

New Zealand -- an earthquake hotspot

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Scientists in New Zealand said there had been less than a one in twenty chance of Tuesday's earthquake being so destructive.

The fatal 6.3 magnitude quake that has damaged much of Christchurch on New Zealand's South Island was actually an aftershock of the 7.1 magnitude earthquake that struck the same area in September last year.

Seismologists for GNS Science had calculated on Monday that there was only a 35% chance of a 5.0 magnitude aftershock hitting the region in the near future, but only a 4% chance of a 6.0 or above aftershock.

"It's part of a sequence, so not uncommon, but this was so large it will have aftershocks of its own," said Dr. Bill Fry of GNS Science.

Tuesday's quake caused widespread damage as the epicenter was only around 3 miles (5 kilometers) below the earth's surface.

"Anything less than 10 kilometers (6.2 miles) deep is really shallow," said Fry.

Fry and his colleagues had been monitoring the region since the September 4 earthquake. That quake struck before dawn and authorities said the deserted streets at that time likely kept injuries to a minimum.

Most earthquakes happen away from the Christchurch region, said Fry, but in a country that experiences around 15,000 earthquakes each year, it wasn't completely unexpected, he said.

The majority of those quakes are hardly felt and do not damage property. On average New Zealand only experiences a few magnitude 6 earthquakes each year. Prior to Tuesday's quake the most damaging to hit the country was in 1931 near Hawke's Bay on the North Island.

The country is on the south western edge of the Ring of Fire, the ring of volcanoes and earthquakes that ring the Pacific ocean, and straddles the Pacific and Indian-Australian tectonic plates. Movement of the plates causes earthquakes across the country and volcanic activity in the North Island.

Christchurch is New Zealand's second biggest city on the eastern side of the South Island. The population of around 390,000 and enjoys a mild climate and close proximity to beaches and mountains.

Aftershocks are expected to continue to hit the Christchurch region in the coming days and weeks. The usual pattern is for a large aftershock followed by others of diminishing magnitude, said Fry.

"The country is very seismically active. We probably won't see another (aftershock) this big, but there is still a statistical chance," Fry cautioned.