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**Modified Mercalli Intensities (MMI) for Some  
Earthquakes in Eastern North America (ENA) and  
Empirical MMI Site Corrections for Towns in ENA**

by

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## Abstract

Modified Mercalli Intensity (*MMI*) assignments for earthquakes in eastern North America (ENA) were used by Bakun *et al.* (submitted) to develop a model for eastern North America for estimating the location and moment magnitude **M** of earthquakes from *MMI* observations. *MMI* assignments for most of the earthquakes considered by Bakun *et al.* (submitted) are published. *MMI* assignments for 6 other earthquakes used by Bakun *et al.* (submitted) are listed in this report: November 18, 1755 near Cape Ann, Massachusetts; January 5, 1843 near Marked Tree, Arkansas; October 31, 1895 in southern Illinois; November 18, 1929 on the Grand Banks, Newfoundland; September 26, 1990 in southeast Missouri; and May 4, 1991 near Risco, Missouri. *MMI* empirical site corrections developed and used by Bakun *et al.* (submitted) are also listed in this Open-file Report.

## Contents

Explanation of Tables 1 - 6: *MMI* Assignments

Explanation of Table 7: *MMI* Site Corrections

Table 1. *MMI* for November 18, 1755 earthquake near Cape Ann, Massachusetts

Table 2. *MMI* for January 5, 1843 earthquake near Marked Tree, Arkansas

Table 3. *MMI* for October 31, 1895 earthquake in southern Illinois

Table 4. *MMI* for November 18, 1929 earthquake on the Grand Banks, Newfoundland

Table 5. *MMI* for September 26, 1990 earthquake in southeast Missouri

Table 6. *MMI* for May 4, 1991 earthquake near Risco, Missouri

Table 7. Empirical *MMI* Site Corrections for towns and cities in eastern North America

### **Explanation of Tables 1 - 6: MMI Assignments**

MMI values were assigned according to the descriptions of Wood and Neumann (1931) and current USGS NEIC practice for assigning MMI (Stover and Coffman, 1993). The MMI are listed by state, and then by city, in chronological order. The MMI for the November 18, 1755 earthquake near Cape Ann, Massachusetts (Table 1) were assigned by M.G. Hopper using descriptions in WEGE (1977). The MMI for the January 5, 1843 earthquake near Marked Tree, Arkansas (Table 2) were assigned by M.G. Hopper using unpublished USGS NEIC data. The MMI for the October 31, 1895 earthquake in southern Illinois (Table 3) were assigned by M.G. Hopper using descriptions in Hopper and Algermissen (1980). The MMI for the November 18, 1929 Grand Banks, Newfoundland earthquake (Table 4) were assigned for sites in the United States by M.G. Hopper and for sites in Canada by Anne E. Stevens of the Geological Survey of Canada (personal communication, 2000). The MMI for the September 26, 1990 in southeast Missouri (Table 5) and for the May 4, 1991 near Risco, Missouri (Table 6) were assigned by M.G. Hopper using unpublished USGS NEIC data.

### **Explanation of Table 7: MMI Site Corrections**

Bakun *et al.* (submitted) calculated site corrections for communities in ENA with MMI assignments for more than 1 recent earthquake with independent estimates of moment magnitude **M** (Hanks and Kanamori, 1979) and epicenter location. The site corrections can account for amplification due to local geologic conditions and also to regional variations in crustal properties. Following Bakun and Wentworth (1997), the site correction is the mean {observed MMI - calculated MMI} at the site. The calculation of the ENA site corrections is described in detail in Bakun *et al.* (submitted). The 1,535 site corrections are based on 9,574 MMI assignments, 5,811 of which were not used because they were the only MMI assignment available for that site.

The site corrections reflect the consistent spatial intensity anomalies of the past 75 or so years of earthquakes in ENA. However, the empirical site corrections for many communities are estimated from MMI for only a few events and are uncertain. The standard deviations, the numbers of earthquakes used to calculate that site correction, and the uncertainties of the site corrections are listed. Site corrections flagged by \*\* are most reliable; those flagged by \* are somewhat reliable, and unflagged site corrections were obtained from inconsistent MMI residuals.

## References

Bakun, W.H., A.C. Johnston, and M.G. Hopper (submitted). Modified Mercalli intensities for earthquakes in eastern North America, *Bull. Seismol. Soc. Amer.*

Bakun, W.H. and C.M. Wentworth (1997). Estimating earthquake location and magnitude from seismic intensity data, *Bull. Seismol. Soc. Amer.* **87**, 1502-1521.

