

Comparative Case Study – Regional Focus

Gisborne Earthquake December 2007



Sequence of events Thursday 20th December

- 8:55 pm – An earthquake measuring 6.8 on the Richter Scale rocks the city of Gisborne and its outlying districts. Its epicentre is located 50km offshore southeast of Gisborne at a depth of 40km.
- A state of civil emergency is declared immediately after the earthquake.
- The earthquake leaves buildings partially collapsed, roofs caved in, burst water tanks and winery vats and gaping holes in roadways.
- Eleven people are treated at Gisborne Hospital's emergency department for minor injuries.
- Gisborne suffers widespread power blackouts.
- Due to damage to several homes, 14 people require emergency accommodation and stay at the local council's motor park.
- 400 retailers are affected when Gisborne's central business district (CBD) is cordoned off to the public to enable council inspectors to assess building damage.



CBD of Gisborne after the earthquake.

Friday 21st December

- 6:47 am – Aftershocks measuring up to 4.5 on the Richter Scale are experienced.
- Power is restored to 90% of Gisborne.
- The Earthquake Commission (EQC) receives 570 claims. Total claims are expected to reach up to \$30 million.

Saturday 22nd December

- 11:35 am – Gisborne is again jolted by an aftershock – this time measuring 4.8 on the Richter Scale.
- 30% of businesses in Gisborne's CBD remain closed.
- 5:15 pm – The mayor of Gisborne District Council lifts the civil state of emergency.

Monday 24th December

- Total EQC claims now exceed 1,000. Of these 987 are from Gisborne, 27 from Wairoa and 103 from other areas.



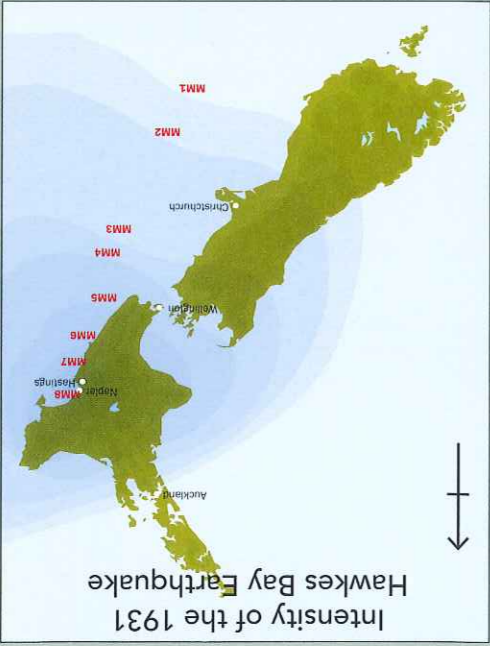
Damage to roading due to the earthquake.

Thursday 27th March

- After three months, the deadline for claims expires. Total claims are now expected to reach up to \$50 million making it the most expensive earthquake since the Edgecumbe earthquake of 1987.
- Nine buildings in the CBD area remain closed.

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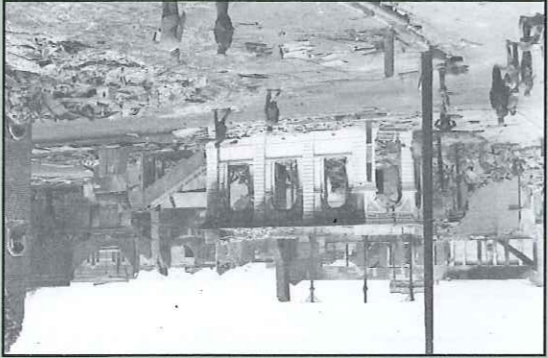
Hawkes Bay Earthquake February 1931



At 10:48 am, on Tuesday 3 February 1931 Hawkes Bay was struck by an earthquake measuring 7.9 on the Richter Scale. This was followed by a second shock of the same magnitude a few seconds later. The earthquake had widespread economic and social effects on the Napier and Hawkes Bay communities.

Negative effects on the cultural environment

• **Injury and death** – The earthquake caused the largest loss of life as a result of an extreme natural event ever recorded in New Zealand. 256 people were killed. Most deaths occurred from suffocation or being crushed or buried in destroyed buildings. Others were killed in uncontrollable fires. The earthquake and its effects injured many more people. The casualties suffered burns, broken bones, severed limbs, cuts, bruising and abrasions. Relief workers from outside the area couldn't get to the earthquake zone because road links had been blocked by landslides.



Hastings Street, Hastings.

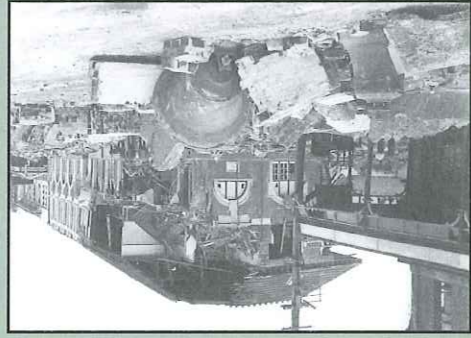
• **Trauma and disruption** – At the time most people were at work, shopping, or at school. Families suffered trauma and disruption as they struggled to reunite. A temporary tent hospital was set up on a racecourse.

