UAV– Based Imaging – Digital Elevation Model Extraction

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Key words: Geoinformation/GI; Photogrammetry; Remote sensing; Unmanned aerial vehicle; Point cloud reconstruction; Digital elevation model; processing software.

SUMMARY
Data, whether image, textual, or tabular must be manipulated using application program to extract the required information for the decision makers. Digital elevation models (DEMs) are usually applied to solve different environmental issues because of its data structure simplicity and improved computational efficiency. However, it must be generated with optimum accuracy. This research aims at bringing forth two different DEMs of the same survey area using commercial software and executable freeware and judging their accuracies with predicted accuracy. The input data were taken from the images obtained by a low cost, high resolution unmanned aerial vehicle system (UAVs) and a sub-meter accuracy is expected. We also described sources of digital elevation model to include their strengths and weaknesses, sources of modeling errors and concluded with recommendations.

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