Hanks, T.C., and H. Kanamori (1979). A moment magnitude scale, *J. Geophys. Res.* **84**, 2348-2350.

Hopper, M.G. and S.T. Algermissen (1980). An evaluation of the effects of the October 31, 1895, Charleston, Missouri, earthquake, *U.S. Geological Survey Open-File Report 80-778*, 43 p.

Stover, C.W. and J.L. Coffman (1993). Seismicity of the United States, 1568-1989 (Revised), *U.S. Geological Survey Prof. Pap. 1527*, 418 p.

Weston Geophysical Research, Inc. (WEGE) (1977). Historical Seismicity of New England, *Nuclear Regulatory Commission submittal docket No. So-471 (DE S67601)*, 641 p.

Wood, H.O., and F. Neumann (1931). Modified Mercalli Intensity Scale of 1931, *Bull. Seismol. Soc. Am.* **21**, 277-283.

**Table 1. MMI for November 18, 1755 Earthquake  
(Cape Ann, Massachusetts)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
New Haven	CT	41.30	72.91	8
Boston	MA	42.36	71.06	8
Braintree	MA	42.23	71.00	8
Cambridge	MA	42.37	71.12	4
Chelmsford	MA	42.63	71.36	6
Essex	MA	42.70	70.91	8
Gloucester	MA	42.62	70.66	8
Ipswich	MA	42.68	70.83	8
Mansfield	MA	42.03	71.22	8
Marshfield	MA	42.12	70.72	7
Northampton	MA	42.32	72.63	8
Plymouth	MA	41.97	70.80	5
Salem	MA	42.53	70.88	8
Scituate	MA	42.20	70.72	8
Springfield	MA	42.12	72.60	6
Westborough	MA	42.26	71.62	5
Woburn	MA	42.48	71.15	8
Worcester	MA	42.28	71.80	8
Annapolis	MD	38.97	76.50	4
Eastern Shore	MD	37.50	75.80	4
Prince George's County	MD	38.83	76.85	4
Portland	ME	43.65	70.28	7
York	ME	43.15	70.65	8
Hampton	NH	42.94	70.84	8
Annapolis Royal	NS	44.75	65.52	7
Halifax	NS	44.87	63.72	2
Flushing	NY	40.62	73.97	4
Jamaica	NY	40.62	73.97	4
Lake George	NY	43.42	73.71	2
New York	NY	40.71	73.98	4
Oysterbay	NY	40.87	73.53	4
Philadelphia	PA	39.98	75.15	7
Exeter	RI	41.58	71.53	8

**Table 2. MMI for January 5, 1843 Earthquake  
(Marked Tree, Arkansas)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Florence	AL	34.80	87.68	4
Huntsville	AL	34.73	86.59	3
Batesville	AR	35.77	93.92	6
Helena	AR	34.53	90.59	7
Jacksonport	AR	35.64	91.31	6
Little Rock	AR	34.75	92.29	4
Van Buren	AR	35.44	94.35	4
Augusta	GA	33.48	82.00	3
Cassville	GA	34.25	84.85	5
Columbus	GA	32.47	84.98	4
Griffin	GA	33.25	84.28	3
Madison	GA	33.55	83.50	4
Rome	GA	34.02	85.03	5
Savannah	GA	32.07	81.12	3
Washington	GA	33.72	82.77	4
Burlington	IA	40.81	91.11	5
Burlington	IA	40.81	91.11	5
Alton	IL	38.90	90.17	5
Belleville	IL	38.51	89.99	6
Peoria	IL	40.68	89.62	3
Quincy	IL	39.92	91.41	5
Shawneetown	IL	37.70	88.13	5
Jeffersonville	IN	38.30	85.92	6
Terre Haute	IN	39.47	87.42	6
Vincennes	IN	38.70	87.50	5
Clinton	KY	36.65	88.98	4
Frankfort	KY	38.18	84.92	5
Louisville	KY	38.25	85.76	4
Mills Point (Hickman)	KY	36.55	89.17	7
Portland	KY	38.27	85.81	6
Sparta	KY	38.68	84.90	5
Benton	MO	37.10	89.56	4
Columbia	MO	38.95	92.33	4
Herculaneum	MO	38.26	90.38	5
Jefferson	MO	38.55	92.17	3
New Madrid	MO	36.63	89.65	7
Saint Louis	MO	38.65	90.25	6
Columbus	MS	33.50	88.45	4
Hernando	MS	34.83	90.00	5
Holly Springs	MS	34.78	89.38	5
Jackson	MS	32.33	90.18	5
Natchez	MS	31.53	91.40	3
Pontotoc	MS	34.25	89.02	6
Vicksburg	MS	32.35	90.85	5
Yazoo City	MS	32.85	90.43	6
Cincinnati	OH	39.10	84.53	5
Hamilton	OH	39.40	84.60	4
Zanesville	OH	39.93	82.03	3
Anderson	SC	34.50	82.50	4

