NEW ZEALAND

1. Natural Disasters [1]

New Zealand is a land of fragile landscape, subject to great geological metamorphosis, and particularly prone to the risks of earthquake and volcanic eruption. Its islands are entirely embedded in a circular line of activity around the Pacific Ocean known as the “Ring of Fire”. The boundaries of two of the large tectonic plates, the Pacific and the Indo-Australian, run the entire length of the two main islands: the North Island and the South Island [2].

These special circumstances of location explain the fact that New Zealand and its environs annually record about 14,000 earthquakes, of which just 100 to 150 are in some way felt by the population [3].

The most significant earthquake in the country’s modern history was in 1855 in Wairarapa (near Wellington), estimated to have been 8.1 on the Richter scale. Since then, and until 2007 (included), fifteen earthquakes of magnitude 7 (Richter Scale) or more have been recorded. Studies have concluded that there is an 11% probability that an earthquake of 7.5 on the Richter Scale will occur along the Wellington fault in the next 50 years [4]. Such a quake would affect about 150,000 residential properties, and the EQC would have to face indemnifications of between NZD 5.9 billion and 8.9 billion.

A string of volcanoes crosses the North Island, notable among them Taranaki, which last erupted in 1755; Ruapehu, which has erupted 50 times since 1861, with the most important recent eruption in 1975 (although quite active in 1995 and 1996); Ngauruhoe which is considered the most active in New Zealand, having erupted 61 times since 1839, most recently in February 1977; White Island (off the coast of the Bay of Plenty), which is very active at the edge of the Pacific Plate, and has had cycles of eruption since 1976; Raoul Island, on the edge of the Indo-Australian Plate, which erupted most recently in 1965 [5] and caused the death of a New Zealand Government Department of Conservation worker in 2005. Two of the world’s most active caldera systems lie alongside each other in the North Island - Taupo and Okataina. Mount Tarawera, part of the Okataina system, erupted in 1886 causing widespread disruption and loss of life.

It is estimated that, in the last 150 years, volcanic acitivity in New Zealand has caused about 337 deaths. 151 of these arose from a lahar that flowed from Mount Ruapehu in 1953 and destroyed a railway bridge. Another lahar flowed down the mountain in 2007 but an early warning system and physical barriers prevented any casualties.

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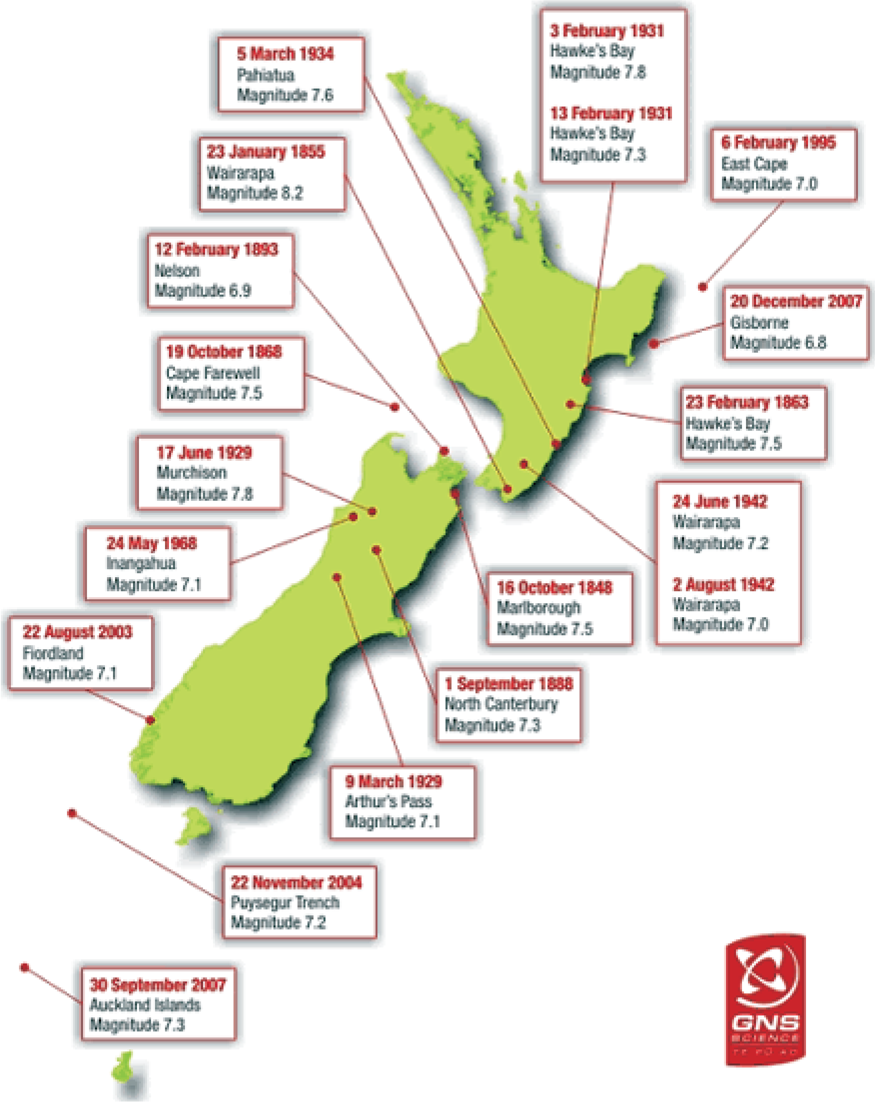
1 This chapter has been prepared with the special contribution of David Middleton (Earthquake Commission-EQC).
2 EQC.: “The Earthquake Commission. A New Zealand Government agency providing natural disaster insurance to residential property owners”. June 1994.
3 GNS Science: www.gns.cri.nz/what/earthact/earthquakes/index.html.
4 A new study by GNS Science is reviewing the seismicity of the Wellington region in light of latest knowledge about activity relationships among adjacent faults.
5 See: volcano.und.nodak.edu/vwdocs/volc_images/australia/new_z.html.

