



## **BIBLIOGRAPHIC REFERENCE**

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## **EXECUTIVE SUMMARY**

The stories in this report were solicited by the Ministry of Culture and Heritage as part of preparations for the Earth, Sea and Sky theme of Te Ara, the online encyclopedia of New Zealand. A total of 38 stories were received between 4 August 2005 and 11 January 2006. These stories have been sorted by category of natural hazard, and within each category, sorted in reverse chronological order. The purpose of this report is to preserve the entire collection of disaster stories and make them available as a resource.

## **KEYWORDS**

New Zealand, natural hazards, flooding, storms, tsunامي, earthquake, personal recollections

## 1.0 INTRODUCTION

These stories were solicited by the Ministry of Culture and Heritage, as part of preparations for the Earth, Sea and Sky theme of Te Ara, the online encyclopedia of New Zealand. The purpose of collating them here is to preserve the entire collection of disaster stories and to make them available as a resource.

### 1.1 Summary of stories received

A total of 38 stories were received between 4 August 2005 and 11 January 2006. These stories have been sorted by category of natural hazard, and within each category, sorted in reverse chronological order (Table 1).

**Table 1** Summary of disaster stories received between 4 August 2005 and 11 January 2006

<b>EVENT</b>	<b>NUMBER OF STORIES RECEIVED</b>
<b>Storms with high winds</b>	
December 2004 storm, Bay of Islands	1
February 2004 storm, Wanganui	1
June 2002 Weather Bomb storm, Coromandel	1
August 1975 high winds, Canterbury	1
April 1968 <i>Wahine</i> storm, Wellington	4
January 1951 storm	1
<b>Flooding</b>	
February 2004 storm, Awahuri, Rangitikei	1
1993 flood, Coromandel	1
1985 flood, Te Aroha	1
1960s flood, Taranaki	1
<b>Tsunami</b>	
1960 tsunami, Whitianga, Devonport, Birdlings Flat, Marlborough Sounds, Whangaparaoa	6
1949 tsunami, Otago	1
1947 tsunami (not verified)	1
<b>Earthquake</b>	
1990 earthquake, central North Island	1
1987 Edgecumbe earthquake	2
1968 Inangahua earthquake	4
1942 Wairarapa earthquake	2
1931 Napier earthquake	7
<b>Volcanic breakout flood</b>	
1953 Tangiwai disaster	1

Of the 38 stories received, 16 described earthquakes, nine described storms with high winds, eight described tsunamis, four described flooding and one described the aftermath of the 1953 Tangiwai disaster. Multiple accounts were received for a small number of events: the 1968 *Wahine* Storm, the 1960 tsunami, the 1968 Inangahua earthquake and the 1931 Napier earthquake. Of these events, the 1960 tsunami is considerably less well-known to the general public than the others, and the number of stories received is probably a result of a public presentation made at the Whitianga Museum, and a discussion of the event on the National Radio science programme *Eureka*.

## 2.0 DISASTER STORIES

### 2.1 Storms with high winds

<b>Author</b>	<b>Gemma Price</b>
<b>Event</b>	<b>Storm with high winds, December 2004</b>
<b>Location</b>	<b>Bland Bay, Bay of Islands</b>
<b>Brief summary</b>	<b>10-year-old Gemma recounts her family's experience of camping during an overnight storm which destroyed the family's new tent</b>
<b>Story</b>	<p>It is said that things are never as bad as they seem. Well, here's how I learned that truth the hard way! We've been going camping for years, but last summer we were more excited than usual because we had a new tent. Seeing it for the first time, Tina and I gasped. It was HUGE. It had to be the biggest, brightest, bluest tent on the whole camp site and it was ours.</p> <p>When we went to sleep that night, our end of the tent was so far away from mum and dad's that you couldn't even hear dad snoring! This was definitely going to be the best camping holiday ever! The next evening it started to rain. Lying in bed I was starting to feel uneasy. Was it me or was the rain getting louder and louder? And the wind was picking up, too!</p> <p>A few hours later I woke up with a frightening start. The wind was howling so fiercely that the tent was rocking wildly. I could hear the waves crashing on the beach and the rain pelting down like bullets. The tent gave another jerk and Tina and I both let out a scream. Dad brought our beds into their room and was going out into the raging storm every hour or so to secure the pegs and poles. At about 4 a.m. Dad decided the worst was over and we finally fell asleep. But a minute later, I was being shaken awake: 'We'll have to get out of here, the tent has collapsed!'</p> <p>As Mum led us to the car we could see the damage to our new tent in the light of the torch. Right over our kids' corner a pole had snapped in a last violent gust of wind and ripped through the material which was flapping dangerously, toppling the shelves over and pulling the pegs and ropes out of the ground. I shuddered to think what would have happened to us if we hadn't moved in time. All around us people were battling the pelting rain and howling wind, trying to secure their tents or making their way up to the hall to safety. We huddled together in the car, dazed and tired.</p> <p>When it got light, things didn't look any better. Our beautiful new tent was completely flattened into a tangled mess, and it was still raining relentlessly. Everyone was packing up and leaving to go home. 'I guess this is the end of holiday heaven', I thought, when Dad reminded us that we had taken our old tent up for some friends who were going to join us for a few nights. They could sleep in their van and we could stay on in our old tent! But even so we were feeling very sorry for ourselves, so we decided to go to the nearest café to dry out and bemoan the loss of our brand new tent.</p> <p>'Terrible weather!' Mum said to the waiter. He replied 'Yep, but we're damn lucky compared to the tsunami victims, eh?'</p> <p>Seeing our puzzled looks, the waiter brought over a newspaper. We were stunned and shocked to read about the Boxing Day tsunami which had happened just two days earlier. I felt ashamed: here I was being a huge drama queen about a tiny cyclone when on the other side of the world a natural disaster had been killing thousands. I looked at my family. I</p>

felt so lucky to have them!

None of us complained any more after that, but in some way our own small wet and wild encounter with the forces of nature gave me a real sense of how terrifying that tsunami must have been. For us, things soon got a lot better: the rain stopped and once the old tent was up, our holiday was back on track.

So, ARE things never as bad as they seem? I'm not sure that any of the tsunami survivors would be able to agree, but speaking for myself it is certainly the lesson I learned from our adventure, and I sure hope we get to go camping again - new tent or no new tent!

<b>Author</b>	<b>Sandra Tofa</b>
<b>Event</b>	<b>Storm with high winds, 16 February 2004</b>
<b>Location</b>	<b>Wanganui</b>
<b>Brief summary</b>	<b>The family lost part of the roof from their house during this storm, which was the worst in 18 years of living in the house</b>
<b>Story</b>	<p>We were woken at 5 a.m. by a huge bang. The power went off, and our five-year-old screamed so loudly we thought the caravan – where my husband and two of our 10 children were sleeping - had been blown into the house. We jumped out of bed, calling the kids to get their pillows and clothes and come to the other end of the house. We could see dust when we turned the torch on, and my husband discovered that part of our roof had blown off and landed outside our bedroom. Our house is about 90 to 100 years old so we weren't too sure how it would hold up, the wind outside was so strong.</p> <p>We got the kids into the van with a few important things, and as I backed down our drive we saw our large fruit tree ripped out of the ground, and half of our fence blown away. I called 111 to tell them our roof was off, and then I drove to the other side of town to my parents and got the kids fed and settled.</p> <p>My husband stayed at the house, and went to see the damage with our neighbours. As they watched, the other side of the roof blew off and blocked the driveway. They also saw the wind pick up our veranda and flip it to the other side, where it stuck out of the roof.</p> <p>Over the next three days, the rain was so bad we lost two of the ceilings in the house. We learned that there were floods just out of town.</p> <p>We spent the next three weeks in a motel before the house was fixed. We have lived in our house for 18 years, and that was the strongest wind we have ever had.</p>

<b>Author</b>	<b>Meghan Hawkes</b>
<b>Event</b>	<b>The Coromandel Weather Bomb, June 2002</b>
<b>Location</b>	<b>Thames</b>
<b>Brief summary</b>	<b>Meghan describes how their family, and Thames township, fared during the 2002 Weather Bomb</b>
<b>Story</b>	<p>An almighty crash from the river, a flash of light – the Weather Bomb hits. I make school lunches by candlelight. Mike heads for work, only to reappear: ‘There’s a Civil Defence emergency. All the schools are shut’.</p> <p>I attempt to boil water on a brazier. Mike, working for Waste Management Water Services, will be flat out for days. I became a Weather Bomb widow. I burn every cardboard box I can find until the wood catches. It promptly burns away and falls through the sides of the brazier. Eventually with a steady flame, an old oven grill rack and much swearing I get a cup of coffee full of ash.</p> <p>My son constructs a rock circle on a sheet of corrugated iron, then tells me he’s hungry. The Hermit from across the road appears. The flood has gone right around both sides of his house and is rushing underneath it. He’s lived there 30 years and never known flooding like it. I offer him a thermos of water boiled on my cavewoman microwave. The old bugger tells me he has a primus and has just finished eating a steak.</p> <p>The town is a disaster area. Boulders, logs and chunks of tarseal litter the roads. Ghastly orange mud has poured through houses and submerged streets. Eerily, not a single shop is open. With no power, no petrol pumps or cash flows are working. News crews are filming. Water tankers arrive at the supermarket car park. Men in orange glow coats swarm around fire engines, graders, diggers and power and phone vans. Civil Defence people work amongst road cones, flashing lights and warning signs. It really is like a bomb has gone off.</p> <p>At the stone circle, my son hooks up his portable TV to the car battery. Hey presto! We are able to watch the news, crouched around the car mudguard. Mike arrives home. The town reservoir has drained dry. It is completely empty for the first time in 30 years. The bottom is buried in mud, which reaches the top of his gumboots. He and about 20 volunteers climb in to shovel and sweep it all out. Being the size of two football fields it takes hours.</p> <p>The river is so churned up that refilling the reservoir will take days. Every child at school will be given free bottles of pure water as the town supply recovers. In the forest where the town supply intake starts, Mike hangs over a waterfall with one hand, using the other to clean out a blocked valve.</p> <p>A power repairman tells me he’s had three hours sleep. He can’t talk in a straight sentence. Power is restored after 50 hours. The phone is out for 6 days. The devastation on the coast is harrowing. The area where a woman tragically died is almost obliterated. The Coromandel is weather-scarred and its people for a long time uneasy at the sound of rising wind and drops of rain.</p>

<b>Author</b>	<b>John Fletcher</b>
<b>Event</b>	<b>Storm with high winds, August 1975</b>
<b>Location</b>	<b>At Lincoln, but effects widespread throughout Canterbury</b>
<b>Brief summary</b>	<b>John Fletcher describes damage to the glasshouses at the DSIR after a major windstorm in 1975</b>
<b>Story</b>	<p>A serious wind storm hit Canterbury in August 1975 causing considerable and sometimes spectacular damage to the whole region. I had to travel to work at the Plant Diseases Division, DSIR, Lincoln, from Christchurch that morning around 8 a.m., fortuitously in a 4wd truck which enabled me to drive over and around the fallen trees cables and debris. There were no other vehicles on the road at that time as far as I could see. Out along Riccarton Rd and Springs Rd, roofs were off buildings, fences blown over, large and small trees were damaged. Whole structures were blown over, particularly iron-clad industrial buildings. Roofing iron was skittering along the road and wrapping around power poles. Most fascinating were the two or three recently erected power pylons outside Lincoln which were crumpled and twisted.</p> <p>Arriving at Lincoln, I found the power off. Inside his darkened office was my boss hunched over the radio trying to keep up with what was about to happen next. The damage to our buildings was considerable. Most of the glass from our two large glasshouses was strewn all over the place. Glass was still falling so it was quite unsafe to be near the building. Smaller garden type glasshouses were blown over, windows were broken in offices, cables were down and there were branches and leaves everywhere.</p> <p>The clean-up took weeks. The glasshouse reconstruction was a painstaking salvage operation with every pane of glass having to be washed by hand. This damage destroyed much experimental work and some valuable research collections. For some staff outside Southbridge, power was not connected for days, and telephones unconnected for weeks. Many people lost roofs, windows and the contents of freezers, and had their gardens shredded.</p>

