

Soil carbon storage of various species in Marudu bay mangrove forest, Sabah

ABSTRACT

Soil, forest and atmosphere are potential carbon storage in the terrestrial ecosystem. However, little is known regarding the carbon storage of this ecosystem, particularly belowground. This study was conducted in the Marudu Bay mangrove forest, Sabah with the aim of quantifying carbon storage in soil for four dominant species in the study area. A total of 60 samples were collected at different species sites. Multiple linear regression and Pearson's correlations analysis were employed in this study. The average soil carbon storage in Marudu Bay mangrove forest was 89.98 t/ha with 35.5% from *Rhizophora apiculata*, 28.9% from *Nypa fruticans*, 27.15% from *Bruguiera parviflora* and 8.44% from *Avicennia alba*. Soil carbon storage was significantly affected by carbon content and sampling depth.

Keyword: Soil carbon storage; Mangrove forest; *Rhizophora apiculata*; *Bruguiera parviflora*; *Avicennia alba*; *Nypa fruticans*

