

# Canterbury - Hurunui Rivers LiDAR Index Tiles (2013)

## Title

Canterbury - Hurunui Rivers LiDAR Index Tiles (2013)

## Creator

LINZ - Land Information New Zealand

## Date

2013-05-30

## Date

2017-03

## Description

This layer contains the index tiles for LiDAR data from the Hurunui District captured in 2013. The DEM is available as layer [Canterbury - Hurunui Rivers LiDAR 1m DEM (2013)] (<http://data.linz.govt.nz/layer/3582>). The DSM is available as layer [Canterbury - Hurunui Rivers LiDAR 1m DSM (2013)](<http://data.linz.govt.nz/layer/3580>). The LAS point cloud and vendor project reports are available from [OpenTopography] (<http://opentopo.sdsc.edu/datasets>). Lidar was captured for Environment Canterbury Regional Council by Aerial Surveys in May 2013. The datasets were generated by Aerial Surveys and their subcontractors. The survey area includes Hanmer Springs, Hanmer Plain, Waiau, Waiau River, Hurunui River, Pahau River, and Culverden. 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 Data was collected at >1 pulse/square metre pulse density. Attributes include: -Elevation -Intensity values -Return number -Adjusted GPS time - Classification Vertical datum is NZVD2016

## Source

Data Acquisition: Airborne Laser Scanner (ALS) data was acquired from a fixed wing aircraft between 12 and 30 May 2013, 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. 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 C & R Surveyors . This was done by calculating height differences statistics between the checkpoints and a TIN of the LiDAR ground points. The standard deviation statistic is 0.03 m , a RMS of 0.03m and Average of 0.01m for Middle Waiau. The standard deviation statistic is 0.03 m , a RMS of 0.07m and Average of -0.07m for Upper Hurunui, Pahau & Waitohi Areas. The standard deviation statistic is 0.03 m , a RMS of 0.04m and Average of 0.01m for Hanmer Basin. The standard deviation statistic is 0.03 m , a RMS of

0.06m and Average of -0.053m for Lower Hurunui, & the standard deviation statistic is 0.03, a RMS of 0.05m and Average of -0.03 for Lower Waiau. The positional accuracy of the LiDAR data has been checked by overlaying C & R Surveyors 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 classified with TerraSolid LiDAR processing software into ground and above ground returns using automated routines tailored to the project landcover and terrain. The point cloud data was classified with TerraSolid LiDAR processing software into ground and above ground returns using automated routines tailored to the project landcover and terrain. Classification of the point cloud followed the modified ASPRS classification scheme below: 0 - Created, never classified 2 - Ground 9 - Water 14 - Above\_Ground 15 - River Stream points 17 - Water Body points 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

-42.9176862077 172.512333939 -42.4961264169 173.340248575

#### Identifier

<https://data.linz.govt.nz/layer/53581-canterbury-hurunui-rivers-lidar-index-tiles-2013/>

#### Type

grid

#### Language

eng

#### Subject

elevation

#### Subject

imageryBaseMapsEarthCover

#### Subject

New Zealand

#### Subject

LAND-Topography

#### Subject

LAND-Cover