

Improving New Zealand's Geoid-Based Vertical Datum with Airborne Gravimetry

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SUMMARY

Land Information New Zealand (LINZ) will soon be releasing a new national vertical datum to replace the geoid-based NZVD2009. It is expected that the new datum will have an accuracy of better than 3 cm in developed areas; an improvement from the current 8 cm. Much of the geoid accuracy improvement is expected to be attributed to the incorporation of recently acquired airborne gravity data, re-analysis of existing terrestrial gravity observations and newer satellite gravity models. In this paper we outline the results of the recent airborne gravity collection campaigns (2013-14) over New Zealand and their contribution to an improved national geoid. We also present the new improved vertical datum, compare it with the existing NZVD2009, and describe how LINZ will assist surveyors expedite its implementation.

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