

Summary of Maryland Earthquakes, 1758-2005

This list supersedes all previous lists of Maryland earthquakes.

ID	Date (UTC) ¹		Time (UTC) ¹ (h:m:s)	Epicenter ²		General Location	Depth (km)	Intensity ³	Magnitude ⁴
	Year	Mo Day		N Lat (deg.)	W Lon (deg.)				
1	1758	04 25	02:30	38.90	-76.50	Annapolis	...	V	(3.5, 3.7)
2	1828	02 24	...	38.90	-76.70	Bowie
3	1876	01 30	02:05	38.90	-76.50	Annapolis
4	1876	04 10	...	38.50	-76.60	Prince Frederick	...	III	(2.7)
5	1877	09 01	16:00	38.70	-76.80	Brandywine	...	III	(2.7)
6 ⁵	18815	01 04	08:005	39.57	-77.00	Westminster	...	IV-V	(3.1)
7	1883	03 11	23:57	39.50	-76.40	Fallston	...	IV	(3.1, 3.3)
8	1883	03 12	05:00	39.50	-76.40	Fallston	...	III	(2.7, 2.9)
9	1902	03 10	05:00	39.60	-77.20	Union Bridge	...	III	(2.7)
10	1902	03 11	10:30	39.60	-77.20	Union Bridge	...	III	(2.7)
11	1903	01 01	17:30	39.60	-77.20	Union Bridge	...	III	(2.7)
12	1903	01 01	22:45	39.60	-77.20	Union Bridge	...	II	(2.4)
13	1906	10 13	15:00	39.20	-76.70	Catonsville	...	III	(2.7)
14	1910	01 24	02:20	39.60	-77.00	Westminster	...	II	(2.4)
15	1910	04 24	02:	39.20	-76.70	Catonsville	...	III	(2.7)
16	1928	10 15	...	38.30	-75.10	Ocean City	...	IV	(2.7, 3.3)
17	1930	11 01	06:34	39.10	-76.50	Round Bay - Severna Park	...	IV	(3.1, 3.3)
18	1930	11 01	07:02	39.10	-76.50	Round Bay - Severna Park	...	III	(2.7)
19	1939	06 22	23:10	39.50	-76.60	Phoenix	...	III	(2.7)
20	1939	11 18	02:33	39.50	-76.60	Phoenix	...	IV	(3.1)
21	1939	11 26	05:20	39.50	-76.60	Phoenix	...	V	(3.5, 3.7)
22	1962	09 07	14:00	39.70	-78.20	Hancock	38	IV	(3.3)
23	1978	04 26	19:30	39.7	-78.24	Hancock	15	...	3.10
24	1986	05 23	17:48	38.69	-77.04	Accocek - Piscataway	0.20	...	2.5

