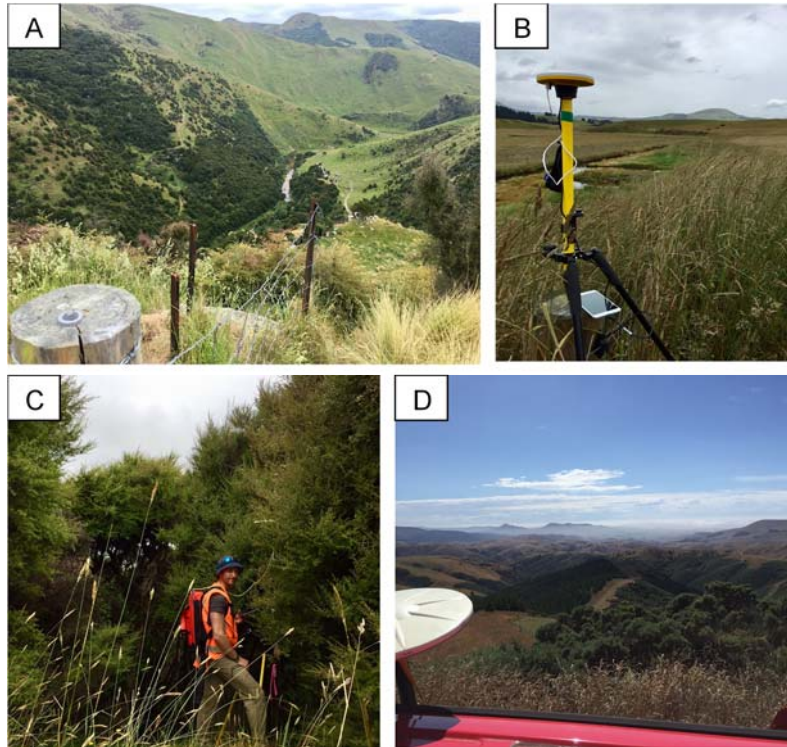


# The Australia and New Zealand Satellite Based Augmentation System (SBAS): A new tool for New Zealand Cadastral surveyors?

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**Abstract:** The prototype implementation of a Satellite-Based Augmentation System (SBAS) for the Australasia region sponsored by Geoscience Australia and LINZ is designed overcome the current gaps in mobile and radio communications, and ensure that accurate positioning information can be received anytime and anywhere within Australia and New Zealand. The University of Otago in collaboration with Trimble NZ is conducting the Cadastral SBAS testbed project. The purpose of this project is to evaluate the effectiveness of conducting low accuracy rural surveys using the satellite delivered SBAS Precise Point Positioning (PPP) and Dual Frequency Multi-constellation services. A positioning accuracy level of 20-50cm is required in order for the new generation SBAS positioning service to meet the accuracy requirements for low accuracy rural (Class C) surveys. During this talk we will present our experience using SBAS to conduct three Class C surveys in Otago benchmarked against conventional single-baseline RTK and Trimble's RTX service. The talk will discuss the advantages and limitations of using SBAS and the results achieved in a variety of different environments ranging from an easy site with no occlusions (A, B, D in Figure) to sites with significant bush cover and steep mountainous topography (C). One of the critical issues turned out to be the ability of both SBAS and RTX to effectively correct for crustal motion. This causes challenges for the development of accurate PPP/SBAS services both in New Zealand and the wider Asia Pacific region.