Assessment of Coastal Adaptation Due to Sea Level Rise along the Cherating – Tanjung Agas Coastline, Malaysia

Khairul Nizam Abdul Maulud[1&2], Fazly Amri Mohd[2], Othman A. Karim[1], Rawshan Ara Begum[3] & Nor Aizam Adnan[4]

[1]*Smart & Sustainable Township Research Center, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia, 43600 UKM, Bangi, Selangor, Malaysia*
[2]*Earth Observation Centre, Institute of Climate Change, Universiti Kebangsaan Malaysia, 43600, UKM Bangi, Selangor, Malaysia*
[3]*Center for Water Cycle, Marine Environment and Disaster Management, Kumamoto University, JAPAN*
[4]*Centre of Studies for Surveying Sciences and Geomatics, Faculty of Architecture, Planning and Surveying, University Technology MARA, Malaysia*

E-mail: knam@ukm.edu.my

Abstract

The coastal area is one of the most dynamic areas where the processes of erosion and accretion are constantly occurring. The Pahang coast has been shown to experience severe coastal erosion problems which have had a serious impact on the environmental system along the shoreline; this in consequence, have an adverse effect on the recreational and economic activities in the area. The objective is to investigate the impact of the predicted sea level rise along the Pahang coast and propose adaptation measures to mitigate these impacts. The method used in the study is based on the simulation of numerical modeling using MIKE 21 to predict sea level rise for the period from 2020 to 2100. Results show that the water level will rise between 0.034m to 0.31m, and 16 vulnerable areas along the Pahang coast will be exposed to the risk of inundation that is severe enough to affect the infrastructures located within the 1km zone from the shoreline. Among the proposed adaptation measures is the construction of appropriate protection structure along the study area. It is hoped that these measures will help policy makers and stakeholders to better manage the coastal zone in the future.