

# Rumblings

FOR THE INSURANCE INDUSTRY

## Bay of Plenty deluge claims to cost EQC nearly \$28m

Debris flow becomes the new peril



*Aerial shot of a Matata property after May floods.*

On May 17 and 18, the Bay of Plenty was again hit by an extreme weather event. This time Tauranga and Matata bore the brunt of the deluge.

Tauranga had the heaviest rainfall since records have been kept – 309mm in 24 hours. Matata had rainfall estimated to have a return period of 200 to 500 years i.e. an event with a 0.2% to 0.5% chance of happening again in any year.

Damage was on a scale the city and the township had never seen before.

Hundreds of people were evacuated from their homes as landslips and floods inundated, damaged and destroyed many houses. Others were isolated by realigned stream beds and accumulations of debris. The disruption to the communities was severe.

Months later the effects are still being felt with many people still in temporary accommodation, many homes still uninhabitable, and clean-up and protection work ongoing.

Emergency services were put to the test with good results reported. "The outstanding thing was the co-ordination among the various agencies," said Gary Main, one of the three Civil Defence controllers leading the efforts.

EQC received 812 claims from throughout the region with most from the Tauranga (602) and Whakatane (142) areas. To date, 740 claims have been resolved at a cost of \$24m. It is estimated that when all claims have been settled, the cost to the Commission will be almost \$28m.

The Commission's cover includes landslip damage to houses and contents, up to \$100,000 + GST for houses and up to \$20,000 + GST for contents.

It also includes storm, flood or landslip damage to land up to eight metres from an insured house and up to 60 metres from the same house for the main accessway. The cover is for the value of the insured land that has been lost or damaged.

"We are quite restricted in what we cover for storm and flood events but we do everything we can to help," says the general manager of EQC, David Middleton.

New Zealand seems to be experiencing more extreme weather events and certainly EQC's involvement in such events has become a feature for it in recent times. The February 2004 floods centred in the Wanganui and Rangitikei regions provided valuable lessons for many concerned, including EQC.

EQC's insurance manager, Lance Dixon, said that one of the main lessons was that it is very important for everyone involved to understand how each of the other organisations fits in the recovery effort, so as to maximise efficiency. "In this there is a benefit for all concerned, particularly for claimants who can often be emotional and looking for action straight away."

The 2005 Bay of Plenty floods reinforced that lesson and introduced new ones. The most important of the latter is that there will sometimes be difficulties in deciding and agreeing on the causes of damage.

## STOP PRESS

As we go to press we regret to announce the death, after a long illness, of EQC commissioner Jeremy Dwyer.

His valuable contribution to EQC will be acknowledged in the next edition of this newsletter.

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EQC provides first loss cover for insured houses and their contents that have been damaged by landslip and cover for land damaged by storm, flood and landslip, according to the formulae outlined above. Private insurers provide cover for storm and flood damage to houses and their contents and, in most instances, for loss from landslip above what EQC provides.

Matata residents suffered loss from what were defined as "debris flow" and "debris flood". Neither of these terms are mentioned in the Earthquake Commission Act. The streams flowing through Matata not only brought water and silt but logs, rocks, gravel and soil, and in varying degree.

With these new definitions came a quandary. Were debris flow and debris flood really flood or landslip? Could one be treated as landslip and the other flood or were both in fact the same? What were they for insurance purposes? If both were flooding, they would be within the purview of the private insurers. If they were landslips, they would be within the purview of EQC.

The Act of Parliament under which EQC operates is very specific about the type of natural disasters it covers and the extent of that cover. EQC cannot move outside those definitions.

EQC's preliminary advice was that it had to treat both debris flow and debris flood as flood and not landslip, in accordance with the wording of the Earthquake Commission Act. However, EQC acknowledged that its initial advice was not definitive and suggested that private insurers pay out on the claims and then raise any matters of concern with EQC after that. That way the homeowners would not be caught in a limbo.

Private insurers have taken up this suggestion. EQC has received 27 requests for reimbursement from insurers, all of which the Commission has paid, at a total cost of \$450,000.

In the meantime, EQC sought further expert advice and established that debris flow can be categorised as a landslip

as the Act defines the term, and the properties damaged by debris flow will be covered by EQC.

