



# THE ENTRANCE PENINSULA COMMUNITY PRECINCT

ENCOMPASSING: THE ENTRANCE; THE ENTRANCE NORTH; LONG JETTY TOOWOON BAY; BLUE BAY; SHELLY BEACH & MAGENTA

## State Emergency Service's ( SES) Garry Whitaker's presentation, 16 March, 2010 at 7:00pm on “Tsunamis Awareness Planning”

Garry was welcomed by the chairperson of T.E.P.C.P, Vivienne Scott, and thanked for his attendance to address the Precinct Committee on Tsunamis Awareness Planning. Garry is the Local Controller, SES, Wyong, and has been a local Central Coast volunteer since 1972. He advised that his day job was as a consultant in " Human Performance Improvement " The SES is the designated combat agency for tsunami. An important role of the SES is to respond to the flooding and damage caused by a tsunami. The SES is the designated 'combat agency' for tsunami. Tsunami is in fact the Japanese word for " Harbour Wave."

Garry began his presentation by informing us of the NSW coast has been affected by over 30 tsunamis over the past 200 years but these are generally too small to be noticed. The largest tsunami to have affected the NSW coast in recent times occurred in May 1960 after a 9.5 magnitude earthquake in Chile resulted in a 1 metre tidal fluctuation at Fort Denison in Sydney Harbour. This caused some damage to boats and coastal infrastructure.

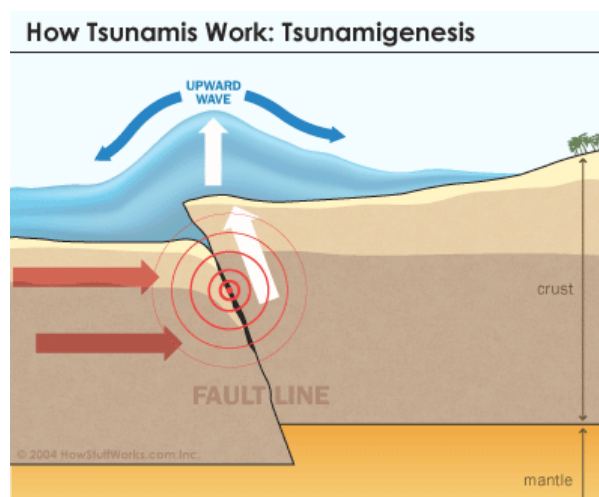
The following quote provides some indication of the damage caused by the 1960 tsunami in Sydney:

***“Freak currents tore away moored boats and upset shipping. The huge tide tore from their moorings about 30 launches and small craft and two barges at the spit: swirled the barges in among drifting launches, overturning several of them and damaging others: smashed one of the barges into the spit bridge. Set adrift 800 logs from moorings at Balmain shipping yard, which were then swept down the Parramatta River. Swept away a strip 100 yards by 60 yards from Clontarf Reserve Point Park exposing a high tension submarine cable: in one tense moment a 30ft. fishing trawler sank in Throsby Creek near Newcastle. Eight launches were ripped from their moorings in Throsby Creek and swept half a mile into Newcastle Harbour.”*** (Brisbane Courier Mail, 25 May 1960)

Garry advised that the National Oceanic and Atmospheric Administration ( **NOAA** ) of the United States Department of Commerce has an important web site that advises you of current tsunami warnings. The page for the Pacific Ocean is as follows:

