

TSUNAMI SIRENS

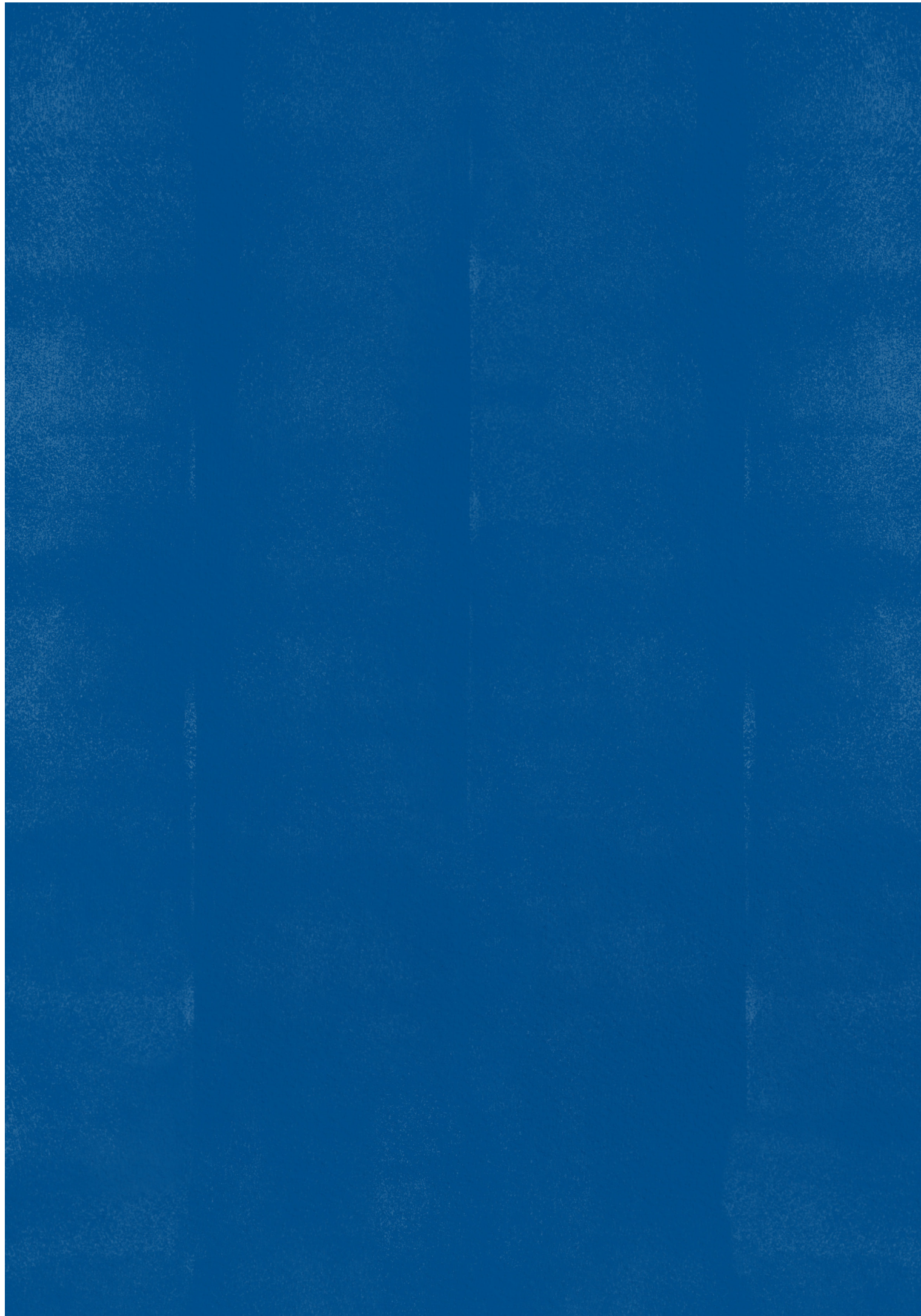
FAQs

IF AN EARTHQUAKE IS
LONG
OR
STRONG
—
GET GONE

MOVE IMMEDIATELY TO THE NEAREST
HIGH GROUND OR AS FAR INLAND AS POSSIBLE.
DON'T WAIT FOR AN OFFICIAL TSUNAMI WARNING.



WWW.CIVILDEFENCE.GOV.T.NZ



Why are we disconnecting our tsunami sirens?

THIS IS A NATIONAL DIRECTIVE FROM NEMA

The National Emergency Management Agency (NEMA) released new technical standards for all tsunami warning sirens in NZ in 2014. The technical standards are available at tcdc.govt.nz/tsunamisirens.

In 2016, our Council investigated the idea of using an Indoor Alerting Device (IAD) as an alternate option to sirens given that at the time cellphone and broadband coverage was limited. This option was explored for four years and in November 2020, Council made the decision not to proceed with the IAD because cellular and broadband coverage had significantly increased and there were better alternatives for alerting. Along with the new technology, additional media platforms and a new radio station has arrived in our District which gave our Council confidence that disconnecting tsunami sirens would pose no additional risk to our communities.

In 2020, our Council was directed by NEMA that our non-compliant tsunami sirens had to be compliant or disconnected by July 2020. Fire and Emergency NZ (FENZ) own 18 sirens in our District and negotiations with them resulted in a new agreed date for disconnection of September 2021.

Our Council has the largest number of sirens in the country, with 27 sirens, and is the last to comply or disconnect. Three Councils: Northland, Auckland and Tauranga City have opted to continue with sirens while the rest have chosen to disconnect.

- Northland is keeping their sirens District-wide.
- Auckland City Council has placed their sirens strategically.
- Tauranga City Council is installing six new tsunami sirens along the main stretch of beach between Mount Maunganui and the southern end of Papamoa.

