

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

This bulletin details earthquake activity as analyzed by the Oklahoma Geological Survey for October 2022. During October, a total of 492 earthquakes including 31 quarry blasts (Figure 1), were detected and reviewed. That represents an increase of 260 earthquakes as compared with the previous month, September 2022, during which 232 earthquakes were detected and reviewed. The cumulative number of earthquakes from January through October 2022 is 2421.

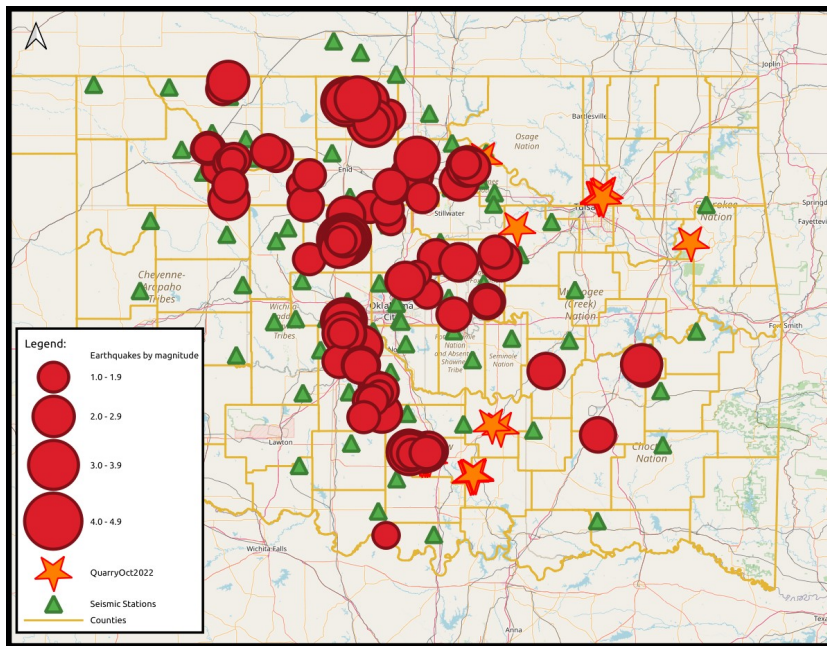


Figure 1. Epicenter Map of Earthquakes in Oklahoma during Octoberber 2022.

During October 2022, Kingfisher county recorded the most seismic activity with 293 earthquakes, followed by Garvin county with 39 earthquakes. 26 out of 77 counties within the state have experienced at least 1 earthquake in October 2022 (Table 1).

The earthquake depths range from 0 to 23 km while the magnitudes fluctuate from 0.1 M_L to 3.4 M_L (Table 2). Excluding the quarry blasts that have a depth of 0, the average depth during this month is 5.92 km.

Earthquakes per Counties							
County	Earthquakes	County	Earthquakes	County	Earthquakes	County	Earthquakes
Alfalfa	5	Hughes	1	Muskogee	1	Woods	4
Blaine	2	Jefferson	1	Noble	20	Woodward	5
Canadian	13	Kingfisher	293	Oklahoma	4		
Creek	1	Lincoln	7	Pawnee	10		
Dewey	2	Logan	3	Pittsburg	7		
Garvin	39	Major	9	Pontotoc	2		
Grady	7	McClain	10	Pottawatomie	1		
Grant	16	Murray	22	Tulsa	7		

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

Number of Earthquakes per Magnitude range		
Magnitude range	Number of Earthquakes	Earthquake Effects
0 – 0.9	69	Usually not felt.
1 – 1.9	363	Usually not felt.
2 – 2.9	57	Often felt.
3 – 3.9	5	Most likely to be felt

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

The largest earthquake that was recorded during October 2022 was in Kingfisher county and had a magnitude of 3.4 M_L .

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