Lance Dixon says another significant point emphasised by this particular event was that the cause of damage needs to be determined on a claim-by-claim basis. EQC has (with the assistance of expert engineering advice) identified those houses damaged by debris flow and those houses damaged by debris flood. Now each claim can be settled according to the peril that caused the damage, with EQC compensating some property owners and others being compensated directly by their own insurers.

As planned for in its Catastrophe Response Programme, the Commission set up temporary offices in both Whakatane and Tauranga to facilitate the claims settlement process.

The number and complexity of the claims meant having people on the spot was an immense help in settling claims as quickly as possible.

Loss adjusters from Australia, who had completed EQC's training programme, were brought in to bolster local resources and EQC's claims processing company, Gallagher Bassett Services, managed the increased load very well.

The Commission's efforts to place itself in the best position possible to handle natural disaster claims will be crucial to recovery from future disasters. And it is sobering to remember that, should a major quake, volcanic eruption or tsunami strike, the Commission must be ready and able to handle tens of thousands of claims affecting hundreds of thousands of New Zealanders.

For more information visit the websites of Environment Bay of Plenty ([www.embop.govt.nz](http://www.embop.govt.nz)), Whakatane District Council ([www.whakatane.govt.nz](http://www.whakatane.govt.nz)), Tauranga City Council ([www.tauranga.govt.nz](http://www.tauranga.govt.nz)), Civil Defence ([www.civildefence.govt.nz](http://www.civildefence.govt.nz)) and EQC ([www.eqc.govt.nz](http://www.eqc.govt.nz)).



Lambton Quay, Wellington, c1860 with the sea wall that became unnecessary after uplift in the 1855 earthquake. WJ Harding collection, Alexander Turnbull Library, Wellington.

## Sesqui symposium commemorates our greatest quake

The most devastating earthquake in New Zealand's modern history was commemorated in a sesquicentennial symposium held in Wellington in September.

The symposium was to recognise "the 1855 Wairarapa earthquake's enormous influence on New Zealand society, science and engineering" and featured presentations by 40 specialists from 17 institutions.

EQC was one of those institutions and provided its "earthquake insurance" perspective in a presentation by insurance manager Lance Dixon and operations manager Doug Bent. The main focus of their address was on what would happen if a quake of the same size, magnitude 8.2, occurred today.

The major differences between then and now are that earthquake insurance did not exist in New Zealand at that time, the range of other services currently available to help communities recover from disaster did not exist either, building standards were much lower, and the population density of the affected area was just a fraction of what it is today.

Were a magnitude 8.2 quake to strike present-day Wairarapa and Wellington, EQC estimates that it would generate 240,000 claims, and of course that is for residential property only. The cost to EQC could be up to \$9 billion.

EQC's catastrophe response programme anticipates such large scale events. Once it became clear that a significant event had occurred, EQC would activate its contracted call centres and the process of handling claims would commence. This would lead on to all other aspects of the claims administration process including setting up field offices, organising visit schedules for loss adjusters and damage estimators, carrying out the inspections, and making settlements to claimants.

One important task would be to manage claimants' expectations because the resources simply do not exist for a quick fix. For example, the expected maximum-size team of 66 loss adjusters and 190 damage estimators could between them visit 19,000 homes once only in the first month. Many houses would require several visits, therefore the process of quantifying the damage to all properties would probably not be complete for up to two years. The rate of actual repair would relate to the ability of engineers, builders, and other professionals and tradespeople, to cope with the huge amount of work, but would be unlikely to outstrip the claims handling process.

The 1855 Wairarapa earthquake, were it to happen today, is at the extreme end of what is possible and a nightmare we all wish to avoid but one for which we must be prepared.

More information on the symposium can be obtained by contacting the chair of the organising committee John Townend ([john.townend@vuw.ac.nz](mailto:john.townend@vuw.ac.nz)). More information on the earthquake can be found on [www.gns.cri.nz](http://www.gns.cri.nz) and elsewhere. Copies of EQC's presentation are available on EQC's website ([www.eqc.govt.nz/downloads/pdfs/1855-then-and-now-ecq.pdf](http://www.eqc.govt.nz/downloads/pdfs/1855-then-and-now-ecq.pdf)).

## EQCover on holiday homes

There has been some confusion on how to cover holiday homes that are also rented out on a short-term basis to a paying third party.

