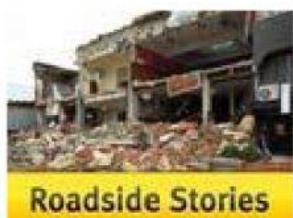


# The 2011 Christchurch earthquake

Watch the video and number the information in the order in which it is given.

- Buildings were pulled down. \_\_\_\_\_
- The central city was cordoned off in case of aftershocks. \_\_\_\_\_
- The cathedral is being restored. \_\_\_\_\_
- Where it happened. \_\_\_\_\_
- The number of fatal victims. \_\_\_\_\_
- Homes were badly damaged. \_\_\_\_\_
- Historical buildings were lost. \_\_\_\_\_
- When it happened. \_\_\_\_\_
- Rescue operations. \_\_\_\_\_
- The government bought buildings. \_\_\_\_\_
- The magnitude of the earthquake. \_\_\_\_\_
- Power, water and sewage mains were broken. \_\_\_\_\_
- Muddy water flowed through the cracks. \_\_\_\_\_
- The television studios were destroyed. \_\_\_\_\_
- Parking spots and weeds grew. \_\_\_\_\_

Compare the newspaper report below with the TV report above. Write the newspaper extracts next to the topics above. If there is no information, write "X".



On Tuesday 22 February 2011 at 12.51 p.m. Christchurch was badly damaged by a magnitude 6.3 earthquake, which killed 185 people and injured several thousand. The earthquake epicentre was near Lyttelton, just 10 kilometres south-east of Christchurch's central business district. The earthquake occurred more than five months after the 4 September 2010 earthquake, but is considered to be an aftershock of the earlier quake.

## Casualties and damage

One hundred and eighty-five people died as a result of the 22 February earthquake. It was lunchtime and many people were on the city streets. One hundred and fifteen died in the CTV building, 18 in the PGC building, 36 in the central city (including eight on buses), and 12 in the suburbs (including from falling rocks in the Redcliffs, Sumner and Port Hills). The Chief Coroner determined that another four deaths were directly associated with the earthquake.

The earthquake brought down many buildings previously damaged in the September 2010 earthquake, especially older brick and mortar buildings. Many heritage buildings were heavily damaged, including the Provincial Council Chambers, Lyttelton's Timeball Station, and both the Anglican Christchurch Cathedral and the Catholic Cathedral of the Blessed Sacrament. Among the modern buildings damaged, and eventually demolished, was Christchurch's tallest building, the Hotel Grand Chancellor. Over a quarter of the buildings in the central business district were demolished.

## A violent earthquake

Although not as powerful as the magnitude 7.1 earthquake on 4 September 2010, this earthquake occurred on a fault line that was shallow and close to the city, so the shaking was particularly destructive. In the February 2011 quake, the fault movement and structure of the bedrock produced exceptionally strong ground motion – up to 1.8 times the acceleration due to gravity in the eastern suburbs. In the city centre ground accelerations were three to four times greater than those produced by the September 2010 earthquake.

### Liquefaction

Liquefaction was much more extensive than in the September 2010 earthquake. Eastern sections of the city were built on a former swamp. Shaking turned water-saturated layers of sand and silt beneath the surface into sludge that squirted upwards through cracks. Properties and streets were buried in thick layers of silt, and water and sewage from broken pipes flooded streets. House foundations cracked and buckled, wrecking many homes. Despite the damage to homes, there were few serious injuries in residential houses in liquefaction areas. However, several thousand homes had to be demolished, and a large area of eastern Christchurch will probably never be reoccupied.



### Aftermath and exodus



The government activated its National Crisis Management Centre immediately and declared a national state of emergency the day after the quake. Christchurch's central business district remained cordoned off for more than two years after the earthquake. Electricity was restored to 75% of the city within three days, but water supplies and sewerage systems took several years to restore in some areas affected by liquefaction.

In the weeks following the earthquake about 70,000 people were believed to have left the city due to uninhabitable homes, lack of basic services and continuing aftershocks. Timaru's population swelled by 20% and thousands of pupils registered at schools in other cities and towns. Many returned to Christchurch as conditions improved.

### Fault beneath the Port Hills

The earthquake was caused by the rupture of a 15-kilometre-long fault along the southern edge of the city, from Cashmere to the Avon–Heathcote estuary. The fault slopes southward beneath the Port Hills did not break the surface – scientists used instrument measurements to determine its location and movement.



