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Assessing and Refining Carbon Stocks in Soil and Biomass Across Scales in Kalimantan/Indonesia

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Abstract

The amount and spatial distribution of carbon stocks in aboveground biomass (AGB) in tropical rainforest ecosystems in Kalimantan are subject of much research, but amount and variability of belowground biomass (BGB) and soil organic carbon stocks (SOC) remain uncertain for several forest ecosystems and deep soil. However, reliable data on the latter two pools are required to estimate total ecosystem carbon stocks ($ECS = AGB + BGB + SOC$) and their change due to anthropogenic activities across larger scales. It is therefore important to assess carbon stored in BGB and soils of varying forest ecosystems to improve our understanding of ECS and to refine their spatial distribution. In this presentation we summarise pilot efforts to assess BGB, its heterogeneity and dynamic changes due to natural and human impacts and discuss methods to refine carbon stock estimation across scales, as a basis for more reliable data to predict carbon stock changes due to global change under different land management scenarios.

Keywords: Carbon stocks, Indonesia, soil carbon, tropical soils