These homes or baches may be used for only a part of the year by the owner, part of the year rented out or vacant when nobody is using them.

If the intention for the holiday home or bach is that the owner will use it whenever they wish and they store their own possessions there, then EQC can still cover these properties, no matter how minimal their use of the property is.

If the property is set up purely as a commercial enterprise and the owners do not use it, then EQCover would not apply.

## Leicester Steven EQC Lectureship Renewed

During July, the Leicester Steven EQC lectureship was conferred on Dr Bruce Deam of Canterbury University for a second term of five years.

The lectureship was established in honour of EQC commissioner, Leicester Steven, who retired in 1997 after 15 years on the board. Its purpose is to strengthen the study and teaching of earthquake-resistant design and construction among engineers.

"We are extremely happy to continue this lectureship because of the great work Bruce Deam is doing in the role, but also as there is still a lot of potential for development within the earthquake engineering discipline," says EQC's general manager David Middleton.

Canterbury University pro-vice-chancellor (engineering) Professor Peter Jackson said the Civil Engineering department was delighted to have the ongoing support of EQC which would help ensure the University of Canterbury upheld its reputation for being a world leader in earthquake engineering research.

## Magnitude 7 quake tracked beneath Manawatu region

Sometime in 2004/2005, a magnitude 7 earthquake occurred beneath the Manawatu region. Strangely, no one felt it.

That is because this "earthquake" occurred slowly, over a period of 18 months from January 2004 to June 2005. These "silent earthquakes" are the result of gradual movement along a slow-slip section (see image) of the boundary between the Pacific and Australian tectonic plates, where the Pacific plate dives (subducts) beneath the North Island. Slow-slip phenomena have only recently been recognised around the world as an important way in which pressure is relieved at subduction plate boundaries.

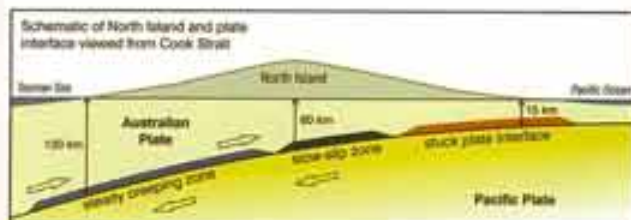
Ground movements detected by continuously tracking Global Positioning System (CGPS) instruments are the only reason we know that the Manawatu silent earthquake happened. Silent earthquakes have probably always occurred in New Zealand, but with the use of CGPS to support hazards monitoring and land survey (funded by EQC and Land Information New Zealand), we can now detect and track them.

CGPS sites near Ashhurst, Wanganui, and Dannevirke were displaced horizontally and vertically by up to three centimetres during the 2004/2005 Manawatu event. Using

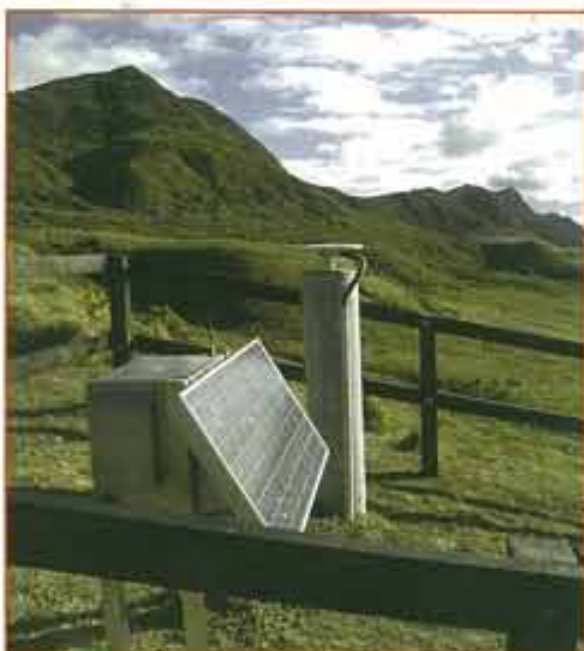
this ground displacement data, scientists at GNS have determined that up to 30 centimetres of slip occurred on the subduction plate boundary beneath the central North Island over an 18 month period. If this slip had occurred in a matter of seconds (as would happen in a conventional earthquake), the Manawatu region would have been rocked by a magnitude 7 event.

