

TSUNAMI 101

HOW A TSUNAMI HAPPENS

- 1. An event like an underwater earthquake happens. The movement forces a lot of water to move very quickly.
- 2. The whole water column (the water from surface all the way to the seafloor) moves at speeds of up to 1000km per hour away from the earthquake location.
- 3. Because of the way tsunami are caused, they produce multiple waves (like the ripples you get when you drop a stone into water).

Open Ocean

- 7. As the waves move they carry debris (like trees, rocks, boats, vehicles or bits of building) that cause damage.
- Wave height Wavelength Crest Still Water Level SSS PACES IN THE Trough Wave amplitude

Shoreline

- 6. When the wave reaches shore it travels inland on gentle slopes or flat land or pushes uphill on steep slopes, travelling at speeds similar to a fast car.
- 5. Sometimes it looks like the water sucks down and away from the coast, then rushes back in with enormous speed and force. Sometimes there is no 'sucking out'. This depends on if the high part (crest) or the low part (trough) of the wave reaches the coast first.
- 4. As the front edge of the wave gets to shallower water it slows. However, the back of the wave in the deeper water is still moving fast so the water 'piles up', and the tsunami wave height grows as it reaches the coast.

THE IMPACT OF TSUNAMI WAVES







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entially lethal:



Threat is mainly coastal. Some turbulence and strong currents.

Some damage to fragile coastal stuff like wooden buildings, machines and electrics.

Lots of damage and inundation. Damage to concrete buildings and coastal roads, pipes, electrical networks etc.

Lots of serious damage and inundation. Buildings, roads, bridges, pipes and wires washed away.

DON'T FORGET

GET GONE

Long or Strong

