

# EARTHQUAKE HISTORY OF NEBRASKA

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Nebraska is in a region of moderate seismicity occasionally punctuated by rather strong earthquakes. Most of the State is seismic risk zone 1, with a small part in the southeast corner in risk zone 2. The first significant earthquake felt in Nebraska occurred in 1867, the year that statehood was achieved. The tremor occurred on *April 24, 1867*, and was apparently centered near Lawrence, Kansas. It affected an area estimated at 780,000 km<sup>2</sup> including much of Nebraska. Since 1867, at least seven earthquakes of intensity V or greater have originated within Nebraska's boundaries. Several strong earthquakes centered in neighboring States have also been felt over limited portions of Nebraska. None of these caused damage.

Probably the strongest earthquake in Nebraska history occurred on *November 15, 1877*. There were two shocks 45 minutes apart; the second was the strongest. At North Platte the shock was reported to have lasted 40 seconds and intensity VII effects were noted. Buildings rocked at Lincoln, and walls were damaged at Columbus. The shock was strongly felt at Omaha. Cracked walls were reported at Sioux City, Iowa. The total felt area covered approximately 360,000 km<sup>2</sup> including most of Nebraska and portions of Iowa, Kansas, the Dakotas, and northwestern Missouri.

On *July 28, 1902*, a moderate earthquake (intensity V) occurred near Battle Creek in northeastern Nebraska. The limited reports available indicate that this shock was felt at Yankton, South Dakota, and at a number of places in western Iowa. No damage was noted, although the tremor was reported "sufficient to rattle dishes and shake bell towers" at several points.

Several small earthquakes shook houses (intensity IV-V) in Columbus, Nebraska, on *February 26, 1910*. The shocks were apparently felt in the local area only.

On *July 30, 1934*, a strong earthquake centered in Dawes County, in the Nebraska Panhandle, affected a total area of about 60,000 km<sup>2</sup> in Nebraska, South Dakota, and Wyoming. The tremor damaged a few chimneys at Chadron, Nebraska (intensity VI). In addition, some plaster fell and dishes and canned goods were thrown from shelves and cupboards. The shock was reported felt at about 125 places, including Sterling, Colorado, about 240 km distant.

Two earthquakes, 4 minutes apart, the first strong, the second weak, shook the area near Tecumseh and adjacent portions of Iowa, Kansas, and Missouri on *March 1, 1935*. At Tecumseh some chimneys were cracked and a few collapsed (intensity VI). A few windows were also broken and cracks appeared in plaster and stone walls. Some damage also oc-

curred at Humboldt, Pawnee City, Peru, Shubert, Stella, and St. Marys, Nebraska, and at Riverton, Iowa. This earthquake was attributed to slip along a fault which delimits the east side of the buried Nemaha Mountains. The total felt area covered approximately 130,000 km<sup>2</sup>.

About 233,000 km<sup>2</sup> of western Nebraska, South Dakota, and border areas of Montana and Wyoming were jolted by a magnitude 5.1 earthquake shortly after 3 a.m., *March 28, 1964*. Six hours earlier, a mild shock centered near Van Tassell, Wyoming, had been felt over a small portion of the same area. The early morning shock of March 28th caused many cracks in a road about 16 km south of Merri-

man, Nebraska. Some steep banks along the Niobrara River tumbled (intensity VII). Plaster fell at Rushville, and part of a chimney toppled at Alliance. Slight damage was also reported at Martin and Deadwood, South Dakota. Broken goods in homes and stores were reported from various towns. The press reported that this shock was felt as far north as Alzada, Montana.

A magnitude 3.7 earthquake occurred in the north-central part of the State on *October 15, 1972*. Intensity V effects were reported at Bassett but no damage occurred. The earthquake was also felt at Ainsworth and Newport.

