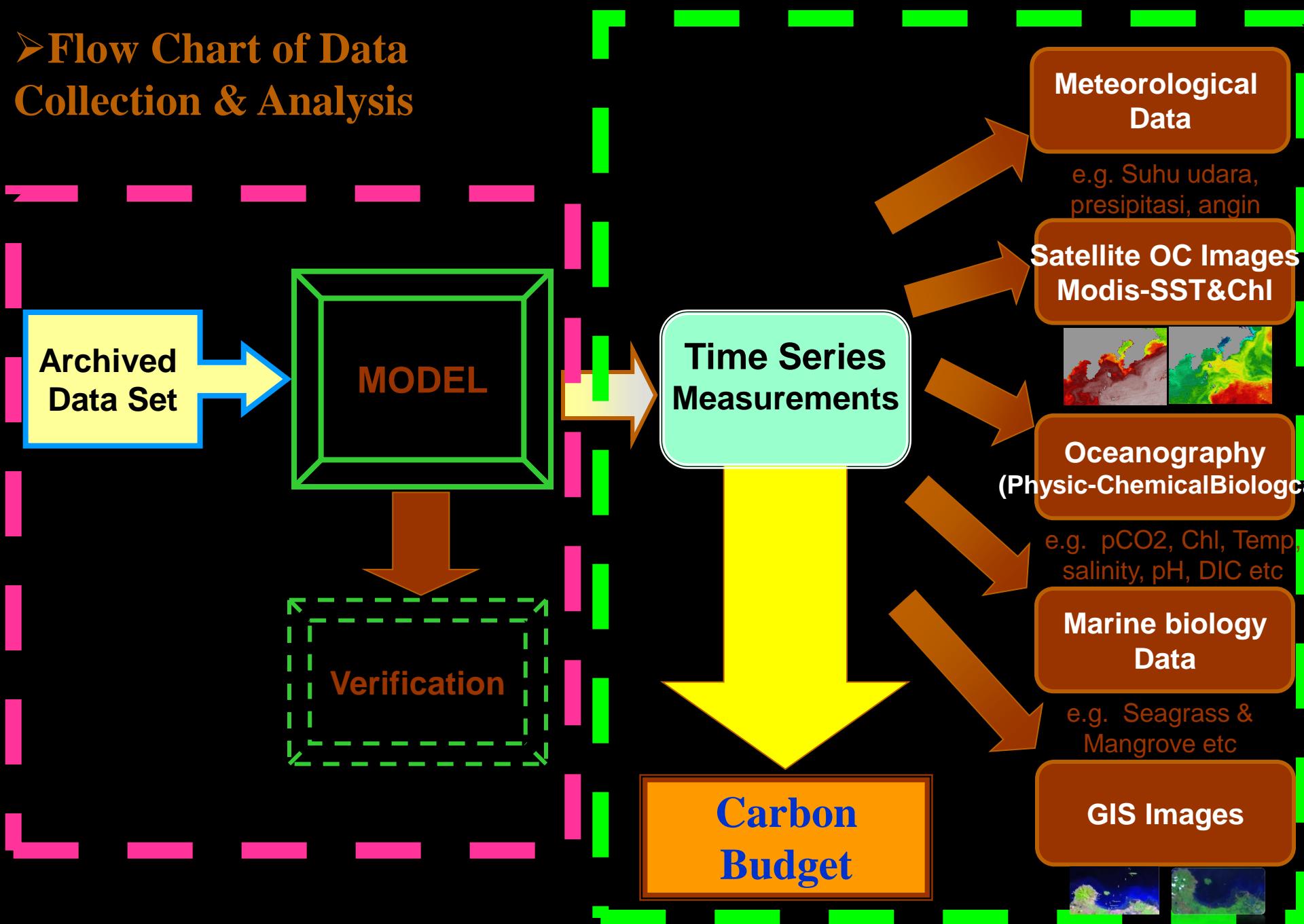
Densely populated
16 out of 23 mega cities in
the world
(>2.5 million inhabitants)

Pilot Study on Blue Carbon

Location :
Banten Bay



➤ Flow Chart of Data Collection & Analysis



Member of BLUE CARBON Team

1. Research Center for Coastal & Marine Resources, Ministry of Marine Affair & Fisheries (KKP)
2. Institute for Marine Research & Observation, Ministry of Marine Affair & Fisheries (KKP)
3. Indonesian Institute of Science (LIPI)
4. Agency for the Assessment and Application of Technology (BPPT)
5. University of Indonesia (UI)
6. Bogor Agricultural University (IPB)
7. Bandung Institute of Technology ((ITB))



Parameter To Be Measured

Sea water Analysis

- Dissolved Inorganic Carbon (DIC)
- Particulate Organic Carbon (POC)
- Particulate Organic Nitrogen (PON)
- Nutrients (N, P, Si)
- Chlorofil and Primary Production

