

Tsunami Inundation Mapping for Hawke's Bay

Frequently Asked Questions

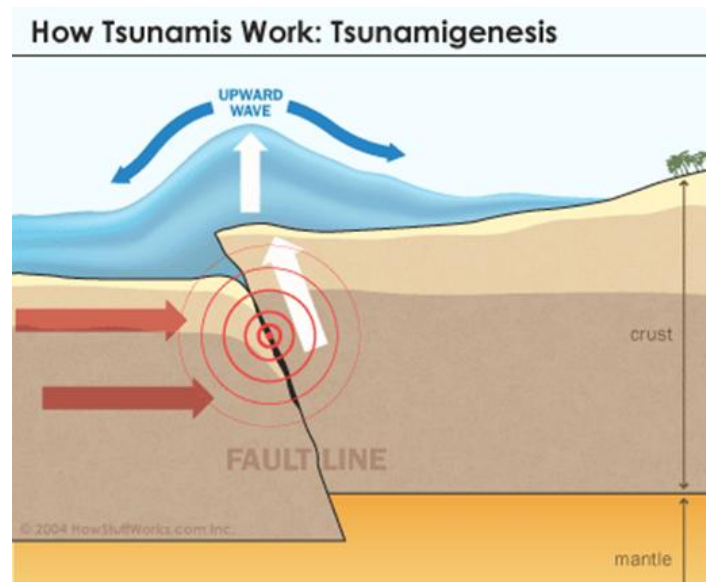
The frequently asked questions are grouped under headings to make it easier to find information -

- **General tsunami information**
- **Tsunami in Hawke's Bay**
- **Tsunami maps information**
- **Family and Workplace safety in a tsunami**
- **Residential information**

General tsunami information

What is a tsunami?

A tsunami is a natural phenomenon consisting of a series of waves generated when a large volume of water in the sea is rapidly displaced usually by an earthquake or undersea landslide. Tsunami are known for their capacity to violently flood coastlines, devastating property damage, injuries, and loss of life.

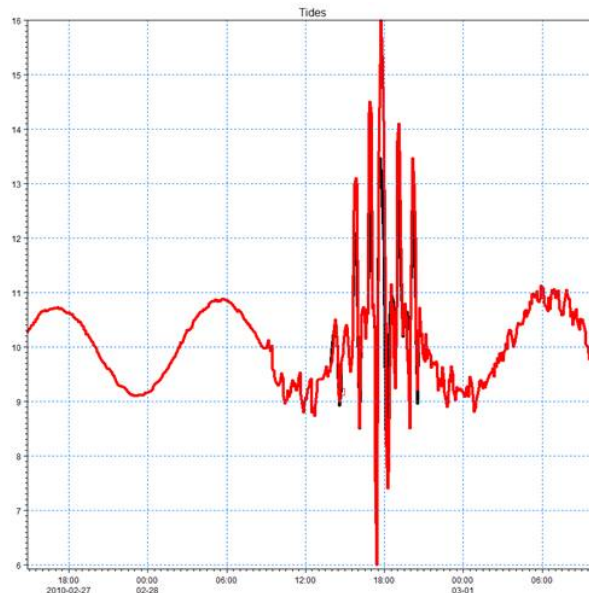


Is tsunami the same thing as a tidal wave?

No, tidal waves are regular ocean waves and are caused by the tides. These waves are caused by the interaction of the pull of the moon's gravity on the earth. A "tidal wave" is a commonly used term to mean the same thing as a tsunami, but is not correct.

Is a tsunami a single wave?

No, tsunami is a series of waves. Often the initial wave is not the largest. The largest wave may occur several hours after the initial activity starts at a coastal location. The tsunami wave height and frequency is also affected by the state of the tide, and a tsunami will affect normal tidal patterns.



What are our risks?

New Zealand's entire coast is at risk of tsunami. While tsunami can come from anywhere in the Pacific Ocean, the biggest tsunami in New Zealand are likely to be caused by events close to our shore.

Could we have a tsunami as bad as the 2011 tsunami in Japan?

Yes, in a worst case scenario we could see a damaging tsunami after a very strong near source earthquake, but these events are considered very rare.

Has Hawke's Bay had tsunami in the past?