IT'S EXPENSIVE TO UPGRADE

To become compliant would cost between \$80,000 and \$300,000 (latest costings from Tauranga City Council) per siren. It's estimated our District would need at least 45 sirens placed around the coast. To be effective as a warning system, this would cost our ratepayers between \$5 million and \$11 million.

The cost of each siren (\$80,000-\$300,000) is dependent on factors such as location, access, consenting, structure type, power type, access to fibre broadband and sound reach/acoustics required.

If our Council was to budget on \$200,000 per siren (for 45 sirens) it would cost ratepayers \$9 million.

It's not possible to retrofit an existing siren and a new siren needs to be installed to meet the technical standards.

THERE ARE BETTER ALTERNATIVES

The current tsunami warning sirens in our District reach fewer than 43 per cent of people and are the least effective tool for alerting due to location, reliability, wind direction and double glazing. It's not proven that upgrading and increasing our tsunami siren network would increase their effectiveness.

Our Council decided not to upgrade our tsunami sirens in 2020 not only for budgetary reasons but because it was aware that sirens are the least effective alerting option. (NEMA report Brendan Morris, available at tcdc.govt.nz/tsunamisirens)

Our Council has expressed confidence that the following will mitigate any risk the disconnection of tsunami sirens may pose:

- National Emergency Mobile Alert (EMA)
- Red Cross Hazards app and GeoNet app
- Ongoing and improved upgrade of the cellular and broadband fibre networks through the Rural Connectivity Group (RCG) project and Ultra-Fast Broadband (UFB) rollout
- Growing use of digital social media platforms
- Radio and television coverage
- Community Response Planning where communities are working together to prepare for emergencies in their own neighbourhood
- Increased public education and communication
- WHISPIR Platform, a system allowing an individual to make calls to remote or low coverage areas

WHEN WILL TSUNAMI SIRENS BE DISCONNECTED?

They will be maintained and remain 'operational' until September 2021 when they will be progressively disconnected.

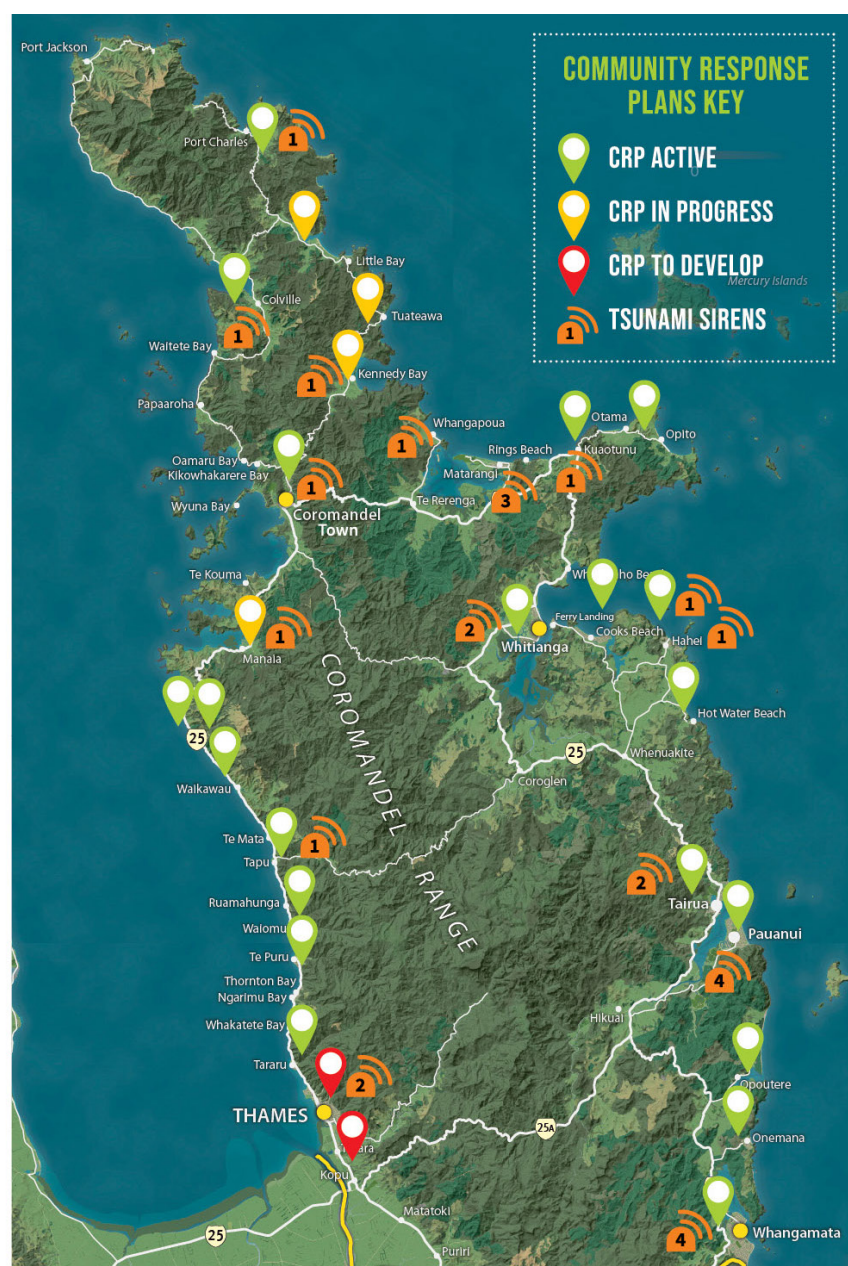
Read more on our website tcdc.govt.nz/tsunamisirens

Each Council had its own message and sound variation which created confusion, for example **our Council's alert to 'evacuate' is Auckland's 'all clear'**



HOW MANY TSUNAMI SIRENS DOES THE COROMANDEL HAVE?

