

Beyond Green Carbon: 3rd International Symposium 2024

Climate Change Adaptation and Mitigation with Mangrove Ecosystems

Introducing Mangrove Ecosystems Strategies to the Climate Change Agenda

29 April 2024, 09:00 AM –15:30 PM (GMT+7)

Amazon Room, CIFOR



Background

Mangroves, which are distinct forests in coastal and estuarine saline wetlands of tropical and subtropical regions, are pivotal in addressing the climate crisis. Comprising various species, these ecosystems are categorized into 'exclusive' (true mangroves) and 'non-exclusive' (semi-mangroves or mangrove associates). True mangroves excel in saline environments, with specialized adaptations like aerial roots for oxygen absorption and viviparous seed germination. Mangroves are critical components of 'blue carbon' ecosystems, known for their effective carbon dioxide absorption from the atmosphere and significant carbon storage capabilities, surpassing that of warm-temperate forests. This positions them as valuable assets in the global effort to combat climate change.

The Indo-West Pacific Region, which includes East Asia, hosts the most diverse mangrove ecosystems in the world, with distribution area gradually expanding and migrating owing to climate change. The Korean Peninsula is situated in the northernmost subtropical climate area in East Asia, where the

Kuroshio Current in the Western Pacific Ocean has consistently influenced the distribution of subtropical plants. Currently, two species of semi-mangrove trees inhabit coastal areas in Korea — *Hibiscus hamabo* and *Paliurus ramosissimus* — particularly on Jeju Island, with their distribution and range expanding incrementally. These species, adaptable to both intertidal zones and terrestrial habitats, lack the typical mangrove traits of aerial roots and unique seed germination. Despite this, they offer potential for carbon absorption and climate change mitigation. A recent predictive study demonstrated the potential expansion of the distribution of subtropical plants in East Asia, including the possible establishment of mangroves in Korea, owing to climate change.

This symposium seeks to highlight the crucial ecological and climate roles of mangrove and semi-mangrove ecosystems. Focusing on East Asia, we aim to explore the carbon-sequestration potential of these species. Key discussions will include nursery and propagation strategies suitable for local climates, methods to enhance carbon absorption in coastal areas, and effective management practices for maintaining these ecosystems.

Agenda

Time (Jakarta Time)	Agenda
8:45–9:00	Registration
9:00–9:05	Introduction to the symposium Mihyun Seol , Seconded Scientist, CIFOR-ICRAF
9:05–9:15	Opening and welcoming remarks Christopher Martius , Team Leader, Climate Change, Energy & Low-Carbon Development, CIFOR-ICRAF
9:15–9:40	Congratulatory remarks 1. Hyungsoon Choi , Director, NIFoS Jeju 2. Junkuy Cho , Korean Co-Director of Korea–Indonesia Forest Cooperation Center
9:40–10:00	Photo session, coffee break and networking
10:00–12:00	Thematic presentation Session 1 Perspectives on Mangrove Research 1. Introduction, scope, and perspectives: Bora Lee , NIFoS Jeju 2. Carbon stock assessment in Demak District, Central Java and Serang City, Banten, Indonesia: Milkah Royna , Student Intern, CIFOR-ICRAF. 3. Coastal and mangrove vulnerability assessment in the northern coast of Java, Indonesia: Phidju Marin Sagala , Research Consultant, CIFOR-ICRAF. 4. Mangrove Restoration Project in South Sumatra: Beni Okarda , Senior Research Officer, CIFOR-ICRAF 5. Forest Projects in Indonesia: Hyoung Gyun Kim , Korea–Indonesia Forest Cooperation Center 6. Discussion Moderator: Citra Gilang , Research Consultant, CIFOR-ICRAF
12:00–13:30	Lunch break
13:30–15:00	Thematic presentation Session 2 2023 Results / 2024 research plan 1. Data analysis and findings: Citra Gilang , Research Consultant, CIFOR-ICRAF 2. Mangrove forest ecosystem services: Mihyun Seol , Seconded Scientist, CIFOR-ICRAF 3. 2023 results summary and 2024 research overview: Himlal Baral , Senior Scientist, CIFOR-ICRAF 4. Discussion Moderator: Agus Maulana , Research Consultant, CIFOR-ICRAF
15:00–15:20	Introduction to the Blue Carbon Deck Daniel Murdiyarto , Principal Scientist, CIFOR-ICRAF
15:20–15:30	Closing and concluding remarks Mihyun Seol , Seconded Scientist, CIFOR-ICRAF

For more information, please contact

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CIFOR-ICRAF

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