• **Buildings and building services** – 11,000 people had their homes destroyed or damaged and had to be evacuated, most to Palmerston North. The uncertainty of the temporary shift caused these people further trauma. The hospital and schools were closed. The nurses' home, library, technical college, cathedral and an old people's home were destroyed.

• **Gas/electricity/water** – Burst gas lines started fires which caused further destruction to wooden buildings. People who were able to stay in their homes had to cope without power, telephone, water and toilets.

• **Transportation** – Roads, bridges, railway lines were broken or blocked by landslides. North of Napier, long stretches of coastline had slipped into the sea. People were cut off from family and essential services.

• **Communications** – Land rising in waves toppled lamp posts and power lines and destroyed power transformers and telephone lines, leaving people without communication.



Hastings Post Office.

Learning Activities

- 1 Write a newspaper report on the 1931 Hawkes Bay earthquake using the headings below.
 - a What happened?
 - b Where did it happen?
 - c What damage was done?
 - d What were the effects on the people of the area?
- 2 a Construct a continuum like the one below. On it rank the following earthquake threats from least hazardous to people to most hazardous to people:
 - ground shaking
 - liquefaction
 - landslides
 - tsunami.
- b Justify your ranking with examples from the text.
- 3 Using the specific information from the text, copy and complete the following table.

Effect of Hawkes Bay Earthquake on Economic and Social Activities		
	Positive	
	Negative	
Economic		
Social		

• **Costs** – The losses and damage caused by the earthquake were estimated at about \$10 million in 1931.

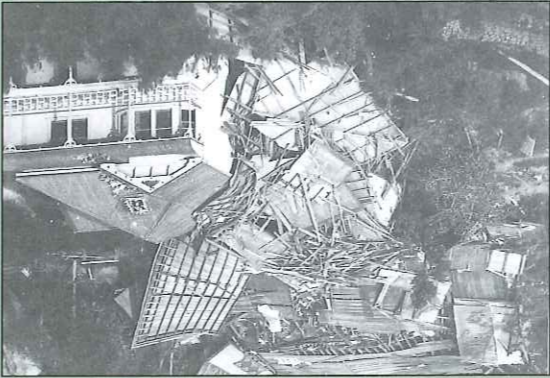
• **Personal property** – Homes, furniture and vehicles were damaged by the earthquake but people were more concerned with their own and their family's health and safety.

• **Commercial property** – Shops, offices and factories were closed for months. Some closed permanently. Businesses and employees lost income and less was spent in shops.

• **Farms** – In inland districts, rivers blocked by landslides burst their banks and flooded plain areas, killing livestock. Many farm buildings such as barns, milking sheds and implement sheds were destroyed. The earthquake caused many beef, sheep and dairy farmers to lose income. Avalanches, rockslides and landslides changed the contour of many farms. Farmers needed to re-fence many paddocks.

• **Transport facilities** – Damaged or destroyed roads, railway lines and airports affected the supply of goods and services to all Hawkes Bay residents.

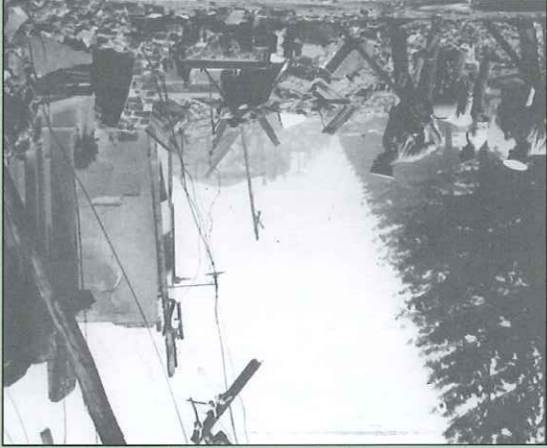
• **Recreation attractions** – The Ahuriri lagoon was uplifted 3 metres. The habitat of many birds and fish had suddenly changed. (See Resource 3.3)



Faraday Street, Napier.

Positive effects on the cultural environment

- **Families** – Relations were drawn closer together as they tried to help each other overcome their loss of family or property.



Sailors helping with the clean up of Marine Parade, Napier.

- **Community** – Religious groups came together to give help to the elderly, sick and alone. Volunteers from the community assisted in the field hospital and with the distribution of food and clothing to displaced families. Everyone shared food, water, transport and shelter. Community spirit was strengthened.
- **Aid agencies** – Within a few hours navy ships with relief supplies were sent from Auckland. Businesses were assisted by a Government loan which paid for a temporary town that supplied essential goods.

- **Land** – Avalanches, landslides and the collapse of Bluff Hill in Napier changed the landscape. The uplifting of the Ahuriri lagoon provided 365 Ha of dry land. The Napier airport and housing were built on this new land.
- **Employment** – Building codes for New Zealand were rewritten after the earthquake. New infrastructure and building created work for many people.
- **Infrastructure** – New and improved roads, railways and airports were built. Better housing and business developments were constructed.
- **Tourism** – Napier was rebuilt in the art-deco style of the 1930s. Its distinctive architecture is now a world famous tourist attraction.

Case Study