

UAS Photogrammetric Mapping Workflow and Accuracy

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ABSTRACT

Utilising Unmanned Aerial Systems (UAS) for aerial photogrammetric mapping has been advanced in the last few years with available drones, sensors and automated image processing software. It has greatly supplemented and extended conventional surveying technology in many ways. The UAS aerial photogrammetric survey capability has numerous applications for surveying tasks, such as land surveying, mining surveying, construction monitoring, volume estimation and agriculture. Automatic and robust UAS photogrammetric image processing software packages require little surveying professional knowledge or expertise to produce impressive geospatial products, such as textured 3D point clouds, digital surface models, digital terrain models and ortho-mosaic image maps. What is the achievable accuracy of UAS photogrammetric mapping in terms of the 3D coordinates of the point cloud, Digital Terrain Model (DTM) points and the ortho-images? This presentation outlines various UAS mapping experimental projects that were designed with optimised workflow to investigate 3D point cloud accuracy.

KEYWORDS: *UAS, drone, surveying, mapping, photogrammetry, geospatial.*