

## Land Use Sensitivity Map for the Extreme Flood Events in the Kelantan River Basin

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**Abstract :** Kelantan river basin as a flood prone area at the east coast of the peninsular Malaysia has suffered several flood and mudflow events in the recent years. The current research attempted to assess the land cover changes impact in the Kelantan river basin focused on the runoff contributions from different land cover classes and the potential impact of land cover changes on runoff generation. In this regards, the hydrological regional modeling of rainfall induced runoff event as the improved transient rainfall infiltration and grid based regional model (Improved-TRIGRS) was employed to compute rate of infiltration, and subsequently changes in the discharge volume in this study. The effects of land use changes on peak flow and runoff volume was investigated using storm rainfall events during the last three decades.

**Keywords :** improved-TRIGRS model, land cover changes, Kelantan river basin, flood event

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