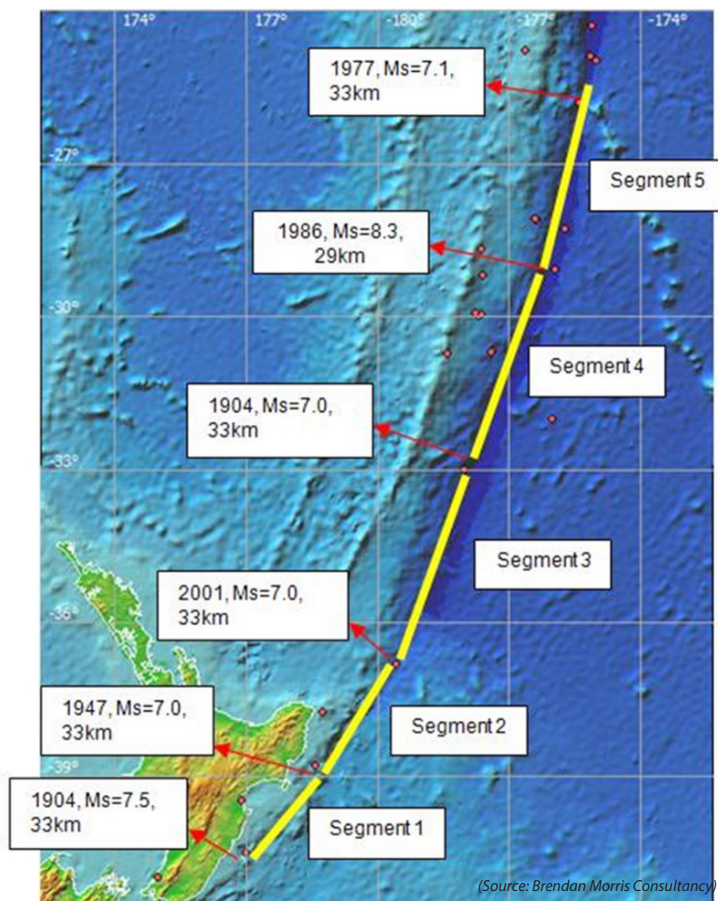
- There are 27 sirens on the Coromandel.
- All but nine of the 27 sirens are attached to the Fire and Emergency NZ (FENZ) fire siren network. The paging system used is a small electronic device which is activated by any one of three emergency management staff when directed by NEMA and overrides the fire siren alarm when activated with a continuous pitch that lasts for 10 minutes.
- Nine sirens are stand alone on Council owned land and were funded by Community Boards and/or Council between 2006 and 2011. These are located in: Whangamatā, Pauanui, Tairua and Matarangi.



IS THE COROMANDEL AT RISK OF A HUGE TSUNAMI?

Tsunami experts engaged by the Waikato Regional Council (WRC) since 2011 have been able to confirm through modelling the entire Coromandel Peninsula coastline that natural warning signs like a significant earthquake would be the most important and effective alert of a potential tsunami.

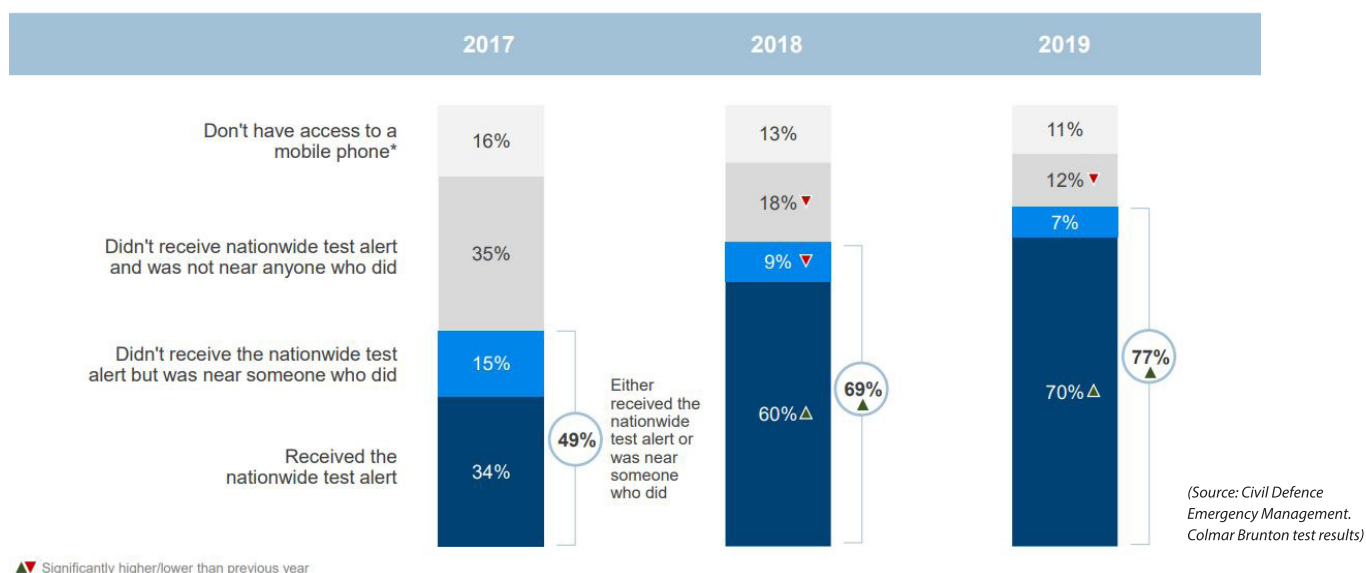
- An undersea earthquake of magnitude 9+ along segments 2 and 3 of The Tonga Kermadec Trench (shown below) is the biggest tsunami threat to our District. When a tsunami is generated it creates a 'bow tie' effect and fans out. Segments 1,4 and 5 are less of a risk.
- If a magnitude 9+ quake did occur it's highly likely everyone in the Coromandel would feel the effects, it would be severe. That's the signal to get to higher ground – don't wait for a tsunami siren, EMA or radio message, it's likely sirens and emergency alerts would not be working as power would be out. From the first earthquake to a tsunami arriving is between 45 - 60 minutes, depending where people are in our District.