<b>Author</b>	<b>Bob Maysmor</b>
<b>Event</b>	<b>Wahine Storm, 1968</b>
<b>Location</b>	<b>Eastbourne</b>
<b>Brief summary</b>	<b>Bob Maysmor was the last person to drive through to Eastbourne before the road was closed during the Wahine storm</b>
<b>Story</b>	<p>It was the 9<sup>th</sup> April and a bit of a storm was brewing. I had been out visiting friends in the Hutt Valley and at about 9:30 p.m. I started heading home to Eastbourne. I was driving a Morris 1100, which, as I headed down the straight from Seaview towards the Point Howard wharf, was being heavily buffeted by the wind and blasted by a barrage of rain. Apart from one other car in front of me there was no traffic on the road.</p> <p>At Point Howard I saw the red flashing light bounce off the seaward hillock before I saw the police car. I pulled up behind the other car and waited for the policeman to approach. He said the road was badly flooded and quite dangerous and asked if I could stay somewhere in the Hutt.</p> <p>The other driver, who I knew, was keen to give it a go and so we were allowed through but were told to keep an eye on each other. I soon lost sight of the vehicle in front, visibility was virtually nil. In Sorrento Bay a huge wave hit the car and pushed it to the side of the road scaring the pants off me. Moments later another wave struck and bounced the car further off the road.</p> <p>I ploughed through the sea water and rain, barely able to discern where the road was, and managed to get around the bluff into Lowry Bay where I made a torturous trail around logs and debris that littered the road, hitting the odd one that was hidden by the driving spray. Entering Mahina Bay another wave crashed into the car and somehow stalled the engine. I eventually made it home and rang the police to report how bad it had been. I was told the road had been closed immediately after we had passed through so we were the last vehicles to get to Eastbourne that night.</p> <p>After the foundering of the <i>Wahine</i>, I volunteered with some of my friends to assist around the Pencarrow Coast the next morning. We had grown up on the coastline and knew every bay and every stretch of the coast road, but the police refused to let local people through to help. Later in the day, with the waters of the harbour having remarkably calmed, I pulled two bodies from the water along the beach in Rona Bay and reported them to the police. It was a sad conclusion to what had been an exhilarating and at times scary drive through the dramatic storm the night before.</p>

<b>Author</b>	<b>Brian Hollis</b>
<b>Event</b>	<b>Wahine Storm, 1968</b>
<b>Location</b>	<b>Wellington</b>
<b>Brief summary</b>	<b>Brian Hollis was in central Wellington when the storm hit, and struggled to find shelter</b>
<b>Story</b>	<p>At the time of the <i>Wahine</i> disaster I lived in Strathmore, in the eastern suburbs of Wellington, and worked as a Boys' Welfare Officer for the Child Welfare Division in Lower Hutt. On the morning of 10 April 1968, I left for work a little earlier than usual, because I had some papers to drop off at the Wellington office on my way through to the Hutt. Wellington Office was at that time situated in a building called Cubewell House, almost behind the Embassy Theatre. Dropping papers off like that happened every so often, because I was a convenient 'postman' for the Hutt Office, living as I did in Wellington. But I still cursed a bit at having to leave home earlier and having to break my journey. As it turned out, those were the least of my problems.</p> <p>My trusty 1958 Ford Prefect did not have a radio – they were not a standard fitting in those days – so I hadn't heard any news or weather reports on my way to work. Coming from the east meant I would normally park in Kent Terrace so I was pointing in the right direction for the Hutt, then cross over Kent and Cambridge Terraces to get to the office. About 8:15 a.m. I parked in Kent Terrace, almost opposite the Embassy Theatre, as you could in those days. As I looked through the windscreen I remember thinking the weather looked a bit rough, but as a born and bred Wellingtonian, I was used to a bit of a breeze.</p> <p>Stopping at all on the way to work turned out to be a big mistake. I got out of the car with a bit of a struggle into the wind, but soon became aware of an unbelievably strong wind which was made worse by the funnel effect of Kent Terrace as it blew towards the Basin Reserve. My thoughts immediately changed from crossing the roads to get to Wellington office, to survival and seeking shelter. But before I could find any, the wind blew me out into the middle of Kent Terrace and into the path of oncoming traffic which I and others in a similar situation hoped would stop for us. This was both dangerous and frightening.</p> <p>Some people were clinging to lamp posts, and others sought the shelter of shop doorways. That's where I headed when the wind dropped enough for me to regain some control of my direction. I huddled in a doorway with others, confident that we would all be safe, at least in the meantime. But then the shop's huge plate glass window was completely blown out by the wind, and glass shattered everywhere on the footpath. That made me realise that it wasn't actually safe anywhere in the open, not even in what seemed an obvious shelter.</p> <p>I eventually made it back to the car and out to the Hutt. I didn't deliver those papers and I didn't visit any clients that day. We looked out the office windows to see sparking broken power lines and a Volkswagen car picked up off the ground by the wind, then dropped again. My overwhelming feelings at the time were of fear and panic, but mainly helplessness and powerlessness. For a time there was nowhere to hide from the forces of nature and a total lack of control over my situation. But then again, I'm still alive.</p>

<b>Author</b>	<b>Stuart and Jenny Young</b>
<b>Event</b>	<b><i>Wahine</i> Storm, 1968</b>
<b>Location</b>	<b>Breaker Bay, Wellington</b>
<b>Brief summary</b>	<b>Lived in the southernmost house in Breaker Bay and were the first to see the <i>Wahine</i> in trouble</b>
<b>Story</b>	<p>10 April 1968 is remembered by thousands of Wellingtonians as <i>Wahine</i> Day, when a 'once in 50 years' southerly storm caused widespread damage to their properties and led to the capsizing and sinking of the 9,000 tonne interisland vessel <i>Wahine</i>, with the loss of 51 lives.</p> <p>I live in what I rather loosely call 'the last house at the south end of the North Island of New Zealand', being at the south end of Breaker Bay, right at the entrance to Wellington Harbour. I was up and about from 5:30 a.m. that morning mopping up massive leaks in our south side windows that had never leaked before nor since. It was already the worst weather I had ever experienced in my 33 years on this exposed Cook Strait coast.</p> <p>It was still dark at 6:20 a.m. when I was peering out to the east across the harbour entrance and saw the <i>Wahine</i> entering port, on time and on course, in the main channel east of Barrett Reef. But something was wrong; she was pointing out, rather than in, to the harbour entrance. I called my wife Jenny from bed, saying 'Come see, the <i>Wahine</i> is the wrong way round!' Shortly afterwards the weather closed in again and we could see nothing. The wind speed, later recorded on the coast as averaging 181 kph and gusting to 268 kph, was literally picking up the surface of the sea to a height of at least 100 metres.</p> <p>We kept watching, and at 7:30 a.m., again in a small gap between gusts, saw the <i>Wahine</i> right in front and pointing directly at us, listing to starboard (from the wind pressure) and being carried at some 5-10 knots sideways past us towards the north. She was a blaze of lights, with her masthead and port and starboard lights showing very brightly through the murk. She was no more than 200 to 300 metres away from us in Chaffers Passage in an area where no large vessel should be. I immediately rang the police and reported that the <i>Wahine</i> was in serious difficulties at the harbour entrance.</p> <p>Again the weather closed in and the ship was no longer visible from the shore. This was the first anyone on land knew of the situation. I went down the road to assist some neighbours tie down their roof, while Jenny kept watching out to the east. At around 7:45 a.m. she momentarily saw the <i>Wahine</i> much further away, and in the absence of any background to locate it against, Jenny lined up what she could see with a rock on the beach in the foreground and made a mark on the windowsill. The next day she was able to identify the location of the <i>Wahine</i> as having been close to the outer rock at the south end of Barrett Reef. The vessel's starboard propeller was subsequently found there.</p> <p>During the morning we lost approximately one-third of our roof, with sheets of aluminium flying away out over the sea to the northeast. At around 1:00 p.m. the tide changed and the wind dropped right away. The flying spray cleared and there was the <i>Wahine</i> visible for the first time, just inside the harbour entrance. As we watched through binoculars we saw the ship slowly heel over to starboard and we could see lifeboats and liferafts capsizing.</p> <p>I had a 15 ft open trailer sailor, and my brother Marten and I towed it over to Seatoun where we launched it and went out in the hope of being able to help rescue people. A very large sea lifted the bow of our yacht up so steeply that it fell over on top of us. I was thrown clear but Marten (wearing a lifejacket) was trapped underneath the upturned craft and nearly drowned before I was able to roll it upright and free him. The yacht ended up on the beach and was badly damaged. Altogether quite a day!</p>

<b>Author</b>	<b>John Laker</b>
<b>Event</b>	<b>Wahine Storm, 1968</b>
<b>Location</b>	<b>Kingston, Wellington</b>
<b>Brief summary</b>	<b>Lived in the new suburb of Kingston; the roof was torn off the family's house and they had to move to temporary accommodation for 18 months.</b>
<b>Story</b>	<p>10 April 1968: I awoke suddenly. The noise, the flashes - what were they? Another huge flash lit up the night sky and an ear-splitting crack, like thunder, but much closer. I blearily looked at the time; 6:10 a.m. and still dark. The house was shaking, I mean really shaking. It took me a while to focus on what was going on. I got up, and by now Hilary, my pregnant wife of five months, was half awake.</p> <p>I hurried to the southern bedroom window and saw another flash. The roof of the house next door was tearing itself apart by the force of the storm. Debris were flung into the sky and shorting the overhead electricity cables. The wind and rain was tremendous. The neighbour's house was pulsating, like some enormous heart, as the gusts of wind blew in. It wasn't long before it partially disintegrated, in slow motion, as if an explosion had occurred inside. After another huge flash, a severed cable hung swinging in the wind. Debris hit our house with tremendous force and added to the cacophony of noises.</p> <p>I hurried to the western end, away from the bedrooms. The window panes were doing a crazy dance: in, out, pulsating to the pressure and then the vacuum as the storm strength increased. What was that screaming, tearing noise? I suddenly realised that it was the hundreds of nails in the roof being wrenched from their timbers. Dozens of metal screeches added to the howl of the storm. It was frightening and deafening.</p> <p>The western end of the house was some four meters above ground, and this end shook more vigorously. I was scared. The house had been built overlooking Happy Valley Road some 200 meters above sea level in a new subdivision, in the south of Wellington city, called Kingston. The longest sides of the house faced due south and north, and were bearing the full brunt of the southerly gale. Wellington is renowned for its winds, but this was special. I looked for masking tape to stick across the windows, as my parents had done during the war to stop the class scattering into the room, but I had only a little, and it would not stick properly. I felt a sudden sense of panic and helplessness.</p> <p>Pale light could be seen as the dawn approached. Hilary heard the banging on the front door on the lee side of the house. One of our other neighbours, a police constable, was shouting something above the roar of the storm. He informed us that some of the basement fibrolite had broken, and he and I went out to see if we could cover the hole. It proved futile. We could not get to the southern side of the house as the wind, still increasing in intensity, drove us back. The force was intense; the rain stinging. Debris flew everywhere. We shouted at each other that it was too dangerous.</p> <p>Back inside, we decided to evacuate and try to get to the neighbour's house. We pulled some old clothes over our pyjamas, and my wife and I ventured out and crawled, commando-style, across the front garden and around the corner of the cul-de-sac to the lee side of the storm, constantly avoiding flying roofing iron whipping along at head height across our path. Fine debris stung our faces and the pressure of the wind made standing impossible.</p> <p>We found other neighbours at the police constable's house. All had evacuated to this haven of protection away from the full force of the storm. We heard that all the emergency</p>

services were concentrating on Wellington Heads where the interisland ferry *Wahine* had foundered on Barrett Reef, near the entrance to the harbour. Someone shouted that we were needed up the hill to stop a Mini from being blown away. Some of us took off, and sat on the vehicle until the owner drove it to safety.

On our return I found that Hilary had passed out momentarily. She had witnessed our roof coming off the house in one piece and floating on the wind like some animated butterfly, down the valley, taking the top off a giant macrocarpa tree before crashing to the ground. I wondered how I was going to keep the water out of the house. Around this time, news came in that the town hall was being used as an evacuation centre, and we all decided that the safest place was there. We were now in a state of trance. The next few hours vanished without any recollection of what was happening. We were stunned and bewildered.

Around 1:00 p.m., the wind dropped completely and we went back to the house to witness the devastation nature had dealt us. How we got to and from the house I cannot remember. The house was split in two, along the line of the front and back doors. The lounge, kitchen and dining area floors and walls were upside-down and crushed in a pile. It was as though a huge chainsaw had cut the house in two and a giant hand had grasped half the house and tossed it up-side down and dumped it back on the section, crushing the jack stud foundations. All the other walls angled unsteadily outwards. The laundry tub, unmarked by the storm, teetered on the edge of the split in the floor.

Next door, the walls of the house were wrapped around the small hill across the road from our house. Most of their foundations had been pulled up with the walls and lay in the road. The fence I had built on the northern boundary was still upright!

