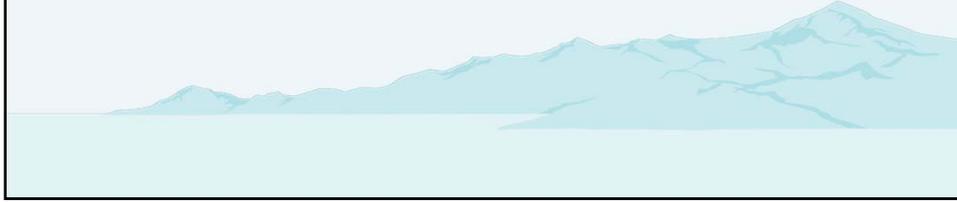


Re-establishment of the New Zealand Survey Control System Following the 2010 Darfield (Canterbury) Earthquake

Nic Donnelly, John Ritchie, Matt Amos
Land Information New Zealand

FIG Working Week, 18-22 May 2011, Marrakech, Morocco
Bridging the gap between cultures
Session TS05D – National Geodesy II – Paper 4871



Where is Christchurch ?



Darfield Earthquake

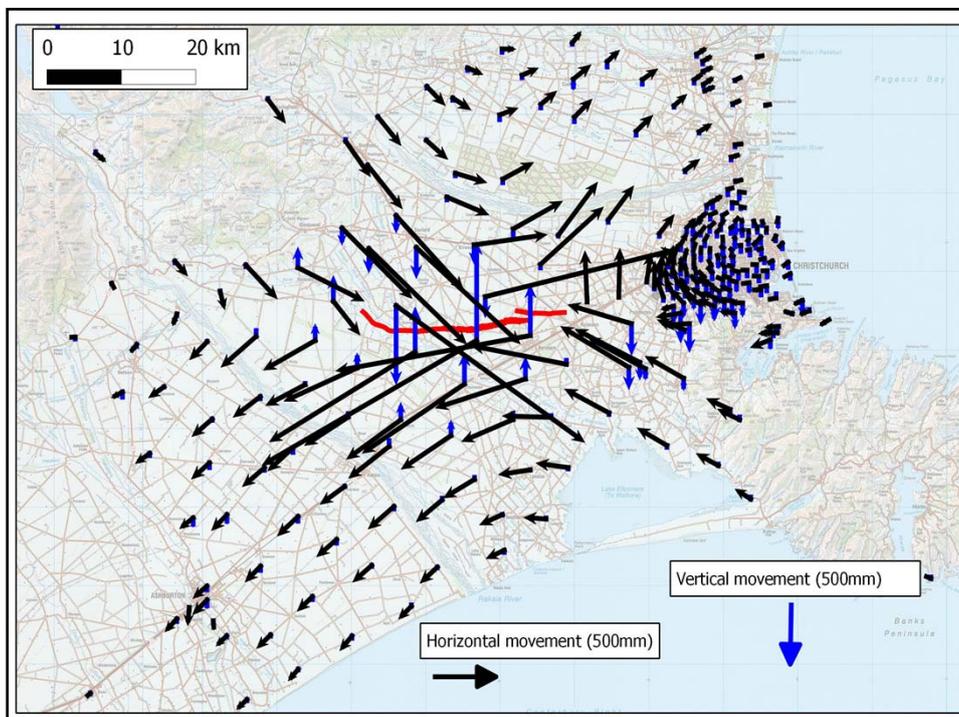
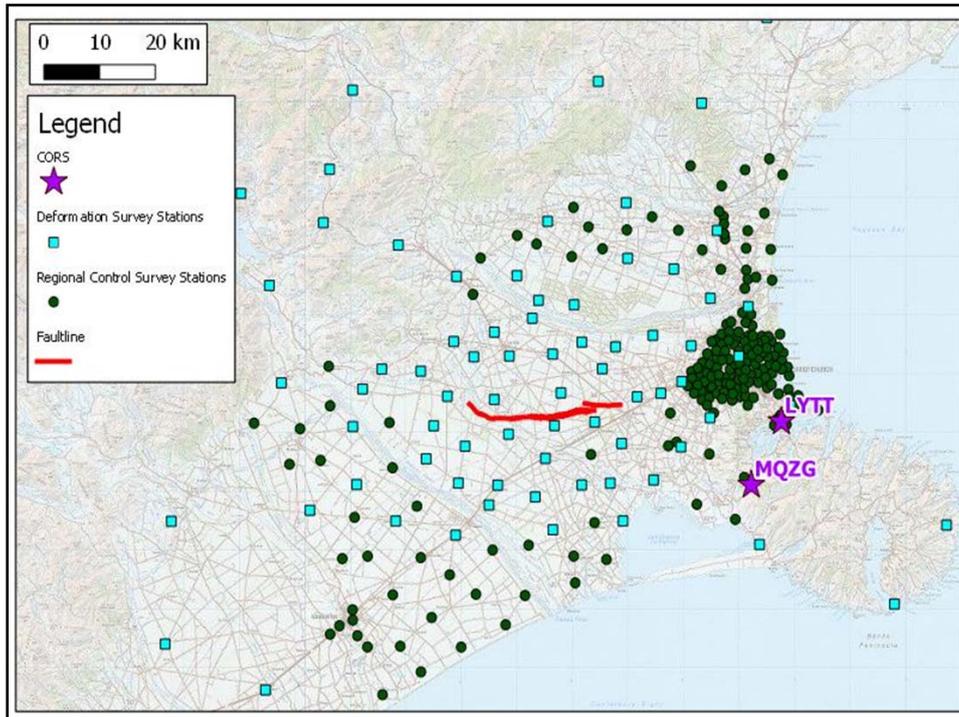


