ADVERTISEMENT

TSUNAMI FACTS: CHECK OUT THE MIGHTY WAVE!

Learn all about these mammoth forces of nature!

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A tsunami (soo-NAH-mee) is one of the world's most powerful and destructive natural forces.

They can speed across the ocean as fast as a jet plane, swallow up islands and wipe out villages.

But what causes tsuamis...? Join National Geographic Kids and dive into our tsunami facts to find out!

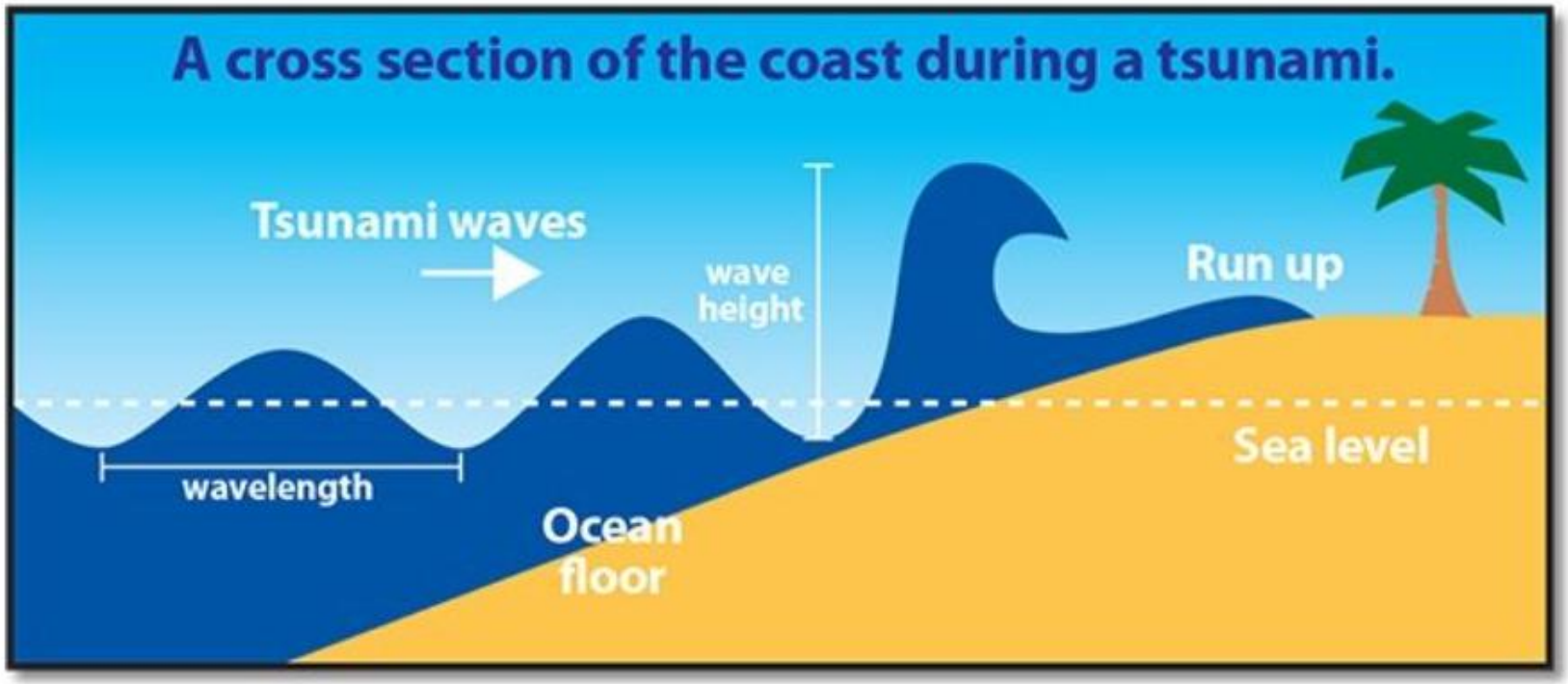
Tsunami facts

What causes a tsunami?

Meaning "**great harbour wave**" in Japanese, tsunamis are sometimes called "tidal waves" but their strength has nothing to do with the tides. About four out of five tsunamis happen within the **Ring Of Fire**, a zone in the Pacific Ocean where earthquakes and volcanic eruptions frequently take place.

Giant slabs of the Earth's crust, called **tectonic plates**, grind together. Sometimes, though, the plates get stuck, the pressure builds up and they suddenly slam into a new position. This causes an earthquake. If an earthquake lifts or drops part of the ocean floor, the water above rises and starts spreading across the ocean, causing a tsunami. Underwater landslides or volcanic eruptions can also displace water (cause water to spread across the ocean) and may lead to a tsunami.