Silent earthquakes are most commonly detected in the zone between where the plates are freely moving and where they are stuck and building up for slip in a major earthquake. Knowing the distribution and occurrence of silent earthquakes can give us clues as to when and where the next big subduction earthquake might hit the North Island.

Silent earthquakes have also been detected in the Gisborne region, as part of an EQC-funded post-graduate project completed by Anne Douglas of Victoria University earlier this year. The development of an additional method for detecting silent earthquakes in New Zealand using tell-tale seismic tremors is in progress. This is a Marsden-Fund project led by John Townsend, the EQC fellow in Seismic Studies at Victoria University.



## Fund Boost to Complete Hazard System



GeoNet GPS installation at Hicks Bay, East Cape.

EQC has committed to full funding of the GeoNet hazard monitoring system. This amounts to a 50 percent increase in the Commission's financial support of the project or about \$75 million over 10 years. GeoNet is run by GNS Science in collaboration with the Commission.

GeoNet was launched in 2001 with around \$5 million per year from EQC to cover capital equipment, maintenance and the operation of a core capability somewhat reduced from that in the original proposal. Some short-term funding on top of this was secured for GeoNet design from the Foundation for Research, Science and Technology (\$0.8 million p.a.) and from Land Information New Zealand (\$0.35 p.a.) for part of a modern national survey network.

The additional funding EQC is now providing will allow expansion in several key areas.

- **Earthquake analysis:** The national seismograph network will be completed to the recommended spacing, including a site located on the Chatham Islands. This will allow rapid analysis of earthquake location and size, together with other characteristics that reveal how the Earth is moving. Linked research will develop the techniques required to quickly interpret this information for initial damage assessment and emergency response.
- **Deformation monitoring:** The area along the east coast of both islands, between East Cape and northern Marlborough, will have a greater number of instruments, to measure and interpret slow movement of the land surface that may precede and follow large earthquakes.
- **Volcano surveillance:** The geophysical networks in the volcanic zones of New Zealand, in particular Taranaki and Auckland, will be upgraded. Geochemical sampling and volcanic gas analysis will also be enhanced to provide early detection of changes that precede eruptions.

- **Tsunami detection:** The expanded national seismograph network, together with sea level observations, will permit rapid detection and analysis of local and regional tsunami. This work will involve multilateral co-ordination, both with other New Zealand agencies, and with south-west Pacific neighbours.

The additional funding will ensure GeoNet is a system that delivers data to support modern research and in a form useful for adaptation to many end-uses. The new data delivery initiatives will include:

- **ShakeNZ:** A comprehensive web-based earthquake information service providing an earthquake's location, magnitude estimation, the depth and focal mechanism, the shaking recorded by GeoNet instrumentation, the shaking responses received from the community, the response spectra from instruments located in the built environment and near faults, and the calculation of the aftershock probabilities. Surface deformation will be determined and presented as maps.
- **Outreach:** GeoNet will engage at all levels with end-users of hazard information, to enhance the uptake of GeoNet products for risk management.

The GeoNet programme will continue to foster emerging best practices, prove and adopt new technologies where practicable, and mentor students within the research community to work with the GeoNet data.

GeoNet – as originally conceived and now fully funded – will over time provide New Zealand with a comprehensive monitoring, research and development hazard network and system and the peace of mind to go with it.

## EQCover excesses

With the recent spate of claims, this is a good time for a reminder on how excesses are applied to buildings that contain more than one residential unit in them.

The excess for residential buildings is \$200 multiplied by the number of dwellings in the building, or 1% of the amount payable, whichever is the greater.

As a general rule, should the damage to the building affect common areas or the structural integrity of the building, or even the outside cladding of a residential building, then the above would apply.

If the damage only affected the interior (and is not structural) of a residential unit or, for example, a window that was part of a residential unit, then a single excess of \$200 would apply to that unit.

The excess for residential land is \$500 multiplied by the number of dwellings in the residential building which is situated on the land, or 10% of the amount payable, whichever is the greater (limited to a maximum of \$5,000).

## Hugh Cowan – Research Manager

Dr Hugh Cowan has been appointed to the new position of Research Manager.

In this role, Dr Cowan is responsible for co-ordinating the management of the Earthquake Commission's research activities and working directly with research stakeholders towards achieving EQC's research goals. He comes to the Commission from the Institute of Geological & Nuclear Sciences with experience of science and engineering research and its application to hazard assessment and risk reduction.

