




## Natural warning signs




### The natural warning signs of a tsunami are:

-  **FEEL the ground shake.** If you are near the ocean this may mean a large earthquake has happened nearby. This may generate a tsunami.
-  **SEE the ocean drop.** As a tsunami approaches the shore, the ocean may drop, but not always
-  **HEAR a roaring sound.** This may be heard before the arrival of a tsunami.






## When a Tsunami Warning is issued

Act early on the first warning you receive. Actions to take include:

### Marine and immediate foreshore threat



-  Get out of the water and move to high ground away from the immediate foreshore (beach, rocks, estuary etc.)
-  Boats near to shore should return to the nearest mooring. Secure your boat and move to high ground.
-  Boats located offshore should move to deep water

In the event of a **land inundation threat** you will ALSO need to do the following:

-  Move to higher ground, at least 10 metres above sea level or 1 kilometre inland
-  Take only essential items, such as important papers, family photographs and medication
-  Leave by foot, roads may be congested or closed
-  If you cannot get to higher ground seek shelter in the upper storey of a sturdy brick or concrete building
-  Do not go to the coast to watch the tsunami

## After a tsunami

An **All Clear** will be issued by emergency services when it is safe to return to areas impacted by tsunami. It may not be safe to return for up to 24 hours or longer, depending on the impacts.

-  Do not go sightseeing
-  Keep listening to radio for information, updates and advice

## Recovery

Disaster Recovery Centres may be established following major tsunami. They may provide a range of welfare services including financial assistance, personal support, organising temporary accommodation and providing information and referrals.

## Emergency contacts

**Police, Fire and Ambulance - 000** (Triple Zero)  
Life-threatening emergencies.

**NSW SES Emergency Assistance - 132 500**

The deaf, hard of hearing or speech impaired can call Triple Zero (000) or SES (132 500) using the National Relay Service (NRS).

## Supporting information & contacts

### My RoadInfo

[myroadinfo.com.au](http://myroadinfo.com.au) for local road information

**Joint Australian Tsunami Warning Centre**  
(Bureau of Meteorology) - 1300 878 6264

[bom.gov.au/tsunami](http://bom.gov.au/tsunami) for the latest Tsunami Warnings



FOR EMERGENCY HELP IN FLOOD,  
STORM AND TSUNAMI CALL

**132 500**

In life-threatening emergencies call 000 (Triple Zero)

For further information about tsunami visit  
[ses.nsw.gov.au](http://ses.nsw.gov.au)



