University of Wisconsin-Extension

GEOLOGICAL AND NATURAL HISTORY SURVEY 3817 Mineral Point Road Madison, Wisconsin 53705

M.E. Ostrom, State Geologist and Director

LIST OF EARTHQUAKES IN WISCONSIN

Ъy

M.G. Mudrey, Jr.

Open-File Report 84-1 2 p.

This report represents work performed by the Geological and Natural History Survey, and is released to the open files in the interest of making the information more readily available. This report has not been edited or reviewed for conformity with Geological and Natural History Survey standards and nomenclature.

1984

			_	Centra			North	West	Felt Area	Maximum		Nuttli Number	Authority	
Location	Year	Month	Day	H	<u>M</u>	<u> </u>	Latitude	Longitude	square km	Intensity	Magnitude	(refo 1)	Source	Comments
1 Kenosha	1899	Oct	12				42° 34'	87° 504		11	3.0	1212	1,3,7,8	
2 Marinette	1905	Mar	13	22	30		45° 08'	87° 40'		v	3.8	1302	1,2,3,4,7,8	Given as Menominee, Mi
3 Shorewood	1906	Apr	22			н 	43° 03'	87° 55'		11	3.0	1335	1,3,4,7,8	ā
4 Milwaukee	1906	Apr	24				43° 03'	87° 55'		III	~~~	n.r.	3,7,8	a (duplicate of 3)
5 Marinette	1907	Jan	10				45° 08'	87° 40'		111		n.r.	3,7,8	icequake
6 Beloit	1909	May	26	08	42		42° 30'	89° 00'	800,000	VII	5,1	1426	1,3,5,8,9	b
7 Madison	1914	Oct	07	15	00		43° 05'	89° 23'		IV	3.8	1536	1,3,4,7,8	
3 Madison	1916	May	31	16	45		43° 05'	89°21'		II	3.0	1573	1,3,4,7,8	2 light shocks
9 Fond du Lac	1922	ປິນໄ	07	·			43° 47'	88° 29'		V	3.6	1733	1,3,4,7,8	
) Madison	1931	Oct	18	15	12		43° 05'	89° 23'		III	3.4	2172	1,3,4,7,8	
1 Stoughton	1933	Dec	05	23	55		42° 54'	89° 15'	1,200	IV	3.5	2242	1,3,4,7,8	
2 Dubuque	1938	Nov	07	23	30		42° 30'	90° 43'	~~	II	3.0	2472	1,3,4,6,7,8	
34	34	34	08	01	15		н	n		н	66	2473	8 8	
u	11	"	58	03	30		"	п		**	53	2474	38	
3 Thunder Mountain	1943	Feb	09	17	21		45° 11'	88° 10'		III	3.2	2700	1,3,4,7,8	с
4 Milwaukee	1947	May	06	15	27		43° 00'	87° 55'	8,000	V	4.0	2859	1,3,4,7,8	
5 Lake Mendota	1948	Jan	15	11	40		43° 09'	89° 41'		IV	3.8	2892	1,3,4,7,8	icequake
6 Oostburg	1956	Jul	18	15	30		43° 37'	87° 45'		IV	3.8	3254	1,3,4,7,8	d
"	16	n	33	17	00			**		н	44	3255	. 84	
7 South Milwaukee	195 6	Oct	13	~~~			42° 55'	87° 52'		IV	3.8	3266	1,3,4,7,8	a
8 Beaver Dam	1957	Jan	08	10	00		43° 32'	88° 48'		IV	3.6	3276	1,3,4,7,8	
9 Bill Cross Rapids	197 9	Feb	28	12	04	55.2	45° 13'	89° 46'	instru- mental	ve.as	<1.0 MbL	g new	10	e .
0 Madison	1981	Jan	09	09	15		43° 05'	87° 55'	local	II		_ new		f
1 Madison	1981	Mar	13	a.m	•		43° 05'	87° 55	local	II		new		9
2 Oxford	1981	Jun	12	10	30		43° 52'	89° 39'	local	IV-V		new		h

"Comments:

- a. The San Francisco earthquake of April 18, 1906, occurred several days before. Possibility that aftershocks from that earthquake or misinterpretation of tremors were reported as Wisconsin earthquakes. 4 may be a duplicate of 3.
- b. Commonly attributed to South Beloit, Il., or Aurora, Il. Time corrected to Udden and Milwaukee Journal. May have been at least three strong aftershocks felt in Madison.
- c. Light local shock was felt in the vicinity of Thunder Mountain and Thunder Lake. Similar shocks had been felt there in previous years.
- d. Felt strongly at shoreline, but weakly inland. Possibly calving bluff or rip-rap. Tremors continued for several hours.
- Signals were received at the Mellen, Rhinelander and Aurora Stations from 1979 through May 1980. Only 2/28/79 was simultaneously recorded at two stations. See Van Horn (1980, p. 78) for discussion.
- Felt on top floor of three-story building in University of Wisconsin campus area.
- g. Felt on ground floor in industrial building on east side of Madison.
- h. Water tower swaying, reported by plant superintendent at Oxford Correctional Facility (Milwaukee Journal, September 13, 1981).

n.r. not reported by Nuttli (ref. 1).

Sources:

- 1. Barstow, N. L., Brill, K. G., Nuttli, O. W., and Pomeroy, P. W., 1981, An approach to seismic zonation for siting nuclear electricpower generating facilities in the eastern United States: Nuclear Regulatory Commission NUREG/CR-1577, 143 p. +
- Coffman, J.L., and Von Hake, C.A., editors, 1973, Earthquake history of the United States: National Oceanic and Atmospheric Administration Publication 41-1, p. 39.
- Docekal, Jerry, 1970, Earthquakes of the stable interior, with emphasis on the Midcontinent: Lincoln, University of Nebraska, unpublished Ph.D. dissertation; v. 2, 332 p.
- Nuttli, O. W., 1979, Seismicity of the central United States: Geological Society of America Reviews in Engineering Geology, vol. 4, p. 67-93.
- Stover, C. W., Reagor, B. G. and Algermission [sic], S. T., 1979, Seismicity map of the state of Illinois: U. S. Geological Survey Miscellaneous Field Studies Map MF-1143 (scale 1:1,000,000).
- Stover, C. W., Reagor, B. G., and Algermissen, S. T., 1981, Seismicity map of the state of Iowa: U. S. Geological Survey Miscellaneous Field Studies-Map MF-1324 (scale 1:1,000,000).
- Stover, C. W., Reagor, B. G., and Algermissen, S. T., 1980, Seismicity map of the state of Wisconsin: U. S. Geological Survey Miscellaneous Field Studies Map MF-1229 (scale 1:1,000,000).
- Stover, C. W., Reagor, B. G., and Algermissen, S. T., 1984, United States earthquake data file: U. S. Geological Survey Open-File Report 84-225, 123 p.
- Udden, J. A., 1910, Observations on the earthquake in the Upper Mississippi Valley, May 26, 1909: Illinois State Academy of Science, v. 3, p. 132-143.
- 10. Van Horn, J. E., 1980, Seismotectonic study of the southwestern Lake Superior region utilizing the Upper Michigan-Northern Wisconsin seismic network: Houghton, Michigan Technological University, unpublished M.S. thesis, 132 p.

12/11/84