

FLOOD HAZARD MAPPING IN BALING KEDAH MALAYSIA

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ABSTRACT

Flood Hazard Mapping in Baling Kedah Malaysia

Floods are the most recurrent kind of natural disasters for it is the overflow of water that gets to cover areas usually perceived as dry. In order to increase the community's resilience against future flood disasters, this research aim to create a flood hazard mapping of Baling, Kedah, Malaysia. This study's primary goal is to identify flood risk factors and investigate the areas of Baling Kedah that are more likely to experience a flood disaster. The specific objectives of the study are to identify which part of Baling has the higher risk of flood disaster and further to produce a flood hazard mapping in Baling Kedah Malaysia. The study was carried out in stages by compiling data from a variety of open sources, including ArcMap, NASA Power Dave, the USGS, ESRI Sentinel-2 Land Cover Explorer, and precipitation, land use, and boundary data, in various formats to perform data processing. Many methods have been used to process the data obtained from many open sources in the past to provide data on precipitation, river distance, flow length, slope, elevation, and landuse using ArcGIS Pro software. Following that, the flood hazard map for Baling, Kedah, is created using the Reclassify and Weighted Sum tools, both of which are included in the ArcGIS Pro software. Data analysis can be done using the flood hazard map to extract important information that is contained within the map. This study's primary finding indicated the possibility and risk of flooding in the Baling Kedah area. To sum up, this study was critical in mapping flood dangers and pinpointing the parts of Baling most vulnerable to floods.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter covers the project's introduction, which includes the background of study, objectives, problem statements, and project significant. As the study's backdrop, it starts with a synopsis of the flood, the flood events that occurred on the study area, and the importance of flood hazard mapping.

1.2 Background of Study

Since the start of time, floods have been part of nature and have impacted human lives. There aren't many locations on earth where people don't have to worry about flooding. Although there are other factors that can cause a flood, any location that receives rain is susceptible. When water overflows a riverbank and/or inundates an area that is normally dry, a flood happens. There are several ways in which this can occur. The most frequent occurrence is when streams or rivers overrun their banks. A river may overflow due to excessive rain and a breached dam or levee, causing it to spread across the nearby area known as a floodplain. On the other hand, coastal flooding happens when the sea surges inland due to a strong storm or tsunami (Zakaria, et.all, 2017).

The study area, which is Baling, Kedah has occurred multiple times of flood disaster before. But on July 4th, 2022, that was the worst flood disaster that the district has