

FAQs: Occurrences of Earthquakes, Volcanoes, and Tsunamis

What do you want to know about earthquakes, volcanoes, and tsunamis? Maybe these frequently asked questions (FAQs) and answers will help.



Severe damage occurred during the earthquake in Haiti in 2010.

Earthquakes

Q: How many earthquakes happen around the planet each year?

A: There are between 3,300,000 and 3,400,000 tremors each year, but humans only feel about 50,000 of them. Of those, less than 1,000 result in damage.

Q: Where have the most damaging earthquakes occurred?

A: The following are the ten most costly earthquakes in modern times, in order from least to greatest. Newcastle, Australia (1989); Nantou, Taiwan (1999); Niigata, Japan (2004); Loma Prieta, California, USA (1989); Indian Ocean (2004); Kobe, Japan (1995); Canterbury, New Zealand (2010); Maule, Chile (2010); Christchurch, New Zealand (2011); Northridge, California, USA (1994). The combined earthquake/tsunami

in Tohoku, Japan, in 2011, is the worst natural disaster ever recorded.

Volcanoes

Q: How often do volcanoes erupt?

A: As you are reading this, probably twenty volcanoes are erupting around the world; quite a few of them are in a cycle of constant eruption. In an average year, fifty to seventy eruptions are noted. Generally speaking, any one volcano will erupt about once a century.

Q: Where has the deadliest eruption occurred?

A: The worst by far in terms of lives lost occurred in 1815, in Tamboro, Indonesia. More than 90,000 people died. With today's ability to forecast eruptions, humans hope to never see losses on that scale again.

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Tsunamis

Q: What does the word *tsunami* mean?

A: The word *tsunami* is Japanese and means “harbor wave.” This Japanese word reflects the long history this island country has had with these destructive waves.

Q: Where are tsunamis most likely to occur?

A: About seventy percent of tsunamis occur in the Pacific Ocean’s Ring of Fire. The Mediterranean Sea accounts for another fifteen percent. Other tsunami zones include the Caribbean Sea, Atlantic Ocean, Indian Ocean, and the Black Sea.

Q: Where have the deadliest tsunamis occurred?

A: The deadliest tsunami in history came out of the Indian Ocean in 2004, resulting in the deaths of more than 220,000 people. When and where a tsunami occurs depends on many factors, with earthquakes being the leading cause (about eighty percent of the time). Tsunamis can also be caused by landslides, volcanic eruptions, and very rarely, giant meteor impacts.



Eruptions occur often at the Tavurvur volcano in Papua New Guinea.

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Q: Is a tidal wave and a tsunami the same thing?

A: The term *tidal wave* is no longer used to describe a tsunami. This is because tsunamis have nothing to do with tides. Also, a tsunami is rarely a single wave but is actually a series of waves. The first wave is usually not the strongest. The series of waves grows stronger as it travels across water.