



# Earthquake

The Earth's surface is on the move.

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In Alaska in 1964, a magnitude 9.2 earthquake jarred the earth so strongly it caused fishing boats to sink in Louisiana. What causes the ground tremble like that? The answer is simple. The Earth's surface is on the move.



Earthquakes cause devastating destruction to buildings around the world.

PHOTOGRAPH BY XIEYUODING, ISTOCKPHOTO

The surface of the earth, called the "crust," is not one solid piece. It's more like a 20 piece puzzle. Each puzzle piece is called a "plate." The plates constantly move. Fortunately for us, they don't move fast. Geologists estimate the fastest plate might shift 6 inches a year (15 centimeters). That's about as fast as your hair grows.

Earthquakes happen when a plate scrapes, bumps, or drags along another plate. When does this happen? Constantly. About a half-million quakes rock the Earth every day. That's millions a year. People don't feel most of them because the quake is too small, too far below the surface, or deep in the sea. Some, however, are so powerful they can be felt thousands of miles away.

A powerful earthquake can cause landslides, tsunamis, flooding, and other catastrophic events. Most damage and deaths happen in populated areas. That's because the shaking can cause windows to break, structures to collapse, fire, and

other dangers.

Geologists cannot predict earthquakes. They hope they will in the future through continued research and improved technology.

Earthquakes can happen anytime or anywhere. But you can prepare for the unpredictable with a family safety plan, emergency kit, and supplies.

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**FAST FACTS:**

- Geologists rate earthquakes in magnitude, which is the amount of energy released during the quake.
- The largest recorded earthquake happened in Chile on May 22, 1960. It was a magnitude 9.5.
- The deadliest known earthquake happened in China in 1556. It killed about 830,000 people.
- Alaska has the record for the largest U.S. earthquake. On March 28, 1964, a magnitude 9.2 quake occurred and killed 131 people.
- Most earthquakes happen 50 miles (80 kilometers) or less below the Earth's surface. They can happen as deep as 400 miles (644 kilometers) below the surface.
- Southern California has about 10,000 earthquakes a year. Very few are felt.
- Alaska averages 24,000 earthquakes a year, the most seismic activity in North America.
- Florida and North Dakota have the fewest earthquakes in the U.S.
- In 1985, the jolt from an 8.1 magnitude earthquake in Michoacán, Mexico caused water to slosh out of a pool in Tucson, Arizona—1240 miles (2000 kilometers) away!
- Most earthquakes and volcanos—80%—happen close to where two plates meet.
- Depending on the plate, they move between 0.3 to 5.9 inches a year (1 to 15 centimeters) a year.
- Because of moving plates, geologists predict that Los Angeles will meet Alaska ... in 70 million years! (It'll be neighbors with San Francisco in 15 million years.)