

Bulletin of seismic activity in Oklahoma for the month of May 2023

This bulletin details earthquake activity as analyzed by the Oklahoma Geological Survey for May 2023. During May, a total of 322 earthquakes including 41 quarry blasts (Figure 1), were detected and reviewed. That represents an increase of 67 earthquakes as compared with the previous month, April 2023, during which 255 earthquakes were detected and reviewed. The cumulative number of earthquakes from January through May 2023 is 1031.

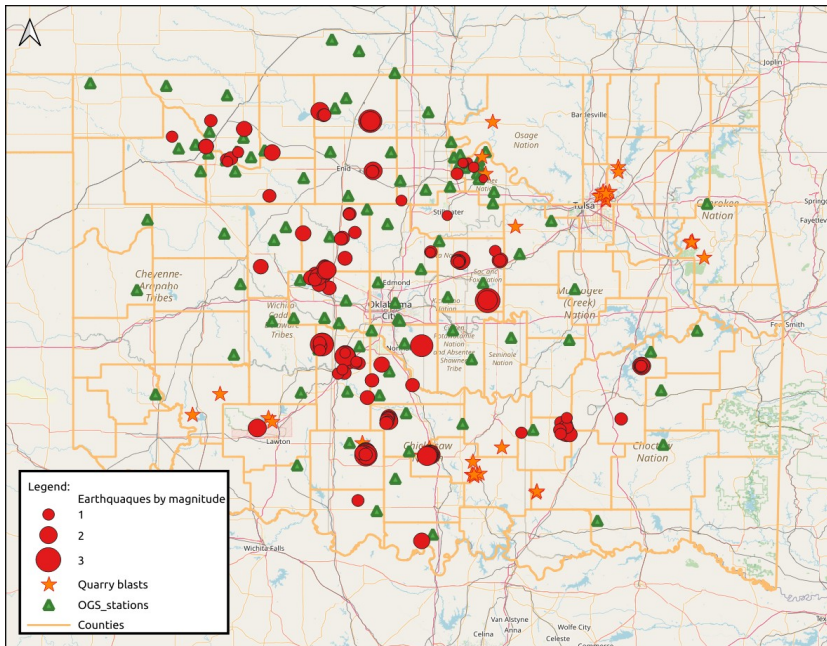


Figure 1. Epicenter Map of Earthquakes in Oklahoma during May 2023.

During May 2023, Grady county recorded the most seismic activity with 55 earthquakes, followed by Canadian county with 41 earthquakes. 35 out of 77 counties within the state have experienced at least 1 earthquake in May 2023 (Table 1).

The earthquake depths range from 0 to 31 km while the magnitudes fluctuate from 0.01 M_L to 3.0 M_L (Table 2). Excluding the quarry blasts that have a depth of 0, the average depth during this month is 8.14 km.

Earthquakes per Counties							
County	Earthquakes	County	Earthquakes	County	Earthquakes	County	Earthquakes
Alfalfa	3	Creek	1	Logan	2	Payne	1
Atoka	2	Garfield	4	Love	1	Pittsburg	7
Blaine	2	Garvin	12	Major	4	Pontotoc	2
Caddo	1	Grady	55	McClain	5	Rogers	4
Canadian	41	Grant	12	Murray	27	Stephens	38
Cherokee	1	Jefferson	1	Muskogee	4	Tulsa	8
Cleveland	2	Kingfisher	6	Noble	1	Woods	5
Coal	26	Kiowa	2	Osage	1	Woodward	15
Comanche	2	Lincoln	16	Pawnee	8		

Table 1. Table of earthquakes per county in Oklahoma during May 2023.

Number of Earthquakes per Magnitude range		
Magnitude range	Number of Earthquakes	Earthquake Effects
0 – 0.9	35	Usually not felt.
1 – 1.9	252	Usually not felt.
2 – 2.9	34	Often felt.
3 – 3.9	1	More likely to be felt

The largest earthquake that was recorded during May 2023 was in Lincoln county and had a magnitude of 3.0 M_L .

Table 2. Number of earthquakes per magnitude in Oklahoma during May 2023.

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