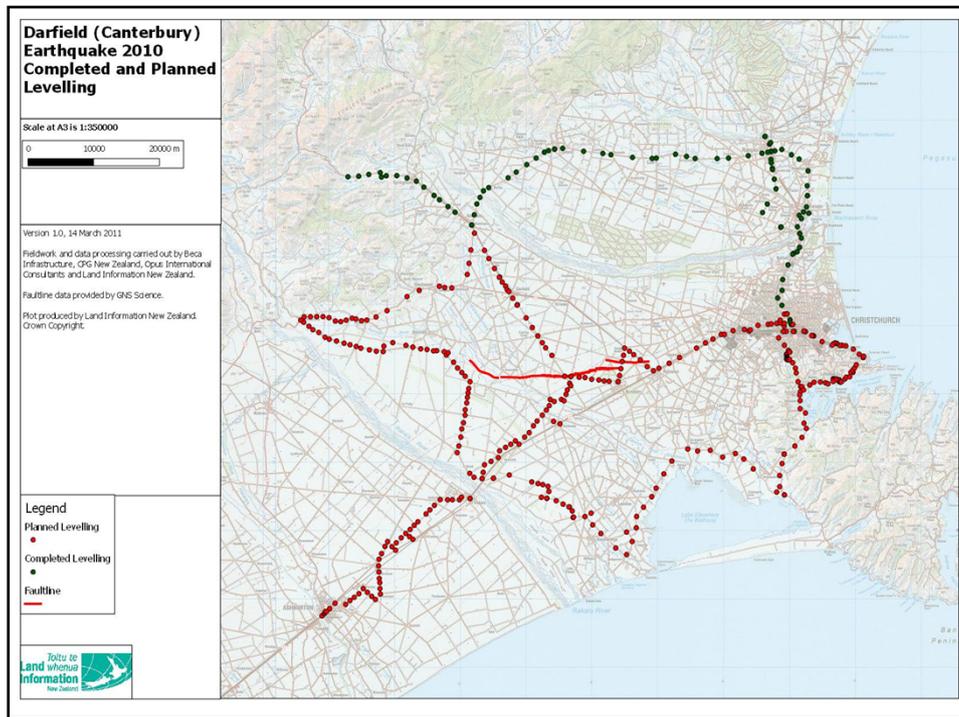
- Darfield (Canterbury) earthquake
- 40 km west of Christchurch City
- Magnitude 7.1 Richter scale
- 4:35 am Saturday 4 September 2010
- No loss of life, but widespread damage to land, buildings and infrastructure in Christchurch City and surrounding rural area

Christchurch Earthquake



- Christchurch (Canterbury) earthquake
- Midday 22 February 2011
- 10 km southeast of Christchurch City CBD
- Magnitude 6.3 Richter scale
- Some of the largest accelerations ever recorded, worldwide
- 180 deaths, extensive damage to land, housing and commercial buildings





Conclusions



- The private sector can be a valuable source of pre-earthquake data, but it helps to have some formatting and quality measures in place
- The provision of height control is more urgent than horizontal control
- Partnerships are key to obtaining data as quickly as possible. The partnership between GNS Science and LINZ was particularly valuable in this regard
- A balance needs to be struck between re-establishing the control system quickly and waiting until significant aftershocks become statistically unlikely

FIG WW



2016



**CHRISTCHURCH
NEW ZEALAND**