

Tsunami!!!



<http://safeshare.tv/w/TcrTmFmHdA>

Let's see what we know

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1. A tsunami is a single wave

2. A tsunami is a cresting wave

3. A tsunami is a wave in the ocean

4. A tsunami is a tidal wave

What is a Tsunami?

A tsunami is a series of waves traveling across the ocean due to a sudden displacement of a large body of water. This displacement can be caused by events such as undersea earthquakes, undersea landslides, land sliding into the ocean, volcanic eruptions or even asteroid impacts.

Small or large wave?

- While tsunami can be large, they are usually seen as a series of low but long powerful waves with massive momentum. They rarely crest like normal ocean and wind swell waves you may see at the beach.



- Tsunami are sometimes called 'tidal waves' but this is misleading. Although the impact of tsunami on a coastline can be affected by tide level, tsunami are unrelated to tides. Tidal waves are caused by tidal affects like the moon, wind or seasonal change while tsunami are most commonly caused by undersea earthquakes.

3 stages of a Tsunami!

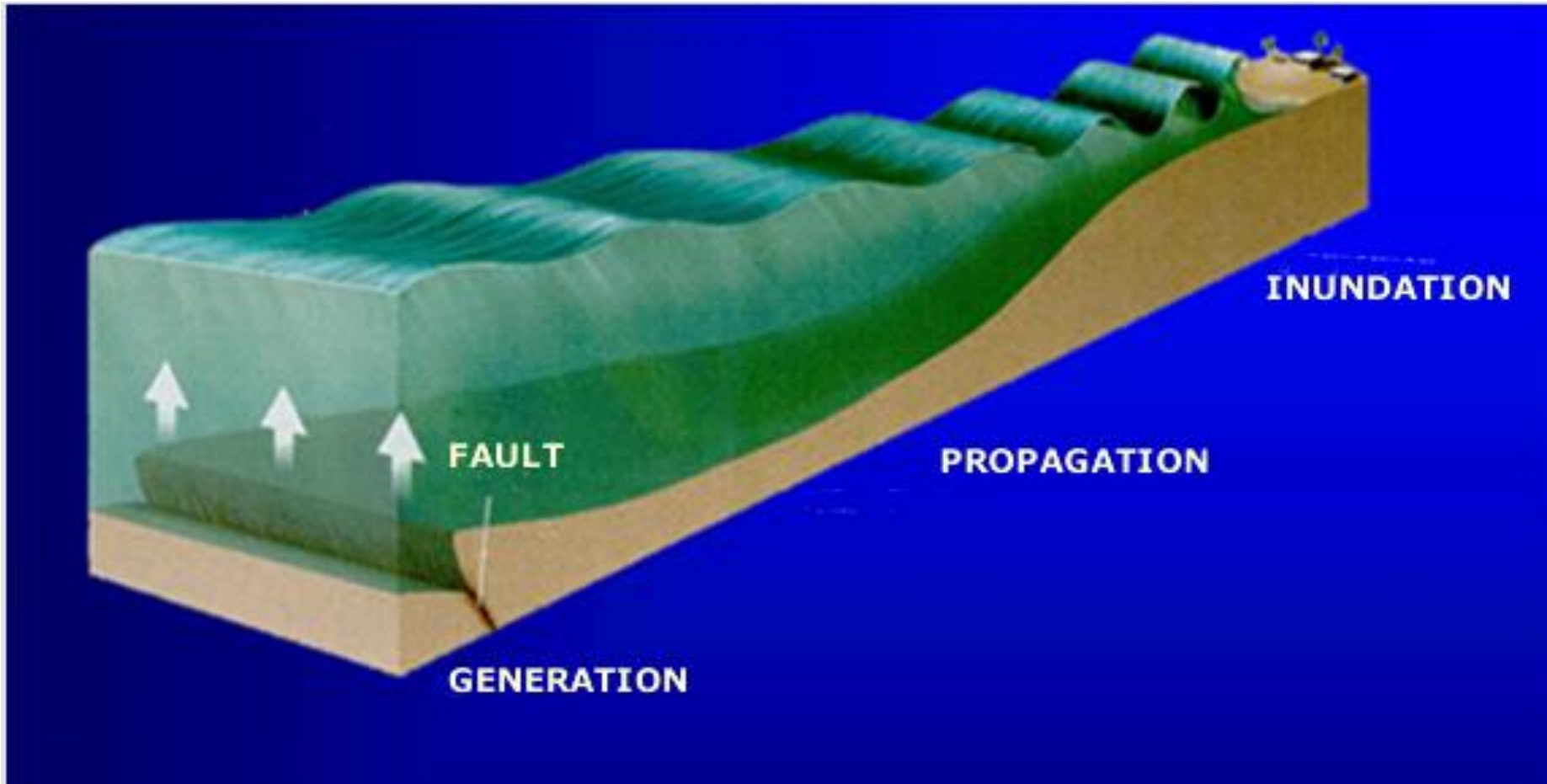
Generation: An event that causes the displacement

Propagation: Water is displaced and moves in all directions.

- can travel as fast as 950 kilometres per hour through deep water and;
- have extremely long **wavelengths** in the deep ocean.

Inundation Water that overflows onto normally dry land; the horizontal distance inland that a tsunami reaches

http://beachsafe.org.au/tsunami/ema/pages/04a_earthquake.html



Watch 😊

<http://www.pbs.org/wnet/savageearth/animations/tsunami/index.html>

- Tsunami will look and behave differently depending on the shape of the sea floor and coastline. As tsunamis move into shallow water their amplitude may increase. When this occurs it is called shoaling. Shoaling does not occur in every coastal environment. It is more likely to occur in a bay, harbour or lagoon where the wave is funnelled as it moves inland.

What's the difference between a wave
and a Tsunami?

WAVELENGTH!!

http://beachsafe.org.au/tsunami/ema/pages/03_workings.html

Who remembers the causes?

- undersea earthquakes, undersea landslides, land sliding into the ocean, volcanic eruptions or even asteroid impacts.

1964 Alaska

On 29 March 1964 Prince William Sound, Alaska, was hit by a magnitude 9.2 earthquake. The earthquake generated a major tsunami that struck the southeast coast of Alaska, the Pacific coast of British Columbia and the west coast of the United States. The violent shaking during the earthquake caused many large landslides and undersea landslides, which also produced destructive localised tsunamis at many locations along the Alaskan coast.



This image shows the extent of inundation along the coastline of Valdesse, Alaska, in 1964.

2004 Indian Ocean

On the morning of 26 December 2004 a magnitude 9.3 undersea earthquake occurred off the west coast of Sumatra, where the Indo-Australian Plate is sliding under the Eurasian Plate. The part of the fault that ruptured was 1200 kilometres long and caused part of Indonesia to move westwards by five to ten metres. This displacement of the ocean floor caused a tsunami, devastating communities in Indonesia, Sri Lanka and Thailand and affecting many other countries along the Indian Ocean rim. Close to 300,000 people lost their lives.



This image shows the 2004 Indian Ocean Tsunami approaching Koh Jum Island in Thailand.

Check your knowledge!

- http://beachsafe.org.au/tsunami/ema/pages/08_quiz.html