Canterbury - Rangiora LiDAR 1m DEM (2014)

Title
> Canterbury - Rangiora LiDAR 1m DEM (2014)

Creator
> LINZ - Land Information New Zealand

Date
> 2014-06-23

Date
> 2017-03

Description
> This layer contains the DEM for LiDAR data from the Rangiora area captured in 2014. The DSM is available as layer [Canterbury - Rangiora LiDAR 1m DSM (2014)](http://data.linz.govt.nz/layer/3553). The index tiles are available as layer [Canterbury - Rangiora LiDAR Index Tiles (2014)](http://data.linz.govt.nz/layer/3573). The LAS point cloud and vendor project reports are available from [OpenTopography](http://opentopo.sdsc.edu/datasets). Lidar was captured for Waimakariri District Council and Environment Canterbury Regional Council by Aerial Surveys in March – June 2014. The datasets were generated by Aerial Surveys and their subcontractors. The survey area includes the Rangiora township area and the lower Ashley, Eyre, and Waimakariri river channels. 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 Planned pulse density is 1 pulse/square metre. Vertical datum is NZVD2016.

Source
> Data Acquisition: Airborne Laser Scanner (ALS) data was acquired from a fixed wing aircraft on: 14th,26th, 27th, 28th March , 1st, 16th May and 23rd June 2014, using Aerial Surveys Optech ALTM 3100EA LiDAR system. Survey Specification: • Scanner: Optech ALTM 3100EA • Flying Height: 950m AMGL • Scan Angle: ±23.5 degrees • Scan Frequency: 42.4Hz • Pulse Rate: 70kHz • Swath Overlap: 50% • Swath Width: 825.36m • Points Per M2: 1 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 Position: 43 09 06.47086 S 172 43 45.04334 E 66.7470 Ell Height Antenna Height: 0.00 Phase centre Benchmark: Based on AA3A Darfield VRS OWNER: Geosystems Base Station Position: 43 29 04.74696 S 172 06 09.68624 E 216.517 Ell Height Antenna Height: 0.00 Phase centre 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 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 0.047m; a RMS of 0.076m and the average difference is -0.049m. Sounds Surveying Ltd field surveyed check sites that were

used to verify the accuracy of the processed ground dataset. 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 were initially supplied in terms of NZTM and Lyttelton 1937 height datum. 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

-43.4549299316 172.147783075 -43.1894068086 172.751740765

Identifier

https://data.linz.govt.nz/layer/53552-canterbury-rangiora-lidar-1m-dem-2014/

Type

grid

Language

eng

Subject

New Zealand

Subject

LAND-Topography

Subject

LAND-Cover

Subject

elevation

Subject

imageryBaseMapsEarthCover