

Earthquake Key Messaging

1. Every year GNS Science records over 20,000 earthquakes in New Zealand. Many of those are too small to be felt, or located too far from where people live to be noticed.
2. New Zealand is seismically active. Earthquakes mostly occur on faults, and we have 1000 faults we know about in this country. There will also be a lot we haven't discovered yet.
3. A fault is a rupture in the Earth's crust that enables the land to move independently on either side. Faults can be as short as a few metres or up to 1000kms long and they can cause a variety of different land movements.
4. GNS Science, through the GeoNet programme, owns and operates the national seismograph monitoring network.
5. Nationwide, there are hundreds of seismographs and strong motion sensors recording earthquake data.
6. Continuous GPS is being used to monitor "slow" earthquakes, recording land movement down to a few millimetres.
7. GNS Science's National Geohazards Monitoring Centre (NGMC) provides around-the-clock eyes-on monitoring of New Zealand's geohazards including earthquakes, tsunami, volcanoes, and landslides.
8. When the monitoring team detects any potential threat, our 24/7 team is activated to undertake immediate expert assessment. A scalable team, expert panels and science intelligence teams can be brought in as part of our incident management system. They will provide advice to national decision-makers leading the response to ensure good decision making to help keep people safe from harm.
9. We now know a lot more about earthquake behaviour due to better global understanding, more sophisticated science, and more than a decade of advancements in technical computing.
10. When an earthquake occurs there is always a small possibility that a larger earthquake will follow, however the most likely scenario is that there will be a number of smaller aftershocks which will taper off with time.
11. Globally, our understanding of earthquake science has improved exponentially. We now know a lot more about earthquake hazard and its impacts than we did previously, so we can prepare better and make good decisions.
12. We can't predict earthquakes, we can only forecast them, and then forecast the ground shaking that might occur from those earthquakes.
13. The NZ National Seismic Hazard Model provides an estimate of the likelihood and strength of earthquake ground shaking at any given site in New Zealand and considers how different parts of the country might behave in the event of large magnitude earthquakes.
14. A swarm is a group of earthquakes of similar size clustered together in space and time.

15. Remember **Long or Strong, Get Gone**: If you are near the coast and feel a strong earthquake that makes it hard to stand up OR a weak rolling earthquake that lasts a minute or more move immediately to the nearest high ground or as far inland as you can, out of tsunami evacuation zones.