

Tsunami Key Messaging

1. Tsunamis are usually caused by an earthquake under the seafloor. Other triggers include landslides, undersea volcanic eruptions, and meteorite impacts. These sudden disturbances cause the ocean to flow away from the disturbance, creating large tsunami waves.
2. New Zealand's tectonic setting in the Pacific puts us at risk from many different tsunami sources, some may be generated and arrive at our nearest coasts in less than an hour.
3. We can't stop tsunami from happening, but we can prepare for them.
4. Even a small tsunami can create damage and is dangerous.
5. New Zealand's National Emergency Management Agency (NEMA) provides official tsunami warning status messages for New Zealand.
6. GNS Science does not issue warnings. Our science experts assess any tsunami threat and share their advice to inform decision makers. All official tsunami warnings come from NEMA and apply until it confirms the threat has passed.
7. GNS Science's National Geohazards Monitoring Centre (NGMC) provides around-the-clock eyes-on monitoring of geohazards in New Zealand 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. A panel of science experts assess the information to determine whether escalation is needed. It takes time to assess whether there is a tsunami threat, when the waves might arrive, how big they might be and where they might impact.
10. When the source of the tsunami threat is geographically distant from our shores, we have more time to act. Our Tsunami Experts Panel can meet, run models to predict wave heights and arrival times and provide this to NEMA. NEMA will issue a tsunami warning or advisory if there is a threat to New Zealand, and CDEM Groups will provide local evacuation advice.
11. To help our experts, we and our partners have deployed a network of deep ocean tsunami sensors to the north and east of New Zealand. DART (Deep-ocean Assessment and Reporting of Tsunami) sensors are deep-ocean instruments that monitor changes in sea level. They are currently the only accurate way to rapidly confirm a tsunami has been generated before it reaches the coast.
12. The DART network consists of pairs of ocean bottom pressure sensors which record water height and surface buoys which transmit that data via satellite transmission to GNS Science and on to global and regional monitoring partners.

13. The data from our DART network helps scientists provide advice on whether a tsunami has been generated or not and make more accurate estimates on how big the waves could be if they reach our coast and when they might reach us.
14. The threat of tsunamis does not just apply to our coasts – lakes can also be vulnerable to tsunamis.
15. Lake tsunamis can be caused by earthquakes, landslide and rock falls, volcanic eruptions, dam ruptures and glacier collapses.
16. New Zealand is home to over [3,800 lakes](#) and we know at least 74 lake tsunamis have occurred in New Zealand from 1846 to 2022, the most recent following a strong earthquake at Taupō in 2022.

Emergency / preparedness messaging

Only messages issued by the National Emergency Management Agency represent an official warning status for New Zealand

For a local-source tsunami which can arrive in minutes, there is not enough time for an official warning, it is important to recognise the natural warning signs and act quickly. Remember, **LONG or STRONG, GET GONE.**

If there is earthquake shaking, [drop, cover and hold](#). Protect yourself from the earthquake first, then act as soon as the shaking stops.

If you are near a coast and experience any of the following:

- **Feel** a strong earthquake that makes it hard to stand up, or a weak rolling earthquake that lasts a minute or more.
- **See** a sudden rise or fall in water level.
- **Hear** loud and unusual noises from the water.

Move immediately to the nearest high ground or as far inland as you can, out of [tsunami evacuation zones](#). Do not wait for official warnings.

Once you have evacuated, follow official advice from your local Civil Defence Emergency Management Group about when it is safe to return to tsunami evacuation zones. Do not return until an official all-clear message is given by Civil Defence Emergency Management.

Not all Right?

We all need a bit of support from time-to-time, and if you or someone you know is struggling, there is [free help available](#). Free call or text 1737 any time, 24 hours a day. You can also call Lifeline on 0800 543354 or text HELP to 4357.