

Evaluation of TWI-Derived Soil Depths and DEM-Assisted Terrain Slopes in Tainan Mountain Areas

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The study is aimed at evaluating the soil depths from topographic wetness index (TWI) method, and the terrain slopes from a 5m resolution digital elevation model (DEM) in Tainan mountain areas, located in southern Taiwan. The field surveys (field work) for validating the results have been being implemented in recent months. During the field surveys, a soil auger and a Nikon laser rangefinder are used for obtaining the soil depths and terrain slopes, respectively. The related methodologies for obtaining TWI-derived soil depths and DEM-assisted terrain slopes (office work), and the comparison results for office and field works will be well described in this paper. We hope that the research is able to determine the accuracies of the TWI-derived soil depths and the DEM-assisted terrain slopes in Tainan mountain areas.

Keywords: TWI, DEM, Soil Depth, Terrain Slope