

the power of  
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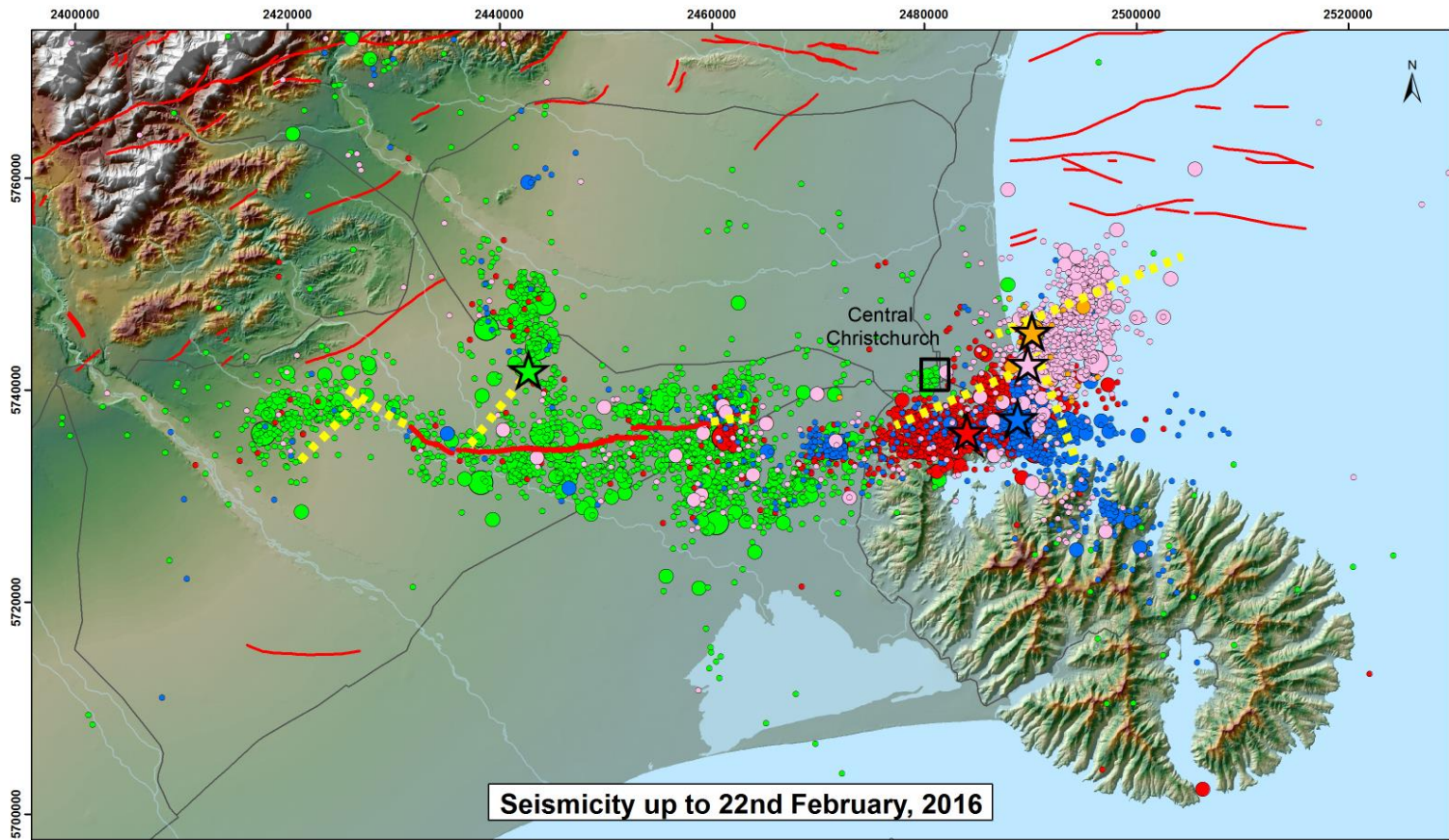
# Rapid Rebound: Applying the learnings of the Canterbury Earthquakes to the geodetic system