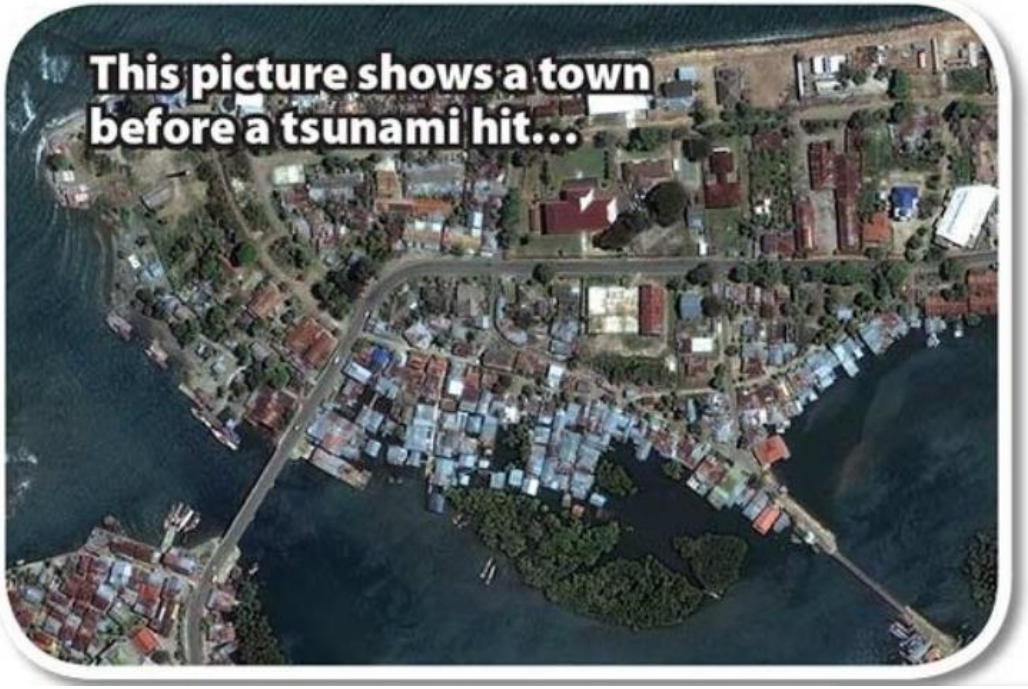
How big is a tsunami?

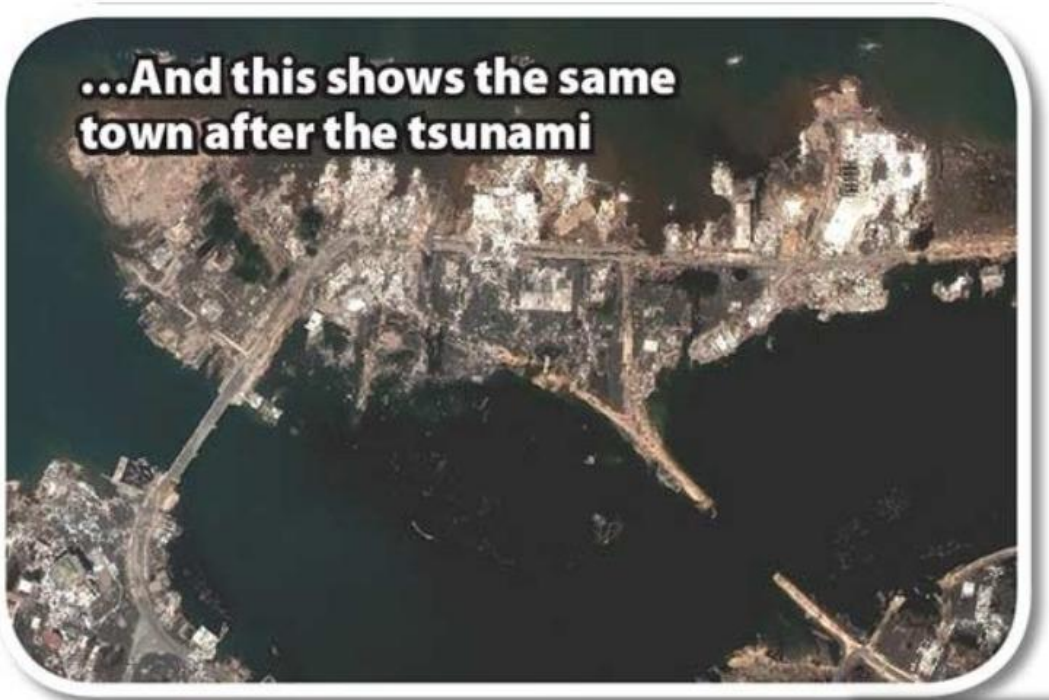


Out in the open ocean, tsunami waves are only about one-metre high because the water is deep. However, as the water becomes shallow, the waves slow down and begin to grow. They can rise 35m or higher – that's the same as a 10-floor block of flats! However, the scariest thing about a tsunami is its **wavelength**, as this determines how far inland it can travel. Whereas a large wave caused by a storm might have a wavelength of up to 150m, a tsunami could reach up to a fearsome 1,000km!

How fast is a tsunami?

A normal wind wave travels at about 90kmh, but a tsunami can race across the ocean at an incredible 970kmh! Sometimes, before a tsunami hits, there is a huge vacuum effect, sucking water from harbours and beaches. People can see the ocean floor littered with flopping fish and other sea animals. Then a wave blasts onto the shore minutes later, then another and another for two hours or more. There may also be up to one hour between each wave.


This picture shows a town
before a tsunami hit...


...And this shows the same
town after the tsunami

Can you predict when a tsunami is coming?

To save lives, scientists established the **Pacific Tsunami Warning System**, based in Hawaii, in the USA. Its network of detectors can track quakes that may cause a tsunami. These waves can race from one side of the Pacific Ocean to the other in less than a day, so people need to be warned in time to head for higher ground!