We stumbled through the debris on the steep section to find our precious belongings. I wondered if I would find the sideboard I had made. I saw my model galleon, just completed; now crushed with its delicate masts and sails split and muddled. There were some spoons and forks. Pots and pans were located. Split sides of house were mixed with four-by-twos and numerous plates, ruined food and curtains. Records and furniture littered the hillside and hung in the gorse bushes. The easy chairs, from the suite, were under the house, but the large settee was down the hill in the gorse. 'I'll leave that for a while', I thought. My guitar had a damaged back. Our belongings were everywhere.

What power had done this? Why us? Where would we live? We had been in New Zealand three years. The house was only six months old – would the insurance cover it? We wandered around numbly like zombies. Some scavengers arrived to pick through OUR stuff! I got them to help bring the carpet up the steep ground to the road. And told them to leave. Some one had stolen the food from the fridge that lay crazily half way down the section.

Where would we sleep tonight? I had used the phone earlier at the town hall and rang my ex-boss Greg Culpit. 'Hi Greg, we have lost our house in the storm, any suggestions of where to sleep tonight?' Greg invited us to stay at his place.

A large truck arrived, slowly manoeuvring around the debris in the narrow road. I remembered that I had rung my new boss at Cable Price Corporation earlier, and here he was with half the engineering staff, ready to help take the remaining furniture and found items away for storage and safety. What a relief. We easily pulled the whole front of the house down to the ground to gain easier access. This was too easy. Poor workmanship, not enough nails. Who knows?

Another neighbour arrived with my wallet and watch left on the bedroom side table in our morning rush. He had rescued this and our sideboard dresser from the rain. So that's where it had gone. We were stunned by the help and thanked everyone profusely. No

authorities arrived that day or over the next few weeks. A Mr Nordmeyer arrived and gave some consolation, but I remember little of that. Hilary rang the doctor later that week for a prescription. 'What is your address dear?' 'I don't have one', she said and cried.

We moved from Greg's place a few days later and spent some time with friends Jack and Fay Stradling and their four children, which was a squeeze! I gave my guitar away to one of the children. But they gave it back some months later. 'You did not mean to part with it, did you?' they said. No, but my mind was befuddled for weeks. I gratefully accepted it back.

Eighteen months later we moved back to a new home on the same site, but a very different design. Hilary had endured 18 months of living in semi-isolation at Cannons Creek, Porirua, without transportation or friends, with newborn twin girls. I commuted to Wellington to work, and spent many weekends, with another friend Michael, demolishing what remained of the house and storing reusable items for the new house. We would perform, like monkeys, on the framing to passing sightseers to lighten the task. We paid rent and mortgage to keep the original low interest loan! We moved 18 months later to Auckland, too frightened of the high winds that constantly blow up the valley from Cook Strait. We are now grandparents to four grandsons. We survived. Fifty-one others on the *Wahine* did not, God rest their souls.

<b>Author</b>	<b>Stuart and Jenny Young</b>
<b>Event</b>	<b>Storm, January 1951</b>
<b>Location</b>	<b>Not specified, probably widespread</b>
<b>Brief summary</b>	<b>Describes the Wellington to Lyttelton Centennial yacht race in January 1951 in which ten lives were lost.</b>
<b>Story</b>	<p><b>The loss of the yachts <i>Argo</i> and <i>Husky</i></b></p> <p>There have been three major disasters in world yacht-racing history. The worst was the Fastnet Race between England and Ireland in 1975 in which 15 men were lost, and the third worst was the 1999 Sydney to Hobart Race when six men died. Not many recall the second worst ever loss of life, which was the Wellington to Lyttelton Canterbury Centennial Race in January 1951 which resulted in the loss of ten lives.</p> <p>Twenty yachts started the race in light winds which soon developed into an exceptionally severe long-lasting southeasterly gale causing two dismastings and damage to many yachts. In fact only one, the <i>Tawhiri</i> finished, some 70 hours later. The yacht <i>Astral</i>, which was drifting dismasted some 26 miles south of Cape Campbell (the northeastern tip of the South Island), was taken in tow by the fishing launch <i>Tawera</i> skippered by George Brassell, but the seas were so high that the towline parted. In a remarkable feat of seamanship, George Brassell was able to take the crew of six off the <i>Astral</i> and take them back to Wellington. The <i>Astral</i> was eventually found drifting off Paremata and towed into shelter.</p> <p>The first sign of real tragedy was the finding seven days later of wreckage from the <i>Husky</i>, confirming the loss of her crew of four men, but there was still no sign of the yacht <i>Argo</i> with her crew of six men. The skipper Jack Young had prepared and equipped the <i>Argo</i> particularly well, she being one of the few yachts carrying both a two-way radio and a liferaft. On 3 February, weak radio signals were picked up which appeared to indicate that the <i>Argo</i> was adrift about 70 miles off East Cape. A massive air and sea search was mounted by large numbers of aircraft and HMNZ <i>Hawea</i>, the search finally being called off on 12 February.</p> <p>In the subsequent Court of Enquiry it was found that the race organisers, the Banks Peninsula Yacht Club, had not obtained and issued an up-to-date weather forecast for Cook Strait. The Court also recommended that there should be a formal inspection of all yachts competing in offshore races to ensure that they were suitably equipped and manned to handle any weather conditions likely to be met in the course of the race. These requirements have since been introduced for all offshore yacht races.</p>

## 2.2 Flooding

<b>Author</b>	<b>Laura Wilson</b>
<b>Event</b>	<b>Storm February 2004</b>
<b>Location</b>	<b>Oroua river, Awahuri, Palmerston North</b>
<b>Brief summary</b>	<b>Laura Wilson, living on her parent's property near Fielding, describes being caught in the Manawatu floods of 16 February 2004</b>
<b>Story</b>	<p>I woke up at 5:20 a.m. to a gurgling noise outside our door. I said to Andrew, 'What's that noise? All the cars are slowing down and it sounds like we have had a lot of rain!' He shrugged it off and told me to go back to sleep.</p> <p>After another half an hour or so I decided to get out of bed and see what was happening outside. I got to the door and switched on the light. At this point there was no water in our room, but when I opened the door I saw that it was rising extremely fast and that there wasn't much time before it would be inside! I grabbed the telephone and rang my mum. She didn't sound too concerned. Andrew and I moved our valuables out of the way to a storage floor above our room, and I managed to get the most important thing, my dog, to safety.</p> <p>By now it was 6:30 a.m. The water was still rising and was probably half a metre deep. All our cars were now under water and unable to be moved. Andrew's was not insured, but he managed to shrug this off for the time being and concentrate on helping others more in need.</p> <p>After another 15 minutes or so, water had risen another half a metre and didn't look like it was going to slow down any time soon. Both dogs were inside safe, but we hadn't seen or heard from our cat Zac. We hoped she'd managed to get to a high spot in time.</p> <p>When the sun rose we could see the damage that had been done. Fences had been knocked down, and pieces of wood and other shrapnel that had been lying around our property was now down in the neighbours' yards. The road was closed. The toilets weren't working because the outside pump was underwater. The day dragged for me as I wasn't allowed to go outside. I stayed inside and helped Mum do some baking.</p> <p>Then I heard a faint cry coming from under the house in my sister's bedroom. My heart and stomach sank. I knew that sound. Zac was trapped under the house with the water still rising. I asked Dad if we could cut a hole in the floor to get her out, but Dad said it wasn't a good idea as we didn't know exactly where she was, and also water would flow into the house. We kept calling her every couple of minutes to make sure she was still there. The water had finally stopped rising, but it didn't seem to be going down in a hurry.</p> <p>We waited. Finally about 3:30 p.m. the water started to go down. Dad said we could cut a hole in the side of the house and call her to come out. We hoped she'd have enough energy left to swim out to us. It took about 35 minutes to get her to jump in the water and swim to daylight. We took her inside and dried her with some of mum's old towels, and put her in front of the fire to get her strength back with some milk and cat food for her to nibble.</p> <p>We watched the news that night and saw how bad the floods were. In our area, the Oroua River had flooded right from Fielding down to the RRR Engineering Factory. We learned that a lot of people were worse off than us. We lost a lot of things, but we didn't lose our house or our pets and that's something I will always be thankful for. The 2004 floods were horrific, but there is always a silver lining in every cloud!</p>

<b>Author</b>	<b>Jenny Polakov</b>
<b>Event</b>	<b>Welcome Flood, 1993</b>
<b>Location</b>	<b>Kapowai River, Coroglen, Coromandel</b>
<b>Brief summary</b>	<b>In her first year of living beside the Kapowai river, Jenny Polakov experienced the first flood in 20 years</b>
<b>Story</b>	<p>A knock on the door woke us. "I don't mean to alarm you but the river is going to flood!", warned our neighbour. We leapt out of bed and ran outside to see for ourselves. The water was over the bank in the orchard. Frantically, we spent an hour raising everything to protect it from the water that was going to come into the shed. It was only a matter of time.</p> <p>As the waters rose higher, we knew it was time to drive up to dry land. We jumped in our ute and Maarten started backing out. With the chainsaw at my feet, I watched the water rise halfway up the tyres. The flooded driveway was still safe to drive, but in a dip at the end of the driveway, the water rose up to my knees and saturated the chainsaw and the air filter. The ute was now dead, so we abandoned it and hopped into our neighbour's car just in time to drive over the bridge and uphill to safety. The water would soon be over the bridge. I'll never forget the sight of the river – the torrent was was breathtaking and terrifying.</p> <p>We found refuge at our neighbour's house on top of the hill. The fire, hot drinks and company eased our shock.</p> <p>We waited out the flood. Finally the rain eased and the Kapowai settled into her usual channel. We thanked our neighbours and returned home to assess the damage. Our ute hadn't gone anywhere and wouldn't be going anywhere again. A few beehives had floated away. On a positive note, silt covered the orchard and garden, although this wasn't so helpful in the shed. The half-metre water mark proved that the hour we'd spent raising our possessions had paid off.</p> <p>Overall, our damage was minor. Neighbours on the floodplain had problems, but no one was injured and we helped each other. Our first autumn beside the Kapowai certainly taught us a good lesson, and it's impossible not to respect the river now. 'The Kapowai hasn't flooded in twenty years', said a few neighbours before we bought our block on the east coast of the Coromandel Peninsula. Well, it did in our first year!</p> <p>I was born in New York and travelled to New Zealand when I was 28. I fell in love with the land and with a man, and within a year, immigrated. Talk about flash flooding. New York has its own not-so-natural disasters which didn't prepare me for the notorious flash floods of the Coromandel. Our land hasn't flooded since, but floods close the road every year. We now live on the hill above the floodplain - just in case. Most importantly, we love the Kapowai River for swimming, wildlife and living on the edge.</p>

<b>Author</b>	<b>Keith Watts</b>
<b>Event</b>	<b>Cyclone Bola, March 1988</b>
<b>Location</b>	<b>Gisborne</b>
<b>Brief summary</b>	<b>Former firefighter Keith Watts recalls how an aquifer-fed lake at one of Gisborne's golf courses was used for an emergency water supply in the wake of Cyclone Bola</b>
<b>Story</b>	<p>Gisborne's water supply had been knocked out early in Cyclone Bola's rampage through the region. With two of the largest users of water, the freezing works and Watties canneries, working at capacity, it was vital that the supply was restored as soon as possible. At the time the city only had about a day's storage, so other supplies had to be found.</p> <p>One of the local golf clubs had a large lake fed by an aquifer, used for irrigating the greens. With the help of the fire brigade, water was pumped from the lake, while council workers hand-mixed chlorine before pumping it into the water main. One of the pumps was a Dennis fire appliance, brought out of retirement from the local Museum of Transport and Technology.</p> <p>About a kilometer from the golf club we placed another pump alongside the water main with the idea of boosting the pressure. We closed off several valves to divert water through a booster pump and back into the main. I was there most of the day as the pump man, seeing that everything was running smoothly. At the end of the day all the equipment was taken back to the station for the night.</p> <p>It was while I was getting ready for bed that night that I remembered that when I was packing up the gear that evening, I had forgotten to turn the valves on again. So at about midnight I got dressed and went to the fire station to get a valve key and open the valves again. All this was done without the knowledge of any of the night staff. I never said anything to anyone because of the ribbing I would have undoubtedly have received from my workmates.</p> <p>As for the golfers, with the fire hoses being laid across the golf course, some were quite upset and complained.</p>