Nic Donnelly | Technical Manager Geodesy









- Greendale Fault
- Active faults
- Sub-surface fault rupture

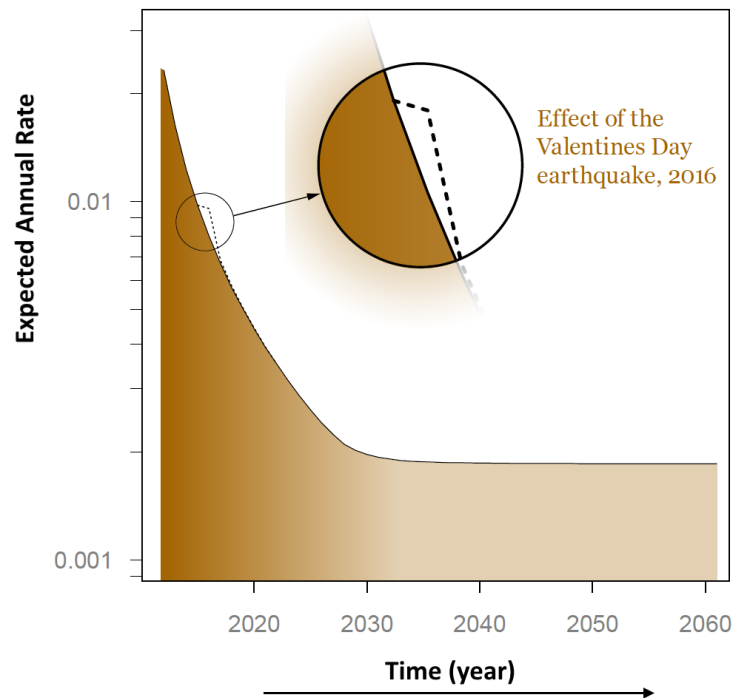
- Magnitude**
- 3.0 - 3.9
  - 4.0 - 4.9
  - 5.0 - 5.9

- ★ Mw 7.2 04/09/10
- ★ Mw 6.2 22/02/11
- ★ Mw 6.0 13/06/11
- ★ Mw 5.9 23/12/11
- ★ Mw 5.7 14/02/16

- Aftershocks 04/09/10 - 22/02/11
- Aftershocks 22/02/11 - 13/06/11
- Aftershocks 13/06/11 - 22/12/11
- Aftershocks 23/12/11 - 14/02/16
- Aftershocks 14/02/16 - 22/02/16