**Table 2. MMI for January 5, 1843 Earthquake  
(Marked Tree, Arkansas)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Charleston	SC	32.80	79.97	3
Columbia	SC	33.99	81.01	4
Hamburg	SC	33.48	81.96	3
Pendleton	SC	34.63	82.78	4
Brownsville	TN	35.59	89.26	7
Columbia	TN	35.62	87.03	4
Covington	TN	35.53	89.67	7
Jackson	TN	36.37	85.68	7
Knoxville	TN	35.98	83.92	5
McMinnville	TN	35.69	85.78	5
Memphis	TN	35.12	90.08	7
Nashville	TN	36.16	86.78	6
Pulaski	TN	35.20	87.05	5
Somerville	TN	35.23	89.37	6
Sparta	TN	35.93	85.46	5



**Table 3. MMI for October 31, 1895 Earthquake (Southern Illinois)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Birmingham	AL	33.52	86.82	3
Gadsden	AL	34.01	86.01	7
Montgomery	AL	32.37	86.30	4
Opeilka	AL	32.65	85.38	5
Selma	AL	32.41	87.02	5
Tuscaloosa	AL	33.21	87.57	5
Batesville	AR	35.77	93.92	5
Beebe	AR	35.07	91.88	4
Boebe	AR	35.07	91.88	4
Dardanelle	AR	35.22	93.16	5
Forrest City	AR	35.01	90.79	6
Fort Smith	AR	35.39	94.40	3
Helena	AR	34.53	90.59	5
Little Rock	AR	34.75	92.29	5
Newport	AR	33.43	92.69	5
Osceola	AR	35.71	89.97	5
Van Buren	AR	35.44	94.35	4
Atlanta	GA	33.75	84.39	4
Augusta	GA	33.47	82.02	3
Albia	IA	41.03	92.81	5
Bedford	IA	40.67	94.72	6
Burlington	IA	40.81	91.11	5
Bussey	IA	41.20	92.88	5
Cedar Rapids	IA	42.01	91.64	5
Clinton	IA	41.84	90.19	5
Corning	IA	40.99	94.74	5
Council Bluffs	IA	41.26	95.86	5
Davenport	IA	41.52	90.58	3
Des Moines	IA	41.60	93.61	4
Dubuque	IA	42.50	90.66	5
East Des Moines	IA	41.60	93.50	4
Iowa City	IA	41.66	91.53	5
Keokuk	IA	40.40	91.38	4
Keosauqua	IA	40.73	91.96	5
Lyons	IA	43.33	91.42	4
Marshalltown	IA	42.05	92.91	5
Oskaloosa	IA	41.30	92.64	4
Ottumwa	IA	41.00	92.37	6
West Union	IA	42.96	91.81	5
Albion	IL	38.38	88.06	7
Alton	IL	38.89	90.18	7
Atwood	IL	39.80	88.46	5
Aurora	IL	41.76	88.32	5
Beardstown	IL	40.02	90.42	3
Belleville	IL	38.51	89.99	6
Bloomington	IL	40.48	88.99	5
Bowen	IL	40.23	91.06	5
Cairo	IL	37.00	89.18	8
Canton	IL	40.56	90.04	5

