

Extension for Earthquake through the window - what would you see, what would you feel?

After the Earthquakes in Christchurch New Zealand by Louette McInnes

Afterwards, for many years, there were many of empty lots and damaged buildings but the problem was the cost of repair and bringing the buildings up to the new code. It was cheaper to demolish some buildings rather than repair them and bring them up to code. The Isaac Theatre Royal was saved partly by Ian McKellan (who had lived here while making Lord of the Rings) doing one man shows all around the country in the small towns.

We had insurance on our house, which also meant we paid into the Earthquake commission. That paid out on our relatively minor earthquake damage. Part of the problem was getting competent assessors and then repairmen. Our house was checked by a builder, and a retired policeman from Western Australia (hired in). The insurance companies, hard hit, started disputing what was previous damage, and some people are still in disputes 9 years later. But the govt had stepped in early on and 'bought out' many people in the worst areas. Acres of land are now, more or less, going to be parks. And for years the orange road cones were everywhere and you never knew which road was open or which route to take to get somewhere.

What many people didn't realize was the damage to power lines, phones, electricity lines. And sewage! We were lucky to be on the old, copper underground phone wires and they were not damaged here, so I could call my son overseas to say we were okay. Portable toilets were on all corners in the Sumner area for months afterwards until the govt managed to get about 30,000 portable toilets delivered from China for each house. We had to boil our water, in case some pipes had cracked, for 2 months even in the less damaged side of town. One friend on the east side was without power for several weeks and had to cook on her barbecue. Some people bought generators and shops quickly sold out. Cell phones, without power, were quickly useless. Some

people with generators set up recharge stations, and those areas of town with power had places where phones could be charged. Some houses on concrete pads just tilted, but this damaged all the water and sewage pipes and those houses were hard to repair.

Houses like ours, on piles and a strong, iron rod reinforced concrete surround under the walls, fared better and could be jacked up and re-levelled. Fortunately, ours didn't need that.

Another unexpected result of the liquefaction was that petrol (gas) stations had their huge, underground tanks rising and some stations had to close for safety.

The liquefaction caused serious problems in addition to the shaking. It meant many sections/house lots were covered, and some of the roads collapsed in holes, or had huge lumps form in them. Imagine a 6 foot wide and 3 foot high bump in the middle of a main road. My son, lecturing at the univ, had a 4 wheel drive and could negotiate the huge bumps in the road when we delivered food to eastern areas. The student union set up a group to help dig out the people's sections - the Student Army - with students and staff, and local volunteers. (The organizers later went to help set up a similar scheme in Japan after the awful tsunami.) A hardware store supplied shovels and wheelbarrows, food stores supplied food to make lunches for the students, and buses took them around town. Helpers came in (from as far away as Dunedin) to help make lunches. Extra food was distributed around town to areas hit by the quakes. Each major aftershock caused more liquefaction and the students were joined by the Farmy Army of farmers with tractors.

Schools tried to keep things as normal as possible for the students. Some had lost books, lost houses, and were living with friends or family in a different area of town. If an aftershock occurred, students knew what to do. Any shock over a 5 meant the school had to close and send students home until engineers could check it. That

happened quite a few times. We had to make sure the students could get home and someone knew they were coming home. So the 'no cell phone in class' rule was suspended so parents and boys could stay in contact in an emergency.

You could tell which direction the latest quake happened by the nature of the quake - shuddering up and down was from the Port Hills, swaying was from the west or east. My husband could often hear them coming, like a truck rumbling down the street. For several years, any truck rumbling past could make us nervous, as did being near any tall buildings. Lots of secondary faults were, of course, activated. That was the cause of lots of aftershocks.

We were lucky and the major Kaikoura quake 2 years ago had almost all the energy go north, so no damage in Christchurch. The road and rail along the coast were pretty well destroyed and it took a year to fix the damage. The sea coast raised 2m in some places.

<https://www.youtube.com/watch?v=hqjob7hjpfs>

We know we live in a very earthquake prone land. Due to the glacial outwash, we just didn't know about some faults around Christchurch. GNS has done a lot of research in the area since then to identify other faults, and has always monitored the Alpine Fault which is the boundary of the Pacific and Australasian plates.