

M 6.2, 7km N of Petrolia, CA

Origin Time: 2021-12-20 20:10:30 UTC (Mon 12:10:30 local)

Location: 40.3739° N 124.3222° W Depth: 17.3 km

FOR TSUNAMI INFORMATION, SEE: tsunami.gov

PAGER
Version 20

Created: 5 weeks, 1 day after earthquake

Estimated Fatalities

Estimated Fatalities: 65% (1-10), 30% (10-100), 4% (100-1000), 0% (1000-100000)

Yellow alert for economic losses. Some damage is possible and the impact should be relatively localized. Estimated economic losses are less than 1% of GDP of the United States. Past events with this alert level have required a local or regional level response.

Green alert for shaking-related fatalities. There is a low likelihood of casualties.

Estimated Economic Losses

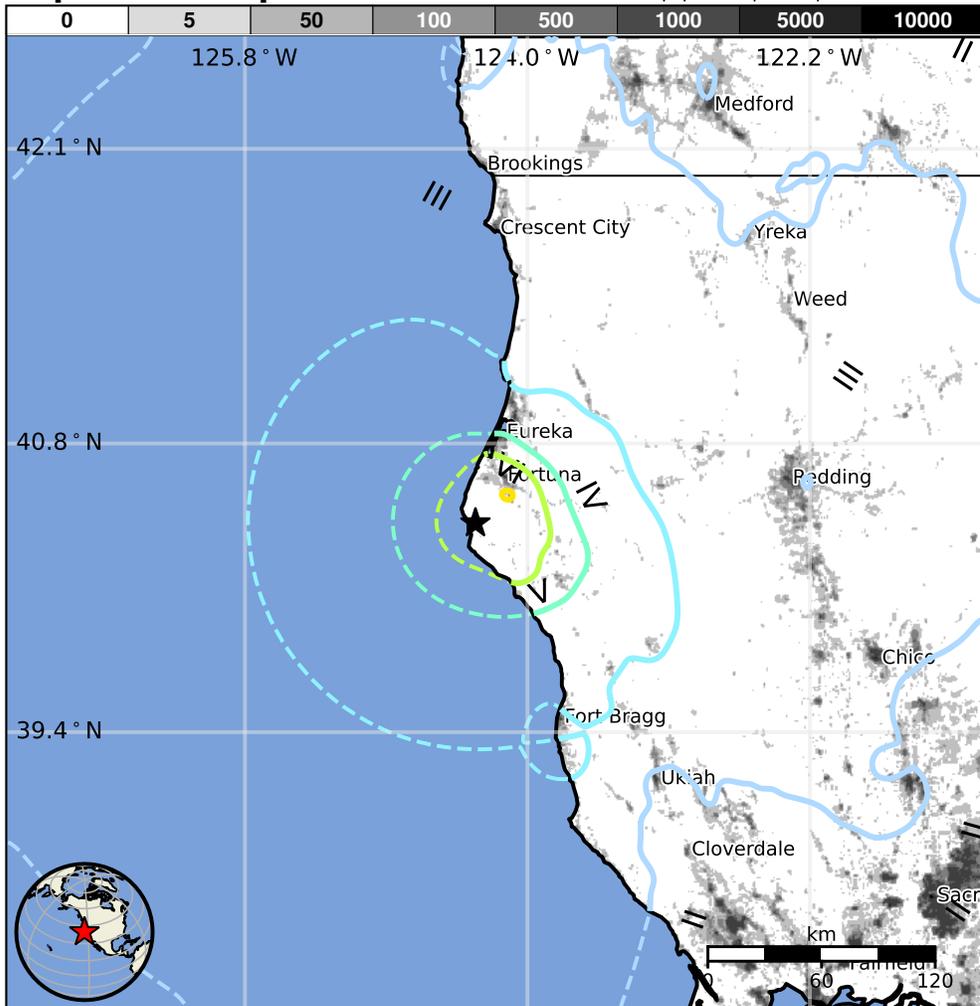
Estimated Economic Losses: 26% (1-10), 35% (10-100), 28% (100-1000), 10% (1000-100000)

Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)	1k*	4,777k	85k	36k	19k	8k	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



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

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1993-09-21	289	6.0	VI(47k)	1
1980-11-08	81	7.3	IX(16k)	0
1980-01-24	371	5.8	VII(35k)	1

Recent earthquakes in this area have caused secondary hazards such as landslides and liquefaction that might have contributed to losses.

Selected City Exposure

from GeoNames.org

MMI	City	Population
VII	Ferndale	1k
VII	Rio Dell	3k
VII	Hydesville	1k
VI	Fortuna	12k
VI	Redway	1k
V	Humboldt Hill	3k
II	Roseville	119k
II	Sacramento	466k
II	Elk Grove	153k
II	Vallejo	116k
II	Santa Rosa	168k

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/nc73666231#pager>

Event ID: nc73666231