

Progress towards an Integrated Vertical Datum for New Zealand

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SUMMARY

In 2016 Land Information New Zealand (LINZ) implemented a new national vertical datum, New Zealand Vertical Datum 2016 (NZVD2016). NZVD2016 is referenced to the national geoid, New Zealand Quasigeoid 2016, which provides the relationship to the geometric datum, New Zealand Geodetic Datum 2000. NZVD2016 also defines relationship grids, which model the transformation from the legacy sea-level based datums in order to determine heights in terms of NZVD2016. Following development of NZVD2016 we have turned our attention to integrating the physical sea surface datums (eg MSL, MHWS, LAT and tidal models) with gravimetric datums such as NZVD2016 and those sea-based datums derived in terms of MSL at various tide gauges. The proposed integrated vertical datum (NZIVDXX) will integrate the physical gravimetric and geometric datums and provide transformations between the various datums. This will provide the ability to integrate land and sea geospatial datasets, collected in terms of different datums, into a seamless dataset across the sea/land interface. This paper discusses New Zealand's legacy and new vertical datums and progress towards developing a new integrated vertical datum across the land and sea interface.