

Surface sediment particles structure of Marudu Bay, Sabah, Malaysia

Abstract

Sediment can be classified into three major categories: sand, silt and clay, which has a crucial impact on bottom marine life. In other words, different marine organisms prefer different sediment particle structure and texture, reflecting energetics of transport and deposition processes in the water column. The aim of this study is to determine the surface sediment particle structure and its texture in Marudu Bay. Surface sediments were collected from 10 stations which covered the coastal (ST1, ST2, ST3, ST6 and ST10) and the middle (ST4, ST5, ST7, ST8 and ST9) areas of the bay by using the Ponar© (WILDSCO®, 6 inch) grab sampler. Subsequently, the sediment samples were then analysed with LISST-Portable Laser Diffraction Particle Size Analyser (Sequoia, WA). The results show coastal areas near river mouths have a coarser particle structure with very slightly clayey silty sand texture compared to stations away from river mouth. The pattern is consistent with the resuspension of finer particles from the sand, silt and clay within shallow turbulent coastal water, and transport across the deeper area of the bay. This finding can contribute to baseline information, and suggests that further understanding of the sediment hydrodynamic across the bay is required for management of the system.