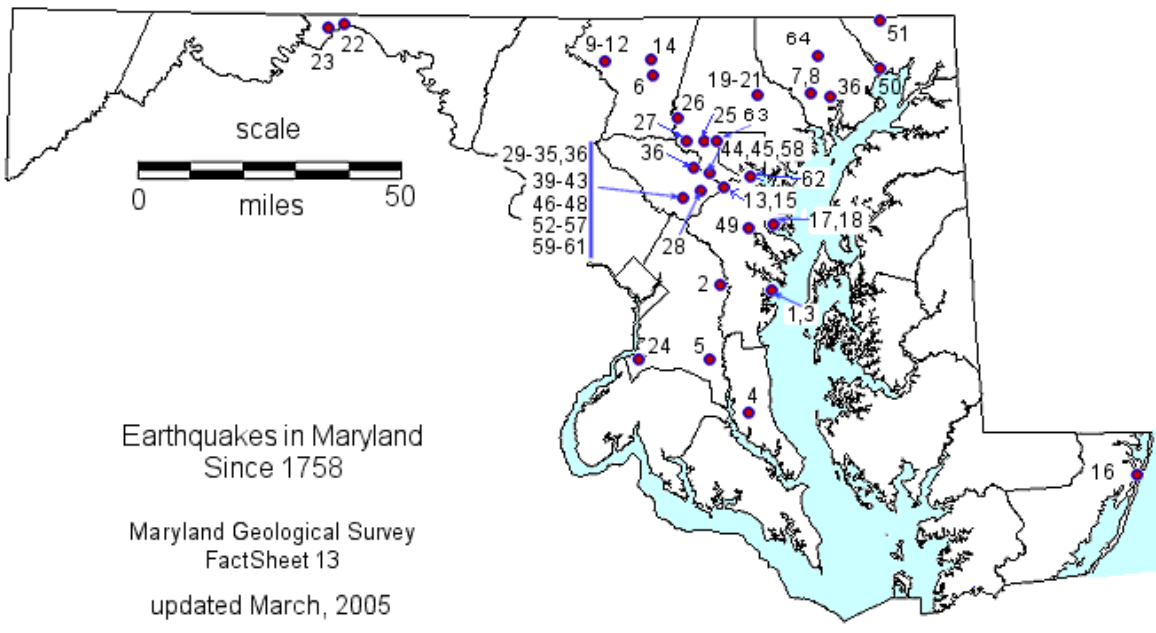
25	1990 01 13	20:48	39.36	-76.80	Randallstown (V), Eldersburg (IV), Ellicott City (IV), Granite (IV), Owings Mills (III)	3-5	V	2.6 2.5
26	1990 04 04	16:15	39.35	-76.78	Granite - Randallstown - Baltimore	7.0 10.0	II	1.7
27	1991 09 28	11:28	39.36	-76.83	Granite - Randallstown	5.0	III	2.4
28	1993 03 10	14:32	39.2	-76.8	Columbia (IV) - Ellicott City (II) - Fulton (II)	5.0	II-IV	2.5
29	1993 03 12	00:54:00	39.19	-76.87	Columbia - Allview Estates	5.0	II-III	2.0
30	1993 03 15	04:30	39.19	-76.87	Columbia - Allview Estates - Laurel	0.9	III-V	2.7
31	1993 03 16	07:59:00	39.19	-76.87	Columbia - Allview Estates	5.0	II-III	1.8
32	1993 03 16	16:59	39.19	-76.87	Columbia - Allview Estates	5.0	II-III	1.8
33	1993 03 17	11:54	39.19	-76.87	Columbia - Allview Estates	0.5	I-II	equal to or less than 1.0
34	1993 03 19	05:50	39.19	-76.87	Columbia - Allview Estates	0.5	I-II	1.0
35	1993 03 19	19:26	39.19	-76.87	Columbia - Allview Estates	0.5	I	<1.0
36	1993 03 21	10:55	39.47	-76.30	Aberdeen - Bel Air	...	I-II	1.5
37	1993 03 22	10:26	39.19	-76.86	Columbia - Allview Estates	0.5	not felt	about 0.0
38	1993 03 26	14:03	39.28	-76.82	Ellicott City near jct US40 & 29	...	I-II	<1.5 (est.)
39	1993 04 04	17:32	39.19	-76.87	Columbia - Allview Estates	0.5	I-III	1.5
40	1993 04 04	17:33	39.19	-76.87	Columbia - Allview Estates	0.5	I-II	1.5
41	1993 04 08	09:10	39.19	-76.87	Columbia - Allview Estates	0.5	I-II	1-1.5
42	1993 07 09	06:31	39.19	-76.87	Columbia - Allview Estates	0.5 (est.)	II-III	1.9
43	1993 07 12	21:24	39.19	-76.87	Columbia - Allview Estates	0.5 (est.)	III-IV	2.1
44	1993 10 28	06:00	39.25	-76.77	Ilchester - Ellicott City	...	IV	2.1
45	1993 10 28	06:01	39.25	-76.77	Ilchester - Ellicott City	...	IV	1.8