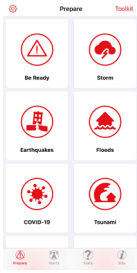


OTHER ALERTING METHODS

Emergency Mobile Alert (EMA)

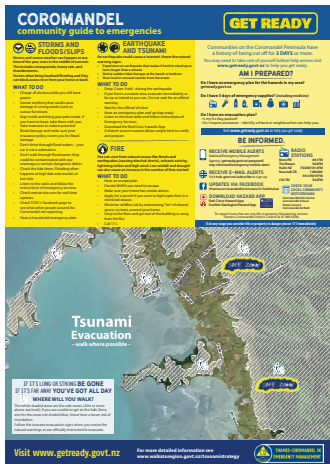
- EMAs are a government led initiative and are triggered by serious hazards and emergencies. They send alerts to cell phones in New Zealand to update communities and list actions that need to be taken, if any.
- Over the last few years this has been tested and improved so that it's effective for communities in NZ.
- The EMA will work on phones that have the ability to have your location turned on and geocached to the region you are in. The EMA may not work on older cell phones or phones with old software. Update the software on your phone and if you have any issues, there is a list on the Civil Defence website about what phones and providers work with the EMA. civildefence.govt.nz
- In 2019 there was a nationwide test of the EMA. Results of the test were:
 - » 70 per cent of NZers received the alert
 - » 80 per cent of mobile users believe that the EMA is an effective way of alerting people in an emergency





Red Cross Hazards App

- The hazard app to help communities best prepare for and respond to hazards and emergencies.
- Alerts will only be sent for locations and hazards you are monitoring i.e. you'd have to have your location as Coromandel and your hazards set to earthquake and tsunami to be alerted if an emergency occurs – you can set multiple hazards and locations to be alerted for.
- Download this app in Google Play or Apple App Store – it's available on all devices.
redcross.org.nz/what-we-do/in-new-zealand/disaster-management/hazard-app/



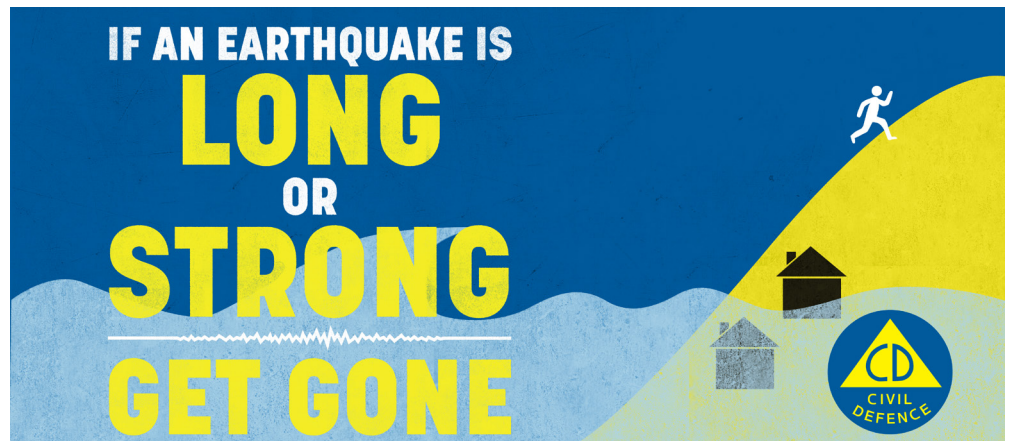
Community Response Plans

- Most communities in our District now have a completed Community Response Plan which is a guide to assisting response at a local level.
- These plans are developed with the help of the local communities. We have 28 Community Response Plans in our District. Get in touch with our Civil Defence team if your community hasn't got a response plan but needs one.
- These plans include:
 - » Information around local hazards
 - » What to do
 - » Alert options
 - » Where to go to get further information and resources available
 - » Who in the community needs assistance and who can offer assistance

tcdc.govt.nz/communityresponseplans

Long Strong, Get Gone reminder

If you feel an earthquake where it's hard to stand up or has lasted longer than a minute – move to higher ground instantly. Don't wait for an official tsunami warning.



WHISPIR Platform

WHISPIR is a system set up by the Waikato NEMA Group that sends out warnings and alerts quickly and is available for both locals and Councils to use. The system provides an option to make voice calls to locations or individuals where cell phone coverage may be low or non-existent. Messages that are posted to the WHISPIR platform can also be posted on a website or social media platform.

This platform should be set up by the end of this year.

Education Campaigns

From July 2021, our Council is investing in an extensive education campaign using signage on all main beaches, strengthening of community response groups and investing in targeted advertising campaigns to inform our communities about what they should be doing in an emergency, and what alerting options there are.

CELLULAR AND FIBRE NETWORKS IN THE COROMANDEL

The map here shows areas of the District where people have access to wireless, ultrafast fibre broadband and broadband delivered over a fixed telephone line. This means that almost all properties in the District have the potential to access the internet.

