

Earthquake Kit Checklist

- 3 day supply of food and water
- Battery-powered or hand crank radio
- Flashlight
- Extra Batteries
- Whistle
- Moist towelettes, garbage bags, and ties (personal sanitation)
- Wrench or pliers (turning off utilities)
- Can opener
- Local maps
- Cell phone with chargers
- Extra blankets and/or heavy clothing
- _____

Earthquake Preparedness Websites

Red Dirt Ready: www.ok.gov/reddirtready/

FEMA: www.ready.gov/earthquakes

Earthquake Info: www.earthquakecountry.info

Join Us in The Great Central US Shakeout Exercise!

www.shakeout.org/centralus/

Ask a seismologist!

Email us: www.okgeosurvey1.gov/pages/home.php

Did you feel an earthquake?

Fill out an information form:

earthquake@okgeosurvey1.gov/pages/earthquakes/report-an-earthquake.php
or call: (918)366-4152

The Oklahoma Geological Survey is a state agency for research and public service located on the Norman Campus of the University of Oklahoma and affiliated with the OU Mewbourne College of Earth and Energy. The Survey is chartered in the Oklahoma Constitution and is charged with investigating the state's land, water, mineral, and energy resources and disseminating the results of those investigations to promote the wise use of Oklahoma's natural resources consistent with sound environmental practices.

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Cover Image: Some of the Oklahoma faults are from published literature, but this does not represent a complete nor determinate collection of faults in Oklahoma.



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Earthquake Hazard and Preparedness



“Earthquakes may occur anywhere in Oklahoma. To date, there has been at least one documented earthquake in 74 of Oklahoma’s 77 counties, and because we cannot predict when or where a damaging earthquake may occur, it is important to be prepared.”

-Austin Holland
Oklahoma State Seismologist

Earthquakes...

What is an earthquake?

Earthquakes occur when two blocks of rock within the Earth's crust slide past each other. The contact area between these two blocks is called a fault, or a fault zone, since faults are rarely a single fracture.

Fault map on front cover.

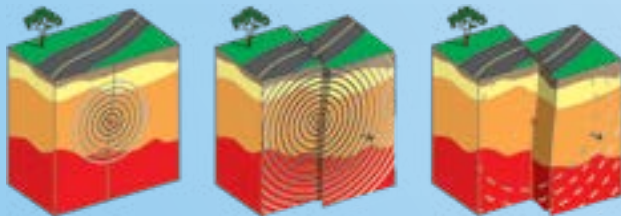
Did you know Oklahoma has faults?

Oklahoma has a great number of faults of varying sizes. Most often earthquakes in Oklahoma occur on previously unknown or poorly understood faults. We are learning more and more about these faults with additional research. The largest known fault in Oklahoma is the Meers Fault (pictured above) in Southwestern Oklahoma. The last slip on this fault is estimated to be about 1300 years ago and may have been equivalent to a magnitude 6.5 or 7.0 earthquake!



How does an earthquake do damage?

When large earthquakes occur, the ground can be moved significantly relative to the other side of the fault. Structures built on or near faults can see considerably more damage during an event.



Additionally, earthquakes generate seismic waves that cause shaking and rolling of the ground similar to the ripples in water when you throw a rock into a still pond. It is this ground motion that causes most of the damage during an earthquake. The intensity of this motion lessens with distance from the starting point of an earthquake, also known as the epicenter.



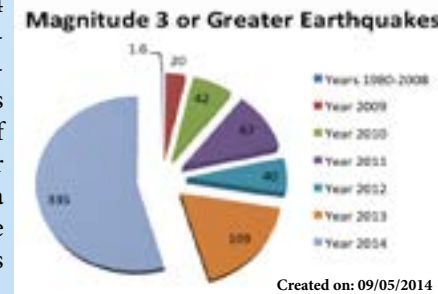
in Oklahoma?

Increase in Oklahoma Earthquakes

Starting in 2009, Oklahoma has seen a significant and real increase in the rate of seismicity.



This rate was relatively consistent until 2013, when the rate of earthquakes began increasing again. As the number of small earthquakes increases, the number of larger earthquakes also increases. In 2014 alone, Oklahoma has experienced numerous earthquakes of magnitude 4.0 or greater. This is a sizable increase from the years before.



USGS Oklahoma Hazard Map



Earthquake Hazard

Faults with known motion and historical earthquakes are used to determine Oklahoma's earthquake hazard, which is then incorporated into building codes and design.

Be Prepared!

Earthquake Hazard Cont.

Due to the increase in earthquakes, there has been a rise in earthquake hazard for the state of Oklahoma. While tornadoes still pose a greater hazard in Oklahoma, it is important to prepare for potentially damaging earthquakes.

How to Prepare

- Build an emergency kit.
 - Make a family communications plan.
 - Place large or heavy objects on lower shelves.
 - Secure hanging items to the wall.
 - Do not hang heavy objects over beds, sofas, or any place you may be seated.
 - Bookcases, filing cabinets, china cabinets, and other tall furniture should be anchored to wall studs (not drywall) or masonry.
 - Have defective electrical wiring and leaky gas connections repaired. These are potential fire risks.
 - Secure your water heater, refrigerator, furnace and gas appliances by strapping them to the wall studs.
 - Locate safe spots in each room under a sturdy table or against an inside wall.
 - Hold earthquake drills with your family members: Drop, cover and hold on.
 - Participate in the annual Great Central U.S. Shakeout (go to website for more info).
- List modified from www.ready.gov/earthquakes**

During an Earthquake

DO:



DON'T:

- Panic
- Exit a building (you are more likely to be injured by unreinforced masonry)
- Get in a doorway (swinging doors may pose a risk)