

A Comparison of standard Fixed Wing versus Multi Rotor Drone Photogrammetry Surveys

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Abstract:

Fixed wing drone surveys from 120 m above ground level (AGL) allow for large mission coverage and resolutions in the order of 3.5-4 cm. Nadir images are usually captured and the resulting orthomosaics and digital surface models (DSMs) are suitable for decimetre level change monitoring. In comparison, multi rotor drone surveys flown at around 30 m AGL capturing nadir and oblique imagery can achieve sub centimetre resolution and allow for fine scale change monitoring, however covering large areas is time consuming and therefore expensive. Australian UAV was recently contracted by the City of Hobart to undertake the 2016 Hobart Coastal Drone Survey. The survey consisted of two components: a fixed wing drone survey of the 17 km of Hobart's coastline from 120 m AGL and a proof of concept survey of the Short Beach Reserve at Marievilla Esplanade in Sandy Bay using a multi rotor drone (<https://www.auav.com.au/articles/case-study-hobart-coastal-drone-survey>). The results of these surveys will be discussed in the context of coastal monitoring and drone surveying in general.



Figure 1. The Short Beach Reserve, Sandy Bay, Tasmania.