

UNIVERSITI TEKNOLOGI MARA

**RAINFALL – LANDSLIDE POTENTIAL
MAPPING USING REMOTE SENSING AND
GIS AT ULU KELANG, SELANGOR**

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ABSTRACT

Malaysia has experienced many landslides that have caused a number of deaths, destructiveness, various losses to human living and immense direct and indirect economical losses. The tragic Highland tower landslide incident in Ulu Kelang, Selangor on 1993 is considered to be the landmark landslide that creates public awareness about the danger of landslides. Ulu Kelang, Selangor is known in Malaysia as one of the most landslide prone areas. Located in the country which is near the equator line with tropical climates, Ulu Kelang receives averaging 2,400mm annually rainfall. Therefore rainfall is one of the main triggering factors that cause landslide events. The aim of this project is to conduct analysis of the relationship between rainfall and landslide occurrence in Ulu Kelang, Selangor. Tropical Rainfall Measuring Mission (TRMM) satellite precipitation data have been used to analyze rainfall pattern, rainfall intensity and accumulated rainfall to establish the landslide-triggering rainfall threshold. While the SPOT-5 imagery is used to identify the land use mapping in Ulu Kelang area for years 2005 and 2009 using ERDAS Imagine 2014. The potential landslide areas have been mapped using GIS application by integrating four main factors including rainfall threshold characteristic, slope gradient, geology and land use. The results indicate the potential landslide with five different indexes: very low, low, medium, high and very high; were verified using previous studies and historical landslide occurrence in year 2002 until 2009.

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Peace upon Prophet Muhammad SAW

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