<b>Author</b>	<b>Joan Whittingham</b>
<b>Event</b>	<b>Te Aroha flood, 17 February 1985</b>
<b>Location</b>	<b>Te Aroha, Coromandel</b>
<b>Brief summary</b>	<b>Joan Whittingham recalls how debris, including boulders and trees, poured through the streets of Te Aroha after a flash flood in 1985</b>
<b>Story</b>	<p>It had been raining non-stop, just pouring down. In the night the rain just poured down Te Aroha mountain and brought huge rocks and trees with it. One house was swept away and three of the family died. There was nothing left of the house. Hours later, another child from the same family was found downstream; she had been swept away but ended up in a tree and was rescued.</p> <p>The boulders came straight down the mountainside into the town. The streets were flooded, with trees and boulders everywhere. It was lucky that no more people lost their lives. The vicar of St Marks heard the crashing boulders just before they hit the vicarage, and managed to escape. The church still stood but tree branches and mud blocked the entrance.</p> <p>We used to live in Puriri Street, and our old house was washed away. I was glad we had moved to the other side of the town, and I was able to billet friends who had to evacuate. We were without water for a while, and a tanker came every day. The shops were all closed while they tried to clear the mess up, and you couldn't buy anything. Everyone helped with the cleanup, including the army.</p> <p>Every time it rains heavily, people who still live at the foot of the mountain and remember the big flood get nervous. At the vicarage they listen for the sounds of boulders coming. It's not that long ago. Most of us had a lucky escape. A plaque was placed on one of the rocks for the Maori family that didn't survive. Good came out of the disaster in the end, as so much money was poured into the town afterwards. Now, twenty years later, the town is known for its spa, not the flood, and visitors would never know it had happened.</p>

<b>Author</b>	<b>Margret Brands</b>
<b>Event</b>	<b>Flood during 1960s</b>
<b>Location</b>	<b>Waitara, Taranaki</b>
<b>Brief summary</b>	<b>The author's father was a ham radio enthusiast, and provided the only communication link between Waitara and New Plymouth when the town was cut off by flooding</b>
<b>Story</b>	<p>My dad, Hip Fenton, was in a nationwide competition for ham radio enthusiasts and, as usual, he wanted the highest point to establish his aerial. What better place than the Manukorihi Bluff above the Waitara river? I went to the site with him and was able to watch the river below rising as he set up for the competition.</p> <p>As Dad was the local leader of the Amateur Radio Emergency Corps, he was involved in the Civil Defence operation. He abandoned his competition, and moved into Waitara township to establish a base at the War Memorial Hall. A 40-volt battery was needed, and I walked down to Owen Woods' garage from the hall to borrow one. No-one offered to help me carry it back up through the town's floodwaters, so I did it. It was a challenge for a 16-year-old, and I looked for fences to hold the weight while I caught my breath.</p> <p>When the hall came under threat the town's mayor declared a natural disaster, and the communications hub was moved to higher ground in a classroom of Waitara Central School. I continued to support Dad by typing and receiving the messages for transmission, as Dad's radio was the town's sole link to New Plymouth.</p> <p>The township continued to drown slowly. Some of us ventured down to watch the raging river swirling logs against the piers of the bridge.</p> <p>In the late evening I joined my mother and her friends who were working in the Post Office. They made sure hot drinks and baking were available for the emergency workers. This role continued into the early hours of the following day, and I did not attend school the next day. Those who did attend school were dispatched to clean up the town. I am proud of what my parents and I contributed during the emergency.</p>

## 2.3 Tsunami

<b>Author</b>	Iain Lennox
<b>Event</b>	1960 tsunami
<b>Location</b>	Whitianga
<b>Brief summary</b>	Recounts how the wreck of the <i>Buffalo</i> was exposed at Buffalo beach
<b>Story</b>	<p>I'd just prepared my old Vauxhall Velox for a local spray painter when the news came advising folk to prepare for a tsunami. In particular, to head for the hills. So, off came the paper I'd taped to the car windows, and off we went to the hills close by.</p> <p>When the time for the arrival of the tsunami had passed, we headed back into the village. We found that there hadn't been any big waves, but there were several extra-high and low tides with only a short time in between them. This was still happening.</p> <p>The main beach at Whitianga is named Buffalo Beach, after a boat that was wrecked there. The tsunami exposed the remains of the wreck for the brief time of each low tide, so the wreck was of great interest to the locals. Also, the narrow gap where the ferry crosses the estuary opening from the wharf to Cook's Beach normally has quite a strong flow with an ebbing tide (around five to seven knots), but during the tsunami it was like a cataract.</p> <p>In those days, buying a new car was well-nigh impossible for most Kiwis because of the tight import controls. So it was quite a moving thing to see in a local's garage, a brand new Ford Consul. The water had come up as high as the window - the owner had not heeded the tsunami warning.</p>

<b>Author</b>	<b>Brian Munro</b>
<b>Event</b>	<b>1960 tsunami</b>
<b>Location</b>	<b>Whitianga</b>
<b>Brief summary</b>	<b>Helped rescue boats torn from their moorings by the tsunami</b>
<b>Story</b>	<p>Mum, Dad and I heard there was something happening in the harbour, and went down to the wharf where there were already lots of people watching the water. Boats were off their moorings and going up and down the harbour. The water was surging in and out. Howard Clark and his son Peter got on to their launch and got it going, somehow. They brought the launch as close to the wharf as they could and yelled for someone to come and help. I was 15 years old and had swum and played around the wharf and its piles lots. I was fast and agile enough to jump on board.</p> <p>We went out, and Peter jumped onto a drifting launch and tied a rope to it. I tied off the other end and relayed to Howard what was happening astern. We towed the launch back to the wharf where the owners jumped on board and got it going. I was then ordered ashore as Mum and Dad were looking for me.</p> <p>Next day was school as usual. We heard that the ribs of the <i>Buffalo</i> had been exposed. My friend and I wagged school and went to Buffalo Beach and waited to see if the ribs would be exposed again. When we went back to school, the teacher growled and told us that if the ribs were exposed, they would have arranged for the whole school to go and see them.</p> <p>My memory of the 'evacuation' is vague. After the preceding events, nobody really took it very seriously. We had been getting all sorts of reports of things that didn't eventuate, and the 'event', the cause of the evacuation, was another. Everybody got bored waiting and went home. It was more an event of interest and something exciting happening in our small town. There seemed never a thought of any real danger!</p>

<b>Author</b>	<b>Lionel Hussey</b>
<b>Event</b>	<b>1960 tsunami</b>
<b>Location</b>	<b>Devonport Naval Base, Auckland</b>
<b>Brief summary</b>	<b>Was based in Devonport at the Naval Base when the 1960 tsunami struck; saw gannets getting stuck in the mud when the tide receded unexpectedly</b>
<b>Story</b>	<p>In May 1960 I was an electrical mechanic in the Royal New Zealand Navy, and was doing a course at the HMNZ Naval Base at Devonport, Auckland. We were in a room that was built on stilts out over the water. It was the morning after the Chilean earthquake. I was sitting beside the window on the seaward side, and could see the gannets diving into the sea to catch fish within 100-200 metres of where I was sitting. This was quite a usual event. But this morning, the tide went out very quickly within a few minutes, leaving only a few inches of water covering the seabed near our classroom. But the gannets kept on diving. Instead of the expected metre or so of water there was practically nothing, and they were getting stuck in the mud with their long beaks and their bodies sticking up in midair for a few seconds or so. This activity of course broke up our instruction period with howls of laughter.</p> <p>At the time we did not suspect that we were in any danger of the tide coming back in much higher than expected and possibly flooding us out or even lifting the room off its piles. Luckily nothing like this happened, but we didn't realise the danger until the news reports started coming in later in the day.</p>

<b>Author</b>	<b>Andrew Peddie</b>
<b>Event</b>	<b>1960 tsunami</b>
<b>Location</b>	<b>Birdlings Flat, Canterbury</b>
<b>Brief summary</b>	<b>His mother, who lived at Birdlings Flat, saw the sea recede then come in and overtop the bank in front of her house</b>
<b>Story</b>	My mother, who is now 87, has lived at Birdlings Flat at the start of Banks Peninsula most of her life. I called her to ask about the 1960 tsunami, and she remembered the event instantly: 'The sea went right out until the rocks under the cliff were exposed, and the wave came in so that it topped the bank in front of the house'. She also said that her mother packed up their things ready to run. My mother knows the sea at Birdlings well, so would have picked the difference from a storm or other event. She did not remember an after shock wave <sup>1</sup> .

<sup>1</sup> We assume the author is referring to tsunami waves caused by aftershocks from the 1960 Chilean earthquake.

<b>Author</b>	<b>Peter Sale</b>
<b>Event</b>	<b>1960 tsunami</b>
<b>Location</b>	<b>Whangaparaoa, north of Auckland</b>
<b>Brief summary</b>	<b>The author saw the initial phase of the 1960 tsunami on the north side of the Whangaparaoa peninsula</b>
<b>Story</b>	<p>During the school holidays, my father and I were staying at a bach on the Whangaparaoa Peninsula. Once, a tsunami was expected to be coming from an earthquake off the coast of Chile. We went down to see it on the north face of the peninsula at about 6 p.m. We waited on fairly high ground. Then slowly the tide started to recede. Over about half an hour, the tide receded around 30 metres and then started to turn. I remember my father saying that we should not have been there, and we left to go back to the bach before it had fully come back in.</p>

<b>Author</b>	<b>Rossi King-Turner</b>
<b>Event</b>	<b>1960 tsunami</b>
<b>Location</b>	<b>Canoe Bay, Pelorus Sound</b>
<b>Brief summary</b>	<b>Rossi, aged nine, was living in the Sounds. She and her mates thought it was great fun to play on the beach as the tide went in and out</b>
<b>Story</b>	<p>I was nine, nearly ten, in 1960, when New Zealand was struck by a tidal wave, as they were then known. We lived in Pelorus Sound in a house right on the beach. We had no neighbours, phone or electricity, and access was by boat, or by a steep one-and-a-half mile walk through thick bush and scrub from the closest road. Our radio – to conserve battery power - was not used much.</p> <p>On this day, three of us were playing on the beach in front of the house when we noticed the tide receding, quite quickly. It went out further than we had ever seen before. Intrigued, we were heading off down the beach for a better look, when we saw it coming in again. Not a wave, just a surge, unusual for our bay. We dashed back up the beach ahead of it, delighted when we and the sea all reached the extreme high tide mark together. The water swirled around us for a bit, then inexplicably started going out again.</p> <p>This performance was repeated a number of times over the next hour or so. We revelled in it whooping and hollering as we followed the ebb, seeing how many cartwheels and handstands we could do in its path. I remember standing on my head way down the beach to get a crab's eye view of this peculiar sea happening. We became increasingly daring, thrilled with the excitement of waiting as long as possible before racing the ride back in, and we were very disappointed as it gradually returned to normal behaviour.</p> <p>That night Dad, with friends, arrived to tell us there had been an earthquake in Chile and tidal waves were due to hit New Zealand. 'You kids had better stay off the beach tomorrow' they warned. Did they blanch when we regaled them in shouts and laughter of the day's events!</p>

<b>Author</b>	<b>June Young</b>
<b>Event</b>	<b>February 1947 tsunami</b>
<b>Location</b>	<b>Tatapouri</b>
<b>Brief summary</b>	<b>An account of several tsunami hitting the Tatapouri hotel; several outbuildings were swept away</b>
<b>Story</b>	<p>March 26, 1947 is a day I'll never forget. About 9:20 a.m. I was about to go out the front door of the Tatapouri Hotel (where I lived with my parents, the managers) when I noticed that the sea was lapping at our front lawn. At the time there were only my parents, Hony and Bill McLauchlan, and myself at the hotel. I called out to my father to look at the sea - he took one look and told Mum and I to run for our lives up the hill behind the hotel. We were able to stop any travellers before they drove down the hill.</p> <p>What an awesome sight to be able to stand well out of danger and watch first one, then another tsunami race across the ocean and smash onto the land. The first wave took everything other than the hotel out to sea with its backwash. We could see a shed that was full of furniture, a small dinghy, a two-roomed cottage, plus a variety of other objects. Then came the second wave, and it dumped everything back almost where it came from. But everything was smashed.</p> <p>Seaweed was left hanging in the telephone and power lines. The waves pushed in a half-wall enclosing the veranda, which saved a lot of damage to the hotel. I had left the front door open which saved the door from being broken, but let in a lot of water, sand and little hoppy things.</p> <p>My sister Margaret had, as usual, gone to the Pouawa school. They had just gone over the Pouawa bridge when the water came up the river and washed the bridge away. For some time afterwards, the school children had to be taken across the river in rowing boats until a Bailey bridge was built.</p> <p>We learned later that the tsunami was caused by an earthquake at sea, twenty minutes beforehand. No lives were lost, but there were many stories from people who might normally have been in the path of the waves, but for one reason or another were not.</p>

