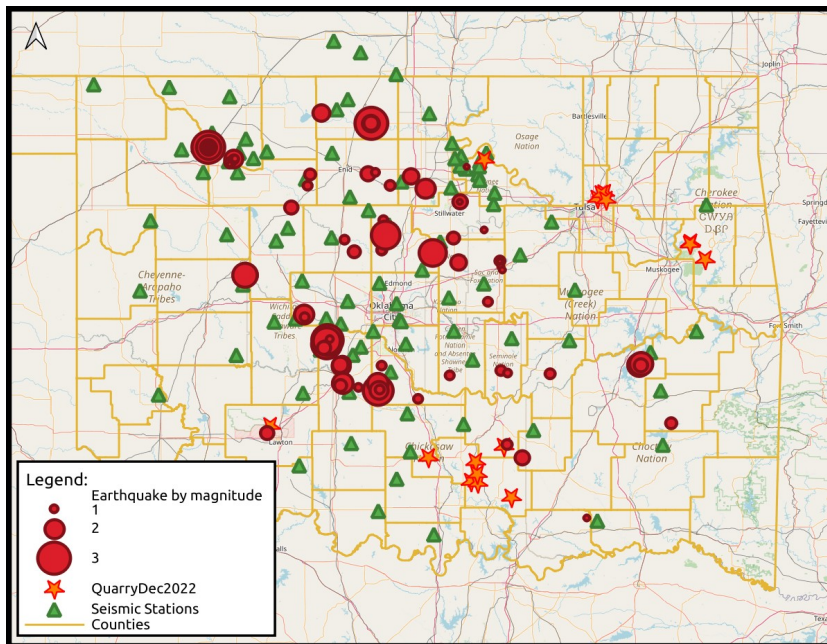


## Bulletin of seismic activity in Oklahoma for the month of December 2022

This bulletin details earthquake activity as analyzed by the Oklahoma Geological Survey for December 2022. During December, a total of 195 earthquakes including 16 quarry blasts (Figure 1), were detected and reviewed. That represents a decrease of 160 earthquakes as compared with the previous month, November 2022, during which 355 earthquakes were detected and reviewed. The cumulative number of earthquakes from January through December 2022 is 2972.



During December 2022, Grady county recorded the most seismic activity with 70 earthquakes, followed by Woodward county with 32 earthquakes. 33 out of 77 counties within the state have experienced at least 1 earthquake in December 2022 (Table 1).

The earthquake depths range from 0 to 31 km while the magnitudes fluctuate from 0.4  $M_L$  to 3.1  $M_L$  (Table 2). Excluding the quarry blasts that have a depth of 0, the average depth during this month is 7.65 km.

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

Earthquakes per Counties							
County	Earthquakes	County	Earthquakes	County	Earthquakes	County	Earthquakes
Alfalfa	3	Garfield	2	Logan	6	Pontotoc	2
Atoka	1	Garvin	3	Major	13	Pottawatomie	1
Blaine	2	Grady	70	McClain	3	Rogers	1
Caddo	5	Grant	7	Murray	4	Seminole	2
Cherokee	1	Hughes	1	Muskogee	2	Tulsa	3
Cleveland	1	Johnston	2	Noble	3	Woodward	32
Coal	1	Kingfisher	2	Pawnee	2		
Comanche	2	Latimer	1	Payne	5		
Custer	3	Lincoln	6	Pittsburg	3		

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

Number of Earthquakes per Magnitude range		
Magnitude range	Number of Earthquakes	Earthquake Effects
0 – 0.9	31	Usually not felt.
1 – 1.9	134	Usually not felt.
2 – 2.9	28	Often felt.
3 – 3.9	2	Most likely to be felt

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

The largest earthquake that was recorded during December 2022 was in Grady county and had a magnitude of 3.1  $M_L$ .

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