LAYERS

Fibre

Planned fibre

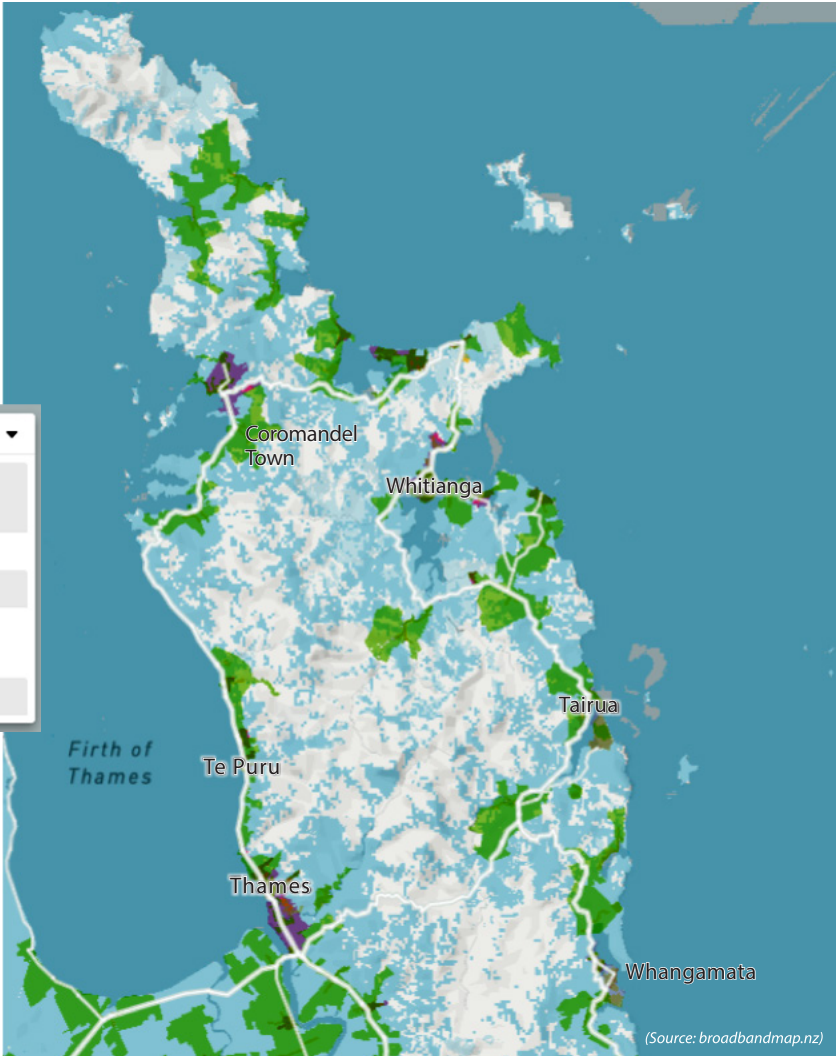
Cable

VDSL

Wireless

Planned wireless

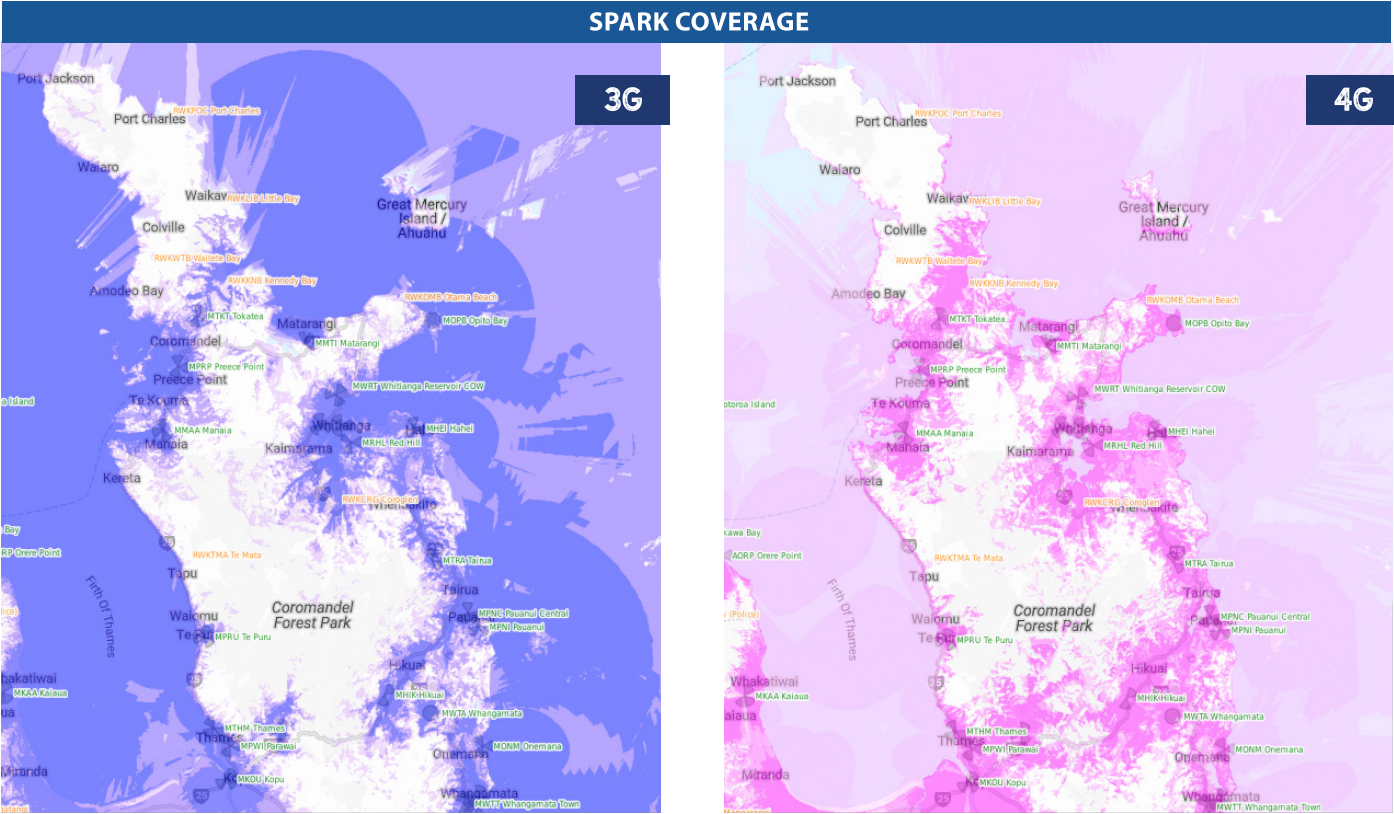
