

# Continental shelf sediments of Sarawak, Malaysian Borneo

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## ABSTRACT

Sediment distributions in deep sea influence benthic community structure thus play important role in shaping marine ecosystem. Several studies on sediment characteristics had been conducted in South China Sea (SCS), but only limited to coastal areas of regions within SCS territories. Therefore, this study was carried out to analyze benthic sediment profile in area beyond 12 nautical miles off the coast of Sarawak, southern SCS. Sediment samples were collected from 31 stations, comprising three depth ranges: I) 20–50 m, II) 50–100 m and III) 100–200 m. The total organic matter (TOM) contents were determined besides subjected to dry and wet sieving methods for particle size analysis. TOM contents in deep area (>50 m) were significantly higher ( $p=0.05$ ) and positively correlated ( $r=0.73$ ) with silt-clay fraction. About 55 % and 82 % of stations in strata II and III, respectively, were dominated by silt-clay fractions (<63  $\mu\text{m}$  mean diameter), coherent with TOM data. In addition, sediments in deep area (> 50 m) tend to be poorly sorted, very fine skewed and platykurtic. Unlike data obtained 20 years ago which reported high content of silt-clay (58 %), this study recorded lower content (35 %), therefore changes in sediment load had been observed. Future study should focus on investigate status of benthic sediment alteration for better understanding the dynamics of southern SCS.

Keywords: South China Sea, particle size distributions, total organic matter, depth-contour.