

Modelling of coastal vulnerability index along the East coast of peninsular Malaysia due to sea level Rise impact

ABSTRACT

Sea level rise is a very serious phenomena around the world and caused by expansion of sea water due to the high temperature and the melting of ice at the poles. In Malaysia, areas located on the East Coast of Peninsular Malaysia are more vulnerable to the impact of rising sea water because they are facing the South China Sea where the waves are stronger, especially during the monsoon season in November to March. The study site is along the East Coast of Peninsular Malaysia, over 675km and covered fifteen districts located along the coast. This study focuses on developing vulnerability indices on physical, socioeconomic and correlation between both parameters. The analysis of physical vulnerability index (PVI) consist seven variables namely geomorphology, shoreline change rate, coastal slope, wave height, tidal range, sea level rise change and rock type. While for socioeconomic index (SeVI) focuses on three parameters such as quality of life, economic value and infrastructures. After obtaining the index for each parameter, coastal vulnerability index (CVI) is then calculated to determine the overall vulnerability for the coastal area. For CVI, the highest index along coastal area is Kuantan and the lowest index is Tumpat.