

Manawatu-Whanganui - Palmerston North LiDAR 1m DEM (2018)

Title

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Creator

LINZ - Land Information New Zealand

Date

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Description

This layer contains the DEM for LiDAR data for Palmerston North, Ashhurst, Longburn and the surrounding area in 2018. - The DSM is available as layer [Manawatu-Whanganui - Palmerston North LiDAR 1m DSM](<https://data.linz.govt.nz/layer/104503>). - The index tiles are available as layer [Manawatu-Whanganui - Palmerston North LiDAR 1m Index Tiles] (<https://data.linz.govt.nz/layer/104504>). - The LAS point cloud and vendor project reports are available from [OpenTopography](<http://opentopo.sdsc.edu/datasets>). LiDAR was captured for Palmerston North City Council by AAM New Zealand from 29 August to 28 September 2018. These 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 at a minimum of 8 pulses/square metre. Vertical Accuracy Specification is +/- 0.1m (95%) Horizontal Accuracy Specification is +/- 0.5m (95%) Vertical datum is NZVD2016

Source

Data Acquisition: Airborne Laser Scanner (ALS) data was acquired from a fixed wing aircraft on between 29th August to 28th September 2018 using AAM New Zealand's Optech Orion H300 LiDAR system. Survey Specification: - Scanner: Optech Orion H300 - Half Scan Angle: ±15 degrees - Laser Pulse Rate: 250kHz - Laser Pulse Mode: Multipulse - Laser Return: 1st, 2nd, 3rd... 4th and last - File Format: ESRI ASCII Grid, LAS 1.3, ESRI Shapefile - Horizontal Datum: NZGD2000 - Vertical Datum: NZVD2016 - Map Projection: NZTM2000 - Vertical Accuracy Specification: ±0.10m RMS - Horizontal Accuracy Specification: ±0.50m RMS Airborne Laser Scanner (ALS) data was acquired from a fixed wing aircraft between 29th August to 28th September 2018 using AAM New Zealand's Optech Orion H300 LiDAR system. This area includes city of Palmerston North, Ashhurst, Longburn and the surrounding area. Classification of the point cloud followed the classification scheme below; 1 - Unclassified 2 - Ground 3 - Low Vegetation 4 - Medium Vegetation 5 - High Vegetation 6 - Buildings, Structures 7 - Low/High Points 9 - Water 10 - Bridge Rail (10) points were reclassified by LINZ as Bridges (17) per survey reference before providing the classified point cloud data to Open Topography. Data Processing: Reduction of the LiDAR data proceeded without any significant problems. Classification of the point clouds is to Level 3, with reference to ICSM LiDAR Specifications for NZ. Classification accuracy required: 99% for ground points. The Digital Elevation (DEM) and Digital Surface Model (DSM) were derived using a point to TIN and TIN to Raster process, using Linear interpolation. Hydro flattening was undertaken in the DEM over non-tidal water bodies with surface area greater than 10,000

sq m, and non-tidal water courses greater than 30m nominal width. The withheld flag was applied to the overage data (overlapping points between flight lines), this is an automated process using LASTools. Data Validation: Ground data in this volume has been compared to test points obtained by field survey and assumed to be error-free. Data classification has been manually checked and edited against available imagery. The deliverables to LINZ were: 1m gridded bare earth digital elevation model (DEM) 1m gridded digital surface model (DSM) Classified point cloud

Type

grid

Language

eng

Subject

New Zealand

Subject

elevation