

Spatial and temporal variation of organic carbon in mangrove sediment of Rembau-Linggi estuary, Malaysia

ABSTRACT

Mangrove sediments act as site of organic carbon accumulation in estuary. This paper aims to determine the distribution of OC content in mangrove sediment in mangrove root zone. Three replicate samples of mangrove sediment were collected from seven stations. Six in-situ water quality parameters were measured during low tide along the river. The OC content in mangrove sediment varied significantly among sampling stations with values ranging from 13.6 to 26.0 mg/g. OC content in five stations namely station 1, 2, 3, 5 and 6 noted to have increased significantly from 6.56% to 26.42% after six months interval. There were no significant correlations between OC content in mangrove sediment with the six in-situ water quality parameters measured. The variability in OC content in each station indicates that anthropogenic activities and land uses in the area have influence on the distribution of OC content in this estuary.

Keyword: Organic carbon; Mangrove sediment; Anthropogenic activities; Water quality; Land use