05/2017

TsunamiSafe



## Ballina & Lennox Head

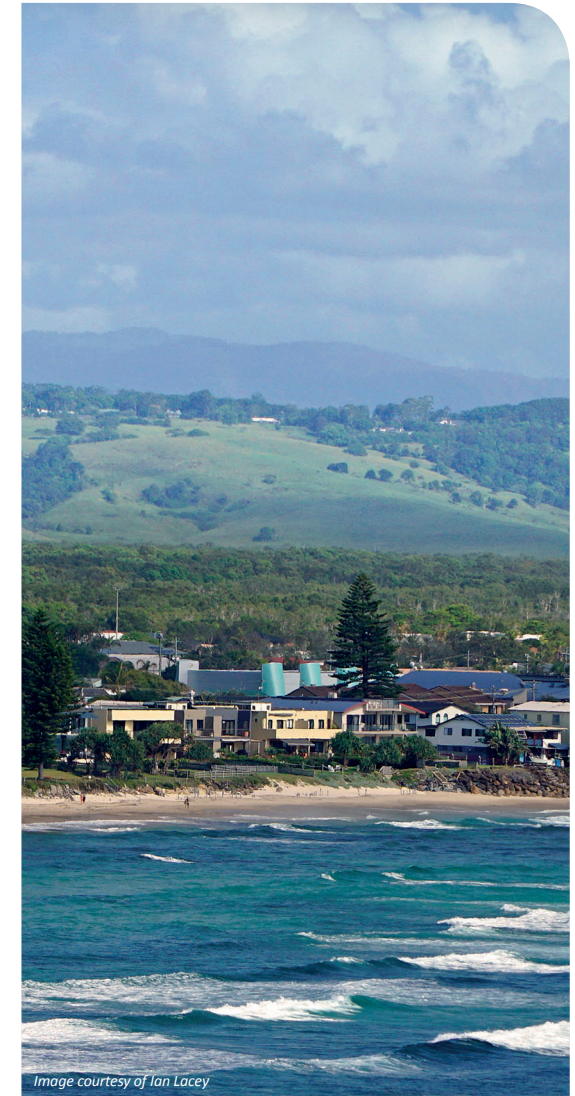


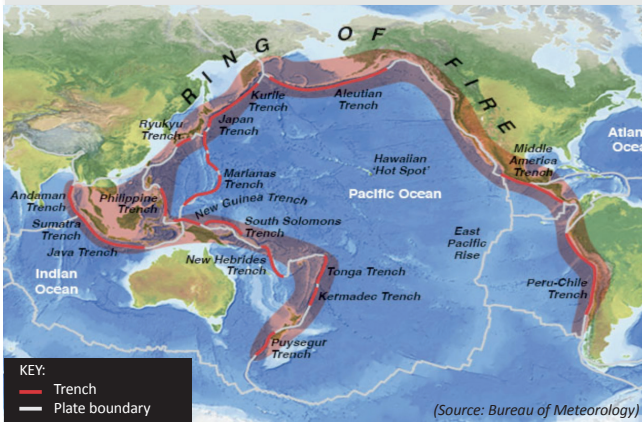
Image courtesy of Ian Lacey



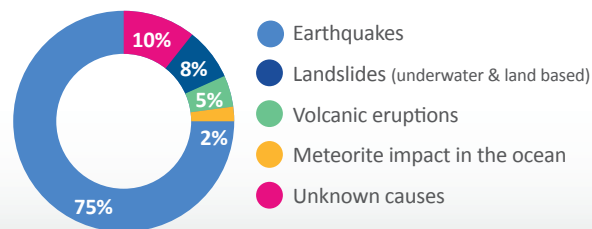
## What is a tsunami

Tsunami are a series of powerful waves, the first wave is not always the largest. As tsunami waves approach shallow water, they slow down, their height grows and they get closer together. A tsunami that is invisible at sea may grow to be several metres or more in height near the coast.

Most tsunami are triggered by undersea earthquakes. The nearest active earthquake zones to NSW are the trenches to the north and south of New Zealand.



## What causes a tsunami



## How likely are tsunami?

There have been over 50 recorded tsunami events on the Australian coastline since European settlement. We are more likely to experience marine and immediate foreshore threat tsunami than a land inundation threat tsunami.

Early evacuation could help protect many people.

## Tsunami sources and travel times

Threat	Source	Travel time	Location
Local	Underwater or coastal landslides	Within minutes	NSW coastline
Regional	Earthquake	Could be little as 90 minutes+	Trenches to the north and south of New Zealand
Distant	Earthquake	Up to 12 hours	Far away in the Pacific Ring of Fire such as Chile

## How to prepare yourself

### Some of the things you can do are:

- ✓ Prepare an emergency kit
- ✓ Determine if you live or work in an area to be evacuated in a land inundation threat tsunami (see map overleaf)
- ✓ Know where the nearest high ground and the evacuation areas are located
- ✓ Discuss your emergency plan with the people you know
- ✓ Identify an evacuation route to the nearest high ground
- ✓ Prepare to take your pets with you and what essential items you can easily carry
- ✓ Be aware of what to do in case there is a Tsunami Watch or Warning



## How could I receive an official warning?

Depending on lead time and available resources official warnings may be issued using one or more of the following methods:

**Tune in:** Radio and television broadcasts are one way of receiving warnings. They may be accompanied by the Standard Emergency Warning Signal (SEWS) - a siren-like noise.

**Log On:** To the Bureau of Meteorology [bom.gov.au/tsunami](http://bom.gov.au/tsunami) and NSW SES website. Official warnings may also be shared on social media including Facebook and Twitter.

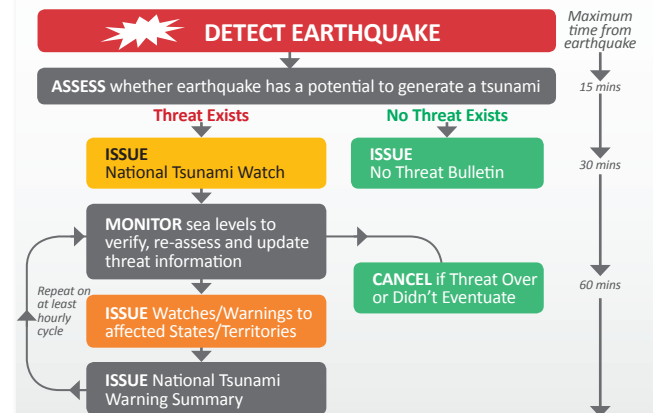
## Official tsunami warnings

### Tsunami Warnings have 3 different threat levels:

1. **No Threat:** an undersea earthquake has been detected, however it has not caused a tsunami, or the tsunami poses no threat to Australia and its offshore areas.
2. **Marine and Immediate Foreshore Threat:** warning of potentially dangerous rips, waves and strong ocean currents and the possibility of only some localised overflow onto the immediate foreshore.
3. **Land Inundation Threat:** warning for low-lying coastal areas of major land inundation, flooding, dangerous rips, waves and strong ocean currents.

### Detecting an earthquake that may cause a tsunami

The Joint Australian Tsunami Warning Centre detects tsunami from regional and distant sources and warns of any tsunami threat to the coast of Australia. The first stage determines if there is a possible tsunami threat to Australia.



**Listen Out:** Standard Emergency Warning Signal (SEWS) or announcement through a loud speaker.

**A text or recorded message** on your phone may be sent to people in the affected area.

**Low flying aircraft** equipped with public address systems.

**Two-way radio / Marine Satellite Phone** UHF, CB marine VHF radios and where appropriate marine satellite phones.

Your **friends and family** may pass on official warnings.