## Majestic Move

It has been the source of some controversy to allow in the Majestic Centre that the Earthquake Commission has taken up residence on the 22nd floor.

More than 100 EQC staff (former and potential) people in the Majestic building had if EQC had moved its entire base in an earthquake.

And yes, although we are perhaps somewhat wary about the safety of Wellington, the building has been given the stamp of approval by earthquake engineering experts. However, to be frank, this is only of marginal comfort when the earth shakes.

The move was made because the Commission's lease at its old premises had expired and the organisation required some additional space.



# EQC Public Education Campaign



A still from one of EQC's new television advertisements showing the "Juditha banner" running through a suburban property.

EQC's public education campaign is designed to put the reality of earthquake risk into sharp relief and to encourage people to take action to mitigate against earthquake and other natural disaster damage.

The campaign features television commercials with variations for North and South Island audiences. There are also complementary roadside billboards in some areas.

The TV commercials are airing from the Waikato south and "bring New Zealand's faultlines to the surface" using a banner that crosses through countryside, towns, sports fields, schools and homes.

Both the commercials and the billboards direct viewers to a new website - called EQ-IQ ([www.eq-iq.org.nz](http://www.eq-iq.org.nz)). The website looks at each of the perils that EQC covers and shows people how they can prepare. The information on preparation includes both Earthquake Commission messages and Civil Defence/Emergency Management messages.

"While the roles of the Commission and Civil Defence/Emergency Management are different, there is much we have in common," says EQC's communications adviser, Jo Martin.

"So we thought it would be sensible, given the purpose of the new website, to include ways people could prepare both themselves and their property for natural disasters."

## Household brochure and magnet key parts of campaign

Regionalised brochures and a fridge magnet have been distributed to all households in New Zealand.

The brochures, with their risk theme, and the magnet, dovetail with the new television and billboard advertising and the EQ-IQ website to make up EQC's new education campaign.

While EQC's campaigns have focused on mitigation in recent years, research showed it was time to remind people of the underlying risks.

There are five brochures - Northern, Auckland, Volcanic, Central and Southern. Each brochure features a map of the general region highlighting the risks particular to it. This is done by highlighting features such as coastlines susceptible to tsunami, volcanic regions and the damage areas or epicentres of historic and recent earthquakes.

Combined, the maps show the natural disasters that are common to many parts of New Zealand and those that are more-or-less confined to particular regions.

Each brochure carries a table of claims for perils covered by EQC for the region and for New Zealand as a whole between 1997 and 2005.

Although damage from earthquakes is most common in the known earthquake areas, it does occur throughout New Zealand. Even Auckland and Northland had earthquake damage claims for the period 1997-2005, all from earthquakes occurring well outside their regions.

Population distribution is a major factor in the incidence of damage claims. Several large earthquakes have hit Fiordland in recent years but claims have been limited by the fact that there is barely any settlement in the area. Settlements on the fringe have suffered some damage, those in the Te Anau and Queenstown districts in particular, with Southland and Otago caught in the seismic web to some extent as well.

Landslip damage to property occurs throughout the country. Although again heavily influenced by settlement patterns, payouts on claims for landslip damage were number one in four of the five regions and would have been in the same in the fifth - Southern - were it not for the Te Anau earthquake of 2003.

EQC paid out \$86.7 million on landslip claims for the period 1997-2005 compared with \$31.5 million on the second ranking peril - earthquake. It is worth noting that landslip claims were on average more costly than earthquake claims, at \$7,800 each compared with \$1,900.

However earthquakes, particularly near a major centre of population, remain a greater threat than landslips. New Zealand has been fortunate that there has not been a large earthquake near a major centre for many years but inevitably there will be again. It is only a matter of time.

The brochures also carry information on disaster preparation, what to do when disaster strikes, EQC and its cover, and sources of further information. The fridge magnet carries EQC's claims number, infoline number, website address, and a list of the perils it insures.



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Please write to us at 'Rumbblings', Earthquake Commission, PO Box 790, Wellington. You can also contact us on fax (04) 978 6431, freephone 0800 652 333, email [info@eqc.govt.nz](mailto:info@eqc.govt.nz), <http://www.eqc.govt.nz>