Remote Sensing-based Seagrass Blue Carbon Assessment
Regional Training and Research Center on Marine Biodiversity and Ecosystem Health (RTRC-MarBEST)

Jakarta, Indonesia, 23 September – 4 October 2024

TENTATIVE SYLLABUS

Part I: Online Lectures (23 – 27 September 2024)

- Introduction to Seagrass Ecology
- Seagrass ecosystem services as natural capital assets providing blue carbon ecosystem service
- Introduction to seagrass blue carbon measurement: Methods & Analysis
- Basics of remote sensing
- Seagrass remote sensing
- Remote sensing application for estimating seagrass above ground carbon stock
- Geospatial information policy in Indonesia: one map policy and geospatial data custodian
- Developing the seagrass blue carbon network: Indonesia's Case and its potential scale-up
- Capacity development in the western pacific region and guideline to conduct research and training in Indonesia

Note: Part I of online training will be conducted through Learning Management System (LMS). Participants are required to attend the Part I online and accomplish relevant assignments.

Part II: Hands-on Training and Fieldwork (30 September – 4 October 2024)

Fieldwork design and implementation:

- Seagrass blue carbon survey techniques and preparation
- Field samples collection and storage

Sampling data processing

- Field data and samples interpretation and processing
- Remote sensing images pre-processing
- Integration of processed field data into remote sensing images

Seagrass carbon stock estimation

- Seagrass habitat mapping using remote sensing images
- Correlating ecological data to above-ground carbon (AGC) biomass
- Average and total seagrass AGC estimation
- Seagrass carbon stock mapping by integrating AGC data to seagrass habitat map
- Accuracy assessments on seagrass habitat mapping and seagrass carbon stock mapping

Final presentation of participants

- Group presentation
- Practical recap for seagrass habitat and seagrass blue carbon mapping