INDONESIA OCEAN AGENDA ON BLUE CARBON

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Food (Fisheries, fruits, etc.)
Coastal protection
Coastal Water Quality
Livelihoods (tourism, etc.)
Military Defence
Biodiversity
Mitigate Climate Change

COASTAL AND OCEAN ECOSYSTEM SERVICES
MAP of MANGROVE ECOSYSTEM

3.4 Millions Ha (KLHK, 2014)
Alongi et al., 2014
Mangrove’s Habitat

An undegraded marine mangrove in Kongsi Island,

A degraded estuarine mangrove, in Segara Anakan Lagoon, Central Java

An undegraded estuarine mangrove, in Berau Delta

4 Major Mangrove Settings

River delta
Tidal estuary
Lagoon
Carbonate reef
Data and Samples Collection at COASTAL Ecosystem

Kuadrand transect

Sediment Core

Line transect

Measurement of Biomass and DBH
Total $C_{\text{org}}$ Stocks In The Studied Sites

SAL  Kongsi  Berau

$C_{\text{org}}$ Stocks (Mg C ha$^{-1}$)

SAL  Kongsi  Berau

SAL  Kongsi  Berau
**Total C\textsubscript{org} Stocks**

\(C\textsubscript{org}\) stocks (at the top 1 m depth) from several sites

![Graph showing C\textsubscript{org} stocks from various sites.](image)

- Kongsi, Sulawesi (1)
- Togian, Sulawesi (2)
- Palau, Micronesia (3)
- Sian Ka'an, Mexico (4)
- Bebung, Sulawesi (2)
- Palm, West Papua (1)
- Sunderbans, Bangladesh (5)
- Madagascar (6)
- Mozambique (7)

**Marine mangroves**

**Estuarine mangroves**

- Belowground biomass and sediment
- Aboveground biomass

**Total C\textsubscript{org} Stocks**

![Bar chart showing total C\textsubscript{org} stocks from various sites.](image)
Tracing The Sources Of Organic Matter Using The Stable Isotope Composition \( (\delta^{13}C_{\text{org}}) \) and C/N ratio

Khan et al. 2015
Carbon Accumulation Rate

Kusumaningtias et al, 2018 (submitted)
Mainstreaming Indonesia Blue Carbon In The Regulatory Framework

Presidential Decree No. 16/2017
“Indonesia’s Ocean Policy”

Presidential Decree No. 73/2012
“National strategy for mangrove ecosystem management”

Paris Agreement
- NDC, REDD+, JMA
- Laws 16/2016

Sustainable Development Goals
- SDG 13 & 14

- Restoration & conservation
- Public awareness
- Capacity building
- Database

MHA: Mins of Home Affairs
MOEF: Mins of Environment & Forestry
MMAF: Mins of Marine Affairs & Fisheries
MRT-HE: Mins of Research, Tech & Higher Edu
CSO: Civil Society Organizations/Private Sectors

Conserve and sustainably use the oceans, seas and marine resources.
Designed to coordinate blue carbon Scientific-Policy activities, for developing an effective national policy in response to blue carbon and other related ecosystem services to improve coastal community livelihoods.
Expected Outcomes

Incorporation of blue carbon as a focused article in national climate change policy:

- Presidential Decree (KEPPRES)
- National Policy towards Low Carbon Development Plan (RPJM, NDC, RAN)
CHALLENGES

• Up dating maps of Mangrove & Seagrass Ecosystems regularly
• Standard Scale 1 : 250.000
• Need to increase ground check
• Multi displineary Sciences are needed
Network System in Indonesia

Coral Triangle Ecoregion
(Green and Mous, 2008)

Where Blue Carbon assessment, monitoring, Blue Carbon Strategy and capacity building are implemented.
Thank You....!

Coordinating Ministry for Maritime Affairs
Republic of Indonesia