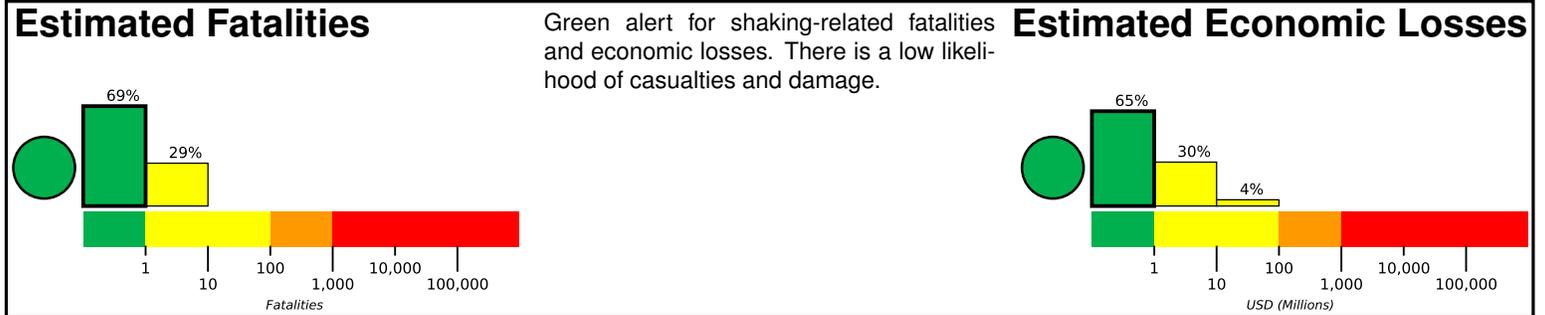# M 4.1, 9km ENE of Dover, Delaware

Origin Time: 2017-11-30 21:47:31 UTC (Thu 16:47:31 local)
Location: 39.1977° N 75.4325° W Depth: 9.9 km
FOR TSUNAMI INFORMATION, SEE: tsunami.gov

PAGER
Version 6
Created: 5 weeks, 1 day after earthquake

Estimated Fatalities

69%
29%

1   10   100   1,000   10,000   100,000
Fatalities

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

Estimated Economic Losses

65%
30%
4%

1   10   100   1,000   10,000   100,000
USD (Millions)

Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)	12k*	46,422k	153k	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
POTENTIAL DAMAGE — 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

0   5   50   100   500   1000   5000   10000
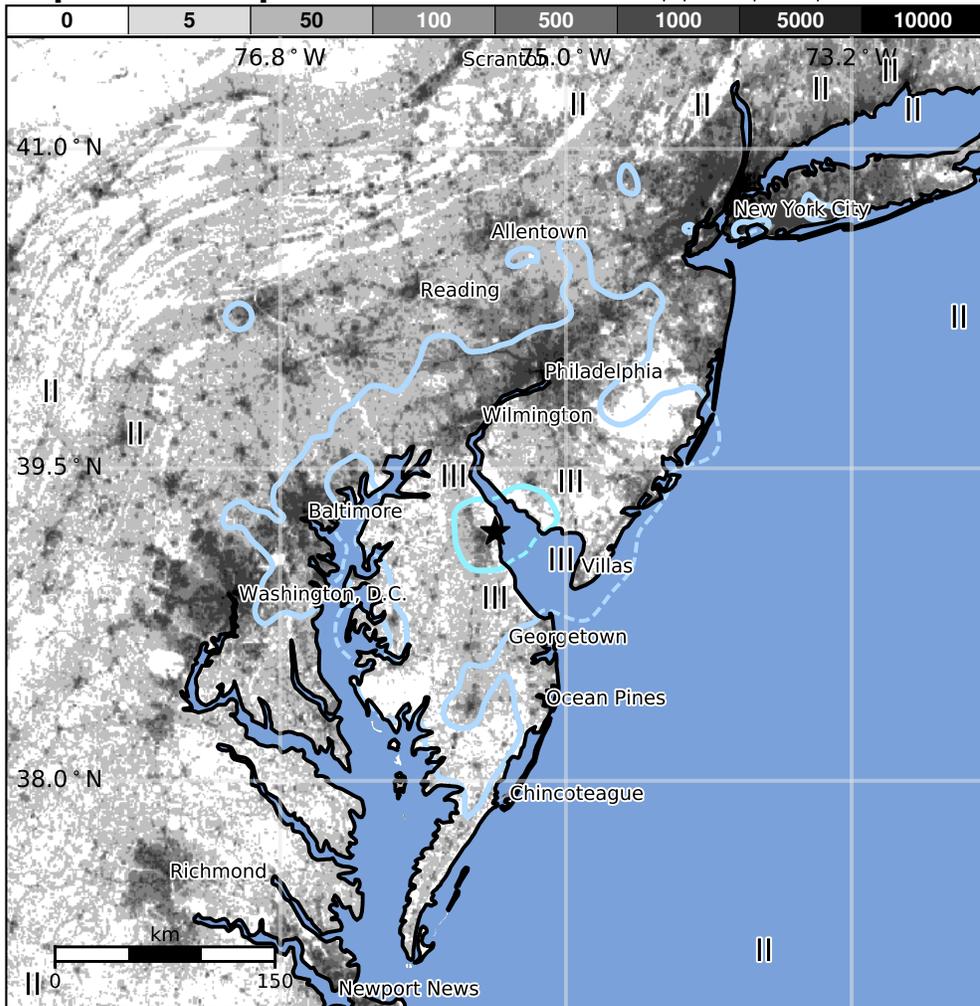
Structures

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
2003-12-09	280	4.5	V(30k)	–
1994-01-16	136	4.6	V(269k)	–

Selected City Exposure

from GeoNames.org

MMI	City	Population
IV	Dover	36k
IV	Dover Base Housing	3k
IV	Rodney Village	1k
IV	Kent Acres	2k
IV	Highland Acres	3k
IV	Rising Sun-Lebanon	3k
III	Trenton	85k
III	Annapolis	38k
II	Harrisburg	50k
II	**Washington, D.C.**	**602k**
II	**Richmond**	**204k**

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/us1000bjkn#pager

Event ID: us1000bjkn