<http://www.prh.noaa.gov/ptwc/>

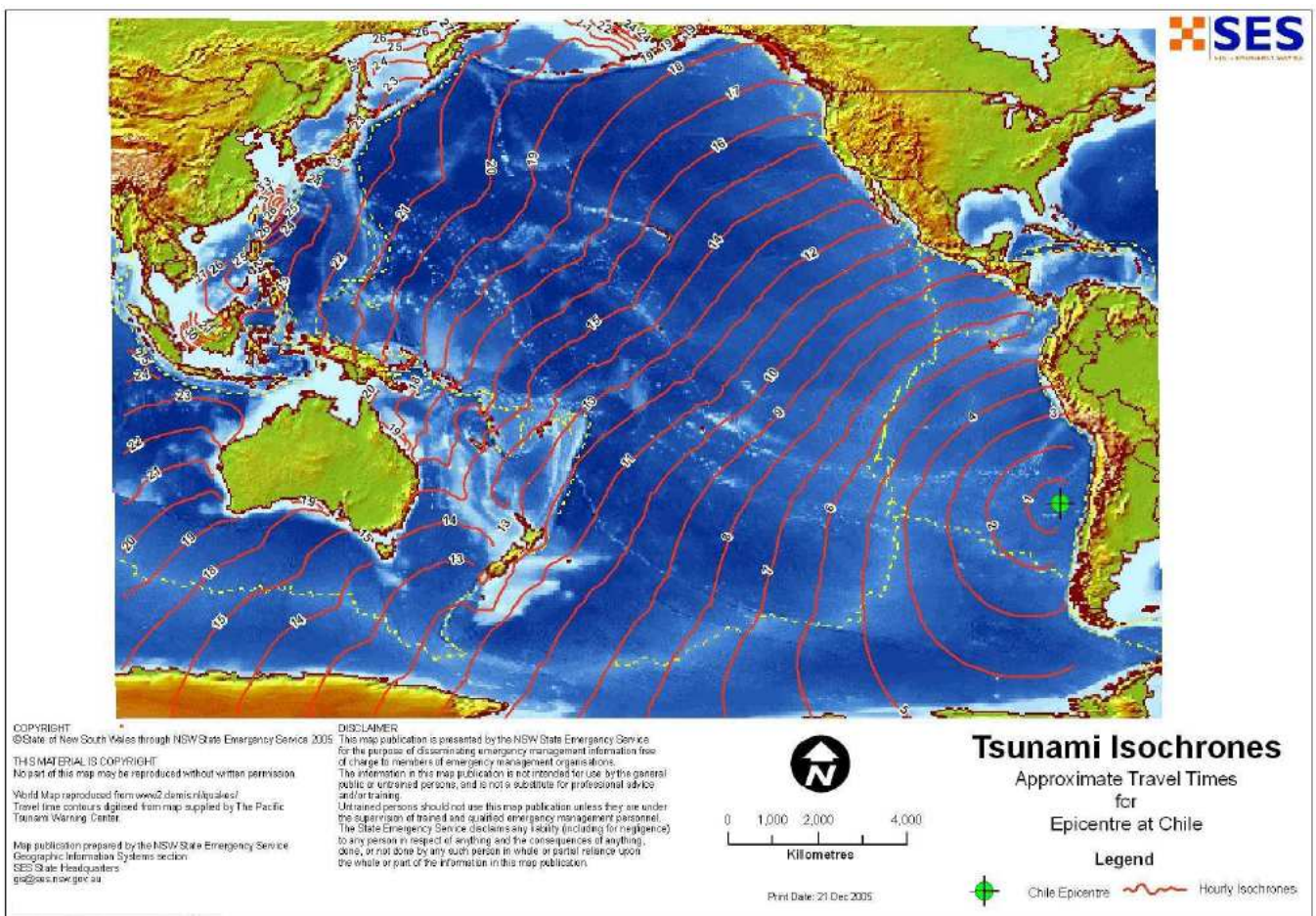
Garry's PowerPoint Presentation showed diagrams of how earthquakes in the main case tsunamis. They are triggered by a disturbance in the ocean floor.



## Indonesian Earthquake and Tsunami, Boxing Day, 2006



Gary showed this slide of the approaching wave. The disaster started with an earthquake near Indonesia where two plates, or pieces of the Earth's crust meet. Stress builds as one plate pulls down on the other. The edge of the Burma plate snapped. This forced a massive movement of water in the Indian Ocean. The sudden movement forced the water up and down. The waves spread in all directions, moving faster than 500 miles an hour. They grew taller as they hit shallow waters near the shore. As a Tsunami nears shallow water, the wave slows down, but the outflow of water to the sea after the wave hits can be fast and destructive,



Garry showed this slide showing the 15 hours it takes for a Tsunami starting at Chile to reach Australia. There is only one and a half hours warning from New Zealand. Tsunami travel outward in all directions from their point of generation (but not necessarily with equal energy in every direction) and can strike coastal areas great distances from their source. Tsunami speed is dependent on water depth. In deep water and open ocean, tsunami can reach speeds of 800 kilometres per hour. Heights of tsunami in deep water are only small and can go unnoticed. As a tsunami enters shallow water its speed decreases rapidly. This causes the wave length of the tsunami to decrease and the height of the wave to increase. It is important to note that despite these changes a tsunami's energy flux, which is dependent upon both its wave height and speed, remains nearly constant.

## The SES advises the following Tsunami Awareness:

### Before a Tsunami Strikes

- If you live on or regularly visit the coast get to know the tsunami history and the flood prone areas of your community.
- Know the nearest high ground and the safest routes to it. Garry suggested that, as a rule of thumb, land ten meters above sea level should be safe.
- Keep your family emergency kit up to date and know where it is
- Heed natural warnings - earthquakes, rumbling or sudden changes in the behaviour of coastal seas can all be signs of an approaching tsunami

### When a Tsunami Warning is Issued

- Monitor local TV and radio closely
- Follow the instructions of emergency services and local officials - some areas may be warned via loud hailer or mobile public address
- Be aware a tsunami is a series of waves - there may be more than one wave and the first wave may not be the largest. Wait for the all clear before returning to your home
- If you cannot reach high ground, shelter in the upper floor of the closest sturdy building and stay there until advised it is safe to leave. Homes and small buildings are not designed to withstand tsunami forces
- NEVER go onto the beach, a breakwater, estuary or harbour to watch a tsunami. Stay away from the water's edge. Tsunami can move faster than people can run. When you see a tsunami you are too close to escape it!
- If you are on a ship or boat at sea, move to deep water. Do not return to port until advised it is safe to do so. Damaging wave activity and unpredictable currents can affect harbours for a period of time after the initial tsunami impact. If you are on a ship or boat in shallow water close to shore and there is sufficient time, return to land and secure your boat before seeking high ground
- NEVER return to low lying areas unless you have been told it is safe by emergency services or public officials