**Table 3. MMI for October 31, 1895 Earthquake (Southern Illinois)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Carlinville	IL	39.28	89.88	5
Carmi	IL	38.10	88.17	3
Cazenovia	IL	40.85	89.33	3
Champaign	IL	40.12	88.24	4
Chicago	IL	41.88	87.63	5
Chrisman	IL	39.80	87.67	6
Clifton Terrace	IL	38.93	90.26	5
Danville	IL	40.15	87.62	4
Edwardsville	IL	38.80	89.97	5
Effingham	IL	39.12	88.54	4
Elgin	IL	42.04	88.28	5
Fairfield	IL	38.38	88.37	5
Ferrel	IL	39.50	87.59	4
Flora	IL	38.67	88.49	5
Freeport	IL	42.30	89.62	5
Gillespie	IL	39.13	89.82	4
Girard	IL	39.45	89.78	5
Golconda	IL	37.36	88.49	5
Grand Towers	IL	37.63	89.50	7
Grayville	IL	38.26	87.99	6
Greenup	IL	39.25	88.16	5
Highland	IL	38.74	89.67	5
Hillsboro	IL	39.16	89.49	5
Iron	IL	37.97	88.24	5
Jacksonville	IL	39.73	90.23	5
Kankakee	IL	41.12	87.86	5
Litchfield	IL	39.18	89.65	5
Macomb	IL	40.46	90.67	5
Marshall	IL	39.39	87.69	5
Mattoon	IL	39.48	88.37	5
Metropolis	IL	37.15	88.73	7
Minonk	IL	40.90	89.03	6
Moline	IL	41.51	90.52	4
Monmouth	IL	40.91	90.65	5
Mount Vernon	IL	38.28	88.92	7
Moweaqua	IL	39.62	89.02	4
New Burnside	IL	37.58	88.77	5
Ottawa	IL	41.35	88.84	5
Paris	IL	39.61	87.70	6
Pekin	IL	40.57	89.64	5
Princeton	IL	41.38	89.46	5
Quincy	IL	39.92	91.41	7
Red Bud	IL	38.20	90.00	4
Robinson	IL	39.00	87.74	4
Rock Island	IL	41.51	90.58	3
Rockford	IL	42.27	89.09	6
Shelbyville	IL	39.41	88.79	5
Springfield	IL	39.80	89.65	5
Stillman Valley	IL	42.11	89.18	5

**Table 3. MMI for October 31, 1895 Earthquake (Southern Illinois)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Streator	IL	41.12	88.83	5
Sycamore	IL	41.99	88.69	4
Taylorville	IL	39.55	89.29	7
Thebes	IL	37.22	89.46	6
Tower Hill	IL	39.39	88.96	5
Trenton	IL	38.61	89.68	7
Tuscola	IL	39.80	88.28	4
Urbana	IL	40.11	88.21	5
Vermont	IL	40.29	90.43	5
Villa Ridge	IL	37.17	89.20	5
Virden	IL	39.50	89.77	5
Waverly	IL	39.59	89.95	4
Winchester	IL	39.63	90.46	5
Anderson	IN	40.11	85.68	6
Andrews	IN	40.86	85.60	4
Bedford	IN	38.87	86.48	5
Bloomfield	IN	38.02	87.10	4
Bloomington	IN	39.17	86.53	4
Brazil	IN	39.52	87.13	7
Butlerville	IN	39.03	85.51	5
Columbia City	IN	41.16	85.49	4
Columbus	IN	39.20	85.92	5
Dana	IN	39.81	87.50	4
Elkhart	IN	41.68	85.98	5
Evansville	IN	38.00	87.55	7
Fort Wayne	IN	41.06	85.16	4
Greencastle	IN	39.64	86.86	5
Greenfield	IN	39.78	85.77	4
Greenwood	IN	39.61	86.11	5
Huntingburg	IN	38.30	86.96	5
Indianapolis	IN	39.77	86.15	6
Jeffersonville	IN	38.29	85.75	7
Kentland	IN	40.77	87.45	3
Knightstown	IN	39.80	85.53	5
Kokomo	IN	40.48	86.12	5
La Porte	IN	41.61	86.72	5
Ladoga	IN	39.91	86.80	5
Lafayette	IN	40.42	86.90	6
Lewisville	IN	39.81	85.35	4
Liberty	IN	39.64	84.93	6
Logansport	IN	40.75	86.37	5
Marion	IN	40.56	85.71	5
Martinsville	IN	39.43	86.43	6
Michigan City	IN	41.71	86.90	5
Mount Vernon	IN	37.93	87.88	5
Muncie	IN	40.19	85.39	7
New Albany	IN	38.30	85.83	7
New Waverly	IN	40.76	86.19	7
Noblesville	IN	40.05	86.01	8

