



Aftershock advisory from the United States Geological Survey (USGS)
Issued on November 28 at 6PM CDT.

- An earthquake of magnitude 5.8 occurred at 7:02AM CDT on September 3, 2016 near Pawnee, Oklahoma. More earthquakes than usual will continue to occur in the mainshock area.
- Be ready for more earthquakes:
 - 7 Steps to Earthquake Safety: <http://earthquakecountry.org/sevensteps/>
 - Information from the Oklahoma Department of Emergency Management: [https://www.ok.gov/OEM/Programs & Services/Preparedness/Preparedness - Earthquakes.html](https://www.ok.gov/OEM/Programs%20&%20Services/Preparedness/Preparedness%20-%20Earthquakes.html)
 - Information from FEMA: <https://www.ready.gov/earthquakes>
 - Information from the USGS: <http://earthquake.usgs.gov/learn/preparedness.php>
- During the next month, there are likely to be up to 5 aftershocks large enough to be felt, and there is a 1 in 50 (2%) chance of one or more aftershocks large enough to potentially cause damage.

What to Expect

It is normal for an earthquake of this size to cause an increase in the number of earthquakes (called aftershocks) in the area. The number of aftershocks will drop off over time, but a large aftershock can increase the numbers again, temporarily.

The aftershocks will occur mostly in the area affected by the magnitude 5.8 Pawnee, Oklahoma, earthquake, approximately within 10 miles of the mainshock.

When there are more earthquakes, the chance of a large earthquake is greater and the chance of damage is greater. The USGS advises everyone to remain aware of the possibility of aftershocks, especially when in or around vulnerable structures such as unreinforced masonry buildings.

No one can predict the exact time or place of any earthquake, including aftershocks. The USGS can forecast how many earthquakes to expect, or the chance of having an earthquake within a given time period.

Current USGS aftershock forecast

As of November 28, 2016 at 6:00 PM CDT, the USGS estimates the chance of more aftershocks as follows.

Within the next month until December 28, 2016 at 6:00 PM CDT:

- the chance of an earthquake large enough to feel (magnitude 3 or higher) is 81%, and it is most likely that up to 5 such earthquakes may occur. This rate is 3 times greater than it was before the magnitude 5.8 Pawnee, Oklahoma, earthquake occurred.
- the chance of an earthquake of magnitude 5 or larger is 1 in 50 (2%).
- the chance of any damaging earthquake is about 3 times greater than it was before the magnitude 5.8 Pawnee, Oklahoma, earthquake occurred.

Within the next year until November 28, 2017 at 6:00PM CDT

- the chance of an earthquake large enough to feel (magnitude 3 or higher) is greater than 99%, and it is most likely that from 4 to 19 such earthquakes may occur. This is about 2 to 3 times greater than it was before the magnitude 5.8 Pawnee, Oklahoma earthquake occurred.
- the chance of an earthquake of magnitude 5 or larger is 1 in 11 (9%) and it is most likely that from 0 to 2 such earthquakes may occur.
- the chance of any damaging earthquake is 2 times greater than it was before the magnitude 5.8 Pawnee, Oklahoma earthquake occurred.

The USGS calculates this earthquake forecast using a statistical analysis based on past earthquakes and the aftershocks recorded for this sequence. The forecast changes as time passes due to the decay in the frequency of aftershocks, larger aftershocks that may trigger further earthquakes, and changes in forecast modeling based on the earthquake data collected.

As compared to the previous analysis on November 27, 2016, the forecasts parameters have changed a small amount with slightly higher aftershock productivity. All of these changes are well within the uncertainty of forecasting methods and the aftershock sequence is occurring in a normal fashion compared to aftershock sequences around the world. The forecasts will continue to be refined as more data is collected.

Get more scientific information about:

- the magnitude 5.8 Pawnee, Oklahoma, earthquake and sequence at <http://earthquake.usgs.gov/earthquakes/eventpage/us10006jxs>
- aftershocks, more generally, at <http://earthquake.usgs.gov/learn/glossary/?term=aftershocks>

This advisory was issued: November 28, 2016 at 6:00PM CDT.

This advisory will be updated on or before: December 28, 2016.

The most recent advisory can always be found at

<http://earthquake.usgs.gov/earthquakes/eventpage/us10006jxs>