ADSL



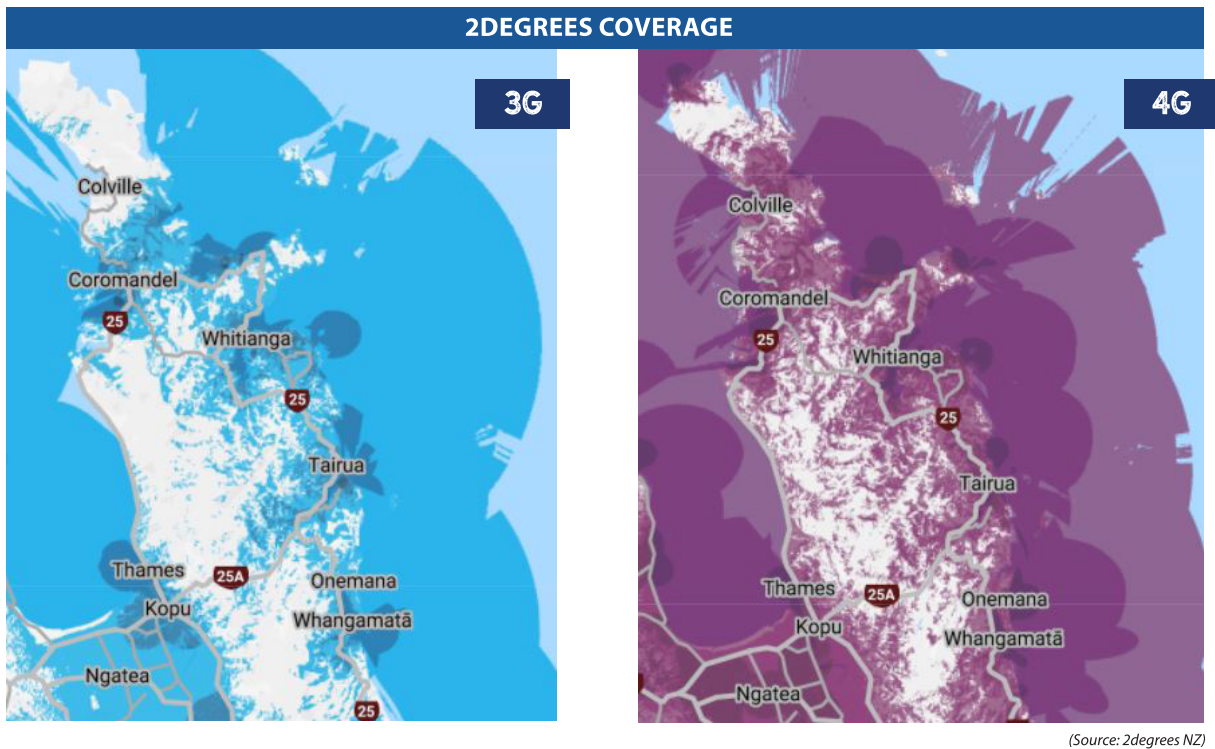
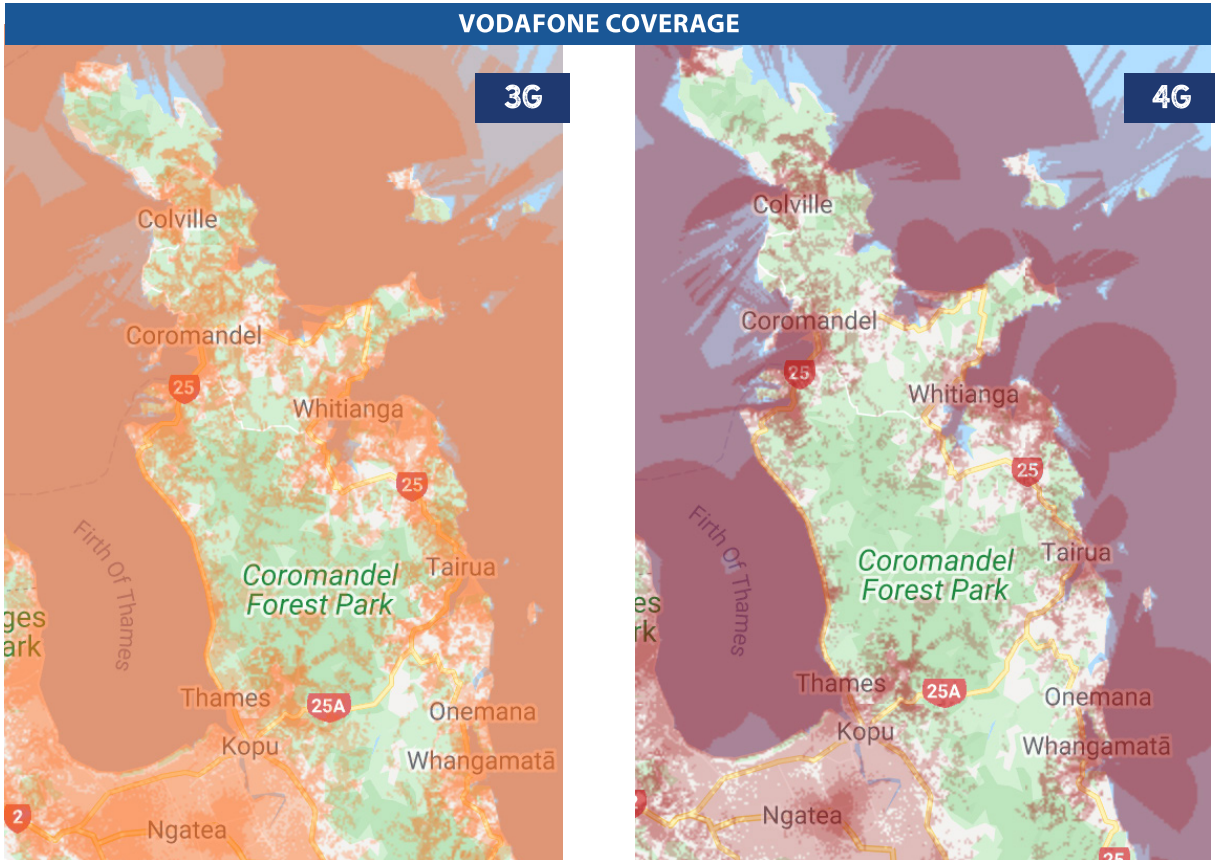
(Source: broadbandmap.nz)