**Table 3. MMI for October 31, 1895 Earthquake (Southern Illinois)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Oakland	IN	38.34	87.35	7
Peru	IN	40.75	86.07	6
Plainfield	IN	39.70	86.40	5
Portland	IN	40.43	84.98	5
Princeton	IN	38.36	87.57	7
Richmond	In	39.83	84.89	4
Rockport	IN	37.88	87.05	7
Salem	IN	40.31	84.84	5
South Bend	IN	41.68	86.26	5
Spencer	IN	39.29	86.76	4
Terre Haute	IN	39.47	87.42	6
Thorntown	IN	40.13	86.61	5
Valparaiso	IN	41.47	87.06	5
Vevay	IN	38.75	85.07	5
Vincennes	IN	38.70	87.50	5
Wabash	IN	40.80	85.82	5
Warsaw	IN	41.23	85.85	5
Abilene	KS	38.92	97.21	4
Arkansas City	KS	37.06	97.04	5
Atchison	KS	39.56	95.12	5
Cherokee	KS	37.35	94.81	5
Concordia	KS	39.57	97.66	3
Emporia	KS	38.40	96.18	5
Erie	KS	37.57	95.24	4
Florence	KS	38.24	96.93	5
Fort Scott	KS	37.84	94.71	5
Franklin Junction	KS	37.53	94.71	5
Hiawatha	KS	39.85	95.54	4
Lawrence	KS	38.97	95.24	5
Leavenworth	KS	39.31	94.92	5
Manhattan	KS	39.18	96.57	5
Pittsburgh	KS	37.41	94.70	5
Seneca	KS	39.83	96.06	5
Topeka	KS	39.05	95.68	5
Wichita	KS	37.69	97.34	3
Willis	KS	39.73	95.51	5
Alpha	KY	36.76	85.01	5
Ashland	KY	38.48	82.64	5
Bardstown	KY	37.81	85.47	5
Bardwell	KY	36.87	89.01	7
Blandville	KY	36.95	88.97	5
Brownsville	KY	37.19	86.27	5
Carrollton	KY	38.68	85.18	5
Columbus	KY	36.77	89.10	6
Covington	KY	39.08	84.51	7
Danville	KY	37.65	84.77	3
Earlington	KY	37.25	87.53	4
Elizabethtown	KY	37.69	85.86	5
Frankfort	KY	38.20	84.87	6

**Table 3. MMI for October 31, 1895 Earthquake (Southern Illinois)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Glasgow	KY	37.00	85.91	5
Greensburg	KY	37.26	85.50	4
Hartford	KY	37.45	86.91	5
Henderson	KY	37.83	87.55	7
Hickman	KY	36.57	89.19	7
Hopkinsville	KY	36.88	87.47	5
Lebanon	KY	37.57	85.25	4
Lexington	KY	38.05	84.50	4
Louisa	KY	38.11	82.60	5
Louisville	KY	38.25	85.76	6
Madisonville	KY	37.33	87.50	5
Mayfield	KY	36.77	88.58	5
Maysville	KY	38.64	83.76	5
Middlesboro	KY	36.61	83.71	4
Mount Sterling	KY	38.06	83.94	3
Munfordville	KY	37.27	85.89	5
New Haven	KY	37.66	85.59	5
Owensboro	KY	37.77	87.13	7
Paducah	KY	37.03	88.59	8
Paris	KY	38.21	84.25	5
Pineville	KY	36.76	83.70	4
Russellville	KY	36.85	86.89	5
Shelbyville	KY	38.21	85.22	5
Spottsville Depot	KY	37.86	87.41	7
Sturgis	KY	37.58	87.98	7
Uniontown	KY	37.77	87.94	8
Vanceburg	KY	38.60	83.32	8
Versailles	KY	38.05	84.73	3
New Orleans	LA	29.95	90.08	3
Adrian	MI	41.91	84.05	4
Allegan	MI	42.53	85.86	5
Ann Arbor	MI	42.28	83.73	3
Augusta	MI	42.34	85.35	6
Battle Creek	MI	42.32	85.18	5
Belleville	MI	42.20	83.49	4
Benton Harbor	MI	42.12	86.45	7
Bronson	MI	41.87	85.19	4
Cassopolis	MI	41.91	86.01	4
Coldwater	MI	32.72	89.22	5
Concord	MI	42.18	84.64	5
Detroit	MI	42.34	83.06	4
Fennville	MI	42.59	86.10	5
Galesburg	MI	42.29	85.42	5
Grand Haven	MI	43.06	86.22	5
Grand Rapids	MI	42.97	85.68	5
Grass Lake	MI	42.25	84.21	5
Hastings	MI	42.70	85.33	6
Hillsdale	MI	41.92	84.63	5
Jackson	MI	42.25	84.40	5