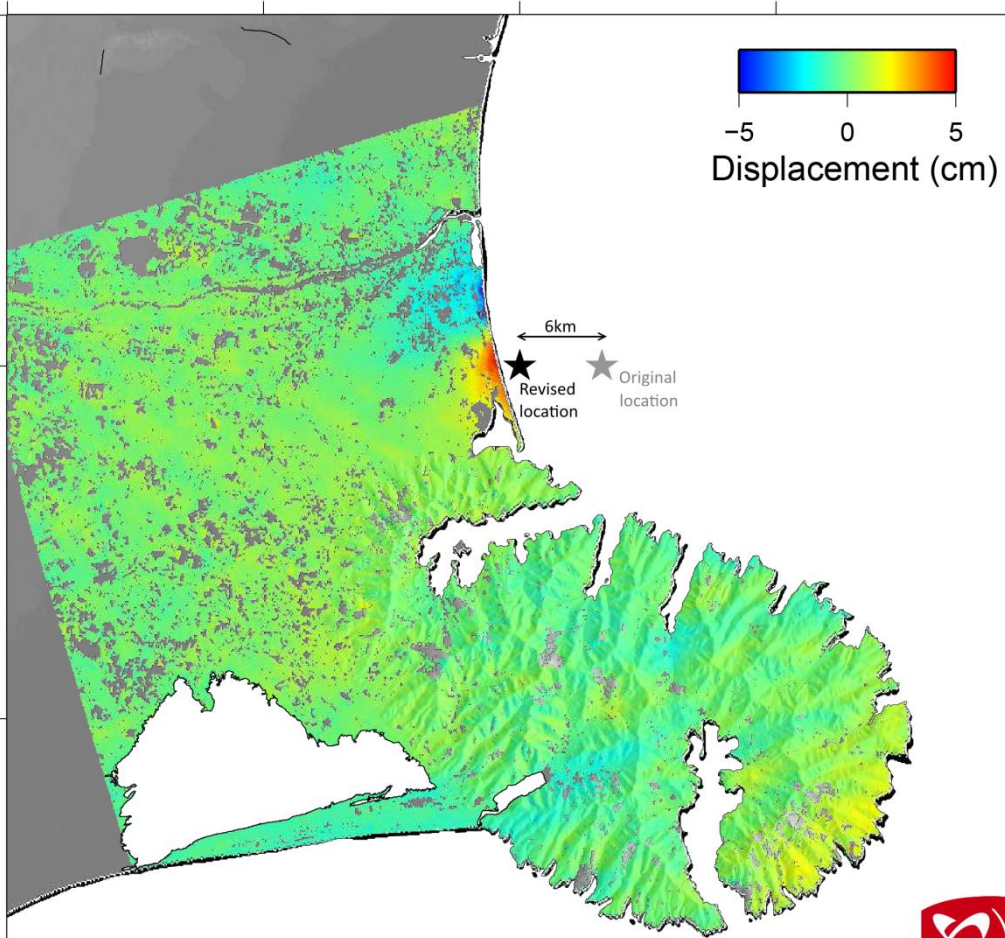


## The changing rate of earthquake occurrence (magnitude 5 or greater) in Christchurch City Centre



As we move forward in time, the expected annual rate of earthquake occurrence decreases. The Valentine's Day earthquake will only have a temporary effect on the rate of earthquake occurrence.



The rate of earthquake occurrence is calculated for a 0.05 degree square box centred in Christchurch City Centre (an approximate area of 20km).





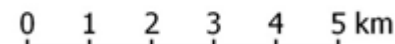


### Legend

-  Vertical Movement (m)
-  Horizontal Movement (m)









NZGD 2000 New Zealand Transverse Mercator



### Legend

-  Vertical Movement (m)
-  Horizontal Movement (m)



0 2 4 km  
NZGD 2000 New Zealand Transverse Mercator



Home > PositionNZ-PP - GNSS Post-processing service

## PositionNZ-PP - GNSS Post-processing service

### Step 3/4: Edit RINEX file metadata

Check that the information extracted from the RINEX header (station name, antenna height) is correct. Note that PositionNZ-PP will only accept files that were not removed. You can remove files that were unintentionally added.

Uploaded RINEX file: **gldb1790.14o** (from **gldb1790.14d.z**) details

Remove file from job

#### Station Name:

The value in the RINEX file is: GLDB

#### Antenna/radome type:

The value in the RINEX file is: TRM55971.00 NONE

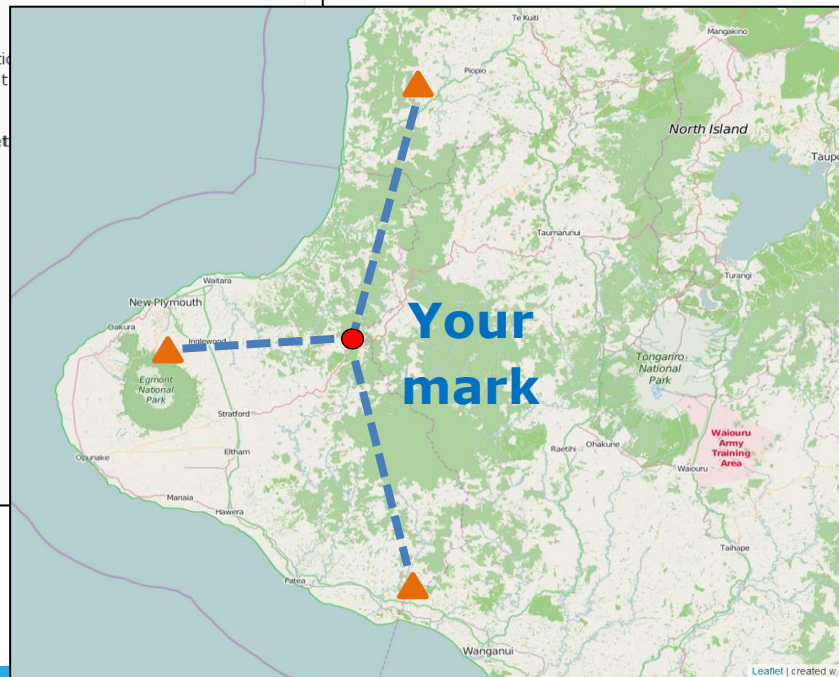
#### Antenna height (metres, max 4dp):

The value in the RINEX file is: 0.0550

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Next >>

Cancel



# Canterbury Earthquake (14 Feb 2016) Geodetic Marks

LINZ / National Geodetic Office



Licence

1517

21

Updated  
13 Apr 2016

About

Metadata

Data Table

Analytics

History

Services

Comments (0)

nod_id	36753029
geodetic_code	A6AF
current_mark_name	7681
geodetic_database_link	<a href="http://apps.linz.govt.nz/gdb/index.aspx?code=A6AF">http://apps.linz.govt.nz/gdb/index.aspx?code=A6AF</a>