Match the words to the definitions.

aftermath    buckle    liquefaction    mortar    silt    sludge    squirt    swamp

1. a mixture of sand, water, and cement or lime that is used to join bricks or stones to each other when building walls: \_\_\_\_\_
2. conversion of soil into a fluidlike mass during an earthquake or other seismic event: \_\_\_\_\_
3. an area of very wet, soft land: \_\_\_\_\_
4. sand or soil that is carried along by flowing water and then dropped: \_\_\_\_\_
5. thick, soft, wet mud: \_\_\_\_\_
6. cause a liquid to be ejected from a small opening in a thin, fast stream: \_\_\_\_\_
7. bend and give way under a weight or force: \_\_\_\_\_
8. the consequences or after-effects of a significant unpleasant event: \_\_\_\_\_

## 10 Years After Christchurch Quake, a Hush Where 8,000 Homes Once Stood

The wreckage left in New Zealand's second-largest city was razed. Now, a swath nearly twice the size of Central Park is being reclaimed by nature.



Gathering pears in the so-called red zone, an area in suburban Christchurch, New Zealand, that was damaged by the disaster.

#### GLOSSARY

- eerie: strange and frightening.
- level: give a flat and even surface to.
- deem: regard or consider.
- encompass: surround and have or hold within.
- raze: demolish.
- sweep away: remove completely.
- limbo: in a forgotten or ignored place, state, or situation.
- prone: likely to suffer from.
- swath: a broad area.
- cul-de-sacs: a street or passage closed at one end.
- taper: become gradually narrower.
- slouch: incline downward.
- stencil: perforate.

Complete this report with the words below.

being bought courses difficult faced feature little rebuild residents stretches uninhabitable vanished which

CHRISTCHURCH, New Zealand — First the houses and cars \_\_\_\_\_. Fences, driveways and the other remaining markers of suburban life followed. Now, only \_\_\_\_\_ of green remain — an eerie memorial to two earthquakes that levelled Christchurch, New Zealand's second-largest city, 10 years ago.

The undulating expanse, which begins two miles from downtown Christchurch, was deemed \_\_\_\_\_ after the quakes, the second of \_\_\_\_\_ killed 185 people on Feb. 22, 2011. The 8,000 properties it encompassed were \_\_\_\_\_ by the government and razed, the remnants swept away.

The land now sits in limbo, a reflection of the \_\_\_\_\_ decisions Christchurch has \_\_\_\_\_ about how, what and where to \_\_\_\_\_ on disaster-prone terrain. In the central business district, cranes, diggers and drills are still a \_\_\_\_\_ of nearly every street. But in the eastern suburbs, a swath nearly twice the size of Central Park in New York is steadily \_\_\_\_\_ reclaimed by nature.

Cul-de-sacs taper into swamp and sludge, evidence of why \_\_\_\_\_ left, not all of them by choice. Lawns have the look of scruffy golf \_\_\_\_\_; grass is mowed and sprayed for weeds, but nothing is newly planted. Beyond slouching lamp posts and faded road stenciling, there is \_\_\_\_\_ sign of a human past.



The landmark Christchurch Cathedral, which was devastated in the 2011 earthquake, is still being rebuilt.

## A Different View

Watch the video and complete the extracts below.

1. *Lovely Planet* says that Christchurch is one of the \_\_\_\_\_ cities for \_\_\_\_\_.
2. There is always \_\_\_\_\_ in Christchurch and it's \_\_\_\_\_.
3. I want to explore the city and what it \_\_\_\_\_, and then get out into the \_\_\_\_\_, into the \_\_\_\_\_. I feel like coming in the winter to go \_\_\_\_\_.
4. The \_\_\_\_\_ over Mount Cook – you could almost \_\_\_\_\_.
5. I've been ticket \_\_\_\_\_ for two nights. At night you see \_\_\_\_\_ – it's amazing, \_\_\_\_\_.
6. I really enjoyed the \_\_\_\_\_ – it winds its way along \_\_\_\_\_.
7. We've been blessed with \_\_\_\_\_. The \_\_\_\_\_ is beautiful. The \_\_\_\_\_ is great.
8. In \_\_\_\_\_ it's a great place to bring \_\_\_\_\_.
9. It's a great place for trekking, \_\_\_\_\_ – and then the \_\_\_\_\_, of course.
10. Very, very nice \_\_\_\_\_ and \_\_\_\_\_ slides.
11. You can never \_\_\_\_\_ over here.
12. Come for the beautiful \_\_\_\_\_. Come for the beautiful \_\_\_\_\_.