**Table 3. MMI for October 31, 1895 Earthquake (Southern Illinois)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Kalamazoo	MI	42.30	85.63	5
Lansing	MI	42.75	84.58	5
Lawton	MI	42.17	85.85	5
Manchester	MI	42.15	84.04	4
Marshall	MI	42.30	84.93	5
Mendon	MI	42.01	85.45	5
Muskegon	MI	43.23	86.25	5
Niles	MI	41.83	86.25	6
Paw Paw	MI	42.22	85.89	5
Pinckney	MI	42.46	83.95	4
Plainwell	MI	42.44	85.65	5
Saginaw	MI	43.42	83.50	5
Saugatuck	MI	42.66	86.20	5
Schoolcraft	MI	42.11	85.64	5
Sturgis	MI	41.80	85.42	5
Three Rivers	MI	41.94	85.63	5
Watervliet	MI	42.19	86.26	5
Ypsilanti	MI	42.24	83.61	4
Albany	MO	40.25	94.33	5
Belgrade	MO	37.79	90.85	5
Belle Flower	MO	39.01	91.36	5
Belmont	MO	36.77	89.12	6
Benton	MO	37.10	89.56	3
Bolivar	MO	37.61	93.41	4
Boonville	MO	38.97	92.74	3
Bowling Green	MO	39.35	91.18	5
Brookfield	MO	39.78	93.07	5
Butler	MO	38.26	94.33	4
Cameron	MO	39.74	94.23	5
Cape Girardeau	MO	37.32	89.52	7
Carthage	MO	37.18	94.31	3
Caruthersville	MO	36.19	89.65	3
Centralia	MO	39.21	92.14	5
Chain of Rocks	MO	38.92	90.80	5
Charleston	MO	36.92	89.35	8
Chicopee	MO	36.99	91.01	5
Chillicothe	MO	39.80	93.55	5
Clarksville	MO	39.37	90.91	5
Clayton	MO	38.64	90.32	5
Clinton	MO	38.37	93.78	5
Columbia	MO	38.95	92.33	5
DeSoto	MO	38.14	90.56	5
Eldon	MO	38.35	92.58	4
Eldorado Springs	MO	37.88	94.02	5
Eminence	MO	37.15	91.36	5
Excelsior Springs	MO	39.34	94.23	4
Farmington	MO	37.78	90.42	5
Fayette	MO	39.15	92.68	5
Fredericktown	MO	37.56	90.29	5

**Table 3. MMI for October 31, 1895 Earthquake (Southern Illinois)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Fulton	MO	38.85	91.95	5
Gallatin	MO	39.91	93.96	5
Gentryville	MO	40.13	94.34	5
Goodwater	MO	37.71	91.05	5
Hannibal	MO	39.71	91.36	6
Harrisonville	MO	38.65	94.35	4
Henrietta	MO	39.23	93.94	4
Herman	MO	38.70	91.44	6
Hillsboro	MO	38.23	90.56	5
Ironton	MO	37.60	90.63	5
Jackson	MO	37.38	89.67	5
Jefferson City	MO	38.58	92.17	5
Kansas City	MO	39.10	94.58	5
Kennett	MO	36.24	90.05	5
Kirksville	MO	40.19	92.58	5
Knob Noster	MO	38.77	93.56	5
La Belle	MO	40.12	91.91	5
Liberty	MO	39.25	94.42	4
Louisiana	MO	39.45	91.05	5
Macon	MO	39.74	92.47	5
Marshall	MO	39.12	93.20	5
Maxville	MO	37.20	94.27	5
Mexico	MO	39.17	91.88	5
Miami	MO	39.32	93.23	5
Milan	MO	40.20	93.13	6
Millville	MO	39.41	93.92	4
Moberly	MO	39.42	92.44	5
Montgomery City	MO	38.98	91.50	4
Mount Pleasant	MO	38.37	92.52	6
Mount Vernon	MO	37.10	93.82	4
Neosh	MO	36.87	94.37	4
Nevada	MO	37.84	94.35	4
New Madrid	MO	36.63	89.65	6
Norborne	MO	39.30	93.68	7
Novelty	MO	40.01	92.21	5
Oran	MO	37.08	89.66	6
Oregon	MO	36.70	91.40	4
Owensville	MO	38.35	91.50	5
Paris	MO	39.48	92.00	5
Paxio	MO	36.95	90.16	7
Pilot Grove	MO	38.87	92.91	5
Platte City	MO	39.37	94.78	4
Poplar Bluff	MO	36.76	90.40	5
Potosi	MO	37.89	90.79	5
Powersville	MO	40.55	93.30	4
Princeton	MO	40.40	93.58	5
Puxico	MO	36.95	90.16	8
Rich Hill	MO	38.10	94.36	5
Rockport	MO	40.41	95.51	5

