

Tasman - Golden Bay LiDAR 1m DEM (2017)

Title

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Creator

Toitū Te Whenua Land Information New Zealand

Date

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Description

This layer contains the DEM for LiDAR data from Golden Bay - Aorere Extension, Lee Dam, St Arnaud and Farewell Spit captured in 2017. - The DSM is available as layer [Tasman - Golden Bay LiDAR 1m DSM (2017)](<http://data.linz.govt.nz/layer/95512-tasman-golden-bay-lidar-1m-dsm-2017/>). - The index tiles are available as layer [Tasman - Golden Bay LiDAR Index Tiles (2017)](<http://data.linz.govt.nz/layer/95627-goldenbaytilelayout/>). - The LAS point cloud and vendor project reports are available from [OpenTopography](<https://portal.opentopography.org/datasets?loc=New%20Zealand>). Lidar was captured for Tasman District Council by AAM New Zealand in November and December 2017. The datasets were generated by AAM New Zealand and their subcontractors. Data management and distribution is by Toitū Te Whenua 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, Farewell Spit tiled into a 1:1,000 tile layout, the rest of the data tiled into a 1:2,000 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.

Source

Survey Specification: -Device Name: Q1560 -Half Scan Angle: 30 degrees -Laser Pulse Rate: 340 kHz - Laser Pulse Mode: Multi Pulse -Average Point Spacing: 2.0 pts/m² -Laser return: 1st, 2nd, 3rd and last -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 24th November and 16th December 2017 using AAM New Zealand's Riegl LMS-Q1560 LiDAR systems. This area included Golden Bay - Aorere Extension, Lee Dam, St Arnaud and Farewell Spit. Coastal areas were flown within 1.5 hours of low tide. 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 10 - Bridges Note: A small amount of points were erroneously classified by vendor as 10 and 14. Please consider these points under the 1- Default Classification. Data Validation: Ground data in this volume has been compared to 468 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. The mean difference has been removed from the data. Data Classification has been manually checked and edited against any available imagery. Limitations of Data: The definition of the ground under trees may be less accurate. Ground Support GPS base station support was sourced from GeoNET CORS. The ground check points surveyed by Sound Surveying Ltd allowed an assessment of the accuracy of the ALS data. Data Processing: Reduction of the ALS data proceeded without any significant problems. Laser strikes were classified into ground and non-ground points using a single algorithm across the project area. Manual checking and editing of the data classification further improved the quality of the terrain model. Ground and water classes have been classified to ICSM Level 3. 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.

Coverage

-41.8218024224 172.409405278 -40.4918487542 173.195470092

Identifier

<https://data.linz.govt.nz/layer/95503-tasman-golden-bay-lidar-1m-dem-2017/>

Type

grid

Language

eng

Subject

New Zealand

Subject

elevation