UNIVERSITI TEKNOLOGI MARA

COASTAL MORPHOLOGY IMPACT ON THE EROSION AND ACCRETION AREA USING ELEVATION DATA

NIK AMIR ASHRAF BIN NIK AZMI

Thesis submitted in fulfilment of the requirements for the degree of
Bachelor of Surveying Science and Geomatics (Hons.)

Faculty of Architecture, Planning and Surveying

July 2019

AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

Name of Student	:	Nik Amir Ashraf bin Nik Azmi
Student I.D. No.	:	2016645284
Programme	:	Bachelor of Surveying Science and Geomatics (Hons) AP220
Faculty	:	Architecture, Planning and Surveying
Title	:	Coastal Morphology Impact on the Erosion and Accretion Area Using Elevation Data
Signature of Student	:	----------
Date	:	July 2019

ABSTRACT

The dynamical equilibrium of littoral environment that interchanging the phenomena of accretion and erosion of the shoreline is associated to the natural and anthropogenic influences. The Kuala Terengganu coastal area, which consists of human settlements, education institution, tourism attraction and economic development also face the impact of erosion that cause disturbance on the state development growth. This study is conducted to determine the impact of coastal morphology on the erosion and accretion of Kuala Terengganu shoreline using elevation data from the static and real-time kinematic GPS (RTK-GPS) survey methods. The main processing involve the comparison of morphological data between the in situ and archive i.e. temperature, wave height, wind velocity and sedimentation structure, the elevation data from static and RTK method, and the rate of erosion and accretion which was extracted using SPOT-5 satellite data and aerial photograph. It was found that the temperature produced more impact to the coastal changes, compared to other morphological factors. The erosion rate is higher towards the northern part of Terengganu coastal area in 2018 (2072.79 m^2) within 5 years, compared to 2014 (721.5 m^2). Lastly, the impact of erosion rate causes the variety of coastal elevation along the shoreline, where the higher slope angle occurs at the coastal area which has the highest erosion rate in both 2014 and 2018.

TABLE OF CONTENTS