**COASTAL VULNERABILITY ASSESSMENT FOR CLIMATE CHANGE ADAPTATION AT MARUDU BAY, SABAH, MALAYSIA**

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***ABSTRACT****.*

*Marudu Bay at the northern part of Sabah, Malaysia is part of the proposed Tun Mustapha Marine Park areas. It is also known as significant Malaysian Coral Triangle areas which consist of high abundance of marine biodiversity with extensive mangrove forest. However, currently this area is heavily threatened by over-fishing, destructive fishing and growing coastal development. Moreover, with increasing of climate change effects have caused land lost, beach erosion, sea level rise that eventually caused coastal flooding in this area.* *Therefore, a coastal vulnerability assessment was done along the shoreline to identify the degree of vulnerability due to climate change. Coastal Integrity Vulnerability Assessment Tool (CIVAT) was selected to measure the vulnerability of the physical coast by analyzing natural and anthropogenic factors that affect the beach processes. Interview session with local villagers and field observation were conducted at 11 stations for verification and identification of the coastal habitat. Results showed that 64.34% of the Marudu Bay shoreline has medium vulnerability. Most of this area located at inner part of the bay. Low vulnerability (18.83%) was identified at uninhabited area. Kg. Pingan-Pingan and Kg. Tajau Laut are considered as high vulnerability (16.83%) due to low adaptive capacity and, high sensitivity and potential impacts, respectively. Vulnerability assessment provides basic information of climate change impacts to natural and socio-economical coastal systems. It is suggested that the decision makers should initiate an adaptation measure for the high vulnerable area in Marudu Bay. It is needed for the safety of local communities and protecting the natural ecosystems.*

**KEYWORDS**. Coastline, Coastal Integrity Vulnerability Assessment Tool (CIVAT), climate change adaptation, Marudu Bay