The following maps show where you can get 3G and 4G cellular coverage in the District.

SPARK COVERAGE



(Source: Spark NZ)



Rural Connectivity Group (RCG)

The RCG is working on enhancing the mobile and broadband coverage on the Coromandel Peninsula, specifically those areas that have been identified as 'black spots'.

RCG is using funding from the Government's Rural Broadband Initiative Phase 2 and the Mobile Black Spot Fund, as well as contributions from Spark, Vodafone and 2degrees. Their job is to build a 4G mobile network in areas with no broadband coverage or poor broadband coverage and areas of no mobile coverage.

thercg.co.nz

WHY IS THERE NO TIME FOR OFFICIAL WARNINGS?

There are plenty of earthquake sensors on land, but it takes time to accurately assess the magnitude, depth and location of earthquakes when they occur out at sea.



WHY NO SIRENS? LESSONS FROM JAPAN

On March 11, 2011, a massive earthquake triggered a tsunami that devastated many areas of Japan's Pacific coast.

Planning ahead saves lives

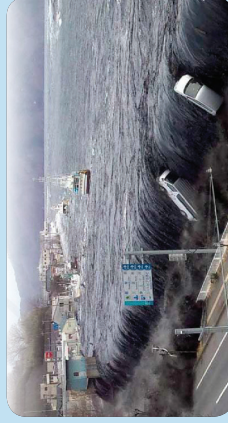
Survival rates were higher among communities where people evacuated as soon as possible after the earthquake. Education and practice drills were significant factors.

Waiting is costly

People who waited for official warnings were more likely to lose their lives because they left it too late to start evacuating, or they did not evacuate at all.

Sirens are not reliable

Many sirens were knocked out by the earthquake or they did not sound because the people responsible for activating them were unable to do so.



3 THINGS YOU NEED TO KNOW TO SURVIVE A TSUNAMI



The best tsunami warning is an earthquake
People often think that tsunami sirens will help keep them safe, but there is no time for official warnings for the worst-case tsunami.

Tsunami warning signs

- A big earthquake that knocks you off your feet or is very difficult to stand up in.
- Any earthquake that lasts more than a minute.
- Strange ocean behaviour (loud or strange noises, sudden change in sea level, ocean drawing away from the shore).

If any of these things happen, don't wait for an official warning. Grab your emergency pack and walk as quickly as you are able to a safe location or to high ground.



Inland or high ground
Inland - Green areas on the Tauranga City evacuation maps show areas that are out of reach of the predicted worst-case tsunami flooding.

High ground - The vertical evacuation structure at Gordon Spratt Reserve is a safe area. Tauranga City Council plans to build more of these structures at strategic points along the coast.

After a major earthquake it will take between 50 - 60 minutes for a tsunami to reach the coast, plus another 30 minutes to flood the yellow evacuation zone.

Get the latest evacuation map for your area at www.tauranga.govt.nz/tsunami.

UATE

Use your feet
Why not leap into the car?
There will be crippling traffic jams. On a good day with no emergency it would still take 4 – 6 hours for everyone to drive to safety

Our focus is on making sure that safe areas will be accessible for people to reach within 40 minutes on foot from anywhere along the coast. Estimated walking time has been calculated very conservatively (3km per hour).

What if you are unable to walk?
(Exam per near):

Make a plan with your family or neighbours if you know that you will need assistance getting to safety. Emergency services will not be able to get you out in time.

UATE

Take an emergency pack

A tsunami is not just one wave, but a series of waves caused by a displacement of water, like the ripples when you drop a rock into a puddle. It can arrive in several waves over a long period of time.

That is why you need an emergency pack. Make sure it has some water and any important medication that you might need. You must be prepared to wait for many hours for the water to subside.

