# Flood hazard analysis in floodplain of Beaufort, Sabah, Malaysia

## ABSTRACT

The level of comfort of a home or residential area is important to everyone. The intended connotations of comfort include being safe and free from natural hazards such as floods, landslides and earthquakes. However, there is not one area on this earth that is completely free of natural hazards. Highland areas, for example, are more likely to experience landslides while lowlands are more likely to experience floods. Beaufort District flood plain is one of the most frequently flooded lowlands, especially in Bekalau, Bingkul, Mempagar and Malalugus. Therefore, this study aims to analyze the flood risk level in all four villages. Hydrological data integrated with field measurement data in the field is used to determine flood hazard levels. The duration of the hydrological data is 10 years from 2009 to 2018. Total sample size (to measure strandline) was 241 households. The data were then analyzed using Anaconda Python version 3.7 software through the Pandas application. The findings show that the level of exposure to flood hazards at the study site varied. Nearly 90 per cent of the total sample (residential) is exposed to high flood risk (Area B and Area C). These include the frequency, duration and depth of the flood.