Mangrove & Seagrass Analysis

- Biomass (leaves, roots)
- Chlorophyll and Primary Production

Coastal and Marine Sediment Analysis

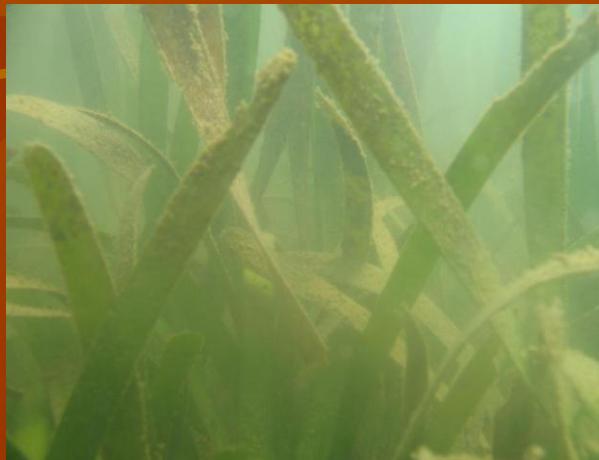
Sampling Sites- Banten Bay



Seagrass Bed



Sampling of Seagrass Bed



- The method is modification from SeagrassNet for coverage

- Line transect (50m)

- Kuadrat transect (1x1m) each 10 m

- Biomass

Sampling of Mangroves



Mangrove Pulau Dua



Mangrove terlihat di pesisir dengan jenis :

- Rhizophoraceae (*Rhizophora mucronata*, *Rhizophora stylosa*, *Bruguiera gymnorhiza*),
- Aviceniaceae (*Avicenia marina*, *Avicenia alba*),
- Arecaceae (*Nypa fruticans*)



