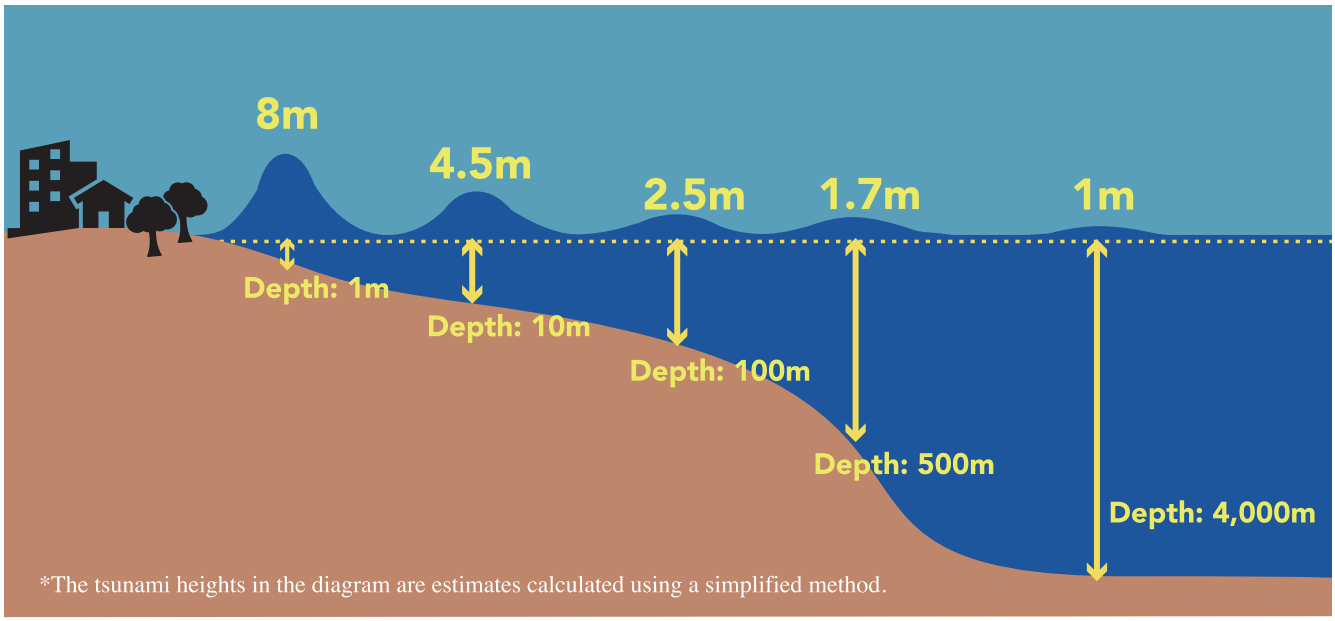
Understanding Tsunamis 2

What is a Tsunami?

The Height of a Tsunami Varies Depending on the Terrain

Water Depth and Tsunami Height



The shallower the water, the higher the tsunami becomes.

As the water becomes shallower, the tsunami's speed decreases and its wavelength shortens. Because the energy per wavelength remains constant, as the interval narrows, the wave's height increases upward. In other words, the shallower the water, the higher the tsunami. For example, a tsunami that is 1 meter high in offshore waters with a depth of 4,000 meters can reach a height of 8 meters in water that is 1 meter deep.

Tsunamis strike repeatedly.

A tsunami spreads out in all directions from where the earthquake occurred. A tsunami traveling through the deep sea is fast and reaches the coast first whereas a tsunami moving through shallow seas is slower and arrives later. Also, some tsunami waves reflect off underwater ridges (high, mountain-like areas) or distant coastlines, meaning a tsunami is not limited to a single wave.