

Modelling Rainfall-Induced Shallow Landslides in the Northern New South Wales

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Abstract : Rainfall-induced shallow landslides are more common in the northern New South Wales (NSW), Australia. From 2009 to 2017, around 105 rainfall-induced landslides occurred along the road corridors and caused temporary road closures in the northern NSW. Rainfall causing shallow landslides has different distributions of rainfall varying from uniform, normal, decreasing to increasing rainfall intensity. The duration of rainfall varied from one day to 18 days according to historical data. The objective of this research is to analyse slope instability of some of the sites in the northern NSW by varying cumulative rainfall using SLOPE/W and SEEP/W and compare with field data of rainfall causing shallow landslides. The rainfall data and topographical data from public authorities and soil data obtained from laboratory tests will be used for this modelling. There is a likelihood of shallow landslides if the cumulative rainfall is between 100 mm to 400 mm in accordance with field data.

Keywords : landslides, modelling, rainfall, suction

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