## 2.4 Earthquake

<b>Author</b>	<b>Alan Brabender</b>
<b>Event</b>	<b>An earthquake in 1990</b>
<b>Location</b>	<b>Central North Island</b>
<b>Brief summary</b>	<b>Was an engine driver on a train, crossing the Ormandville viaduct when the earthquake struck</b>
<b>Story</b>	<p>As the train was almost on the curved part of the Ormondville viaduct, doing 10–12 kilometres per hour, the locomotive started to feel as though it had derailed. As I started to apply the brakes, the locomotive swayed from side to side. I realised that it was not a derailment, but an earthquake.</p> <p>I put the brake handle into the emergency position and the train stopped. It was straddling the wooden and steel parts of the viaduct. I sat there with a feeling of amazement and terror, as the locomotive bucked up and down, and swayed from side to side. The entire viaduct in front of me did the same.</p> <p>When the shaking had stopped and I had recovered my composure, I told the train manager that we would not go back across the viaduct until we had checked the train and the track and made a visual inspection of the viaduct. I suggested that he should walk the passengers back to ‘solid?’ ground, as I was not prepared to move the train with passengers in case the viaduct was damaged.</p> <p>Then a further earthquake struck us again. When it stopped, the train operator and I helped the train manager and hostesses get the passengers off the train and off the viaduct.</p> <p>We checked the viaduct, the train and the track. We saw that the ballast had moved from the north abutment, and with no passengers on the train we reversed it very slowly off the viaduct.</p> <p>When we were off the viaduct, we picked up the passengers and reversed back cautiously, to road access and a track telephone. We talked to the passengers until buses arrived. The Ormondville Fire Brigade helped us and provided portable lighting. We eventually arrived back at Palmerston North at 9 p.m.</p>

<b>Author</b>	<b>Diane Brown</b>
<b>Event</b>	<b>Edgecumbe earthquake 2 March 1987</b>
<b>Location</b>	<b>Kawerau</b>
<b>Brief summary</b>	<b>The author was at work in Kawerau when the earthquake struck; her children were at school in Whakatane</b>
<b>Story</b>	<p>I was working in Kawerau (as a journalist for the <i>Kawerau Gazette</i>) when we experienced a reasonable earthquake. Concerned about my children in Whakatane, 35 kilometres away, I rang Whakatane Intermediate School and spoke to the secretary there. She said they had felt it too, and that they were OK, just a few things fell off the shelves. Then she said 'I've got to go, we're having another one and it's really big', and the phone went dead. I told my colleagues another quake was coming and we ran to stand in doorways. Thirty seconds later nothing had happened, so we returned to our desks. Then all of a sudden, just as a client was coming in the sliding doors, there was an enormous bang and the earthquake had arrived in Kawerau. The rest is history.</p> <p>We tried to go back inside the building to grab the phone as it was ringing all the time but there were shocks coming thick and fast every minute or so. It took my husband and I two hours to get back to Whakatane, as almost all the bridges had either dropped at the approaches or were raised up so we couldn't cross them.</p> <p>Our neighbour across the road found a roast in the warming drawer of the oven two weeks later, after trying to find the awful smell in her kitchen. It appears that the fridge had waltzed over to the stove across the room, and the freezer had opened at the same time as the warming drawer. The roast fell in, the drawer closed and the fridge waltzed back to its original position. Very strange.</p> <p>We were fortunate to have an old shed on our property with an earth floor lean-to behind it. My son arrived home, dug a hole and made an old beer crate into a toilet seat, as we had no water or sewerage facilities for a few days.</p> <p>The damage caused by the quake was unbelievable. I went to work for the Tasman Pulp and Paper mill later that year, and was also part of the huge rebuild of the paper machines which were destroyed in the quake.</p>

<b>Author</b>	<b>Anne-Marie Low</b>
<b>Event</b>	<b>Edgecumbe earthquake 1987</b>
<b>Location</b>	<b>Ohope, Bay of Plenty</b>
<b>Brief summary</b>	<b>Eight-year-old Anne-Marie was sitting on the Ohope wharf when the earthquake struck</b>
<b>Story</b>	<p>It was a glorious day and I was excited as we were going to go fishing at the wharf. We were at Ohope Beach and it was the middle of camp. I was in Standard 2 - my first camp ever. All of us kids were on the wharf. I had my legs dangling over the edge, others were standing all hoping to get a bite; there were lots of fish everywhere, but few of us had been lucky enough to catch anything.</p> <p>All of a sudden all the fish vanished from the water. It was freaky. A few seconds later the wharf started shaking. Mrs Batty, one of our teachers, started yelling 'You kids, stop "jumping'. Nobody was - it was the Edgecumbe earthquake. Luckily no-one fell off the wharf, and our reactions were split: those who loved the earthquake and thought it was fun (including me), and others who were scared (probably those older and wiser than me).</p> <p>Little did we know of all the damage the earthquake was causing elsewhere. There were a lot of aftershocks for the rest of that day and into the night. We kept on being woken up in the night. The boys in particular thought this was great and ran outside in the rain shrieking with laughter. Meanwhile, in my cabin, the girls cried and cried and shared beds with the 'brave'. That was my experience of the 1987 Edgecumbe earthquake, 20km away at my school camp in Ohope Beach.</p>

<b>Author</b>	<b>Josephine Maplesden</b>
<b>Event</b>	<b>Inangahua earthquake 24 May 1968</b>
<b>Location</b>	<b>Nelson</b>
<b>Brief summary</b>	<b>Tells of living in an old wooden house in Nelson when the Inangahua earthquake struck</b>
<b>Story</b>	<p>I was a young teenager living in Nelson when the quake struck, in the night. Although we were far from the epicentre, we lived in an old wooden house and we were woken up, not by the shaking of the house, but by the sound of the earthquake coming. It was like a roar, or a train noise outside. The earth moved, followed by the windows rattling, the floor shaking, and the whole house moving. By this time we were out of bed, staggering over the floor, my grandmother screaming and yelling. We were shocked and tense, wondering what had happened. I remember rushing to stand under a doorway, about the only sensible thing I knew to do! I can remember clearly the next few days at school. There were a number of times where aftershocks shook the wooden convent building, and the swaying of the third floor made us all rush under our desks again.</p>

<b>Author</b>	<b>Fred Stacey, Simon Nathan and G.E. 'Ted' Hollis</b>
<b>Event</b>	<b>Inangahua earthquake 24 May 1968</b>
<b>Location</b>	<b>West Coast</b>
<b>Brief summary</b>	<b>Ted Hollis was the District Electrical Engineer for the NZED at the time of the earthquake; his memo describes the challenges of restoring the power supply to the West Coast. Fred Stacey, who was part of the NZED party that arrived by helicopter, wrote the first part of the story.</b>
<b>Story</b>	<p><i>Fred Stacey's story:</i></p> <p>Although damage caused by the earthquake at Inangahua was widespread and caused much damage to property and many large slips, from the departmental point of view we got off fairly lightly. Supply was lost to Buller for a period, and some transmission lines were tripped but were successfully reclosed. Damage to transmission lines in the area was limited to three towers which had moved due to earth movement, but were still intact. Nevertheless, they required considerable remedial work. Some had to be bypassed by new sections of line, and one at the top of the Lyell Gorge had to be replaced because of ground movement. This showed me that when surveying new lines and siting structures in this type of country, use should be made of a geologist to ascertain that sites chosen are appropriate.</p> <p>Damage to the indoor gear (control and relay panels) showed up the shortcomings of our fastening methods. These were wooden plinths bolted to concrete floors, with panels coach-screwed into them. This proved quite inadequate for a two-metre high panel. We have now remedied this by using steel angle-bracing between the panels and the walls. A large 110V battery bank comprising approximately twenty 6V batteries also fell over. This has now had extra bracing to the walls added. These are lessons well learned at little cost because of the small size of the station.</p> <p>Damage to the outdoor gear at the station was limited to one porcelain insulator stack on the top of the structure. Houses, of course, were damaged. In some, cupboard doors had flown open and deposited their contents on kitchen floors. Electric ranges and televisions also tipped over. This was very traumatic for the staff, particularly as it was dark. Frequent, and quite violent, aftershocks added to the misery.</p> <p>There was a definite lifting of spirits when I - accompanied by test engineer Gerard Hueting and senior communications technician Norm Spedding - arrived by helicopter. Staff were waiting for someone to arrive and take charge, and responded very well when delegated tasks. One of my impressions was that the staff needed leadership, and were reluctant to undertake tasks for fear of doing the wrong things. They were also in a state of shock.</p> <p>After this event, the department was very earthquake-conscious. However, as it is nearly forty years ago I wonder what state of preparedness the electrical supply industry is in now. One has only to watch TV and see the devastation caused overseas to wonder what might happen in a major earthquake.</p> <p>One last point is that my experiences during the Inangahua earthquake showed how invaluable helicopters are, and how big a part one played in the restoration work following the earthquake. One of the tower sites on the edge of the Lyell Gorge was inaccessible except on foot and by air, and any restoration of a vehicle track would have taken many weeks. Ferrying men and materials to this site saved hundreds of hours of work. Although the machine was only a small Bell with a lift capacity of just 800 lb (360 kg), it carried an amazing amount of material in a short time.</p>

*The following is a memo written by District Electrical Engineer Ted Hollis approximately three weeks after the earthquake.*

#### The Inangahua earthquake

I would like very much in this memorandum to convey to all NZED staff who have been so deeply involved in the earthquake of 24 May 1968 and its consequences, my appreciation and great satisfaction in the way that they have responded to the emergency conditions with which they are faced departmentally, and the very considerable contribution they were able to make in assisting the victims of the earthquake while at the same time restoring and maintaining a power supply to Westport and the Buller Power Board's area.

From the press coverage over the past two to three weeks it is pretty obvious that it was not generally known how very much to the fore the NZED has been. However, let there be no mistake about it – NZED was there and took the leading part from the very beginning. Now that I have personally seen how badly shaken and broken the area is, I think it is a wonder that the Department was able to restore full power supply to the Buller Power Board's area within approximately three hours of the main shake and keep it intact. This was only possible because our men at Inangahua and at Waimangaroa, with their homes topsy-turvy and their families terribly upset by the frightening experience and destruction around them, rallied to restore communications and electric power.

At Inangahua where substation equipment and the main transmission lines suffered most damage, faulty equipment was bypassed and temporary repairs were made to restore power supply. Insulators were broken, transformers tilted on their foundations, switches distorted, and control panels were toppled; so severe was the earthquake. It was therefore a truly creditable effort to get power supply back through Inangahua in such circumstances, thanks to Merry Mac Matiu and his men.

NZED made the first contact from outside with Inangahua through its radio communication network, thanks to the perseverance of Frank Goodall. Frank's journey to Westport and return immediately following the earthquake in the dark shaking hours must surely have been an eerie one; a grand and loyal effort, Frank, in the many long hours you kept watch and in your efforts maintaining that end of the system.

Initial contact with Inangahua was not established until about 7:45 a.m., and our anxiety here in Nelson was such that Fred Stacey had a helicopter ordered at about 6:30 a.m. to prepare to leave at 8:30 a.m. Departure was delayed by the necessity of contacting police and Civil Defence, and it was around 11 a.m. when the NZED party comprising Fred Stacey, Gerard Hueting and Norm Spedding was flown into Inangahua by John Reid. The helicopter was released immediately for evacuation of the injured. At this time there was no other way of getting people out of the area as all road access was blocked, so the arrival of the NZED helicopter was more than welcome.

Another 'first' to NZED was the arrival overland by Cliff Taylor who, by determined perseverance, had got his Landrover to within two to three miles of Inangahua, where a big slip finally blocked the way. However, by using the Inangahua-based Landrover on the far side of the slip, and carrying women and children across, Cliff's Landrover was the means of evacuating some forty to fifty of the homeless later in the day, when Civil Defence ordered the evacuation of the whole area because of the threat from a blockage in the Buller River. Only through NZED's communication link was it possible to get the Civil Defence order through to Inangahua. When the message was received, the organising of the evacuation fell to Fred Stacey and his team.

During the first night after the main quake, NZED staff at Inangahua and Waimangaroa kept watch throughout the long hours. When aftershocks continued to trip the power supply

at Westport, it was decided to man this substation also until things settled down. At Inangahua, NZED men under Fred Stacey succeeded in getting local service supply. Cheery lights shining around the substation area that first night would have been of some comfort to those who remained on site.

The next day NZED restored telephone communication to Inangahua – thanks to long and arduous hours of work by our communication technicians. This sole link was a great advantage to our department, and we were also able to assist the police and Civil Defence in getting messages out of the area. We were even able to offer the Post Office use of this line at one stage.

