

## TULSA GEOSCIENCE CENTER

# DID YOU FEEL IT?

## 5.6 magnitude Oklahoma earthquake, largest recorded in state history! November 6, 2011

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- The **2011 Oklahoma earthquake** was a 5.6 [magnitude intraplate earthquake](#) which occurred on November 5, 2011, at 10:53 pm CDT (03:53 UTC, November 6, 2011) in the [U.S. state](#) of [Oklahoma](#).<sup>[1]</sup> According to the [U.S. Geological Survey](#) (USGS), it was the most powerful earthquake ever recorded in Oklahoma. The previous record was a 5.5 magnitude earthquake that struck near the town of [El Reno](#) in 1952.<sup>[3]</sup> The quake's epicenter was approximately 44 miles (71 km) east-northeast of [Oklahoma City](#), near the town of [Sparks](#) and was felt in the neighboring states of [Texas](#), [Arkansas](#), [Kansas](#) and [Missouri](#) and even as far away as [Tennessee](#) and [Wisconsin](#).<sup>[4]</sup> The quake followed several minor quakes earlier in the day, including a 4.7 magnitude [foreshock](#).<sup>[4][5][6]</sup> The quake had a maximum perceived intensity of VIII on the [Mercalli intensity scale](#) as detected in the town of [Prague](#).<sup>[2]</sup> Numerous [aftershocks](#) were detected after the main quake, with a few registering at 4.0 magnitude.<sup>[4]</sup>

## Geology

The Oklahoma Geological Survey believes the quake occurred along the Wilzetta Fault, which is also known as the Seminole Uplift.<sup>[6]</sup> The Wilzetta Fault is a 55-mile (89 km) long fault zone that runs from central [Pottawatomie County](#) to the western part of [Creek County](#).<sup>[7]</sup> It is a [strike-slip fault](#), where two adjacent crustal blocks slide horizontally past each other, but unlike the similar moving [San Andreas Fault](#), the Wilzetta Fault is not located near the margins of any tectonic plates.