**Table 3. MMI for October 31, 1895 Earthquake (Southern Illinois)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Rolla	MO	37.95	91.77	5
Saint Charles	MO	38.78	90.48	7
Saint Joseph	MO	39.77	94.85	6
Saint Louis	MO	38.65	90.25	7
Salem	MO	37.65	91.54	4
Savannah	MO	39.94	94.83	5
Sedalia	MO	38.70	93.23	5
Shannondale	MO	39.36	92.85	4
Shelbina	MO	39.69	92.04	5
Shelbyville	MO	39.81	92.04	4
Slater	MO	39.22	93.07	5
Springfield	MO	37.22	93.30	5
Trenton	MO	40.08	93.62	5
Troy	MO	38.98	90.98	5
Union	MO	38.44	91.00	5
Vicksburg	MO	32.35	90.88	4
Warrensburg	MO	38.76	93.74	5
Warrenton	MO	38.81	91.14	5
Webster Groves	MO	38.59	90.36	3
West Plains	MO	36.73	91.85	5
Williamsville	MO	36.97	90.55	5
Worcester	MO	39.27	91.75	5
Aberdeen	MS	33.83	88.54	5
Columbus	MS	33.50	88.43	4
Decatur	MS	32.44	89.11	5
Duck Hill	MS	33.63	89.71	5
Greenwood	MS	33.52	90.18	4
Grenada	MS	33.77	89.81	5
Jackson	MS	32.30	90.18	6
Kosciusko	MS	33.06	89.59	4
Meridian	MS	32.36	88.70	3
Starksville	MS	33.45	88.82	5
Tupelo	MS	34.26	88.70	5
Vicksburg	MS	32.35	90.88	3
Water Valley	MS	34.15	89.63	5
West Point	MS	33.61	88.65	6
Asheville	NC	35.60	82.55	3
Charlotte	NC	35.23	80.84	3
Beatrice	NE	40.27	96.75	5
Lincoln	NE	40.80	96.67	4
Omaha	NE	41.26	95.94	3
Pawnee City	NE	40.11	96.15	5
Akron	OH	41.08	81.50	4
Celina	OH	40.55	84.57	5
Cincinnati	OH	39.10	84.53	6
Cleveland	OH	41.50	81.69	5
Columbus	OH	39.93	83.00	3
Dayton	OH	39.75	84.20	5
Dayton	OH	39.75	84.20	4



**Table 3. MMI for October 31, 1895 Earthquake (Southern Illinois)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Fremont	OH	41.33	83.10	5
Gallipolis	OH	38.81	82.20	5
Lima	OH	40.73	84.11	5
Mansfield	OH	40.78	82.53	4
Springfield	OH	39.92	82.80	5
Toledo	OH	41.66	83.55	5
Youngstown	OH	41.10	80.65	4
Zanesville	OH	39.94	82.01	5
Pondcreek	OK	36.67	97.80	3
Chatham	ON	42.40	82.18	5
Bellevue	PA	40.49	80.06	3
McKeesport	PA	40.35	79.86	4
Pittsburgh	PA	40.45	79.94	4
Sewickley	PA	40.54	80.18	5
Charleston	SC	32.78	79.93	3
Columbia	SC	34.00	81.04	3
Chattanooga	TN	35.05	85.31	5
Clarksville	TN	36.53	87.36	6
Columbia	TN	35.62	87.04	5
Dresden	TN	36.29	88.71	5
Jackson	TN	36.37	85.68	7
Knoxville	TN	35.98	83.92	4
Memphis	TN	35.12	90.08	6
Milan	TN	35.92	88.76	5
Monticello	TN	36.20	86.56	5
Nashville	TN	36.16	86.78	5
Pulaski	TN	35.20	87.03	5
Springfield	TN	36.50	86.88	6
Beloit	WI	42.51	89.03	4
Green Bay	WI	44.52	88.02	3
Janesville	WI	42.68	89.02	4
Milwaukee	WI	43.03	87.91	5
Richard Center	WI	43.33	90.39	5
Huntington	WV	38.41	82.41	3
Parkersburg	WV	39.29	81.55	4
Wheeling	WV	40.05	80.71	4

