

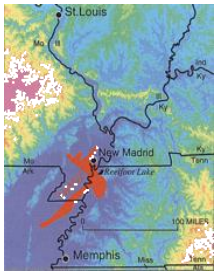
Earthquake Safety For Missouri's Schools



The New Madrid Seismic Zone Extends 120 Miles Southward from the area of Charleston, Missouri, and Cairo, Illinois, through New Madrid and Caruthersville, following Interstate 55 to Blytheville and on down to Marked Tree, Arkansas. The NMSZ consists of a series of large, ancient faults that are buried beneath thick, soft sediments. These faults cross five state lines and cross the Mississippi River in three places and the Ohio River in two places.

The New Madrid Seismic Zone and surrounding region is Active, Averaging More than 200 Measured Events per Year (Magnitude 1.0 or greater), about 20 per month. Tremors large enough to be felt (Magnitude 2.5 – 3.0) are noted every year. The fault releases a shock of 4.0 or more, capable of local minor damage, about every 18 months. Magnitudes of 5.0 or greater occur about once per decade. They can cause significant damage and be felt in several states.

The Highest Earthquake Risk in the United States outside the West Coast is in the New Madrid Seismic Zone. Damaging temblors are not as frequent as in California, but when they do occur, the destruction covers over more than 20 times the area due to the nature of geologic materials in the region. The 1968 5.5 magnitude Dale, Illinois earthquake toppled chimneys and caused damage to unreinforced masonry in the St. Louis area, more than 100 miles from the epicenter. A 5.2 magnitude earthquake in April 2008 in southeast Illinois, did not cause damage in Missouri, but was felt across much of the state.



A Damaging Earthquake in this Area, which experts say is about a 6.0 magnitude event, occurs about once every 80 years (the last one in 1895 was centered near Charleston, Missouri). There is estimated to be a 25-40% chance for a magnitude 6.0 – 7.5 or greater earthquake along the New Madrid Seismic Zone in a 50-year period according to the U.S. Geological Survey reports. The results would be serious damage to unreinforced masonry buildings and other structures from Memphis to St. Louis. We are certainly overdue for this type of earthquake!

A Major Earthquake in this Area – the Great New Madrid Earthquake of 1811-12 was actually a series of over 2000 shocks in five months, with several quakes believed to be a 7.0 Magnitude or higher. Eighteen of these rang church bells on the Eastern seaboard. The very land itself was destroyed in the Missouri Bootheel, making it unfit even for farming for many years. It was the largest release of seismic energy east of the Rocky Mountains in the history of the U.S. and was several times larger than the San Francisco quake of 1906.

When Will Another Great Earthquake the Size of Those in 1811-12 Happen? Several lines of research suggest that the catastrophic upheavals like those in 1811-12 visit the New Madrid region every 500-600 years. Hence, emergency planners, engineers, and seismologists do not expect a repeat of the intensity of the 1811-12 series for at least 100 years or more. However, even though the chance is remote, experts estimate the chances for a repeat earthquake of similar magnitude to the 1811-1812 New Madrid earthquakes over a 50-year period to be a 7 – 10% probability.

What Can We Do to Protect Ourselves? Education, planning, proper building construction, and preparedness are proven means to minimize earthquake losses, deaths, and injuries.