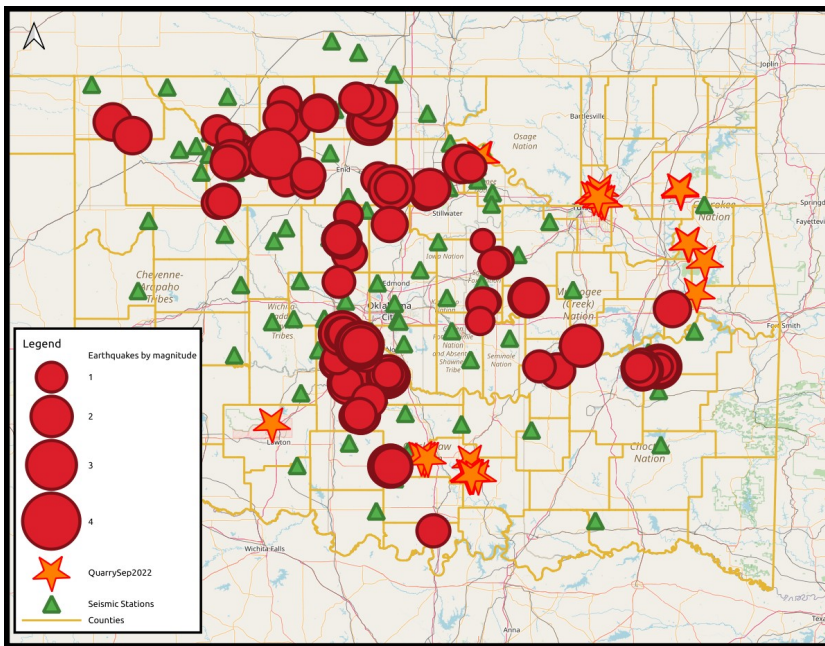


Bulletin of seismic activity in Oklahoma for the month of September 2022

This bulletin details earthquake activity as analyzed by the Oklahoma Geological Survey for September 2022. During September, a total of 232 earthquakes including 29 quarry blasts (Figure 1), were detected and reviewed. That represents an increase of 25 earthquakes as compared with the previous month, July 2022, during which 207 earthquakes were detected and reviewed. The cumulative number of earthquakes from January through September 2022 is 1929.



During September 2022, Grady county recorded the most seismic activity with 50 earthquakes, followed by Pittsburg county with 25 earthquakes. 33 out of 77 counties within the state have experienced at least 1 earthquake in September 2022 (Table 1).

The earthquake depths range from 0 to 23 km while the magnitudes fluctuate from 0.1 M_L to 3.1 M_L (Table 2). Excluding the quarry blasts that have a depth of 0, the average depth during this month is 7.72 km.

Figure 1. Epicenter Map of Earthquakes in Oklahoma during September 2022.

Earthquakes per Counties							
County	Earthquakes	County	Earthquakes	County	Earthquakes	County	Earthquakes
Alfalfa	8	Grady	50	McClain	14	Pittsburg	25
Blaine	1	Grant	13	Murray	10	Rogers	1
Canadian	1	Hughes	2	Muskogee	4	Sequoyah	1
Carter	7	Kingfisher	11	Noble	8	Stephens	1
Comanche	1	Lincoln	7	Okfuskee	2	Tulsa	7
Cherokee	1	Logan	1	Okmulgee	1	Woods	11
Dewey	5	Love	1	Osage	2		
Garfield	1	Major	12	Pawnee	5		
Garvin	12	Mayes	3	Payne	1		

Table 1. Table of earthquakes per county in Oklahoma during September 2022.

Number of Earthquakes per Magnitude range		
Magnitude range	Number of Earthquakes	Earthquake Effects
0 – 0.9	43	Usually not felt.
1 – 1.9	164	Usually not felt.
2 – 2.9	24	Often felt.
3 – 3.9	1	Most likely to be felt

The largest earthquake that was recorded during September 2022 was in Alfalfa county and had a magnitude of 3.1 M_L .

Table 2. Number of earthquakes per magnitude in Oklahoma during September 2022.

For the most current information on earthquakes and other OGS-related news, visit: <https://www.ou.edu/ogs>.