



## **3D Scanning Erosivity of Mudstone at South-West Taiwan**

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This study is mainly focused on erosion of mudstone in southwestern Taiwan. Because of heavy and intense rainfall in summer, mudstone slopes were rapid changing after a rainfall event. This study used Terrain Set LiDAR (TSLR) to scan and rebuild Digital Terrain Models (DTMs) on mudstone slopes to identify the rainfall effect. In short, the research is managed (designed?) to find the model of mudstone slopes evolution.

According to the results of scanning analysis, they showed that erosion of the mudstone slopes dominated by rainfall events. With different rainfall volumes, the pattern of slope erosion on various locations had different patterns. Some patterns go with rill erosion, while some erosional processes depend on rainfall intensity.

To find the model of mudstone slope erosion, two research sites with rainfall records were compared. They showed a similarity between rainfall volume and changing pattern.

There were changing hardly with less rainfall; when rainfall increased, the erosion started to develop from rills on the slope. If the rainfall became more and more, erosion developed seriously on rills at certain height.

The characteristics of individual slopes also had different thresholds on slope erosion. Even with the same event, the eroded patterns were different on two research sites.

Key word: mudstone, slope evolution, rainfall, TSLR