

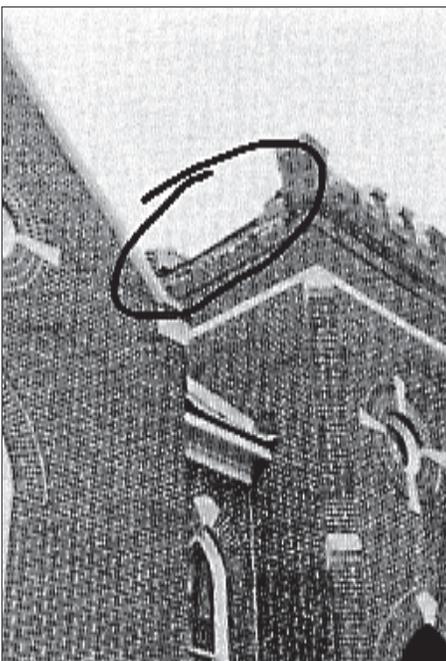
WABASH VALLEY EARTHQUAKES

A DOZEN MODERATE QUAKES IN A CENTURY



Earthquakes of the Wabash Valley area, magnitude 4.0 or greater.

People living in the Wabash Valley area are not surprised to learn that this is “earthquake country”. Earthquakes have shaken houses here in nearly every decade this century. For instance, a November 1958 earthquake shook up fans at the Mt. Carmel-Princeton, IN football game. Ten years later, almost to the day, the strongest earthquake in the Central US this century knocked bricks off walls and chimneys from McLeansboro to Harrisburg to



courtesy of Seismological Society of America

Ridgeway. A June 1987 earthquake damaged chimneys and cracked sidewalks in the Lawrenceville area.

In fact, ever since the last strong earthquake hit the New Madrid region in 1895, there have been more moderate quakes in the Wabash area than in the New Madrid area to the southwest.

The pattern of earthquake occurrence in the Wabash Valley is puzzling because it doesn't seem to coincide with the Wabash Valley Fault System. Apparently these faults are no longer active, and the modern earthquakes, though possibly related, are breaking the earth's crust in different locations and not on the ancient faults. This pattern makes it difficult to determine the cause of the modern earthquakes. Consequently, estimates of the largest potential quakes in the area and how often they might recur are tentative, at best.

Although no severe earthquakes have occurred in the area during recent times, sci-



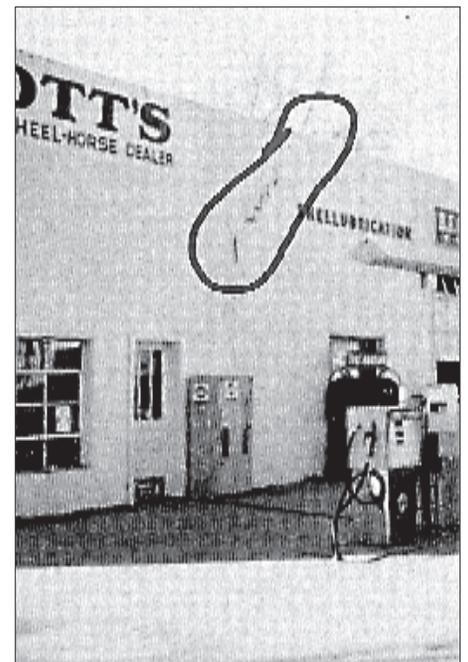
ISGS photo

Typical minor damage from recent Wabash Valley earthquakes. Left: Bricks thrown from battlement on tower of First Methodist Church in McLeansboro by the November 1968 M5.5 earthquake. Center: Bricks thrown from chimney in the Lawrenceville area by the June 1987 M5.0 earthquake. Right: Diagonal shear crack at service station in Dale created by the November 1968 M5.5 earthquake.

entists have found evidence of strong earthquakes in the past. Several strong earthquakes, probably magnitude 6.5 or larger, shook the valley between 4,000 and 10,000 years ago. These quakes created quicksand deposits in the river valley similar to those caused by the great 1811-1812 New Madrid earthquakes. Remnants of these deposits have been preserved in the sediments and are witnesses to the intense ground shaking that occurred.

Even weaker, magnitude 5.5 to 6.0 quakes could be strong enough to cause significant damage if they occurred close to populated areas. As seen below, old masonry buildings and chimneys are particularly susceptible to damage.

Earthquake ground shaking is stronger in lowland soils than on uplands. This adds to the risk of river towns and cities along the Wabash and its tributaries from Vincennes and Lawrenceville in the north to Carmi, Shawneetown and Evansville, Indiana in the south.



courtesy of Seismological Society of America



Sources — St. Louis University Earthquake database, Center for Earthquake Research and Information, University of Memphis, Bulletin of the Seismological Society of America, Vol. 60, No. 3 pp 953-971. For further information contact: Illinois State Geological Survey, 615 E. Peabody Dr. Champaign, IL 61820, phone 217-244-2414

