

TSUNAMIS EXPLAINED

A Tsunami is a series of sea waves that are generated from earthquakes, submarine landslides, volcanic eruptions or even meteorite impacts. Tsunami is a Japanese word meaning: harbour (tsu) wave (nami). Tsunamis can travel across large tracts of ocean in relatively short periods of time and can range in size from a few centimetres to tens of metres in height. Not all under-sea seismic events will result in a Tsunami.

Tsunamis are sometimes called tidal waves, but this is incorrect as they have nothing to do with the tide.

- In the last few thousand years the Australian coastline may have experienced a large Tsunami, as evidenced by shell, coral and boulder deposits found well above sea level and several kilometres inland.
- Minor Tsunamis are recorded about once every two years in Eastern Australia, but **most are small** and present little threat to our coastal communities. The largest recorded Tsunami on the east coast of Australia occurred in 1960 as a result of an earthquake in the sea off Chile. The event created **waves of approximately 1m**.

STORM SURGE AND TSUNAMI

Storm surges and Tsunamis are generated by quite different phenomena. While both can cause inundation and significant damage in coastal regions, they have different characteristics.

- A **storm surge** is generated by weather systems forcing water onshore. It can be up to several metres in height above normal sea level at its peak. It will normally build up over a timeframe of a few hours, as the cyclone or similar weather system approaches. It is a massive movement of sea water and its effect of raising the sea above the normal tidal movement can last for several hours.
- A **Tsunami** is generated by earthquakes, under-sea landslides, volcanic eruptions, explosions or meteorites. These travel great distances, sometimes across entire oceans, affecting vast lengths of coastal land.

MAJORITY OF CAIRNS AREA ON HIGH GROUND

The maps contained in this leaflet show clearly the areas of high ground above the **6m contour** - that is allowing for the Tsunami to be 6 metres above the average tide level. The majority of the city is above this contour so there is no need to panic.

UNDERSTANDING THESE MAPS

- Until the Tsunami alert system is developed further, the Bureau of Meteorology will only be able to advise that a Tsunami is approaching. **It will not be able to indicate how high the wave is.** As a result, Cairns City Council has developed the attached maps to assist the community should a Tsunami alert be issued.
- The attached maps detail the **6m contour**. That is allowing for the tsunami to be 6 metres above the average tide level.
- Once a Tsunami warning is given, move to the high ground on the inland side of this contour, indicated by the green areas on your map.

Please note that there is no need to go to the Tablelands. In many cases, you will only need to re-locate a few streets away.

MAKE A FAMILY PLAN

- Look at the attached maps and determine where each member of the family is during the day to see whether they must move from their location. **Make a plan as to where each member of the family will go** so no one will panic and worry if and when the time comes.
- **If you have a child at school**, discuss what plans are in place **directly with your school**. If the school is on high ground there is no need to move the children. If the school is in the brown area on the maps, discuss measures with your school.
- As part of your planning for such an event, discuss with your employer **whether you need to leave your workplace** and decide what action to take.

TSUNAMI ALERTS

- In Australia, Tsunami warnings will be issued by the Bureau of Meteorology and broadcast through the Media.

If a Tsunami alert is raised during night hours, emergency services personnel will notify residents in vulnerable areas of the alert and the need to listen to the radio for further advice. This will be done using loud speakers and portable sirens.

EVACUATIONS

- Queensland Councils do not have the authority to order mandatory evacuations. This responsibility rests with the chair of the District Disaster Management Group. Council can only advise and recommend.

WHAT SHOULD I DO IN A TSUNAMI ALERT?

- **Move to high ground** - When the Bureau of Meteorology issues its warning and broadcasts them through the media (both radio and TV), move to the high ground nearest you. The other members of your family should already know where they will go. If you are unable to leave the area by vehicle, go to the nearest 3-storey building.
- **Take the most direct route** to high ground from where you are. Routes are located on the maps. This will minimise everyone relying on the main roads and prevent unnecessary congestion.
- **Take a radio and emergency supplies with you** - or listen to your radio in the car so you can hear advices as they are issued from the Bureau of Meteorology. Take other items such as water, baby food, and medications. Move back to lower ground only after the all-clear has been given over the radio.
- **Never go to the shore to watch the Tsunami.**
If you can see it, you are too close to escape!

ADDITIONAL INFORMATION:

Cairns City Council - www.cairns.qld.gov.au
 Emergency Management Australia (EMA) - www.ema.gov.au
 Emergency Management Queensland (EMQ) - www.disaster.qld.gov.au
 Bureau of Meteorology - www.bom.gov.au
 Pacific Tsunami Warning Centre - www.prh.noaa.gov/ptwc/
 International Tsunami Warning Centre - www.tsunamiwave.info/



Cairns Tsunami Evacuation Guide



Important information from



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