

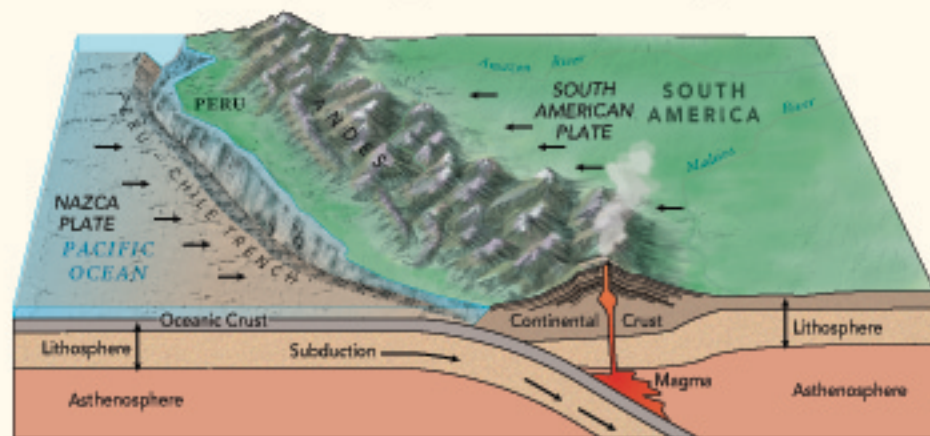


The movement of Earth's crustal plates causes the phenomena known as earthquakes. The surface of the Earth actually moves or quakes. An **earthquake** can have the destructive energy of an atomic bomb. However, thousands of earthquakes occur each day all over the world without most people realizing it.

The majority of earthquakes occur along a **fault**. A fault is usually a weak or broken area in the rocks beneath the surface of the Earth, but some, like the *San Andreas Fault* in California, can be seen on the surface. See pages 58–59 to learn more about faults.

The Richter Scale measures the energy of an earthquake. This measurement is obtained from the focus, or hypocenter, the spot where the first break in the rock layers occurs. The spot on the surface of the Earth, directly above the focus and nearest to the source of energy is called the epicenter.

Earthquake damage is caused by this energy, called seismic energy, moving through the rocks or along the surface. Many geographic factors, both physical and human, determine how much damage is done by these seismic waves of energy.



Major Earthquakes since 1900

Date	Location	Richter Scale Magnitude
April 4, 1905	Kangra, India	8.6
April 18, 1906	San Francisco, California	7.8
Dec. 28, 1908	Messina, Italy	7.5
Dec. 16, 1920	Gansu Province, China	8.6
Sept. 1, 1923	Sagami Bay (near Yokohama), Japan	8.3
May 22, 1927	Xining, China	8.3
Dec. 25, 1932	Gansu Province, China	7.6
March 2, 1933	off northeast coast of Honshu, Japan	8.9
Jan. 15, 1934	Bihar, India/Nepal	8.4
May 30, 1935	Quetta, Pakistan	7.5
Jan. 25, 1939	Chillán, Chile	8.3
Dec. 26, 1939	Erzincan, Turkey	8.0
Dec. 21, 1946	Honshu, Japan	8.4
Oct. 5, 1948	Ashgabat, Turkmenistan	7.3
Aug. 15, 1950	Assam, India	8.7
May 22, 1960	Arauco, Chile	9.5
March 27, 1964	Anchorage, Alaska	9.2
May 31, 1970	Northern Peru, near Chimbo	7.8
Feb. 4, 1976	Guatemala City, Guatemala	7.5
July 28, 1976	Tangshan, China	8.0
Oct. 10, 1980	El Asnam, Algeria	7.7
Sept. 19, 1985	Mexico City, Mexico	8.1
June 20, 1990	Western Iran, near Qazvin	7.7
Dec. 12, 1992	Flores Island, Indonesia	7.5
Jan. 17, 1995	Kobe, Japan	6.9
Aug. 17, 1999	Istanbul, Turkey	7.4
Jan. 26, 2001	Ahmadabad, India	7.7

Source: National Earthquake Information Center, U.S.G.S