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Preliminary study on the potential and affected areas of shallow landslide disaster

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The mountain area in Taiwan is mostly high mountains, geology was destroyed seriously and vulnerability. Typhoons, heavy rains and earthquakes usually induced multiple types disaster on slopeland, such as landslide and debris flow. These slope disasters not only threats to lives and property of residents, but also affects the security of the settlement's living environment. This study focuses on shallow landslide of central Taiwan.
Statistics factors of shallow landslide was established for shallow landslide model in potential debris flow torrent basin. In this study, three methods of delineating shallow landslide affected areas are compared with each other, incuding particle flow simulation method, flow direction algorithm and the steep slope method. These delineating shallow landslide affected areas are applied to existed shallow landslide for verification. Investigation of 31 shallow landslide sites were executed with unmanned vehicle products such as orthophotos, digital surface model and digital elevation model. Aerial borne LiDAR and UAS produced DEM are used to compare pre- and post-event. The relationship between the shallow landslide slope height and the maximum runout is discussed in this study.