ANALYSIS OF THE FLASH FLOOD EVENT AND RAINFALL DISTRIBUTION PATTERN ON RELAU RIVER BASIN DEVELOPMENT, PENANG, MALAYSIA

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Abstract

Typical disaster flooding and flash floods in Malaysia. Floods occur especially during the wet season within the geographical region area which is especially influenced by the northeast monsoon. So the sampling study was conducted in March 2019 in normal season. Cross-sectional measurements involving the measurement of river width, river depth and velocity were conducted at both sampling times. The main objective of this study was to identify the pattern of rainfall distribution and river

discharge rate in the River Basin Relative when the flash flood event occurred. The average seasonal discharge value in the normal Relau River (Upstream) is 0.04 m3s-1, Relau River (Midstream) is 0.57 m3s-1, Relau River (Downstream) is 0.35 m3s-1. Whereas for Ara River (Midstream) is 0.78 m3s-1, Ara River (Downstream) is 0.19 m3s-1) and Kluang River (Upstream) is 0.18 m3s-1. The estimated value for flash flood shows that total water and sewer capacity that occurred during the flash floods was to increase the water level by five meters from the normal season water level with an estimated water velocity of m3s-1for this area. The reading shows the Relau River (Upstream) reading 5.18 m3s-1, the Relau River (Midstream) is m3s-1 the Relau River (Downstream) is 18.20 m3s-1. While for Ara River (Midstream) is 24.53 m3s-1, Ara River (Downstream) is 25.35 m3s-1) and Kluang River (Upstream) is 26.22 m3s-1. © 2023 by MIP.

Author keywords

Cross-section; flood; rainfall; river basin development; river discharge

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