post\_14feb2016\_nztm\_north 5186734.369

post\_14feb2016\_nztm\_east 1577346.142

post\_14feb2016\_ellipsoidal\_height 20.502

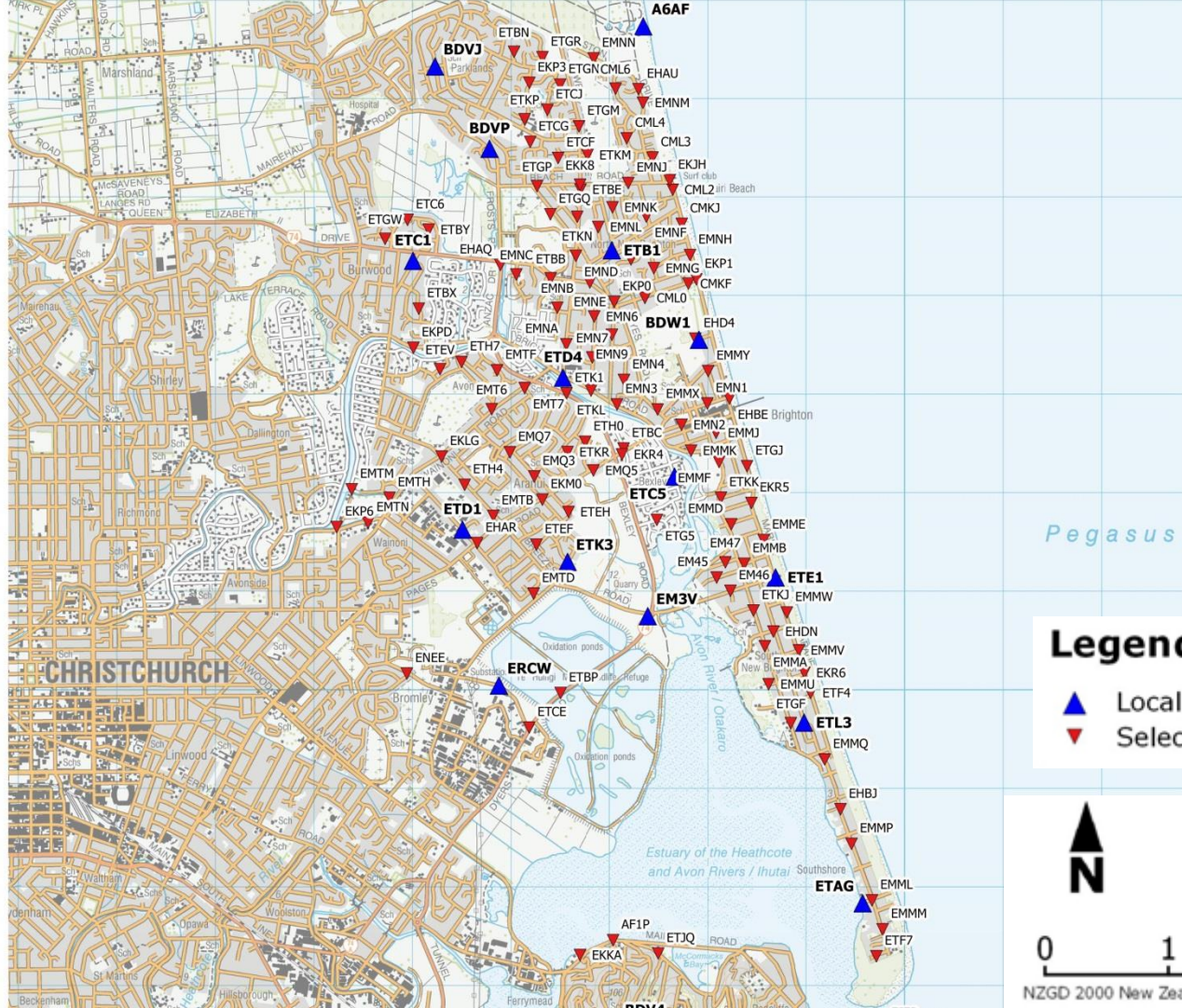
eq\_14feb2016\_north\_change -0.072

eq\_14feb2016\_east\_change 0.08

eq\_14feb2016\_horizontal\_change 0.108

eq\_14feb2016\_height\_change -0.037

Rev.	Published (UTC)	Features	Add	Mod.	Del.
3	12 April 2016 20:10	44	31	12	0
2	25 February 2016 21:42	13	0	0	0



## Legend

- ▲ Local Higher Order Control
- ▼ Selected Mark



NZGD 2000 New Zealand Transverse Mercator

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Questions?