46	1993 11 17	16:35	39.19	-76.87	Columbia - Allview Estates	0.5 (est.)	III	1.7 (est.)
47	1993 11 27	15:26	39.19	-76.87	Columbia - Allview Estates	...	I-II	<1.5 (est.)
48	1993 11 27	18:43	39.19	-76.87	Columbia - Allview Estates	...	I-II	about 1.5 (est.)
49	1994 10 28	02:04	39.1	-76.60	Glen Burnie - Pasadena - Gambrills -Millersville	...	IV	2.7
50	1996 08 02	07:19	39.57	-76.08	Perryville	...	II-III	2.2
51	1996 10 17	11:43	39.7	-76.07	Rising Sun (epicenter may be in Pennsylvania)	5.4	IV	2.2, 2.3
52-54	1996 12 06	3 very small events in 35 min.	39.19	-76.87	Columbia - Allview Estates	...	II	<1.5 (est.)
55-57	1996 12 14	3 very small events in 75 min.	39.19	-76.87	Columbia - Allview Estates	...	II	<1.5 (est.)
58 ⁶	1996 12 16	15:10	39.25	-76.77	Ilchester - Ellicott City	...	I	about 1 (est.)
59	1996 12 22	05:56	39.19	-76.87	Columbia - Allview Estates	5	III	2.0, 2.3
60	2001 12 18	...	38.19	-76.84	Columbia nr US29-Md32	...	II	1.5-2.0 (est)
61	2002 03 22	...	38.19	-76.84	Columbia nr US29-Md32	...	I	1-2 (est.)
62	2005 02 23	...	39.26	-76.58	SE Baltimore nr. Fort McHenry, Dundalk, Glen Burnie, Pasadena, Gambrills	...	II-III (IV?)	2.0-2.1
63	2007 10 08	...	39.343	-76.714	Lochearn, Baltimore, Arbutus, Catonsville	...	II-III	1.5
64	2009 09 29 ⁷	13:58:51.5	39.607	-76.342	12 km NE of Fallston, MD	...	I	1.6

NOTES:

1. *Time (UTC): Coordinated Universal Time. For the Eastern time zone, subtract 5 hours from UTC time for Eastern Standard Time, 4 hours for Eastern Daylight Saving Time. For example: 1200 UTC (noon) = 0800, or 8:00 am EDT = 0700, or 7 am EST. Note that 00:00-04:59 UTC converts to 1800-23:59 of the previous day.*
2. *Epicenter, as calculated from seismograph stations =data and/or estimated by the Maryland Geological Survey on the basis of felt reports; 1962 marked the first instrumentally determined epicenter.*
3. *Except for event #6 in 1881 (see note 5 below), pre-instrumental (pre-1962) intensity estimates are earthquake catalogs published by various seismograph networks.*
4. *Except for event #6 in 1881 (see note 5 below) pre-instrumental magnitude estimates (shown in parentheses) by L. Seeber and J. Armbruster (Lamont Doherty Earth Observatory of Columbia University) and/or M. Chapman (Virginia Tech Seismological Observatory); magnitude estimates for a large number of pre-instrumental earthquakes in the region were derived using the region-specific relationships between felt area, maximum intensity and mb(Lg) magnitude developed by Sibol et al. (1987). Subsequent magnitudes are from instrumental measurements.*
5. *Event #6 has not been listed in any previously published earthquake list. A rather detailed account of this event appeared in the January 8, 1881 edition of the American Sentinel newspaper. Estimates of the epicenter and intensity have been made on the basis of the newspaper descriptions; magnitude estimates based on Sibol et al. (1987).*
6. *The Delaware Geological Survey states that this event may have been a sonic boom instead of an earthquake (S. Baxter, oral commun., Aug. 16, 2001).*
7. *Detected only by the Lamont Doherty Earth Observatory seismic network (<http://www.ldeo.columbia.edu/cgi-bin/quake.cgi>). There were no felt reports.*

Approximate Epicenters of Maryland Earthquakes, 1758-2005
(Numbers refer to ID numbers in the preceding list.)



Reference:

Sibol, M.S., Bollinger, G.A., and Birch, J.B., 1987, Estimation of magnitudes in central and eastern North America using intensity and felt area: *Bulletin of the Seismological Society of America*, v. 77, (Oct.), p. 1635-1654.

A printable version of FactSheet 13 is available in Adobe Acrobat PDF format (161kb) at
<http://www.mgs.md.gov/esic/fs/fs13.html>

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