Waikato - West Coast and Hauraki Plains LiDAR 1m DSM (2015)

Title
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Creator
> LINZ - Land Information New Zealand

Date
> 2015-02-07

Date
> 2015-03-01

Description
> This layer contains the DSM for LiDAR data from the Waikato west coast and Hauraki Plains captured in 2015. The DEM is available as layer [Waikato - West Coast and Hauraki Plains LiDAR 1m DEM (2015)](http://data.linz.govt.nz/layer/3622). The index tiles are available as layer [Waikato - West Coast and Hauraki Plains LiDAR Index Tiles (2015)] (http://data.linz.govt.nz/layer/3624). The LAS point cloud and vendor project reports are available from [OpenTopography](http://opentopo.sdsc.edu/datasets). Lidar was captured for Waikato Regional Council by Aerial Surveys in February and March 2015. The datasets were generated by Aerial Surveys 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 Point density is 2 points/square metre. Vertical datum is NZVD2016.

Source
> Data Acquisition: Airborne Laser Scanner (ALS) data was acquired from a fixed wing aircraft on: 7th, 8th, 18th ,19th February & 1st March 2015, using Aerial Surveys OptechOrion H300 LiDAR system. Survey Specification: • Scanner: Optech Orion H300 • Flying Height: 500m AMGL • Scan Angle: ±10.4 degrees • Scan Frequency: 60.3Hz • Pulse Rate: 50kHz • Swath Overlap: 35% • Points Per M2: 4.02 Data processing: The LiDAR sensor positioning and orientation (POS) was determined using the collected GPS/IMU datasets and Applanix POSPac software. Benchmark: GSAM (Amberly) OWNER: Global Surveys Base Station: Type/Owner: VRS Geosystems Benchmark: BS02 Based on our control point MOR101 Base Station Position: 39 10 44.39864 S 176 37 48.07897 E 406.311 Ell Height Antenna Height: 2.250 Phase Center The POS data was combined with the LiDAR range files and used to generate LIDAR point clouds in NZTM and ellipsoidal heights. This process was undertaken using Optech LMS LiDAR processing software. The data was checked for completeness of coverage. The relative fit of data in the overlap between strips was also checked. The height accuracy of the ground classified LiDAR points was checked using open land-cover survey check site data collected by Sounds Surveying Ltd. This was done by calculating height differences statistics between a TIN of the LiDAR ground points and the checkpoints. The standard deviation statistic is 0.041m; a RMS of 0.069m and the average difference is -0.055m. The positional accuracy of the LiDAR data has been checked by overlaying Sounds Surveying Ltd surveyed data over the LiDAR data displayed coded by intensity. The data was found to fit well in position. The point cloud data was then classified withTerraSolid LiDAR

processing software into ground and above ground returns using automated routines tailored to the project landcover and terrain. All product deliverables are supplied in terms of NZTM map projection. Classification of the point cloud followed the classification scheme below: 0 - Created, never classified 2 - Ground 14 - Above_Ground Re-processing: In 2016 the data was reprocessed by Aerial Surveys for LINZ relative to the NZVD2016 vertical datum, and supplied as 1:1000 nominal scale (2500 720m high x 480m wide subtiles per full NZ Topo50 sheet). Lakes and rivers were hydroflattened in the bare earth digital elevation model.The deliverables to LINZ were: 1m gridded bare earth digital elevation model (DEM) 1m gridded digital surface model (DSM) Classified point cloud Data hosted by OpenTopography was re-classified: the Above_Ground (14) points were reclassified as Unassigned classification (1)

Coverage

-38.7231467556 174.606361667 -37.050402108 175.695293458

Identifier

https://data.linz.govt.nz/layer/53623-waikato-west-coast-and-hauraki-plains-lidar-1m-dsm-2015/

Type

grid

Language

eng

Subject

elevation

Subject

imageryBaseMapsEarthCover

Subject

New Zealand

Subject

LAND-Topography

Subject

LAND-Cover