Large New Zealand Earthquakes

Notable shallow (generally less than 30km deep) earthquakes since 1848



Source: GNS Science[6].

[6] Image kindly provided by GNS Science, New Zeland (www.gns.cri.nz).

The largest city in New Zealand, Auckland, is built on a potentially active volcanic field of some fifty cones. Events occur, on average, every 1,000 years. The last, and largest, eruption occurred 750 years ago.

There is evidence, also, of tsunamis striking the shores of New Zealand in both North and South Islands. The last damaging tsunami occurred on the north east coast in 1947.

Along with volcanic and seismic activity, landslips and slides are also notable. Among these, mention can be made of the Falling Mountain rock avalanche provoked by the 1929 Arthur's Pass earthquake, and which scattered 55 million m3 of rock over distances of up to 4.5 km. Closer in time was the rock fall in 1991 on Mt. Cook, the country's highest peak, which lost 15 metres from its summit.

Finally, mention can be made of other natural disaster risks, such as great snowfalls (in Canterbury in 1992 and 2006), cyclones ("Bola" in 1988 and "Drena" in 2003), and the frequent floods which annually cause damage to towns, farming communities and transport networks.

2. Origins and Trends in Cover: the 1944 Act and its Subsequent Amendments

The 1942 Wairarapa earthquakes were the catalyst that led to the conversion of the War Damage Fund, unexpended at the end of World War II, to the Earthquake and War Damage Fund by regulation in 1944 called the Earthquake and War Damage Act.

Under this act, cover against both risks (earthquake and war) was compulsorily included in all fire insurance, financed with a surcharge the insurance companies had to collect and deposit into the Earthquake and War Damage Fund. This was administered by a Commission created for this purpose and which began to operate in 1945. This Commission (the *Earthquake and War Damage Commission)*, set up as a government agency, was chaired by the Finance Minister, and its funds, invested entirely in the country's public notes, were controlled by the Treasury Office. The Commission, originally managed by personnel from the State Insurance Office, had from the first a state guarantee. Thus any Fund shortfall in payment of claims would be assumed by the state.

Application of this system was extended in 1950 to extraordinary flood and storm risks, combined from 1954 with volcanic eruption and landslide [7]. Likewise, in 1967, the Commission was authorised to insure against geothermal activity, on a voluntary basis.

A revision of the legal framework in March 1984 excluded the risks of storm and flood, thenceforth only included in limited cover for land, called "Land Cover", introduced in June that year.

In 1988 an amendment to the Earthquake and War Damage Act made the Commission autonomous, acting as a commercial entity with the form of a Statutory Corporation. At the same time, it assumed control of and responsibility for its own funds and the personnel in its service, no longer subject in these areas to the respective control of the Treasury and the State Insurance Office. The Commission continued to be exclusively publicly owned, run by a Board of Directors whose members are nominated by the Government, and which reports to the Minister of Finance [8].