Yes, since ancient times, tsunami has impacted the east coast. Historic evidence has indicated larger events may happen about once every 900 to 1000 years.

In recent history, the most damaging was in 1960 when a distant source tsunami from Chile broke the Westshore Bridge, gas and water mains and cut a telephone cable. Small boats were swept away from the Napier Sailing Club, while 8 people at Te Awanga campground were swept from their tents and seaside cabins were battered. More recently tsunami from Chile and Japan have affected our Port, harbours and coastline.

Will the land in Hawke's Bay go up or down in the next earthquake?

We don't know for sure. In 1931 some land went up over 2.5 metres and some land dropped up to 1 metre. It can vary, but scientists tell us the overall trend in Hawke's Bay is downwards.

For more Hawke's Bay earthquake information go to www.cdemhawkesbay.govt.nz

Tsunami in Hawke's Bay

How do I know if I live or work in a tsunami risk area?

See the general inundation maps which are available on line at www.cdemhawkesbay.govt.nz. More specific evacuation maps are or will be developed by Hastings District and Napier City Council civil defence staff who are progressively working with their communities to plan local evacuation routes and procedures.

How will I know a Tsunami is coming?

If a tsunami is coming from a distant source, such as Chile or Peru, Civil Defence will have time to issue an official warning which will be on radio and TV.

If a tsunami is coming from a closer source – called 'near-source' – then there will be no time for an official warning. Make use of natural warnings to ensure your safety - if you feel a strong earthquake (it is hard to stand up and there's a lot of property damage) or a long, weak earthquake shaking of a minute or more, evacuate immediately if you are on the coast.

Where do I go in a Tsunami event?

Leave coastal areas immediately and go to high ground or, if the surrounding area where you are is flat, go as far inland as possible. Use evacuation routes where present and wait for an official all clear. If you have official warning for a distant source tsunami, the areas for the 5 metre map should be evacuated. If you are relying on a natural warning, the areas for the 10 metre map should be evacuated.

Official evacuation maps are being prepared by councils for local communities and may differ from these maps, so in the meantime use these maps as a guide.

What are the times for different Tsunami?

For a distant source tsunami there will be warning time of 10-14 hours.

For a near source tsunami it could be 20-30 minutes or just minutes depending what generates the earthquake.

How quickly will the Tsunami travel over land?

It varies depending on the location, water will travel at different speeds depending on the local topography. In some areas the tsunami will travel quickly over land from the first wave, e.g. it might take 20 minutes to reach the houses in Clive, whereas it might take 1-2 hours to reach Kennedy Road in Napier and up to 5 hours to reach its furthest extent.

Where are boats safe in a tsunami?

When there is time for warnings to be given, ships and boat owners will be advised what action is advisable. Tsunami are often most destructive in bays and harbours, not just because of the waves but because of the violent currents they generate in local waterways. Tsunami are least destructive in deep, open ocean waters.

Tsunami Maps Information

What maps are currently available?

In 2010 maps were made available for the coast from Cape Kidnappers to Haumoana and local communities have been working with Civil Defence staff at Hastings District Council to plan evacuation routes and other safety procedures.

Clive to Tangoio maps have been released in August 2011 and Hastings District and Napier City Council civil defence staff will progressively work with their communities to plan local evacuation routes and procedures.

What happens now?

The Regional Council's tsunami modelling results will be supplied to local city and districts councils so the information can then be used to work with local people to prepare community response plans and related tsunami evacuation maps. It will likely take some time to develop community response planning for many of our communities, particularly given the population numbers involved. If you are keen to be involved contact your local Council.

When will other areas in Hawke's Bay be mapped?

We can only map those areas where data is available.

Northern HB coast - Wairoa to Mahia will be completed by the end of 2011.

Southern HB coast – Porangahau and other Central Hawke's Bay beaches to Cape Kidnappers will be completed by June 2012.

How are the tsunami inundation maps developed?

It takes time, special expertise and lots of special data to prepare dynamic wave propagation models for our coast line to develop these maps. The Regional Council has invested in this project using its engineering and coastal management expertise.

Are we going to have blue lines painted on local streets like in Wellington?