Mangrove At St. Muara River of Pontang

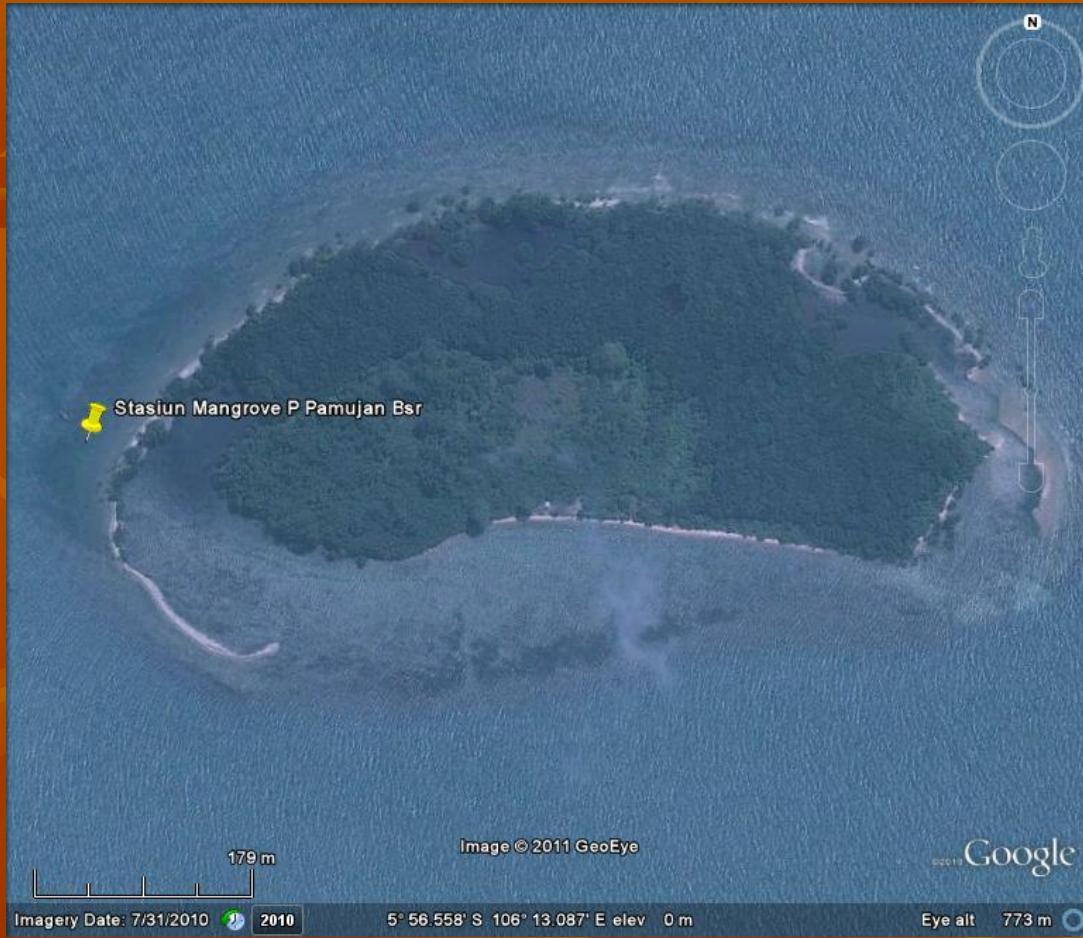


Mangrove terlihat di sepanjang sungai dan adanya zonasi



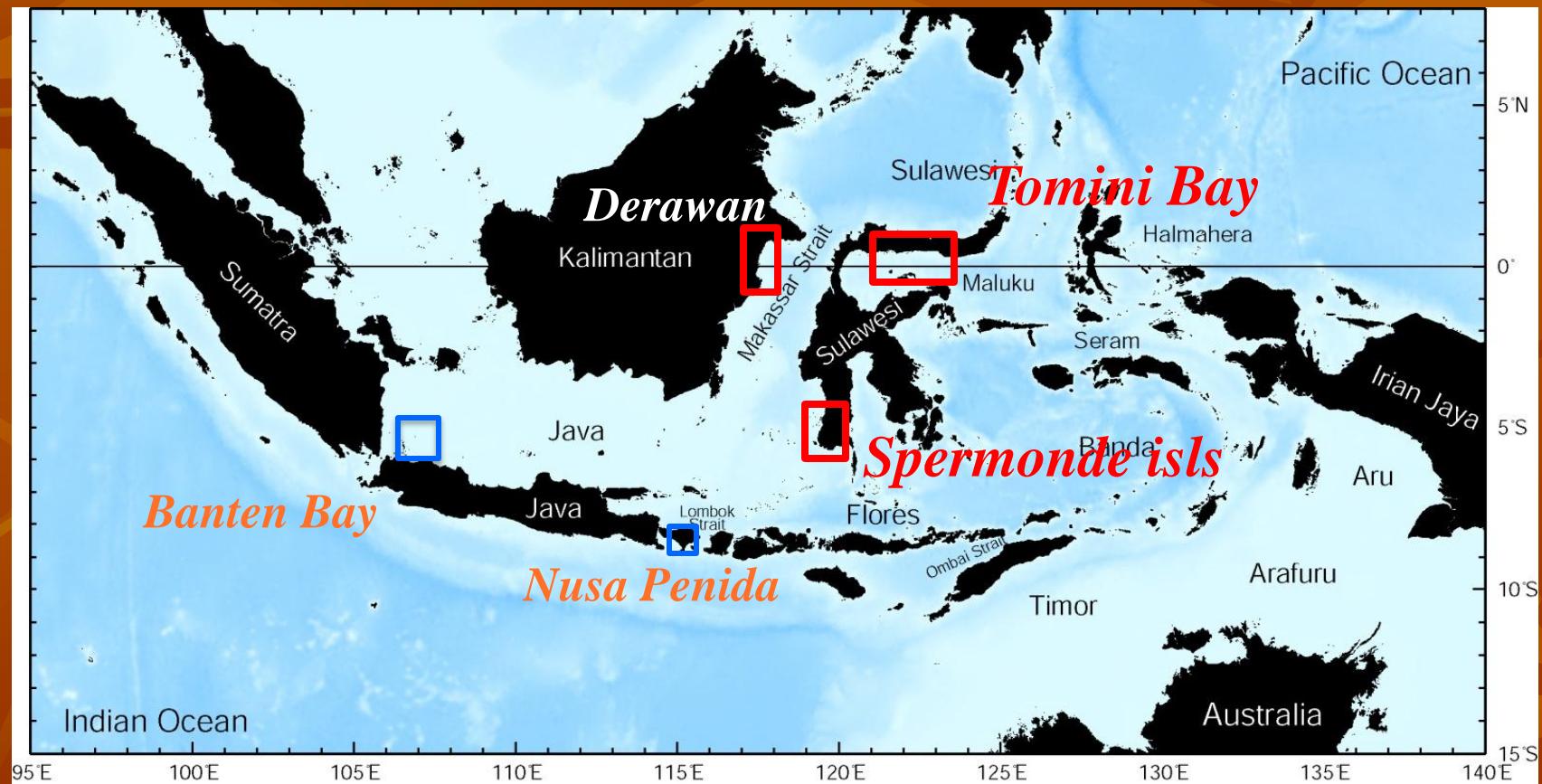


Mangrove Pulau Pamujan Besar



Mangrove yang ditemukan adalah jenis *Avicennia marina*, *Rhizophora mucronata*/ *Lumnitzera racemosa* dan *Thespesia populnea* (waru pantai)

Future Study Sites for Blue Carbon Research Project (2010-2014)





Thank You



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Ministry of Marine Affairs & Fisheries – Indonesia