

Sediment Characteristic of the Ebb-Tidal Delta in Western Segara Anakan Lagoon

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Author Order	1 of 4
Accreditation	2
Abstract	<p>Western Segara Anakan Lagoon (WSAL) is a semi-enclosed lagoon located in the Cilacap, Central Java Province, Indonesia which has two outlets called pelawangan. West Pelawangan is an open channel from WSAL and the Indian Ocean, which has vast sediment input. It impacts the sediment deposits and delta formations in WSAL. This research aimed to determine the sediment characteristics deposited in the WSAL specifically in the delta formation area, and the mean size of sediments (D50), sorting, and skewness. The research used the survey method while data collected were sediment-bed, bathymetry, and satellite imagery Sentinel 2A with the ebb-tide condition. Sediment was analyzed by sieve and gravimetry and interpreted as a Ternary diagram, D50, sortation, skewness, and fraction percentage spreading map. Satellite imagery Sentinel 2A was searched by the ebb-tide condition. Shorelines and delta was extracted by the Normalized Different Water Index. Bathymetry built from depth points data 2018. The results of the Ternary diagrams analysis were the Citanduy River had a sand grain size, the Pelawangan Barat Waters (PBW) were dominated by sand and the lagoon was dominated by a fine grain size and silt. The result of sediment D50, sortation, and skewness in the Citanduy River and the PBW were dominated by sand, and the lagoon was dominated by fine sediment: silt, and clay grain size. The sediment fractions were sorted very well; skewness was dominated by the fine skewed (positive skewed). The delta formation in the lagoon covers a large area, presumably due to the consolidation of the fine sediment. Keywords: Sediment Characteristics, Ebb-Tidal Delta, Western Segara Anakan Lagoon</p>
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