

# Canterbury - Timaru Rivers LiDAR 1m DEM (2014)

## Metadata

### File Identifier

7f7d3090-3965-47d5-0594-ff80fc9ca3a2

### Language

eng

### Character Set

#### Character Set Code

utf8

### Hierarchy Level

#### Scope Code

dataset

### Hierarchy Level Name

dataset

## Contact

### Responsible Party

#### Organisation Name

LINZ - Land Information New Zealand

#### Position Name

Lidar Coordination Manager

### Contact Info

#### Contact

##### Phone

###### Telephone

###### Voice

04 4600110

##### Address

###### Address

###### Delivery Point

155 The Terrace

###### City

Wellington

###### Postal Code

6145

###### Country

New Zealand

**Electronic Mail Address**

info@linz.govt.nz

**Role****Role Code**

pointOfContact

**Date Stamp****Date**

2017-03-15

**Metadata Standard Name**ANZLIC Metadata Profile: An Australian/New Zealand Profile of AS/NZS ISO 19115:2005,  
Geographic information - Metadata**Metadata Standard Version**

1.1

**Reference System Info****Reference System****Reference System Identifier****Identifier****Code**

2193

**Identification Info****Data Identification****Citation****Citation****Title**

Canterbury - Timaru Rivers LiDAR 1m DEM (2014)

**Date****Date****Abstract**

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](<http://opentopo.sdsc.edu/datasets>). 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.

## Status

### Progress Code

completed

## Point Of Contact

### Responsible Party

#### Organisation Name

LINZ - Land Information New Zealand

#### Position Name

Lidar Coordination Manager

### Contact Info

#### Contact

##### Phone

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New Zealand

##### Electronic Mail Address

info@linz.govt.nz

### Role

#### Role Code

pointOfContact

## Resource Format

### Format

#### Name

\*.xml

#### Version

Unknown

## Descriptive Keywords

### Keywords

#### Keyword

New Zealand

#### Type

##### Keyword Type Code

theme

### Thesaurus Name

#### Citation

##### Title

ANZLIC Jurisdictions

##### Date

##### Edition

Version 2.1

##### Edition Date

###### Date

2008-10-29

##### Identifier

###### Identifier

###### Code

<http://asdd.ga.gov.au/asdd/profileinfo/anzlic-jurisdic.xml#anzlic-jurisdic>

##### Cited Responsible Party

###### Responsible Party

###### Organisation Name

ANZLIC the Spatial Information Council

###### Role

###### Role Code

custodian

## Descriptive Keywords

### Keywords

#### Keyword

LAND-Topography

#### Keyword

LAND-Cover

#### Type

##### Keyword Type Code

theme

### Thesaurus Name

Citation

Title

ANZLIC Search Words

Date

Edition

Version 2.1

Edition Date

Date

2008-05-16

Identifier

Identifier

Code

<http://asdd.ga.gov.au/asdd/profileinfo/anzlic-theme.xml#anzlic-theme>

Cited Responsible Party

Responsible Party

Organisation Name

ANZLIC the Spatial Information Council

Role

Role Code

custodian

Resource Constraints

Security Constraints

Classification

Classification Code

unclassified

Resource Constraints

Legal Constraints

Use Limitation

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Access Constraints

Restriction Code

copyright

Resource Constraints

Legal Constraints

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#### Restriction Code

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#### Legal Constraints

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##### Use Constraints

#### Restriction Code

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##### Use Constraints

#### Restriction Code

license

### Spatial Representation Type Code

grid

### Representative Fraction

#### Denominator

##### Integer

1000

Language

| eng

Character Set

| Character Set Code

| utf8

Topic Category Code

| elevation

Topic Category Code

| imageryBaseMapsEarthCover

Extent

| EX\_ Extent

| Geographic Element

| EX\_ Geographic Description

| Identifier

| Authority

| Citation

| Title

| ANZMet Lite Country codelist

| Date

| Edition

| Version 1.0

| Edition Date

| Date

| 2009-03-31

| Identifier

| Identifier

| Code

| <http://asdd.ga.gov.au/asdd/profileinfo/anzlic-country.xml#Country>

| Cited Responsible Party

| Responsible Party

| Organisation Name

| ANZLIC the Spatial Information Council

| Role

| Role Code

| custodian

| Code

| nzl

Extent

| EX\_ Extent

| Geographic Element

EX \_ Geographic Bounding Box

171.154200815171.504592394-44.2931107095-43.8834727953

Distribution Info

Distribution

Transfer Options

Digital Transfer Options

On Line

Online Resource

Linkage

URL

<https://data.linz.govt.nz/layer/53554-canterbury-timaru-rivers-lidar-1m-dem-2014/>

Data Quality Info

DQ \_ Data Quality

Scope

DQ \_ Scope

Level

Scope Code

dataset

Level Description

Scope Description

Other

dataset

Lineage

LI \_ Lineage

Statement

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)

## Metadata Constraints

### Legal Constraints

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