

Debunking 8 common earthquake myths

Michelle Lanz, KPCC (Pasadena radio), 1-16-14

Most people living in quake country have heard the advice that standing in a doorway is the safest place to be during a temblor, but is that true? What about the image of Los Angeles breaking off and falling into the Pacific Ocean? That can't actually happen...can it?

To help explain some common misconceptions about earthquakes, we brought in Margaret Vinci, manager of Earthquake Programs at Caltech.

1. The safest place to be during an earthquake is in a doorway

Not true. This myth came about after the 7.9 Fort Tejon earthquake back in 1857 when most homes were made of adobe. In a doorway you may be thrown off your feet and hurt. Doorways now have doors on them that are going to be slamming open and shut. The minute you feel shaking, you should immediately drop to the ground before the energy throws you off your feet. You then need to crawl and get underneath something that will protect you from falling objects and hold on.

2. A large quake could cause Los Angeles to fall into the ocean

This belief comes from a misunderstanding of how faults work. We're not going to fall off into a hole. We sit on the Pacific plate and the North American plate. Where those two plates come together is our San Andreas Fault. The Pacific plate is moving in a Northwest direction, we move at about two inches a year. In a few billion years, Los Angeles will be adjacent to Oakland, but we're not going to fall off and become an island.

3. The Earth can open up and swallow homes

That's a myth in books and movies. When we have movement, it is ground that is moving across the fault, from friction that builds up from that stress. If the ground opened up, there would be no friction, there would be no earthquake. You will see indentations. A car could fall into that indentation because you will have the ground sink. It will also create landslides, you will also have uplift, so in some areas such in the recent Baja event, you had seven feet of uplift. So you might have an indentation, but you're not going to have a big hole where it pulls apart and you drop into it.

4. Animals can predict earthquakes

Some people believe that their pet acts strangely right before an earthquake. There have been studies that look into how animals react to earthquakes, but there is no proof than animals can predict them. Animals will sometimes sense things that we don't. Earthquakes start and stop, so your pet may feel a magnitude 1 or a magnitude 2 that we're not feeling that may be a pre-shock to that main shock. But they cannot predict when an earthquake will hit.

5. Scientists can predict earthquakes

There is no technology to predict earthquakes. Scientists are, however, working on an early warning system. It's a co-seismic tool. When the rupture starts, their instruments will pick up the ground motion, and an algorithm will estimate the magnitude of the earthquake based on the energy that was released from the initial rupture, it will then estimate the intensity of the shaking and how long until the damaging waves reach areas where people are. But, according to the U.S. Geological Survey: "Neither the USGS nor Caltech nor any other scientists have ever predicted a major earthquake. They do not know how, and they do not expect to know how any time in the foreseeable future."

6. Earthquakes are more likely to happen early in the morning

People tend to remember the quakes that fall into this myth. Believers of this theory think that the cooler

temperatures in the morning cause the ground to contract, thus resulting in tremors. Scientists have been keeping records of earthquakes for the past 100 years, and have found that there is no correlation that earthquakes happen early in the morning.

7. Earthquakes occur during "earthquake weather"

Some people believe that dry, balmy weather is an indicator of an impending earthquake, but scientists say earthquake weather does not exist. Earthquakes start miles down in the ground where stress is building up. It is not affected by weather at all.

8. We have strict building codes in LA, so our structures are safe

While more modern buildings have the latest anti-earthquake technology, there are several buildings in Los Angeles that were built prior to these codes. [A recent investigation by the Los Angeles Times](#) found that as many as 1,000 concrete structures, both homes and businesses, are at risk of collapsing during a major seismic event.