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7 Slip risk was not covered automatically, but was only accepted if the Commission decided so. This cover was financed through a Special Disaster Fund which received 10% of additional premiums collected through a guarantee of natural disaster risk. From July 1970, this risk was covered automatically, without additional premium payment.

8 The Commission's capital is 1.5 billion New Zealand dollars, subscribed and paid up in full by the Government, through the Treasury.

3. The Reforms Introduced in the 1993 Act

As already pointed out, the system operates with a state guarantee, so that all losses will be met by the State after the depletion of the funds and reinsurance treaties negotiated by the Commission. Concern about the enormous potential of these risks provoked fundamental changes in 1993 to the system of Natural Disaster Insurance. The Earthquake Commission Act, 1993 had the fundamental aims of reducing the government's exposure to losses and allowing commercial interests to make their own decisions about insurance protection. For residential property owners, the essential characteristics of low cost, universal cover and compulsion, were retained.

The modifications made involved principally the exclusion of non-residential properties from the government system and the introduction of maximum cover for residential properties. That exclusion was however applied progressively over three years (1994-1996). On the other hand, war was eliminated from the risks covered. From then on, the Commission would be named the *Earthquake Commission* or, in abbreviation, the EQC.

The new EQC cover system was put in place from 1 January 1994. Properties within the scope of the state guarantee, i.e. residential properties, are covered against natural disaster risks (see below), compulsorily and automatically with the subscription of a fire insurance policy (if a property is not insured against fire, there is no EQC cover). As payment for this cover, with the premium for the policy the insurers collect a surcharge which is deposited in the Natural Disaster Fund administered by the EQC. EQC takes on the indemnification obligations and receives the claims, either directly or through the insurance entities.

The following section describes more widely the elements configuring the existing New Zealand system of natural disaster cover [9].

3.1. The Properties Insured

The following are the categories of properties affected by this system of cover, provided that they are secured with a fire policy and are located in New Zealand:

- Residential buildings (i.e. a building more than 50% used as dwellings). For the purpose of this cover a dwelling is any construction with a toilet, bathroom, kitchen and a bedroom, used as a household. This includes homes, flats, apartments and holiday homes. Separate buildings forming part of the dwelling (sheds, garages, greenhouses, etc.), and other services (water and gas piping, electric cables, the telephone line, etc.) owned by the insured and up to 60 metres from the building are covered. Crops, plantations and unstored harvests are excluded from cover, as are swimming pools, outdoor water systems and tennis courts.
- Personal effects and dwelling contents, with some exclusions such as pets, livestock, motor vehicles, boats, aircraft, jewellery, artworks and documents.
- The land under the residential building and in the immediate environs (up to 8 metres), along with its main accesses and containing walls (not fences and enclosures), although with some limits: up to 60 metres from the house.

From 31 December 1996, EQC ceased insuring non-residential property. In this connection, it must be pointed out that most insurance companies operating in New Zealand offer disaster cover for non-residential properties and assets.

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[9] See: *Householders' Guide to EQCover.* Wellington, Earthquake Commission, November 1994.

3.2. The Risks and Damage Covered

The following are the types of natural disasters included in the system:

— Earthquake, tsunami, natural landslides, volcanic eruption and hydrothermal activity.
— Storm and flood, in the case of residential land.
— Fire caused by any of the above risks.

For the purposes of EQC cover, the following is considered **"earthquake damage":**

a) Damage occurring as a direct consequence of an earthquake, or a fire caused by it.
b) Accidental or other damage which is a direct result of measures taken by the competent authority to avoid the spread or mitigate the consequences of any damage.

The following are understood to be **"damage from volcanic eruption or geothermal activity":**

a) Damage caused as a direct result of such events, excluding damage from landslide, subsidence or sea erosion.
b) Accidental or other damage which is a direct result of measures taken by the competent authority to avoid the spread or mitigate the consequences of such damage.

Finally, **"landslides"** are understood as the collapse or slippage of a substantial mass of earth (hills, embankments, slopes, cliffs or land or rock surfaces which formed an integral part of the surface prior to the movement), and the following are considered **"landslide damage":**

a) Damage arising as a direct result of a landslip.
b) Accidental or other damage which is a direct result of measures taken by the competent authority to avoid the spread or mitigate the consequences of landslides.

