



EARTHQUAKE: FACT or FICTION



What should I do during an earthquake?

Drop! Cover! Hold On! Drop to the floor; take cover under a sturdy desk or table, and hold on to it firmly. Be prepared to move with it until the shaking stops. This is the safest action when the earth begins to shake. If you are not near a desk or table, drop to the floor against an interior wall and protect your head and neck with your arms. If you are in bed, hold on and stay there, protecting your head with a pillow.



More information about what to do during an earthquake is at www.dropcoverholdon.org and at www.espfocus.org.

Recently an e-mail has been circulating which describes actions to take during an earthquake, including an alternative to **Drop! Cover! Hold On!** and advice to run outside when an earthquake begins. The advice in this e-mail is potentially life-threatening, and the author has been broadly discredited.

The Federal Emergency Management Agency (FEMA), the American Red Cross, and other official preparedness organizations reaffirm that **Drop! Cover! Hold On!** is the appropriate action to reduce injury and death during earthquakes. You are much more likely to be injured by falling or flying objects (TVs, lamps, bookcases, etc.) than to die in a building collapse. The **Drop! Cover! Hold On!** position will

protect you from most of these objects. The alternative theory leaves you exposed to injury. Most injuries in U.S. earthquakes occur when people inside buildings attempt to move to a different location inside the building or try to leave.

Practice **Drop! Cover! Hold On!** at school, in the office, and other buildings so that when the earth shakes, you'll be ready.

Should I get in a doorway during an earthquake?

An enduring earthquake image of California is a collapsed adobe home with the door frame as the only standing part. From this came our belief that a doorway is the safest place to be during an earthquake. True—if you live in an old, unreinforced adobe house. In modern houses, doorways are no stronger than any other part of the house and usually have doors that will swing and can injure you. **It is much safer to Drop! Cover! Hold On!**

Dear ESP: Can earthquakes be predicted?

Scientists continue to study all aspects of earthquakes, including how they may be predicted. Unfortunately no method has been shown to be reliable in any timeframe. To be useful, predictions must be specific in time, location, and size. We know there will be hundreds of earthquakes throughout seismic regions each year, but very few will be large enough to cause damage, and we don't know exactly when and where the large earthquakes will occur. Until this information can be known, it is important to always be ready for large earthquakes that may happen anytime.



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Do big earthquakes always happen in the early morning?

This myth may be so common because we want it to be true. Several recent damaging earthquakes have been in the early morning, so many people believe that all big earthquakes happen then. In fact, earthquakes occur at all times of day. The 1933 Long Beach earthquake was at 5:54 pm and the 1940 Imperial Valley event was at 8:37 pm. More recently, the 1992 Joshua Tree earthquake was at 9:50 pm and the 2003 San Simeon event was at 11:15 am. It is easy to notice the earthquakes that fit the pattern and forget the ones that don't.

What is earthquake weather?

Many people believe that earthquakes are more common in certain kinds of weather. In fact, no correlation with weather has been found. Earthquakes begin many kilometers below the region affected by surface weather. People tend to notice earthquakes that fit the pattern and forget the ones that don't. Also, every region of the world has a story about earthquake weather, but the type of weather is whatever they had for their most memorable earthquake.

Will California fall into the ocean?

The idea of California falling into the ocean has had an enduring appeal to those envious of life in the Golden State. Of course, the ocean is not a great hole into which California can fall, but it is itself land at a somewhat lower elevation with water above it. The motion of plates will not make California sink — California is moving horizontally along the San Andreas fault and up around the Transverse Ranges.

Is there anywhere in California I can escape earthquakes?

Most seismologists believe that damaging earthquakes can occur virtually anywhere in California. Historically, much of the Central Valley, north of Bakersfield and the north-easternmost part of the state have had lower levels of seismic activity than the coastal regions, the Sierra Nevada, or Southern California.

We have good building codes so we must have good buildings, right?

The best building codes in the world do nothing for buildings built before a code was enacted. While the codes have been updated, the older buildings are still in place. Fixing problems in older buildings — retrofitting — is the responsibility of the building's owner.

Will the earth open up and swallow me or my home?

A popular literary device is a fault that opens during an earthquake to swallow up an inconvenient character. However gaping faults exist only in novels and movies. The ground moves across a fault during an earthquake, not away from it. If the fault could open, there would be no friction. Without friction, there would be no earthquake!

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Portions of this bulletin are from Putting Down Roots in Earthquake Country (www.earthquakecountry.info) and are used with permission of the Southern California Earthquake Center (www.scec.org). These websites have more information about earthquake hazards and what to do before, during and after a large earthquake. Experiencing an earthquake can be a frightening and confusing experience. Knowing what just happened can reduce our fear and help us understand what to expect next. Several websites will have information quickly after major earthquakes. To know where the earthquake was centered and its magnitude, visit www.data.scec.org. To know how strongly the ground shook throughout the region, visit <http://earthquake.usgs.gov/shakemap>. To report your experience in the earthquake; and see maps of what other people report, visit <http://pasadena.wr.usgs.gov/shake/ca>. Similar websites also exist for other areas of the U.S. and can be accessed through these links.

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