

Flood Risk Assessment in Beaufort, Sabah, Malaysia

ABSTRACT

Risk is defined as the probability or expectation of loss resulting in the form of death, injury, property damage, economic disruption, disease, relocation, and disruption of community activities caused by a disaster. Having awareness concerning risk levels in an area will expedite all planning on disaster management to be carried out more efficiently and effectively. This is because every area that has a different level of disaster risk should also be managed in different ways. Security and mitigation measures should be emphasized in areas with high levels of disaster risk compared to areas with low levels of disaster risk. Therefore, this study would like to identify the level of flood risk in Beaufort, Sabah. This is because Beaufort one of the areas that often experience floods every year. The level of risk is obtained based on the following model or equation, risk = hazard + exposure + vulnerability. To obtain the results of the study, the application of Geographic Information System or its acronym Geographic Information System (GIS) and fuzzy analysis were used. The results of the analysis found that 3.9% of the total area of Beaufort was categorized as areas with very high-risk levels while another 4.4% and 26.4% were categorized as areas with high and moderate risk levels. The remaining 65.3% are categorized as areas with low and very low-risk levels. Although the percentage of the area that has a very high level of flood risk is only 3.9%, it was found that the area has a town, two small towns, and seven villages. This study is expected to have significant implications in terms of the development of flood disaster management in the Beaufort district in particular and Malaysia in general.