

Canterbury - Timaru Rivers LiDAR 1m DEM (2014)

Title	Canterbury - Timaru Rivers LiDAR 1m DEM (2014)
Creator	LINZ - Land Information New Zealand
Date	2014-08-04
Date	2017-03
Description	<p>This layer contains the DEM for LiDAR data from the Timaru river areas captured in 2014. The DSM is available as layer [Canterbury - Timaru Rivers LiDAR 1m DSM (2014)](http://data.linz.govt.nz/layer/3555). The index tiles are available as layer [Canterbury - Timaru Rivers LiDAR Index Tiles (2014)] (http://data.linz.govt.nz/layer/3574). The LAS point cloud and vendor project reports are available from [OpenTopography](https://portal.opentopography.org/datasets?loc=New%20Zealand). Lidar was captured for Environment Canterbury Regional Council by Aerial Surveys in July and August 2014. The datasets were generated by Aerial Surveys and their subcontractors. The survey area includes the Geraldine and Temuka township areas and the lower Rangitata, Orari, and Opihi river corridors. 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.</p>
Source	<p>Data Acquisition: Airborne Laser Scanner (ALS) data was acquired from a fixed wing aircraft from 7 July through 4 August 2014, using Aerial Surveys' Optech ALTM 3100EA LiDAR system. Survey Specification: □ Scanner: Optech ALTM 3100EA □ Flying height: 1250m AMGL □ Scan Angle: +/- 14.9 degrees □ Scan Frequency: 47.3Hz □ Pulse Rate 70kHz □ Swath Overlap: 35% □ Points Per Sqm: 1.24 Data processing: The LiDAR sensor positioning and orientation (POS) was determined using the collected GPS/IMU datasets and Applanix POSPac software. Benchmarks: 07/07/14 A and B ABGF (linz) Base Station Positions: 44 10 14.75312 S 171 15 59.36734 E 62.761 Ell Height Antenna Height: 1.827 Phase Center Benchmarks: 15/07/14 A ABGF (linz) Base Station Positions: 44 10 14.75312 S 171 15 59.36734 E 62.761 Ell Height Antenna Height: 1.787 Phase Center Benchmarks: 17/07/14 A ABGF (linz) Base Station Positions: 44 10 14.75312 S 171 15 59.36734 E 62.761 Ell Height Antenna Height: 1.745 Phase Center Benchmarks: 08/08/14 A ASTU Timaru Airport Base Station Positions: 44 18 12.983481 S 171 13 36.057899 E 34.1298 Ell Height Antenna Height: 1.516 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 0.047 m; a RMS of 0.054m and the average difference is -0.012m. 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 with TerraSolid 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)</p>
Coverage	-44.2931107095 171.154200815 -43.8834727953 171.504592394
Identifier	https://data.linz.govt.nz/layer/53554-canterbury-timaru-rivers-lidar-1m-dem-2014/
Type	grid
Language	eng
Subject	

| New Zealand
Subject
| LAND-Topography
Subject
| LAND-Cover
Subject
| elevation
Subject
| imageryBaseMapsEarthCover