

# EARTHQUAKE FACTS

Illinois State Geological Survey

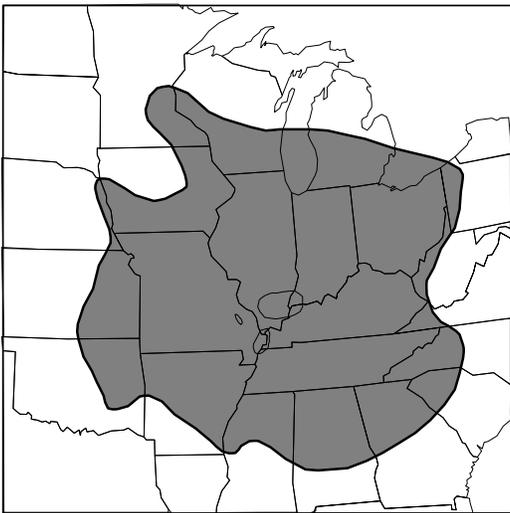
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Department of Natural Resources

## EARTHQUAKE OCCURRENCE IN ILLINOIS

### AN EARTHQUAKE EVERY YEAR

The historical record of earthquakes having epicenters in Illinois begins on January 8, 1795. On that date a mild earthquake occurred near Fort Kaskaskia on the Mississippi River in southwestern Illinois. During the 200 years since that event there have been about 200 other earthquakes in Illinois. Only nine of these quakes were strong enough to cause even minor damage. The largest Illinois quake ever recorded occurred on November 9, 1968, and measured magnitude 5.4 on the Richter scale.

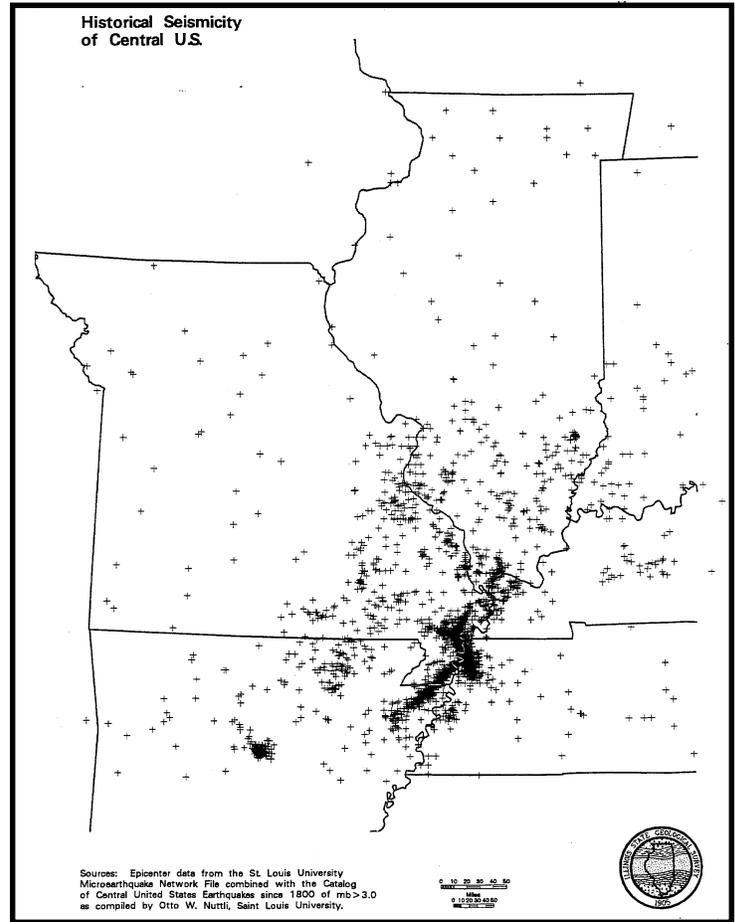


Areas felt (grey) and damaged (black) during the 1968 southern Illinois earthquake.

The last damaging earthquake in Illinois occurred on June 10, 1987, near Olney in southeast Illinois. This quake measured 5.0 on the Richter scale, was felt in parts of 16 states, and caused minor damage in Richland and Lawrence Counties.

**Central US Seismicity** Stronger earthquakes are known elsewhere in the central US, particularly in the New Madrid Seismic Zone, which runs from about Marked Tree, Arkansas, north-northeast up through the bootheel of Missouri to Cairo, Illinois. The last strong earthquake struck the Midwest on Halloween (October 31) 1895. The quake, centered just south of Illinois in Charleston, Missouri, had an estimated magnitude of 6.8 on the Richter scale.

Three great earthquakes, each larger than magnitude 8.0, struck the New Madrid Seismic Zone during the winter of 1811-1812. This is the largest release of seismic energy ever recorded in the continental US. Fortunately, the region was sparsely populated at the time and only a few casualties were reported.



**Probabilities of future earthquakes** The likelihood of an earthquake of magnitude 6.3 or greater occurring somewhere in the Central US within the next 15 years is 40 to 63% and 86 to 97% within the next 50 years. An earthquake of this size would damage older structures, especially those of masonry construction. Serious damage could also occur to many schools in the region.

The probability of a major earthquake (magnitude 7.5 or greater) is only 5 to 9% within the next 15 years, and 19 to 29% within the next 50 years. An earthquake of this size would be felt throughout much of the central and eastern United States. Damage could amount to several billion dollars.

Mag	Earthquake Frequencies		
	Expected Rate		
	Illinois	Central US	World
3	1/yr	6/yr	250/day
4	4 yrs	14 mos	40/day
5	20 yrs	10-12 yrs	8/day
6	?	70-90 yrs	2/wk
7	?	250-500 yrs	20/yr
8	?	550-1200 yrs	2/yr



Sources — ISGS EGN 133, USGS, and Center for Earthquake Research and Information, University of Memphis.  
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