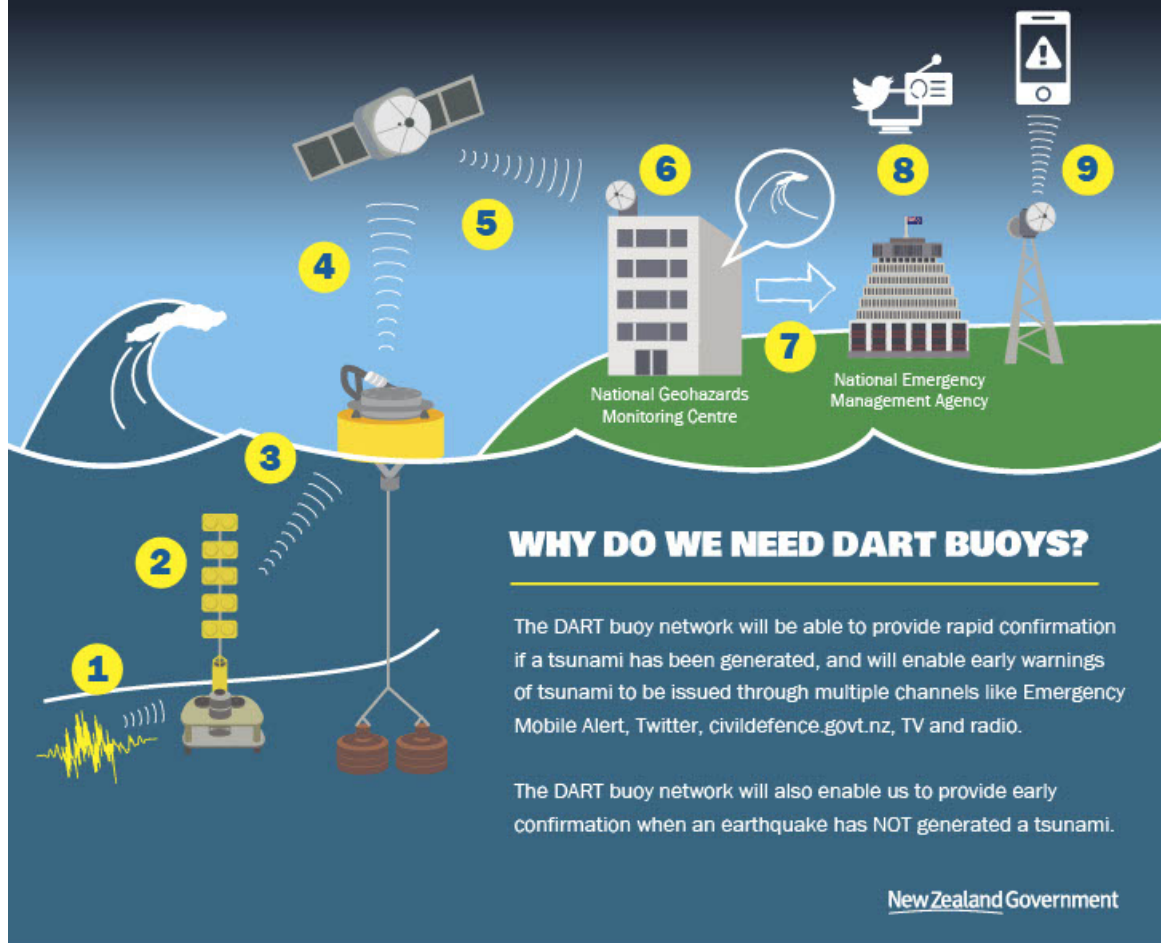
DART PROJECT

Deep-ocean Assessment and Reporting of Tsunami (DART) buoys are deep-ocean instruments that monitor changes in sea level. They're currently the only accurate way to rapidly confirm a tsunami has been generated before it reaches the coast.

These devices are another tool to keep people safe by giving advance notice that a tsunami is heading our way. This is particularly critical for unfelt earthquakes originating from the Kermadec Trench. Early detection of a tsunami using DART buoys allows us to accurately provide early warnings using a range of communication channels including EMAs.

HOW DO DART BUOYS WORK?

- 1 An undersea event (earthquake, volcanic eruption, landslide) occurs.
- 2 A sensor on the ocean floor detects significant changes in water pressure.
- 3 The data is sent by acoustic signal to a buoy on the surface.
- 4 The buoy sends the signal to a satellite.
- 5 The signal is sent to the 24/7 National Geohazards Monitoring Centre based in Lower Hutt.
- 6 Geohazard experts analyse the data.
- 7 If a tsunami has been detected, the National Geohazards Monitoring Centre will notify the National Emergency Management Agency.
- 8 The National Emergency Management Agency will issue a tsunami warning directly to the public via their website and Twitter and to CDEM Groups, emergency services and media.
- 9 If the tsunami is expected to inundate (flood) land areas, an Emergency Mobile Alert will be sent to all capable mobile phones in the affected areas.



civildefence.govt.nz/get-ready/get-tsunami-ready/tsunami-monitoring-and-detection-network/

PERSONAL RESPONSIBILITY

The days of waiting for authorities to sound the alarm before making a decision on what to do are over. Taking personal responsibility and preparing for an emergency, upskilling your knowledge, confirming your evacuation route and what to take with you in your **Go Bag** are the first things to do.

If you have a young family, elderly parents or friends and neighbours who are on their own, discuss a plan with them.

Most communities have a Community Response Group (CRG) who have a plan on how your community will respond, not only for a tsunami but all major emergencies. If you want to connect with a CRG in your community, we can help with that, contact the Emergency Management Unit on 07 868 0200.

BE INFORMED.



RECEIVE MOBILE ALERTS

National Emergency Management
Agency: [getready.govt.nz/prepared/
stay-informed/emergency-mobile-alert/](https://getready.govt.nz/prepared/stay-informed/emergency-mobile-alert/)



RECEIVE E-MAIL ALERTS

Visit tcddc.govt.nz/subscribe to sign up



UPDATES VIA FACEBOOK

[/thamescoromandeldistrictcouncil](https://www.facebook.com/thamescoromandeldistrictcouncil)



DOWNLOAD HAZARD APP



Red Cross
Hazard App
GeoNet Geological
Hazard App



RADIO STATIONS

Check the stations and frequencies
for your area at
waikatoregioncdemg.govt.nz/NewsandEvents



CHECK YOUR LOCAL COMMUNITY NOTICEBOARD

To report issues that are non life or property threatening
contact Thames-Coromandel District Council at 07 868 0200

If at any stage you consider life or property in danger phone 111 immediately ~ Visit www.getready.govt.nz to help you get ready