Because of the weather conditions, it took two attempts in the following days to complete a helicopter patrol of the Inangahua to Waimangaroa and Inangahua to Murchison sections of the main transmission line. From this patrol it was confirmed that we had serious trouble with earth movement at some of the towers, with the worst-affected section being between Inangahua and the Lyell, and at least four towers involved. While plans were being made for a ground inspection on 29 May, a helicopter carrying out restoration work for the Post Office flew into and severed this main 66,000V line to the Coast.

In spite of the terrible shock to us all of this tragedy, our line staff were soon organised by line overseer Cyril Pfefferls. After a magnificent effort they had the line repaired and back into service before 4 p.m. the following day. Many of the staff worked ten to twelve hours without meal breaks to achieve this, and once again power was through to the Coast. Surely it's no wonder I take my hat off to them all for another job well done in the public service. Now the long hard task of restoration has begun, but it will be weeks, perhaps months, before all our equipment, buildings and transmission lines are safe and secure again.

G.E. Hollis, District Electrical Engineer.

<b>Author</b>	<b>Cliff and Lyn Taylor</b>
<b>Event</b>	<b>Inangahua earthquake 24 May 1968</b>
<b>Location</b>	<b>Kikiwa (near Westport)</b>
<b>Brief summary</b>	<b>After the earthquake, Cliff Taylor headed to Inangahua to help evacuate people</b>
<b>Story</b>	<p>Friday 24<sup>th</sup> May 1968 was a day we will never forget. I awoke from a sound sleep with an eerie feeling of apprehension. A few seconds later, the alarm bells at the Kikiwa substation started ringing, waking Cliff. The next thing we heard was a rumbling sound, getting closer and louder, like a train on a still night. Then, at 5:24 a.m. all hell broke loose. As the rumbling hit us, so did the Inangahua earthquake. I was scared stiff, literally. I could not move. It was terrifying. The shaking seemed to go on for ages, but it did stop – for a few minutes.</p> <p>The power had gone off, and there was no warmth in our electric overblanket. Cliff calmed me down and got a couple of blankets to throw over us. Our two children, aged four-and-a-half and three, slept through it - goodness knows how! Within the next half hour there had been four aftershocks, all measuring over five on the Richter scale. I was convinced the world was coming to an end. The children slept on.</p> <p>At 5.54 a.m. a substation operator phoned Cliff to tell him that he couldn't contact Inangahua substation. As Cliff worked maintaining the power lines, he set off immediately for Inangahua with a mate John. It was four days before I saw him again. I was very frightened, but was grateful to have my sister-in-law travel 40 km to stay with me the first night, and by the second day the aftershocks were a little less frequent and I became sort of accustomed to the shaking.</p> <p>Cliff and John had only got about a kilometre into the Upper Buller Gorge when they came upon the first indication of the severity of the earthquake. First they had to dig their way through a small slip, then a few hundred meters further on they found their way was blocked by a massive slip covering about half a kilometre of the road with mud and trees. They had no alternative but to backtrack out of the gorge and head south to Springs Junction, then come back through Reefton to Inangahua – a much longer route, but they were determined to reach Inangahua.</p> <p>Just before Springs Junction they stopped for sustenance, and learned from a Ministry of Works overseer that the road to Inangahua was blocked. Being tenacious types, they decided to push on, and got within two kilometres of Inangahua – via a detour across a farm paddock and along a railway line – before finding their way blocked by a major slip. They had just turned back when the radio broadcast a Civil Defence message that Inangahua was to be evacuated because a massive slip blocking the Buller Gorge might burst and inundate the village. So they turned back to help.</p> <p>On reaching the slip once again, John picked his way across it and walked into the village. He commandeered the NZED Landrover based at the substation, and ferried people, four or five at a time, to the Inangahua side of the slip, and while they found their way across to Cliff, he went back for more. When there were enough people (about 12) to fill the bigger Safari Landrover, Cliff took them to meet a bus which had been organised to take them to Reefton. The helicopter which had brought in the NZED personnel was also evacuating people, and, of course, got all the accolades, while our linemen were left unmentioned by the media.</p> <p>It was stipulated by Civil Defence that people should not take any luggage, as the aim was</p>

to get the people out as quickly as possible. However, people what they are, there were a few 'triers'. One man was carrying a bag containing a big square object. When Cliff told him it would have to be tied to the spare wheel on the bonnet of the Landrover, he refused. He was told it could not go inside the vehicle because it would take the place of a passenger. He still refused to leave it, so stayed behind with his precious package – a TV set! He had to wait until there was room in the vehicle for him and his TV.

Another man arrived from the village with a large rucksack. The situation was explained to him, but he could see the reasoning behind people having priority, and agreed to his rucksack being tied to the spare wheel. He did, however, ask that it be handled carefully as it contained his medical supplies – he was a doctor who had walked from Reefton to Inangahua that morning to treat any injuries caused by the earthquake! Feeling rather humbled, Cliff carefully secured the precious cargo for the trip to the bus.

As darkness crept in, the helicopter stopped flying, and Cliff and John were under the impression that everyone had been evacuated, apart from the police who were staying. Cliff went across the slip to join John, and they drove into the village. When they arrived they saw a big fire with people standing around it, and were horrified to see that a number of women and children were still here. Armed with torches, with Cliff leading and John at the back, they got them all across the slip, into the Landrover and drove them to Reefton.

One thing that has stayed with Cliff ever since is the bravery of the youngest member of that night-time experience. She was about eight years old, and Cliff kept her up front with him, with her mother following. She walked where it was safe for her, and Cliff carried her over the more unstable areas. There were places, however, where the quake had left chasms which had to be jumped across – a terrifying experience in daylight, but this group had to do it by torchlight. Cliff would tell the little girl to stand very still and wait for his signal. He would then jump across, make sure he was on firm ground, then hold out his hand for her. She would reach for his hand and jump to him. He said there was never a whimper out of her, although there were aftershocks while they were crossing the slip, and some of the adults were distressed. The child took it all in her stride.

On arriving in Reefton and seeing their charges safely to a relief centre, Cliff and John went to the Working Men's Club where they quenched their thirst and were given a meal and a bed on the floor for the night. The next day John headed home, and Cliff went back to Inangahua, having been given the unenviable task of maintaining the substation to ensure a continuous power supply to the West Coast. Through the day he visited the substation and checked the power supply every half hour; at night it was a matter of checking that a light at the substation was going. He was worried about being able to wake up at night to check, given all the long, arduous hours he'd put in since leaving home, but there was no need to worry as he was woken up every twenty to thirty minutes by aftershocks. Although the power was going through the substation to the Coast, there was no power in the village, so cooking was done on a makeshift fireplace outside. Food - which would have spoiled anyway without the power supply - came from household freezers.

After four days relief had been arranged, so Cliff was flown out to Reefton in an Air Force helicopter, and arrived home at 7 p.m. on May 27. An awful lot had happened in that short time, but the satisfaction – not to be realised for some considerable time – of successfully evacuating up to 60 people from the epicentre of a major earthquake made up for any fear or discomfort suffered at the time.

<b>Author</b>	<b>Geoff Robinson</b>
<b>Event</b>	<b>Aftershocks from Inangahua earthquake 1968</b>
<b>Location</b>	<b>Wellington</b>
<b>Brief summary</b>	<b>In a Wellington office, people were trapped inside a lift during an aftershock</b>
<b>Story</b>	<p>At the time, I was working for the New Zealand Bankers Association in their Brandon Street offices. One of my co-workers had a Bird of Paradise plant bloom in a milk bottle on top of the filing cabinet. I remember watching it slide across the cabinet, and then being aware of a banging coming from the direction of the lift. After the shaking subsided, we heard cries and shouts of help. The lift was in motion when the earthquake struck, and had swung in the shaft, and the banging was the sound of it hitting the sides. It was stuck between floors, and we had to force the doors open to discover it. We then managed to pull out the people, two or three I think, who had been trapped inside. No-one was hurt, although they were 'shook up'. I seem to remember being told that the lift engine had been shaken off its mountings, and was moving toward the shaft, dragged by the weight of the cable and the lift car. The talk over morning tea the next day was that if the quake had gone on longer, the engine would probably have toppled down the shaft! I don't know whether that was a fact, but the lift was out of action for several days afterwards.</p>

<b>Author</b>	<b>Helen Mason</b>
<b>Event</b>	<b>June 1942 Wairarapa earthquake</b>
<b>Location</b>	<b>Carterton</b>
<b>Brief summary</b>	<b>Helen Mason, now aged 90, was living in the Wairarapa countryside at Carrington, near Carterton, when the Wairarapa earthquake struck. Her daughter Julia Stuart sent in this story</b>
<b>Story</b>	<p>It was good to be back in the peaceful countryside. It seemed so sane after the jittery city. My husband's cousin Eunice and I had just settled into a good routine and prided ourselves on the shelves of bottled fruit in the pantry, made with our precious sugar ration, when the Wairarapa earthquake of 1942 struck at about 11:15 p.m. one night. Eunice and I yanked the babies out of their cots and spent the night huddled in the front hall, which seemed the safest place, hoping there weren't cracks opening up around the house into which we might topple.</p> <p>Next morning when light came, we found bricks (that had fallen down inside the chimneys) all over the floor, and our precious bottled fruit was in a pile of splintered glass. Our landlord arrived to see if we were all right, With true pioneering forethought he got clay from the water race and stuck the tin part of the kitchen chimney onto what was left of the brick stump so we could cook. This was fortunate as there was no power for a week. Uncle Jack and the neighbouring farmers were struggling to keep their herds milked, and we at least could feed them. Troops from the nearby training camp were sent round to make things safe by pulling down damaged chimneys, and military rule was set up to stop looting in the nearby towns.</p> <p>The aftershocks went on for weeks, and in the end Eunice could stand no more. She went home to Seatoun saying she would rather face the Japanese than one more quake.</p>

<b>Author</b>	<b>Paul de Rungs</b>
<b>Event</b>	<b>1942 Wairarapa earthquake</b>
<b>Location</b>	<b>Wellington</b>
<b>Brief summary</b>	<b>Paul was seven years old at the time and living in an orphanage in Lower Hutt. He thought the earthquake was an attack by the Japanese.</b>
<b>Story</b>	<p>Eight of us boys in the dormitory were woken up by a very loud rumbling which was quite terrifying. All the more so because at that time there was a very real threat of a Japanese invasion. My first thought was that a huge squadron of Japanese bombers was flying directly overhead. These thoughts were further intensified when there was a very violent shaking which seemed to last several minutes. I thought these were explosions from falling bombs and we could get hit very soon.</p> <p>The matron and her staff came around with torches, and did their best to calm us and explain that we were suffering an earthquake. I remember after the first major jolt there were several others which followed, not as severe as the first one.</p> <p>When we got up in the morning and walked to our local school, the Eastern Hutt School, there were scenes of chaos all about us. Chimneys had toppled, shop windows had exploded outwards onto the street and window displays were in complete disarray. The Self Help Grocery Shop seemed to suffer the worst damage. Power lines were down and there were cracks in the pavements and on the road.</p> <p>In those days we used to go back to the orphanage for lunch and then return to school. I think that it may have been a day or two after the major quake that we suffered another smaller one. I was walking back to the home for lunch with my best friend Tommy Dale, when another quake struck. We were at that moment right outside the Self Help Grocery, its windows now boarded up. I was terrified and started crying as did my mate Tommy. We clutched each other for support while the shaking continued. As soon as it stopped we ran crying all the way back to the home. This is an experience that I will never forget. Some months after the quake a lot of the damage was still evident.</p>

<b>Author</b>	<b>Maggie Purnell</b>
<b>Event</b>	<b>1931 Napier earthquake</b>
<b>Location</b>	<b>Waipukurau</b>
<b>Brief summary</b>	<b>Maggie recorded her mother Ruth's stories in 2001; they included being at school in Waipukurau during the 1931 Napier earthquake.</b>
<b>Story</b>	<p>Upon shifting from Frankton to Waipukurau, my mother Ruth Barton (née Hepburn) and her sister Betty were enrolled at St Joseph's Primary School in 1931. Ruth was 14 and Betty was ten. Ruth remembers the first day back at school on 3 February 1931 as being a very lucky one. Playtime had been extended because routines were not yet put into place, but finally the bell went for the children to line up outside their classrooms ready to go back inside. The little ones, including Betty, were just heading off towards the steps of the classroom when the earth began to shudder. Ruth remembers falling to the ground and clutching at the grass in an effort to stay anchored. It was impossible to get up as the earth moved up and down in huge waves.</p> <p>She was aware that her sister was entering the school building as the crashing and banging of the Napier earthquake grew louder and more violent, continuing for a full two and a half minutes. Thankfully, Betty and her classmates were thrown to the ground also, as the parapet of the school came crashing onto the steps just feet in front of them.</p> <p>Both sisters have spoken of the anguish they both felt for each other and for their mother at home. Finally, family groups were united on the playing field, and the children made their way home, down the centre of the road, keeping away from all the buildings in case of damage from aftershocks. Ruth remembers walking past the vegetable shop on the corner, with the stalls crashed to the ground, spilling out their load of fruit and vegetables. She remembers walking past the Tavistock Hotel with its entire wall missing, revealing all the bedrooms still intact, looking just like a doll's house. She remembers the relief as she and her sister got home to find their ailing mother safe and sound. Fortunately she was visiting a neighbour when the earthquake struck, which meant she was not at home when the chimney crashed through the roof.</p> <p>Ruth took special interest in the railways, her father being a guardsman, and recalls him taking the first train out to investigate how far it could get along the tracks leading out of Waipukurau towards Hastings and Napier. The railway lines apparently became an important lifeline, as ambulances transported the seriously injured from Napier and Hastings to Waipukurau, where they were then loaded onto trains and transported to hospitals further south.</p>