Damage caused by earth movement arising from carelessness on the part of the owner, such as reckless excavations, inadequate retention walls or insufficient drainage, is excluded, as is damage caused by subsidence and such phenomena as settlement, land shrinkage, compacting or erosion.

Reasonable costs incurred by the owner in protecting his or her property and reducing damage may be indemnified. However, consequential damage such as loss of profit or loss from robbery, vandalism etc., fall outside the indemnification.

3.3. Tariff

EQC cover is funded with the application of a 5 cent surcharge for every 100 New Zealand dollars of capital insured per annum (0.5 per thousand) which, taking account of the upper limits of the cover referred to below, represents a maximum per policy of NZD 67.50 (including VAT) per dwelling and personal property/contents. The land cover is provided at no additional premium.

3.4. Claims

Damage for claims covered by this system must be notified to the EQC either directly or through the private insurance company concerned. Claims must be filed within the 30 days following the date of the loss (EQC has the discretion to extend this time limit in individual cases to three months).

Indemnification is paid directly by the EQC once independent experts have valued the amount of damage. There is provision however to bypass the assessment formalities if the value of the damage is very reduced. EQC may also elect to repair, reinstate or relocate a building by way of settlement of a claim. Settlements greater than an agreed amount must be paid to a mortgagee, where a property caries a mortgage.

3.5. Indemnification and its Limits

As already pointed out, aside from the exclusion of non-residential properties from the cover, the 1993 Act established some limits on the cover, generally to the effect that homes and personal effects are insured for their repair or replacement value —or for the insured sum if lower— with the following maxima:

- For dwellings, NZD 100,000 plus 12.5% G.S.T (Goods and Services Tax - V.A.T.), a total of NZD 112,500.
- For personal property, NZD 20,000 plus G.S.T., i.e. NZD 22,500.

Cover can be acquired on the private market to secure indemnification for damage exceeding those limits, for such further amount as may be required.

In general, personal property is insured on the same terms as in the private fire insurance policy sustaining the cover for natural risks.

3.6. Deductibles

EQC cover carries the following deductibles:

- For damage to a residential building, with or without personal property, the deductible is NZD 200 (multiplied by the number of dwellings involved), or 1% of the indemnification figure for the whole building, if higher.
- For damage to personal property alone, the deductible is NZD 200.
- For damage to land, the deductible is NZD 500 if the claim is NZD 5,000 or less, and 10% of the damage if that figure is exceeded. The deductible in such cases is never more than NZD 5,000.

3.7. The Natural Disaster Fund

The EQC administers the Natural Disaster Fund (formerly the Earthquake and War Damage Fund), made up of the premiums collected by the Commission through insurers as part of the fire policies they issue or renew, plus the returns on the investments of the Fund. The Fund is designed to meet claims for damage caused by natural disasters and, on 30 June 2006, reached a total figure of NZD 5.42 billion. The Fund's resources are invested under the control of the "Statement of Investment Policies, Standards and Procedures" approved by the Ministry of Finance.

The EQC has, since the end of 2001, been able to invest in overseas equities (stocks and shares), to increase the diversification of the Fund's investments in order to ensure the availability of resources should a major disaster affect New Zealand.

3.8. Reinsurance

The EQC also has a reinsurance programme which protects the Fund against payment liabilities which, following a serious natural disaster, exceed NZD 1.5 billion ("attachment point"). This reinsurance provides cover of up to NZD 4 billion. Should another disaster occur within the remaining period of a three-year agreement, which represents a cost of more than NZD 3.5 billion, another reinsurance cover is activated with a NZD 1 billion attachment point.

The reinsurance is negotiated through international brokers, and about forty reinsurance companies on the international market are involved.

3.9. State Guarantee

As already indicated, the EQC has an unlimited State guarantee, which takes up all losses once the Natural Disaster Fund and the capacity of the reinsurance programme subscribed by the Entity are exhausted. The guarantee may be met in the form of a grant or a loan, at the government's discretion. In return for this guarantee, the EQC pays the Government an annual charge. Although EQC is not taxed and does not currently pay a dividend to the government, the Earthquake Commission Act provides for the payment of amounts to the government in lieu of tax or a dividend, should the government require. It has not done so since the mid 1990's.