

## TSUNAMI FACTS

\*Tsunamis that strike coastal locations are almost always caused by earthquakes. The earthquakes might occur far away or near where you live. While earthquakes occur in all ocean basins around the world, most do not generate tsunamis.

\*Some tsunamis can be very large. In coastal areas their height can be as great as 33 ft. or more (90 ft. in extreme cases), and they can move inland several hundred meters.

\*All low lying coastal areas can be struck by tsunamis.

\*A tsunami consists of a series of waves with crests arriving every 10 to 60 minutes. Often the first wave may not be the largest. The danger from a tsunami can last for several hours after the arrival of the first wave. Tsunami waves typically do not curl and break, so **DO NOT** try to surf a tsunami.

\*Tsunamis can move faster than a person can run.

\*A tsunami initially causes the water near shore to recede, exposing the ocean floor.

\*The force of some tsunamis is enormous. Large rocks weighing several tons, along with boats and other debris, can be moved inland hundreds of meters by tsunami wave activity, and homes and buildings destroyed. All this material and water move with great force, and can kill or injure people.

\*Tsunamis can occur at any time, day or night.

\*Tsunamis can travel up rivers and streams from the ocean.

\*Tsunami can easily wrap around islands and be just as dangerous on coasts not facing the source of the tsunami.

## EMERGENCY PHONE NUMBERS

Police - 911

Fire & Rescue - 488-1411

Emergency Room - 488-2558

Ambulance - 488-1411

NEMO - 587-6366/6367

Marine Law - 488-5206

Palau Red Cross - 488-5780/5781

National Weather Service - 488-1034/6287

Read this pamphlet and be prepared!  
Talk with family & friends about TSUNAMI safety.  
This could save your life and theirs....

Know the warning signs:  
**SHAKE....DROP....ROAR....RUN!**



# TSUNAMI

**KNOWLEDGE IS SAFETY!**

## TSUNAMI



IN CASE OF EARTHQUAKE,  
GO TO HIGH GROUND OR  
INLAND



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Building Safety and Resilience in the Pacific Project

## What is a Tsunami?

A tsunami is a series of large waves that are caused by a major disturbance of the sea floor. The disturbance can be a strong and shallow earthquake, a submarine landslide, or a submarine volcanic eruption. Most Tsunamis are earthquake generated with a speed greater than 500 mph in deep water and a height only a few inches in deep water. Most damages caused by Tsunamis is near the source. **Tsunami** is the Japanese word for harbor wave.

### Tsunami Warning Procedures:

The following steps is the Tsunami Warning Response Procedures for the NEMO Office and how they disseminate information to the public in regards to an earthquake and a possible threat of a Tsunami.



*Tsunami waves travel at 30-45 feet per second.*

**Step 1.** Information is received about an earthquake and a possibility of a tsunami. The possible source of information is from:

- National Weather Office in Koror, Palau
- Pacific Tsunami Warning Center in Hawai'i
- Other sources: ITIC or JMA

**Step 2.** NEMO Staff verify information.

**Step 3.** NEMO staff and/or Coordinator informs the National Emergency Committee (NEC) Chairman to relay information. NEC Chairman then advises the ROP President and from there will activate the Emergency Operation Center if there is a threat to Palau.

**Step 4.** NEMO Staff will then contact most vulnerable states/locations closest to coastal lines.

**Step 5.** NEMO Staff contact all Schools/Hotels located on the coastlines.

*If Tsunami occurs during daytime, NEMO Staff will call the Ministry of Education and all private schools located on the coastline.*

**Step 6.** The Public Information Officer from the President's Office working closely at the Emergency Operation Center will issue an official warning to Radio Stations, specifically T8AA Radio [Echo Paradise]. This particular radio station is government-owned and is **always** used to issue emergency announcements from NEMO and EOC during times of emergencies.

### IMPORTANT FACTS:

- Depending on the location of the earthquake, lead-time before a tsunami strikes may be longer or shorter. If an earthquake occurs within one hundred miles radius from Palau, warning time may be within minutes.
- An earthquake with a magnitude of 6.7 or more generally produces a tsunami. However, not all earthquakes generate tsunamis. Volcanic activities, submarine landslides can cause tsunamis.
- Only low lying islands and coastal areas are vulnerable to tsunamis. People living on higher grounds are not vulnerable.
- Tsunamis can travel up to 500 to 600 miles per hour, slowing down when reaching shallow water.

### PEOPLE MUST MAKE THEIR OWN WARNING

Because there is no time to give an official warning during local earthquakes, people must make their own decisions. That is why it is important that each person in your school, village or hamlet knows the warning signs and knows what to do.

So how much lead time and warning do you have before a generated tsunami strikes? That simply depends on where the tsunami was generated. If it has been generated locally by a local quake or submarine slide it, the tsunami can push onshore in minutes or less leaving little time to "escape/evacuate." If you are at a coast and feel a large quake, **ALWAYS** race away from waters edge as fast as possible. Seek high ground or high well built structures immediately.

### PREPARE ESCAPE PATHS AND SAFE AREAS

Communities and schools on the coast should plan and prepare for tsunamis. Prepare a safe area, and prepare escape paths so that people can reach the safe area. The safe area should be on high ground, or a height of a 6-storey building.

### THE WARNINGS OF A TSUNAMI ARE:

- An earthquake
- Any unusual change in sea level (commonly the sea level drops before the *TSUNAMI* wave arrives)
- A roaring noise

### IF YOU NOTICE ANY OF THE WARNING SIGNS:

- Run to a safe place

- Do not wait to be told.
- Do not wait until you see the wave because it will be too late. The wave travels as fast as a speeding car.



### HOW TO SAVE YOUR LIFE!

\*You are safe from the wave if you are more than 800 meters from the water's edge, or are on high ground.

\*Most *TSUNAMI* waves are 1 to 2 meters high (about 3-6 ft). Less commonly the 3 to 4 meters high (9-12 ft.), and rarely 10 to 20 meters high (30-60 ft).

\*If you cannot run away to a safe place, climb a tree. Probably you will be safe.

\*Wait at the safe place for several hours.

**IF YOU ARE ON A SHIP OR BOAT.** If you are at sea, DO NOT return to the coast until the waves have ceased. Stay out in the open sea. There you are safe. If you are on a ship at a wharf or jetty, and there is no time to take the ship out to sea, leave the ship and run to a safe place.

### IF YOU ARE CAUGHT BY A TSUNAMI WAVE.

- Swim as strongly as you can!
- Find something that floats and hang on to it!

### IF YOU BECOME AWARE OF ANY OF THE WARNING SIGNS.

\*Run to a safe place, immediately!

\*If trapped on low ground near the sea, climb a tree; you may be safe.

\*Stay at the safe area for several hours. Remember more waves may come.

\*DO NOT stay in a car near the sea. The wave can carry the car along, like another piece of debris.



**National Weather Service (Kansok)**

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