<b>Author</b>	<b>Norma Wing</b>
<b>Event</b>	<b>1931 Napier earthquake</b>
<b>Location</b>	<b>Napier</b>
<b>Brief summary</b>	<b>At the time of the quake eight-year-old Norma was a pupil at Hastings Street Primary School, Napier. The new school year had only just started.</b>
<b>Story</b>	<p>The earthquake struck just before 11 a.m. with a heaving and shaking of the earth beneath our once familiar school, which had now become a place of fierce, uncontrollable and terrifying force. The shaking was violent from side to side while, at the same time, you were aware of being pushed upwards.</p> <p>We were all stunned into silence until a girl called Gwen shouted “Earthquake!” That released us. We tore, we scrambled, we rushed to the door – past the fireplace in the corner to the left of the doorway where the ink bottle was kept in the empty grate. It was a tall, mucky, dark blue bottle and bricks were pouring down the chimney on to it. A fragmentary glimpse was all I had of this, yet I can see it so clearly still.</p> <p>Children poured from all the classrooms, squeezing desperately through the doorway out to the playground. I have an impression of someone being trampled under our feet on the doorstep, but I may be wrong about that.</p> <p>Outside, as the shake subsided we calmed down and stood around in little groups, not knowing what to do. Sylvia Holdaway went back inside to collect her hat from the corridor pegs and we all thought her tremendously brave.</p> <p>At the gateway, a teacher, Mr McGlashan, was directing children to leave and find their way home. An angry little woman was gesticulating in front of him, berating him for his stupidity, and I suddenly realised that this was my mother.</p> <p>My parents had a sweet shop in Emerson Street, the Star Confectionery, and they had been having morning tea in the back of the shop when the quake came. There must have been an awful mess of jars and shelves and chocolates. My father, who was such a neat and tidy man, set about sweeping it all up. His efforts were to be pitifully wasted when the fire came later and consumed everything in its path.</p> <p>Mother, though, went racing up Dalton Street to the school to find me. And found poor Mr McGlashan. He obviously had no idea of the shambles of the town, the heaps of tumbled masonry, the live wires dangling from telegraph poles, the precariousness of much that was still standing. With hindsight, the school was the safest possible place to be. In the post-earthquake period, while Napier recovered itself, Hastings Street School was used as the Post Office.</p> <p>Mother gathered me up, together with some friends, and like the Pied Piper she set off with five of us in tow. Everything that followed was chaotic and my memories of it are fragmentary. My mother and I were in a lorry up at the hospital and parked outside what had been the Nurses’ Home. It was now just a heap of tumbled masonry and over it clambered a nurse calling and calling – ‘Pat! Pat! Pat!’ I don’t imagine she ever found Pat alive.</p> <p>The day wore on and I was with a lot of people, all huddled in Clive Square, looking down Emerson Street. The hotel on the corner (the Provincial?) had its sides gaping open and bedrooms and bathrooms were perched up there horribly exposed to the world.</p>

And the fire. Rushing up Emerson Street towards us, voraciously engulfing the town, huge and roaring. I remember feeling the heat of the air.

We were all dispersed somehow or other. Everybody used whatever transport was available. My mother's friend, Mrs Howard, had a Baby Austin car and I was put in that along with her children, while my parents went on the back of a lorry. Inadvertently, they all went to McLean Park and we went to Nelson Park, so there was more hectic confusion until my parents eventually found me and took me back with them.

Then there were tents erected in Nelson Park, rows and rows of them. We drank artesian water from bottles and people cooked on open fires.

Then my darling grandfather arrived from Marton – how on earth did he find us? There he was, with a huge paper bags of cakes and food my grandmother had prepared. He took me back to Marton with him.

<b>Author</b>	<b>Donald Locke</b>
<b>Event</b>	<b>1931 Napier earthquake</b>
<b>Location</b>	<b>Fern Hill</b>
<b>Brief summary</b>	<b>Four-year-old Donald was holidaying at Fern Hill in Hawkes Bay when the earthquake struck.</b>
<b>Story</b>	<p>Every morning Grandad went down the farm to check water tanks and ensure the windmill was working - interesting things for a four-year-old boy, and each morning I would accompany Grandad.</p> <p>About mid-morning on this day I went into Grandad's room to see if he was going down to the windmill. After an early start he was resting on his bed, but stood up when I asked if he was ready to go.</p> <p>Then the world collapsed, or exploded. I knew not what was happening as I had never previously experienced an earthquake. Where Grandad had been resting a minute before, a huge wardrobe crashed down. The noise of chimney bricks smashing onto the roof was alarming. We could not leave the room as the door was jammed, but my brother eventually came up the passage and managed to barge the door open.</p> <p>It was a wonderful relief to finally be outside, away from the noise of crashing on the roof and the terrible groaning of the house as it was shaken and twisted.</p> <p>Meanwhile my mother had a nasty experience outside. Working in the separate laundry behind the house, she was just leaving the doorway when a severe shake unbalanced her. She grabbed the trunk of a willow tree for support, but the shake swung her around the tree and the rough bark tore the skin off the inside of her arm.</p> <p>Shocks continued all day. Water tanks were toppled and smashed, the windmill leaned at a crazy angle and feathers from pillows the womenfolk had been refilling were well-scattered. The inside of the house must have been a real mess. I was not allowed in to see, but had no wish to go anyway.</p> <p>Sleeping inside that night was out of the question - would there be a bigger quake that would demolish the house? Beds were made up under a large plum tree and with every aftershock more plums fell down. It was not a good sleeping night.</p> <p>Next morning porridge was made on a fireplace constructed with bricks from the fallen chimneys. I remember complaining about the porridge being burnt - no doubt I was not the most popular four-year-old around!</p>

<b>Author</b>	<b>Dorothy Beddows</b>
<b>Event</b>	<b>1931 Napier earthquake</b>
<b>Location</b>	<b>Napier hospital</b>
<b>Brief summary</b>	<b>Dorothy Beddows was working on the tuberculosis ward at Napier hospital when the earthquake struck. She was involved with the evacuation, and subsequent care of patients.</b>
<b>Story</b>	<p>My so-called clumsiness alerted me when I put the tea tray down for the ward sister's morning tea prior to going off duty at 11 a.m. It fell through the window and I thought that I'd knocked it through. I didn't take too much notice - I was going to see how one of the patients was faring. Then I noticed horrific movement.</p> <p>I caught hold of the patient, who was terribly frightened, and thrust her under the bed. I held the bed in place while I got under it myself, and pulled a blanket down between us. There was terrific noise; shocking noise. As soon as it settled slightly, I thought I'd try to get us both out. I carried her out and dumped her on the lawn beside a few other people.</p> <p>Then I went back into the building to where I knew the ward sister was with another patient. We made a seat for her with our hands and arms, and we carried her outside between us. We went through the building – it was cleared. Other patients had been able to get themselves out of our ward, as far as I knew.</p> <p>A doctor called for volunteers to go down to the Isolation Ward with him. Another nurse and I went down there. The first thing we saw was a bath on the road. We came to the ruined ward, and the doctor went in ahead of us through the arched doorway, the remains of what had been a doorway, and came upon one of the nurses who was almost covered with rubble. She was still alive and we began to clear the rubble away. Then a tremendous earthquake came and the doctor ordered the other nurse and myself out. He was a very brave man.</p> <p>We got people out of the existing wards where we could. In the men's ward we needed two lifters on the ends of the beds, and it meant that two people were needed to move those beds out - in between very big quakes. We'd sometimes have to run out, and then come back. The beds were put out in the open, and others helped transfer them across to the gardens. People from round about had arrived by then to help.</p> <p>Later in the morning I had time to look around, and saw the nurses' home. I didn't look for very long. My possessions weren't in the new nurses' home, they were in the old part of the building. I was on day duty but my friends were on night duty. They'd done their full year's training and some of those girls were killed. They were close personal friends.</p> <p>It was almost unbelievable to look round and see that where there had been buildings, there was now rubble. We went down to the gardens, and started to work among the patients lying on the ground, giving them first aid.</p> <p>A brave woman I remember was a ward sister. She'd been thrown from the nurses' home, sustaining a broken leg. When I looked at her, she was lying on the ground literally covered with fine concrete dust, terribly helpless because her eyes were closed and nostrils clogged up. The sister told me how to clear her mouth, eyes, nostrils and ears.</p> <p>The sailors from the Veronica came up to help and they brought bread and milk with them. The customary meal at the hospital was bread and milk, so that was what they got for their meal – those who were able to eat.</p>

At night I had a benzine tin with a candle stuck on it, between the beds. Some patients were very sick. One woman had been brought up from the DSI drapery in Emerson Street. She had been caught in the toilet. As she tried to get out, the door jammed against her foot at the ankle. Her foot had to be amputated on the spot, because fire was moving through the streets. One man who had been rescued from the debris of the Masonic Hotel died during the night. Another, a young man I knew who worked at the bank, had a fractured skull. He recovered quite well. I also nursed one of the maids from the nurses' home, and I went around for three days with her broken teeth in my pocket. She was brought out at 9 o'clock that night from the debris of the nurses' home. The next day patients were moved away in lorries.

After the quake, if anyone came into a room where I was alone, I'd try to climb out of the window, forgetting that I was upstairs. That was the only silly, peculiar thing.

<b>Author</b>	<b>Robin Langford-Kay</b>
<b>Event</b>	<b>1931 Napier earthquake</b>
<b>Location</b>	<b>Napier</b>
<b>Brief summary</b>	<b>11-year-old Robin was in standard four at Napier Central School. Fortunately he was outside when the quake struck.</b>
<b>Story</b>	<p>We were all in the playground; we should have been back in our classrooms but were given a few extra minutes while the headmaster, Mr James Hyslop, finished his cup of tea. I think the initial jolt threw most of us off our feet, but somehow I remained standing. Clouds of dust rose from the direction of the quarry near the school. I watched the walls of the school rock and collapse.</p> <p>When the violent rocking stopped we were told to go home. I did not go immediately. I saw that a small boy was trapped under a pile of bricks from the wall across the entrance of the boys' lavatory. A passing van-driver stopped and helped me lift the bricks off the boy. His leg was very badly broken, and the driver took the boy away in his van, heading for the hospital.</p> <p>I made my way to my home in Colenso Avenue, a very short distance from the school. A group of people, including my mother Eleanor Kay, my nine-year-old brother Geoffrey who had got home before me, my three-year-old brother Bevan and my mother's domestic assistant Linda, were standing in the street. Our two-storied house had two tall chimneys that had collapsed in piles of unbroken bricks that filled the backyard and a path alongside the house, exposing my parents' bedroom upstairs. When the quake began, Linda was about to hang the washing out and grabbed hold of the clothesline at the moment the chimney came down in the backyard. Bevan had left the sandpit beneath the chimney and was climbing the trellis fence that enclosed the backyard. Neither of them was hurt.</p> <p>There were further earthquake shocks, some of them quite severe, that day and during the night. I asked Mother why God had allowed this to happen to us and she replied that perhaps it was because we (all of us?) had been naughty.</p> <p>She was the only person prepared to enter the house, which she did to get food and bedding. I accompanied her as far as the backdoor. We spread the mattresses and blankets on the lawn alongside the garage and next to a rose garden, where we spent the night experiencing numerous after-shocks.</p> <p>From the corner of Colenso Avenue there was a view of the city centre in flames with large clouds of smoke drifting inland.</p> <p>My father Harold Kay, who worked as a farm inspector for the Public Trust Office, had left early that morning by car for Gisborne but had only just crossed the Wairoa River when part of the bridge collapsed, marooning him on the wrong side. Unable to return to Napier by car, he eventually made the trip on a small coastal ship from Waikokopu, a wharf near Mahia Peninsula.</p> <p>When he reached our home in Napier we had gone, so he walked the nine miles to the Kay farm at Prior Park (on the road to Rissington) where his brother Ughtred Kay and his family were living out-of-doors. The roof of their house was still on, but had been shunted sideways off the walls. They had been dipping sheep when the earthquake split the sheep-dip. It was soon empty.</p> <p>Mother had been very reluctant to leave Napier before Dad returned, but was persuaded to do so by our neighbours, the Tiffens. With eight of us in their car we drove down the steep hill, despite cracks and fissures in the road, and joined the great exodus to the south in an endless stream of cars, with countless empty four-gallon petrol cans tossed to one side of the road. We made very slow progress and by nightfall had reached Woodville, where we were given beds for the night in the hotel. Next day we went to the home of the Reverend</p>

Davidson (who was the vicar at Otane when I was christened there) where we stayed for several days.