No. The coastline near Hastings and Napier is different to Wellington. In Wellington the wave will run up hills, but along the coast between Cape Kidnappers and Bay View it mainly runs up and over our beach crest and spreads so lines would be of little help. Also, tsunami events can be unpredictable and the blue lines might not be correct and could mislead people about their safety.

Are tsunami maps available in other parts of New Zealand?

Other centres in New Zealand are doing similar projects, so if you move to a new coastal area or take holidays along the coast, ask the local council for information.

Family and workplace safety in a tsunami

What can I do to prepare at home and work?

For general preparedness, every household should create and practice a Household Emergency Plan and assemble and maintain emergency survival items and a Getaway Kit. In addition, every household should take tsunami specific precautions and plan for and practice what to do if a tsunami occurs. Find out more at www.getthru.govt.nz

Workplaces should also look at staff safety and evacuation. It is practical to plan warnings and evacuations, and to store survival items such as water, food and blankets where possible for any natural hazards event, as staff may not be able to get home straight away.

What about my children's school?

If your children's school is in an identified evacuation zone, find out what the school evacuation plan is. Work with your school to make sure arrangements are in place for the school to evacuate children. Find out if the plan requires you to pick up your children from a safe location after the "all-clear" is given. Telephone lines during a tsunami or other emergency may be overloaded, and routes to and from schools are likely to be jammed.

What will the Council do to help people in such an event?

Local Councils will give public warning where possible but this is dependent on the event. It should be remembered that individuals and communities are responsible for their own emergency planning. Familiarise yourself with local arrangements and evacuation routes where present. Keep in mind if we experience a distant source tsunami, i.e. from Chile, there will be between 12-48 hours notice.

Always listen to your radio or go to the Council's website where information on Civil Defence Centres will be broadcast.

If there is an earthquake and you can't use the sirens, how will you warn us about tsunami?

The earthquake itself is the natural warning. If you experience a strong earthquake shaking (i.e. it is hard to stand up) or a weak, rolling earthquake shaking of unusually long duration (i.e. a minute or more), self evacuate immediately. It is extremely unlikely that there will be time for any official warning to be given.

Should I take my pets with me?

If you can, yes. But don't let them delay your evacuation. Your pets may be able to find their own place of safety. Note that pets may become disoriented, as tsunami flooding affects scent markers that normally allow them to find their homes.

Which Civil Defence Centre do I go to?

Just because there is a CD Centre near you does not mean that it will be open – first head for higher ground or inland. Listen to your radio or go to the Council's website for information on Civil Defence Centres that are open. Do not return to your homes until you have official advice from local Civil Defence.

What can I do to prepare?

For general preparedness, every household should create and practice a Household Emergency Plan and assemble and maintain emergency survival items and a Getaway Kit. Every household in a tsunami risk area should consider what precautions they need to take and plan for and practice what to do if a tsunami occurs. Visit www.getthru.govt.nz for more advice about getting prepared.

If you holiday in a coastal area, find out what tsunami safety procedures are in place as these can differ around the country depending on local circumstances.

Residential and Property information

Is my house or workplace in the inundation area?

See the general inundation maps (link) which are available on line at www.cdemhawkesbay.govt.nz. More specific evacuation maps are being developed by Hastings District and Napier City Council civil defence staff who are progressively working with their communities to plan local evacuation routes and procedures.

My property is within the tsunami inundation area so will this affect my property value?

Tsunami inundation mapping has been completed for a number of areas in NZ already including Gisborne and Wellington and property values do not appear to have been affected by this information to date.

Does my insurance cover Tsunami?

Residential property damage caused by tsunami is covered by Earthquake Commission (EQC) insurance providing you already have house and/or contents insurance. Insurance policies do vary from company to company so insurance policy holders are urged to check their policies for cover. However no house or contents insurance means no EQC cover. If you do have insurance and your property gets damaged, lodge a claim by calling 0800 326 243 or visit www.eqc.govt.nz.

Will this information go on the property file (LIM)?

This mapping will be used to inform current and future land use planning, with decisions to be made by Councils and wider communities. National guidelines recommend this sort of tsunami modelling should be noted in LIMs or in hazard registers held by councils.

In 2011, Hawke's Bay councils are yet to discuss precisely how the maps will be used and recorded for property information and future land use decisions, but this information will be used in assessing any proposals for new subdivisions and buildings.



Example of a Getaway Kit