An Overview: Flood Catastrophe of Kelantan Watershed in 2014

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Abstract

One of the challenging topics in Malaysia is flood occurrence, which have important impacts in human life and socioeconomic subjects. Malaysia, periodically, have faced with huge floods since previous years. Kelantan river basin, which located in the northeast of Peninsular Malaysia, is prone to flood events in Malaysia. Kelantan River has been badly affected with flood during recent monsoon season on December 2014 due to heavy monsoons rainfall and climate change issues. In this study, available rainfall and water-level data are analyzed and presented based on the flood event on December 2014. Generally, the flood area affected includes the districts of Kota Bharu, Kuala Krai, Macahang, Pasir Mas, Pasir Puteh, Tanah Merah, Gua Musang, and Tumpat at Kelantan. In the northeast monsoon season, the Kelantan State suffers from two phase of floods. The first phase began on December 14–17, 2014, and the second phase occurred on December 20–24, 2014. A comparison between accumulated rainfall on December and the whole year of 2014 at Gagau station shows that contribution of rainfall on December is roughly 50% of all of 2014. Overview of water-level results at Kelantan watershed shows that all areas are involved with highest record in 2014 in comparison with previous decades except Golok area. Results of water-level ranges show that most of the parts of Kelantan watershed are involved with over danger values for flood in 2014, which Lebir and Kelantan rivers have high increasing. In conclusion, it is suggested that there is a need to have study on flood mitigation and recognition of critical hydrological phenomena for sustainable strategies in Kelantan watershed. Consequently, this
research provides primary information as baseline study for upcoming research for water resource management projects.

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References


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