Earthquake Shaking Green Alert

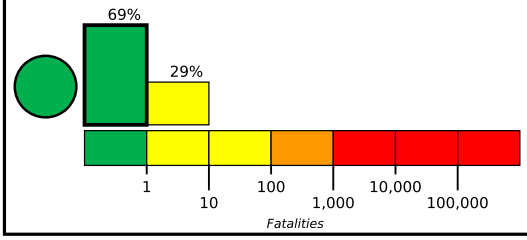
M 4.2, 10 km NNE of Guide Rock, Nebraska

Origin Time: 2023-12-10 19:31:18 UTC (Sun 13:31:18 local)
Location: 40.1656° N 98.2907° W Depth: 7.1 km

PAGER Version 4

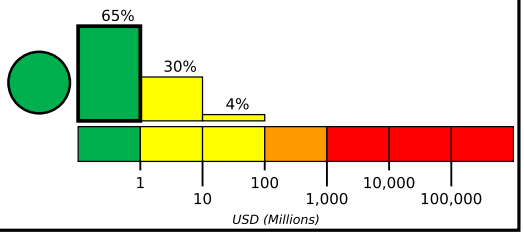
Created: 1 day, 0 hours after earthquake

Estimated Fatalities



Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.

Estimated Economic Losses



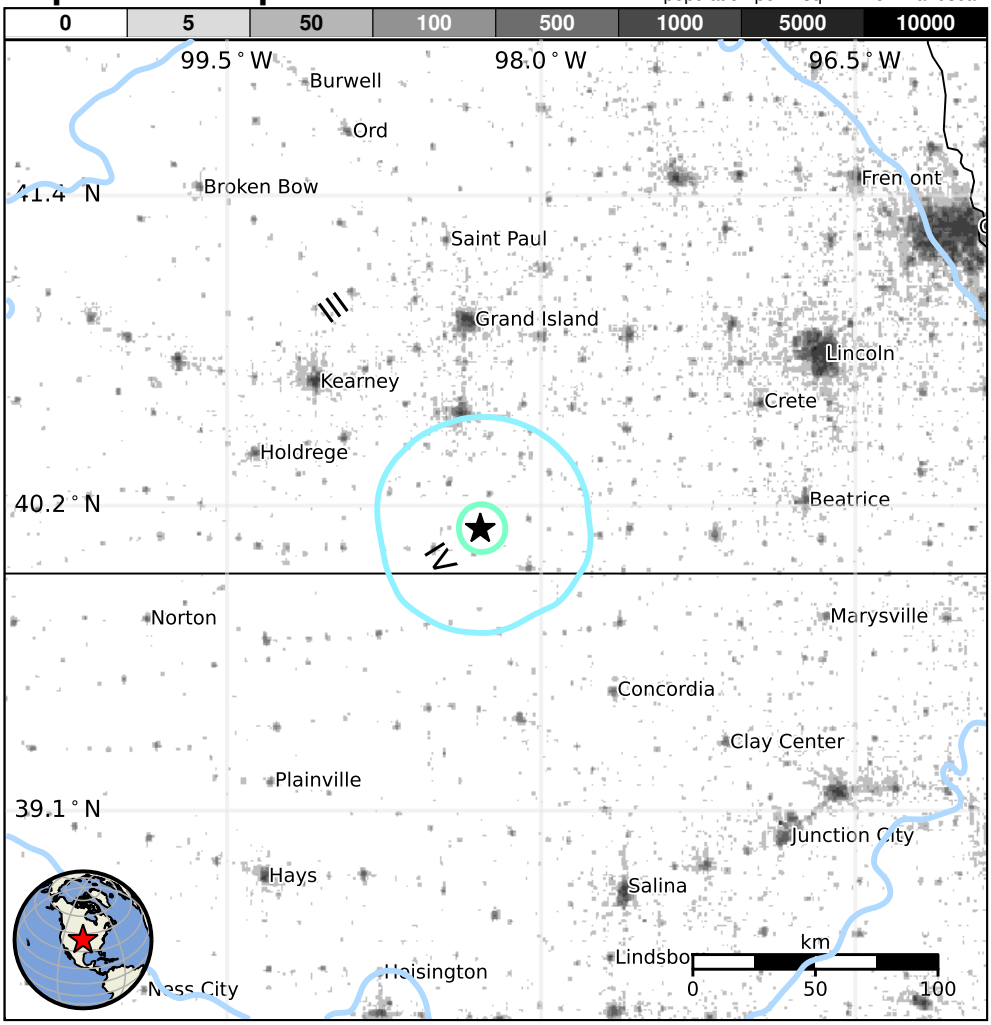
Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		–*	2,190k	28k	0	0	0	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure

population per 1 sq. km from Landscan



Structures

Overall, the population in this region resides in structures that are resistant to earthquake shaking, though vulnerable structures exist. The predominant vulnerable building types are unreinforced brick masonry and reinforced masonry construction.

Historical Earthquakes

There were no earthquakes with significant population exposure to shaking within a 400 km radius of this event.

Selected City Exposure

from GeoNames.org

MMI	City	Population
IV	Nelson	0
IV	Red Cloud	1k
IV	Superior	2k
IV	Hastings	25k
IV	**Clay Center**	**1k**
IV	Mankato	1k
III	**Grand Island**	**49k**
III	**Lincoln**	**258k**
III	Manhattan	52k
II	Bellevue	50k
II	**Omaha**	**409k**

bold cities appear on map. (k=x1000)

PAGER content is automatically generated, and only considers losses due to structural damage. Limitations of input data, shaking estimates, and loss models may add uncertainty.

https://earthquake.usgs.gov/earthquakes/eventpage/us7000lhz1#pager

Event ID: us7000lhz1