

# Canterbury Earthquake Precise-Levelling Heights (2010, 2011)

## Metadata

### File Identifier

47a38892-b029-615b-c8ad-b4ef2accdfa8

### Language

eng

### Character Set

#### Character Set Code

utf8

### Hierarchy Level

#### Scope Code

dataset

### Hierarchy Level Name

dataset

## Contact

### Responsible Party

#### Individual Name

omit

#### Organisation Name

LINZ - Land Information New Zealand

#### Position Name

Chief Geodesist - National Geodetic Office

### Contact Info

#### Contact

##### Phone

##### Telephone

##### Voice

04 4600110

##### Address

##### Address

##### Delivery Point

155 The Terrace

##### City

Wellington

Postal Code

6011

Country

New Zealand

Electronic Mail Address

info@linz.govt.nz

Role

Role Code

resourceProvider

Date Stamp

Date

2013-06-25

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 Earthquake Precise-Levelling Heights (2010, 2011)

Date

Date

Abstract

The Canterbury region of New Zealand experienced a sequence of significant earthquakes during 2010 and 2011. These earthquakes occurred on 2010-09-04, 2011-02-22, 2011-06-13 and 2011-12-23. Precise-levelling surveys have been carried out throughout Canterbury and Christchurch to re-establish heights after these earthquakes. \*\*Users may also be interested in the horizontal coordinates derived from GNSS data in the companion layers [Canterbury Earthquake Geodetic Marks (2010, 2011) - Comprehensive](<http://data.linz.govt.nz/layer/1588>) and [Canterbury Earthquake Geodetic Marks (2010, 2011) - Simple]

(<http://data.linz.govt.nz/layer/1589>)\*\* Horizontal Accuracy (standard deviation) approx 1m. Vertical Accuracy of Lyttelton Vertical Datum 1937 heights (standard deviation) 0.005m. Heights generated from precise levelling data undertaken to a misclose standard (mm) of  $5\sqrt{k}$  where k is the distance in kilometres. Precise levelling in the Christchurch area was undertaken after the 23 December 2011 earthquake. Other areas were levelled after the most recent earthquake to have affected heights in that area. Heights therefore represent the position of marks accounting for all four substantial Canterbury earthquakes. These heights are only provisional. Analysis is ongoing as further data is collected. Heights calculated using SNAP v2.3.64. Heights were constrained using the pre-earthquake heights at geodetic codes AC9B, AFAQ, AG32 and B853. GNSS observations and modelling indicates that the height change of these marks was negligible. Some heights were calculated from precise levelling data provided by Christchurch City Council. These coordinates are suitable for use in surveys and other geospatial activities in Canterbury and Christchurch. \*\*For further information about this dataset, see [the Canterbury earthquake information](<http://www.linz.govt.nz/survey-titles/canterbury-earthquake/canterbury-earthquake/geodetic-survey-control-coordinates>) on the LINZ website.\*\*

#### Purpose

To support the geospatial reference frame in post-earthquake Canterbury, including Christchurch.

#### Status

##### Progress Code

onGoing

#### Point Of Contact

##### Responsible Party

##### Individual Name

omit

##### Organisation Name

LINZ - Land Information New Zealand

##### Position Name

Chief Geodesist - National Geodetic Office

##### Contact Info

##### Contact

##### Phone

##### Telephone

##### Voice

0800 665 463 or +64 4 460 0110

##### Facsimile

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##### Address

Address

Delivery Point  
| 155 The Terrace

City  
| Wellington

Postal Code  
| 6011

Country  
| New Zealand

Electronic Mail Address  
| info@linz.govt.nz

Role  
| Role Code  
| pointOfContact

Resource Maintenance  
| Maintenance Information  
| Maintenance And Update Frequency  
| Maintenance Frequency Code  
| asNeeded

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-Geodesy

Keyword

HAZARDS-Earthquake

Keyword

LAND-Cadastre

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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**Use Constraints**

**Restriction Code**

copyright

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**Legal Constraints**

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**Use Constraints**

**Restriction Code**

license

**Spatial Representation Type Code**

textTable

Language

eng

Character Set

Character Set Code

utf8

Topic Category Code

location

Extent

EX \_ Extent

Geographic Element

EX \_ Geographic Bounding Box

171.23172.55-44.02-42.46

Distribution Info

Distribution

Transfer Options

Digital Transfer Options

On Line

Online Resource

Linkage

URL

<https://data.linz.govt.nz/layer/51688-canterbury-earthquake-precise-levelling-heights-2010-2011/>

Data Quality Info

DQ \_ Data Quality

Scope

DQ \_ Scope

Level

Scope Code

dataset

Level Description

Scope Description

Other

dataset

Lineage

LI \_ Lineage

Statement

The estimated accuracy is 0.005m vertically. This data is identical to that contained in the csv file at: [http://www.linz.govt.nz/sites/default/files/survey-titles/cadastral-surveying/canterbury-earthquake/information-surveyors/canterbury\\_eq\\_linz\\_levelled\\_heights\\_v1.1.csv](http://www.linz.govt.nz/sites/default/files/survey-titles/cadastral-surveying/canterbury-earthquake/information-surveyors/canterbury_eq_linz_levelled_heights_v1.1.csv)

Metadata Constraints

Security Constraints

Classification

Classification Code

unclassified

Metadata Constraints

Legal Constraints

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