When Dad returned to Napier from Prior Park late in the afternoon of Wednesday 4 February - the day after the quake - he learnt that we were safe. He set about saving things from the house, putting them into the garage.

In a letter to her family in Christchurch, written from Woodville, Mother said that Geoffrey was standing on the roadside when some neighbours from Colenso Avenue passed by in their car and sent him in to call her. They told her that Dad had returned home on Wednesday night, and if she stood on the roadside he soon would be motoring through. She says she stood on the roadside for three hours trying to see if he was in the constant stream of cars that passed.

She did not see him, and was afraid that he had gone on to Masterton or Palmerston North looking for his family among all the refugees. Phone calls were made to the Public Trust Office branches in Palmerston North and Masterton, and a message was broadcast on the radio, '... but we could hear nothing of him. It was an awful strain', Mother wrote.

Finally, late on Friday 6 February, he phoned from Masterton. He had been in Napier helping in rescue work. "He seems to have found digging out the charred remains a very ghastly business and looked very white and haggard", wrote Mother.

My brother Geoffrey and I were sent to Mother's sisters in Christchurch, where we went to Dunelm School for the remainder of the first term.

<b>Author</b>	<b>Eleanor Kay</b>
<b>Event</b>	<b>1931 Napier earthquake</b>
<b>Location</b>	<b>Napier</b>
<b>Brief summary</b>	<b>Robin's mother Eleanor Kay wrote this letter to her sisters in Christchurch from The Vicarage in Woodville, where the family had moved for safety.</b>
<b>Story</b>	<p>Dearest Family,</p> <p>... I was in the kitchen at the time, seeing to dinner, when a frightful noise and shake came. I knew Linda [a live-in helper] &amp; Bevan were in the backyard so made a dash down the little passage to the side door – I was flung about from side to side and just as I got to the door down came a ton of bricks just in front of me. All the chimneys were built on the outside of the house. I thought Linda must be under the bricks. I started to climb over the bricks to get to Bevan &amp; was just across as the remaining half came down. Linda appeared out of the dust &amp; we three sat down on a bench with our arms locked around each other while the whole world seemed to rock, sway and crash. When things steadied down a little &amp; the dust cleared off I could hear water rushing into the house from torn apart tanks, pipes and cisterns. There was dust and bricks everywhere &amp; a big crack in the stucco part of the house above. I was afraid of the house catching fire so ran in to turn off the gas but a brick or something had struck the tap &amp; turned it off for me. Still feeling dazed I could see soot and water everywhere, a table upside down in the middle of the floor – most of my dinner service which had been on the rack was covered with bricks &amp; so were the saucepans on the stove. I rushed outside again to join Linda just as another huge shake came. As we got to the road we saw all our white faced trembling neighbours in groups there. We could hear a rush of children's feet coming down the road from the school on Napier Terrace not five minutes away. They were almost all screaming at the tops of their voices. I'm not quite sure but I really believe Geoff led the way. Those long legs of his move when necessary.</p> <p>That school was another of many miracles. Mr Hyslop [the headmaster], who is punctuality itself, had given them an extra ten minutes playtime &amp; the whole 600-odd were out in the playground instead of in the brick buildings which were badly damaged. As long as I live I shall never forget the sight of the Nurses' Home, the Technical School, &amp; the Provincial Hotel.</p> <p>Harold had left at seven in the morning on his return trip to Gisborne &amp; my mind flew to him &amp; I wondered if he &amp; the car were buried somewhere on the road. Of course there were still lots of violent shakes &amp; we could hear terrific crashes still coming from the city. We walked to the corner of the road where we could see the whole town beneath us &amp; as we looked fire seemed to burst out at different spots. After a time white faced bruised husbands &amp; various other menfolk began to struggle up the hill to see how their homes fared. Many of them seeing we were still alive hurried back to the city to pull out the dead and injured.</p> <p>Of course I could only think how lucky we five were to be safe and together, but when I saw the ruin of my home and knew at once we could never afford to reconstruct it even if possible, I felt terrible. Almost all the windows were broken – every chimney down &amp; when I at last dared to enter what a sight met my eyes. The chimneys being built outside had mostly fallen outside – all the mantelpieces were torn out, my big heavy piano was flat on its face, the clock torn off the wall was in the middle of the floor and broken. My sideboard had not moved &amp; the china locked in the cupboards was all intact, including the stuff I had brought up from Christchurch. All the wallpapers were torn &amp; the pictures hanging at the weirdest angles but undamaged. They and most of our valuables are now locked in our</p>

little garage.

As it was now the children's dinner time I went into my wrecked pantry & tried to collect some food – running outside every now and then as a fresh shake came. I found a loaf of bread, a pound of butter sitting in the middle of a wreck of jam and milk, a cake thrown out of its tin & rather wet and sooty. I opened the china cupboard door & found most of the cups & plates etc quite all right so took my spoils outside. Returning at what I thought were safe intervals for knives, plates and what tea was left in the caddy. I may here tell you that not a man or boy would enter the house with me.

Later in the day I went upstairs for blankets and warmer clothes for myself & the children. My poor bedroom – it looked so nice that morning after a thorough cleaning. Where the pretty white fireplace had been was now a charming view of my next-door neighbour's garden. I flung some blankets and pillows out of the window & some warmer things for the children & myself. Linda came up with me once and was able to get some clothes out of her room also - & I collected my purse – my gold watch that Mother gave me was on the floor – not a spot of glass left on it but I daresay it can be fixed.

... We slept out under the stars flat on the lawn the first night – the sky crimson with the glow of the burning city & frequent shakes – rumours (called official) kept coming through, such as to prepare for a tidal wave at six – that Napier would soon be submerged, etc. We and the Tiffens [neighbours] threw in our lot together. Colville Tiffen made a fire in the gutter with bricks from my chimney, and I managed to get some water from my washhouse tank & tap. We scratched up some food from their house and mine. Mrs Tiffen, Mrs Miller (a sister of Mr Tiffen's), Miss Blake, Mrs Tiffen's sister, and Geoff slept in their car. I spread a carpet on the lawn, put some blankets, rugs and eiderdowns on it & Linda, Robin & I slept in a row. I made a nice little bed for Bevan with the aid of my two old Morris chairs. But in the night a sharp shake made me spring to my feet and snatch him up. Everyone else rose to their feet & rushed out of their garage homes.

We were in real danger from the fire coming up to us but it was wonderful how with blasting, etc, they kept it under [control]. Don't believe the list of dead the papers give. We know of well over a hundred ourselves and believe in Napier and Hastings it may run into several hundreds. Heaps of shops fell flat & the fire tore through them so that only ashes of people known to be in them are left. Mrs Hindmarsh was getting her hair cut in the Florentine Salon – it fell flat & she was burnt with all inside. Dr Caro had wanted me to go down & have my teeth x-rayed on Tuesday but I had refused – fortunately for my skin. Thank God I had returned to Napier [from Christchurch] before it all happened & knew for myself what had happened to my boys.

Am afraid my face is more lined than ever –

Eleanor

<b>Author</b>	<b>Ray Copeland</b>
<b>Event</b>	<b>1931 Napier earthquake</b>
<b>Location</b>	<b>Napier</b>
<b>Brief summary</b>	This story is adapted from <i>Scenes that are Brightest</i> by Ray Copland of Christchurch
<b>Story</b>	<p>When I came to, I was lying in the playground. Blood poured from above my right ear, my vision was distorted and my ear was deaf. I was completely alone. The long brick school building looked exactly the same, but now there were no boys, no masters, no sound. It was a ghost school. Then I felt a sharp pain in my right hand: my pen was dangling from its nib, which was buried in my palm. I pulled the pen and brought the nib out with it.</p> <p>I turned and saw that the assembly hall, where lately hundreds of boys and a dozen masters had been singing, was now a hillock of bricks, completely destroyed. And there were the bike sheds, empty except for one bike. I realised that there must have been a colossal earthquake, and that everybody had fled homeward. I was never to discover how I ended up in the playground.</p> <p>I knew I had to get home, but as I walked towards my bike a thunderous rumble enveloped me, and the ground rocked. I lost my balance and was once more down on the asphalt. The earth shuddered for many seconds and then all was silent again. I began to ride shakily when again I heard the rumble, and jumped off. Mile-wide rolls of grass waves raced from the east at incredible speed and rocketed away underneath me.</p> <p>Out on the street, I was back in a living world, among other human beings. Suddenly a man tried to seize my bike, explaining dementedly, 'I've got to get home to my wife and baby!' But then he ran off, and shouted back, 'You won't get much further down Hastings Street, son. All the buildings are down.'</p> <p>He was right. My direct way home was through the town, but I would have to go around it. I reached the ruins of the Technical College, and thought of my friend and neighbour, gentle Lloyd Rhodes. I didn't know he was lying dead in there, on his first and only day at the college.</p> <p>Emerson Street was buried in glass and rubble, every building broken. Ribs of timber and brick thrust up through the wreckage. Smoke was beginning to seep through the ruins, and I could see sharp tongues of flame, fed by a brisk wind from the sea. No way through.</p> <p>I tried Tennyson Street but the further I went, the greater the mass of rubble. And I was scared that the fires might trap me. All this time the earth would suddenly shudder, threatening to throw me off my feet. My dead right ear seemed to unbalance me. Up ahead, the radiantly new Presbyterian Church was a jagged skeleton.</p> <p>Then I remembered Milton Road. There it was, clear and almost empty. Leaning on the saddle I made my way at last up to Fitzroy Road. My father was out on the street waiting for me.</p>

## 2.5 Volcanic event

<b>Author</b>	<b>Nic Campbell</b>
<b>Event</b>	<b>1953 lahar and Tangiwai disaster</b>
<b>Location</b>	<b>On board a ship</b>
<b>Brief summary</b>	<b>Captain N.T. Campbell was piloting a ship on Boxing Day 1953; he was approximately twelve miles offshore from the Whangaehu river mouth when he encountered a huge debris field</b>
<b>Story</b>	<p>Shortly after Boxing Day, about the 27 or 28 December, my vessel left Wellington bound for Castlecliff, near Wanganui. It was a short overnight voyage and we were due off the bar at around 5 a.m. The night was calm and clear with slight seas.</p> <p>At about 3 a.m., and well off the coast, I was taking the watch when I suddenly noticed what appeared to be breakers close ahead. Believing the vessel had been set inshore by unknown circumstances, I immediately ordered the helm hard to port and began urgently ringing for an astern movement on the engines. Before any of these orders could take effect we were in the midst of a 50-metre wide ring of thickly packed debris. I could see tree trunks and other types of litter. As the ship rode through this, the carcass of a cow, illuminated a ghastly green in the glow of the starboard running light, rolled over and passed beneath the bridge wing. The whole was interspersed with some sort of white froth, which I had mistaken for breaking water.</p> <p>At this instant the engineer on watch, who had stopped both engines preparatory to reversing them, began racing them hard astern. I now realised that rather than the ship being in danger of grounding, we had held our course and were still some 12 miles from the coast. We were forging through a debris field spreading far into the Tasman Sea from the Whangaehu River mouth. On the other side of this floating barrier the water was highly discoloured and silt-laden. Because of the density of the debris I immediately had the engines stopped and allowed the ship to drift through the debris because of the real possibility of damage to the screws. After ringing all clear and getting under way again I remember the watch engineer being annoyed with me for asking for emergency action without forewarning. He hadn't seen what I saw but I settled him down amicably.</p> <p>Discoloured water is quite normal around river mouths and is often edged with a foamy froth where the silt-laden fresh water, differing in specific gravity to salt water, takes some time to merge. In this case, however, it was forcing a huge ring of debris across a front that must have been near 20 kilometres in radius. Much of this debris fouled the coastal beaches south of the Whangaehu River for many months afterwards.</p>

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