



Tidal waves

Tidal waves (also called 'tsunamis') are a series of large waves triggered¹ by earthquakes that cause the sea floor to rupture² along the fault line. These large waves spread thousands of kilometres over several hours and displace hundreds of cubic kilometres of water.

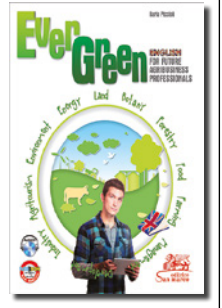
Tidal waves may rise just three feet (about one metre) high on the open ocean, but stretch 100 miles from crest to crest, making them tough to spot. They are the stealthiest of natural disasters, hiding the energy of a hydrogen bomb in a barely noticeable swell³ that races across the ocean at the speed of an airliner. And they are unpredictable.

Tsunamis can be spawned by undersea volcanoes, coastal landslides or even meteors. But most are created by underwater earthquakes. Large waves begin moving away from the earthquake's epicentre. In deep water a tsunami moves up to 500 mph (800 km/h) and when it reaches shallow⁴ water near coastal areas, it slows but increases in height.

Though it is impossible to predict a tsunami, there is an elaborate tsunami-warning system employing satellites and seismic sensors.

First of all, seismic sensors scan⁵ for undersea earthquakes that can set off⁶ tsunamis. Then tide is monitored: if scientists sense a strong quake, they can check for changes in nearby sea levels. At that point undersea instruments register changes in water pressure. Those data are passed on to buoys⁷ and transmitted to satellites.

Once scientists confirm a tsunami, they warn affected nations, which can notify the public through broadcasts or sirens.



GLOSSARY

- 1** caused
- 2** to break
- 3** large movement of water
- 4** not deep
- 5** examine
- 6** make something start happening
- 7** objects that float on the sea to mark a safe or dangerous area



ACTIVITIES

- 1** Answer the following questions.
 - 1 What is a tsunami?
 - 2 What are the main causes of a tsunami?
 - 3 Why are tsunamis the stealthiest of natural disasters?
 - 4 How do they spread?
- 2** Explain how a tsunami-warning system works.