

Canterbury Earthquake Survey Mark Movements

Metadata

File Identifier

aa726fe6-d028-e124-f117-ebc5d5811209

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

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Voice

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6011

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New Zealand

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Role**Role Code**

resourceProvider

Date Stamp**Date**

2016-08-29

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**

2124

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

Canterbury Earthquake Survey Mark Movements

Date**Date****Abstract**

This layer details the movement of survey marks due to the Canterbury Earthquake Sequence (CES). The movements include the impact of 5 major earthquakes on 4 September 2010, 22 February 2011, 13 June 2011, 23 December 2011 and 14 February 2016. Note that these movements apply only at the survey mark. Nearby land may have moved differently, especially in areas impacted by substantial shallow ground movement. For further earthquake information, see **[the Canterbury earthquake information](<http://www.linz.govt.nz/land/surveying/canterbury-earthquakes>)** on the LINZ website. **Scope** Movements do not include the regular tectonic movement (not related to earthquakes) of approximately 5cm per year. As well as Christchurch, the data covers Lyttelton, Spencerville, Kaiapoi, Pines Beach, Woodend, Pegasus and Waikuku Beach. **Mark Movement Calculations**

Observed mark movements have been calculated from geodetic and cadastral survey data collected at the same physical survey mark before and after the earthquakes. Various filters have been applied to ensure as far as practicable that the movements reflect real-world earthquake-related movements of marks. For example, only non-boundary marks that have been directly measured (rather than adopted) are included. Modelled mark movements have been calculated using models of the tectonic-scale movements resulting from each earthquake, supplied by GNS Science, supplemented with more detailed modelling carried out by LINZ. These models typically represent deep-seated movement only. They do not include shallow movement, such as that resulting from liquefaction. Therefore the difference between the post-earthquake observed and post-earthquake modelled position generally represents shallow ground movement. The difference between the post-earthquake modelled and pre-earthquake observed position generally represents deep-seated movement. The difference between the post-earthquake observed position and pre-earthquake observed position represents total movement due to the earthquakes. ****Accuracy**** The uncertainty of the coordinate changes is 0.1m at a 95% confidence interval. ****Layer Attributes**** - nod_id_post_eq: Landonline node id for the latest post-earthquake node (mark) - code_post_eq: Geodetic code for the latest post-earthquake node - name_post_eq: Mark name for the latest post-earthquake node - nod_id_pre_eq: Landonline node id for the pre-earthquake node (mark) - code_pre_eq: Geodetic code for the pre-earthquake node - name_pre_eq: Mark name for the pre-earthquake node - de_mod_obs: East change from modelled post-earthquake to observed post-earthquake position - dn_mod_obs: North change from modelled post-earthquake to observed post-earthquake position - hz_mod_obs: Horizontal change from modelled post-earthquake to observed post-earthquake position - bg_mod_obs: Bearing from modelled post-earthquake to observed post-earthquake position - de_pre_mod: East change from observed pre-earthquake to modelled post-earthquake position - dn_pre_mod: North change from observed pre-earthquake to modelled post-earthquake position - hz_pre_mod: Horizontal change from observed pre-earthquake to modelled post-earthquake position - bg_pre_mod: Bearing from observed pre-earthquake to modelled post-earthquake position - de_pre_obs: East change from observed pre-earthquake to observed post-earthquake position - dn_pre_obs: North change from observed pre-earthquake to observed post-earthquake position - hz_pre_obs: Horizontal change from observed pre-earthquake to observed post-earthquake position - bg_pre_obs: Bearing from observed pre-earthquake to observed post-earthquake position

Purpose

To provide data about survey mark movements to assist surveyors planning and undertaking surveys.

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

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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

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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

172.501128867172.776353636-43.611274233-43.280885883

Distribution Info

Distribution

Transfer Options

Digital Transfer Options

On Line

Online Resource

Linkage

URL

<https://data.linz.govt.nz/layer/53455-canterbury-earthquake-survey-mark-movements/>

Data Quality Info

DQ _ Data Quality

Scope

DQ _ Scope

Level

Scope Code

dataset

Level Description

Scope Description

Other

dataset

Lineage

LI _ Lineage

Statement

Derived from geodetic and cadastral surveys.

Metadata Constraints

Security Constraints

Classification

Classification Code

unclassified

Metadata Constraints

Legal Constraints

Use Limitation

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