

Tasman - Richmond and Motueka LiDAR 1m DSM (2015)

Title	Tasman - Richmond and Motueka LiDAR 1m DSM (2015)
Creator	LINZ - Land Information New Zealand
Date	2015-11-13
Description	<p>This layer contains the DSM for LiDAR data of coastal areas from Motueka in the North to Richmond in the South, including inland Wakefield captured in 2015. - The DEM is available as layer [Tasman - Richmond and Motueka LiDAR 1m DEM (2015)](http://data.linz.govt.nz/layer/95629-tasman-richmond-and-motueka-lidar-1m-dem-2015/). - The index tiles are available as layer [Tasman - Richmond and Motueka LiDAR Index Tiles (2015)](https://data.linz.govt.nz/layer/95631-tasman-richmond-and-motueka-lidar-index-tiles-2015/). - The LAS point cloud and vendor project reports are available from [OpenTopography] (http://opentopo.sdsc.edu/datasets). Lidar was captured for Tasman District Council by AAM New Zealand in November 2015. The datasets were generated by AAM New Zealand and their subcontractors. Data management and distribution is by Land Information New Zealand. Data comprises: - DEM: tif or asc tiles in NZTM2000 projection, tiled into a 1:1,000 tile layout - DSM: tif or asc tiles in NZTM2000 projection, tiled into a 1:1,000 tile layout - Point cloud: las tiles in NZTM2000 projection, tiled into a 1:1,000 tile layout Pulse density specification is 2 pulses/square metre. Vertical accuracy specification is +/- 0.12m (95%). Horizontal accuracy specification is +/- 1.00m (95%) Vertical datum is NZVD2016.</p>
Source	<p>Survey Specification: -Device Name: ALS60 -Half Scan Angle: 20 degrees -Laser Pulse Rate: 147 kHz -Laser Scan Frequency: 66Hz -Overlap Percentage: 20% -Laser Pulse Mode: Single Pulse -Average Point Spacing: 2.0 pts/m² -Laser return: 1st, 2nd, 3rd and last -Laser Intensity: All Returns -File Format: ESRI ASCII Grid, LAS 1.2, ESRI Shapefile -Horizontal Datum: NZGD2000 -Vertical Datum: NZVD2016 -Map Projection: NZTM2000 -Vertical Accuracy Specification: ±0.06m Standard Error (68% confidence level or 1 sigma) - Horizontal Accuracy Specification: ±0.50m Standard Error (68% confidence level or 1 sigma) Airborne Laser Scanner (ALS) data was acquired from a fixed wing aircraft between 13th and 14th November 2015 using AAM New Zealand's Leica ALS60 LiDAR systems. This area included coastal areas from Richmond in the South, including inland Wakefield to Motueka in the North. Classification of the point cloud followed the classification scheme below; 1 - Default 2 - Ground 3 - Low Vegetation 4 - Medium Vegetation 5 - High Vegetation 9 - Water Data Validation: Ground data in this volume has been compared to test points obtained by field survey and assumed to be error-free. The test points were distributed across the mapping area and located on clear open ground. Data classification from the original project has been retained. Limitations of Data: The definition of the ground under trees may be less accurate. Ground Support GPS base station support was sourced from Global Surveys CORS operating in the area. The ground check points were field surveyed by Sounds Surveying Ltd. Sounds Surveying has recomputed heights in terms of NZVD2016 for this project. This allowed an independent assessment of the accuracy of the ALS data - and confirmation of the shift to NZVD2016. Data Processing: The starting point for processing was the Classified point clouds produced for Tasman DC and Nelson CC based on NZGeoid09. This data has been reverted to ellipsoidal heights, then NZGeoid2016 has been applied to convert the data to orthometric heights. The data was then compared to NZVD2016 test points, and the appropriate final Z shift applied to each block. ArcGIS 10.1 Terrain Grids were derived using the Natural Neighbour interpolation. This method uses the closest triangles and applies weights to the proportionate areas from the grid cell centroid to interpolate the value. It uses known elevation data, it does not make any predictions regarding the surface and accurately depicts existing troughs and peaks in the data and supports irregular point spacing, which suits the nature LiDAR data. Lakes and large rivers were hydroflattened in the Bare Earth Digital Elevation Model.</p>
Type	grid
Language	eng
Subject	New Zealand
Subject	elevation