**Table 4. MMI for November 18, 1929 Earthquake  
(Grand Banks, Newfoundland)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Bridgeport	CT	41.19	73.20	3
Hartford	CT	41.75	72.70	5
New Britain	CT	41.67	72.78	3
New Haven	CT	41.30	72.92	4
New Milford	CT	41.58	73.42	4
Norwich	CT	41.53	72.08	3
Putnam	CT	41.92	71.90	2
Winsted	CT	41.93	73.07	5
Woodbury	CT	41.55	73.20	4
Claymont	DE	39.80	75.47	3
Amesbury	MA	42.85	70.93	5
Athol	MA	42.60	72.23	5
Attleboro	MA	41.95	71.27	4
Barnstable	MA	41.70	70.30	4
Boston	MA	42.33	71.08	5
Bourne	MA	41.75	70.62	4
Brockton	MA	42.10	71.02	3
Brookline	MA	42.28	71.12	5
Cambridge	MA	42.37	71.10	4
Danvers	MA	42.58	70.97	3
Dedham	MA	42.25	71.17	4
East Harwich	MA	41.70	70.01	2
East Walpole	MA	42.17	71.22	2
Framingham	MA	42.30	71.42	4
Greenfield	MA	42.60	72.62	4
Haverhill	MA	42.78	71.08	3
Holyoke	MA	42.20	72.60	6
Hyannis	MA	41.65	70.27	5
Lowell	MA	42.63	71.32	6
Lynn	MA	42.48	70.95	5
Malden	MA	42.42	71.07	5
Medford	MA	42.42	71.10	2
Nantucket	MA	41.28	70.10	4
Needham	MA	42.28	71.23	5
New Bedford	MA	41.62	70.92	4
Newburyport	MA	42.78	70.90	5
Palmer	MA	42.17	72.32	4
Plymouth	MA	41.97	70.67	4
Provincetown	MA	42.07	70.18	4
Quincy	MA	42.28	71.00	2
Rockport	MA	42.65	70.62	2
Salem	MA	42.53	70.88	4
South Wellfleet	MA	41.92	69.99	3
Springfield	MA	42.12	72.58	5
Taunton	MA	41.90	71.10	5
Waltham	MA	42.38	71.23	4
West Roxbury	MA	42.33	71.08	5
Worcester	MA	42.28	71.80	4
Alfred	ME	43.48	70.72	6

**Table 4. MMI for November 18, 1929 Earthquake  
(Grand Banks, Newfoundland)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Anson	ME	44.80	69.88	4
Auburn	ME	44.09	70.24	5
Augusta	ME	44.28	69.78	2
Bangor	ME	44.78	68.78	5
Bar Harbor	ME	44.40	68.22	5
Bath	ME	43.92	69.80	6
Belfast	ME	44.43	69.00	3
Bethel	ME	44.40	70.78	4
Biddeford	ME	43.48	70.45	3
Blaine	ME	46.50	67.87	4
Brownville	ME	45.34	69.04	4
Calais	ME	45.18	67.27	4
Caribou	ME	46.87	68.02	4
Cherryfield	ME	44.60	67.93	5
Chesuncook	ME	46.06	69.41	3
Eastport	ME	44.92	66.98	6
Frenchville	ME	46.68	68.33	3
Greenville	ME	45.46	69.59	2
Grindstone	ME	45.74	68.59	3
Hallowell	ME	44.27	69.80	3
Jackman	ME	45.63	70.27	5
Kennebunk	ME	43.38	70.55	5
Leeds Junction	ME	44.21	70.08	4
Lincoln	ME	45.38	68.50	4
Lubec	ME	44.85	66.98	4
Machias	ME	44.72	67.47	4
Millinocket	ME	45.67	68.72	4
Milo	ME	45.25	68.98	5
Newport	ME	44.83	69.27	3
Norway	ME	44.22	70.55	4
Oldtown	ME	44.93	68.65	5
Paris	ME	44.27	70.50	3
Portland	ME	43.68	70.30	5
Rockland	ME	44.10	69.13	5
Rumford	ME	44.55	70.57	5
Sanford	ME	43.43	70.77	2
Sheridan	ME	46.65	68.40	3
Skinner	ME	45.53	70.60	3
South Paris	ME	44.23	70.52	4
Springvale	ME	43.47	70.80	2
Vinal Haven	ME	44.05	68.83	4
Waterville	ME	44.57	69.62	5
Bathurst	NB	47.63	65.63	5
Chatham	NB	47.03	65.47	4
Edmundston	NB	47.38	68.29	4
Fredericton	NB	45.95	66.67	5
Moncton	NB	46.12	64.80	4
Saint George	NB	45.13	66.83	3
Saint John	NB	45.26	66.04	3

**Table 4. MMI for November 18, 1929 Earthquake  
(Grand Banks, Newfoundland)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Burin	NF	47.03	55.17	6
Exploits	NF	49.52	55.07	4
Lamaline	NF	46.87	55.82	4
Lewisporte	NF	49.25	55.05	4
St. John's	NF	47.57	52.73	5
Three Brooks	NF	48.93	55.53	4
Twillingate	NF	49.65	54.77	4
Berlin	NH	44.45	71.18	4
Bristol	NH	43.60	71.73	3
Conway	NH	43.97	71.12	3
Exeter	NH	42.98	70.93	4
Farmington	NH	43.39	71.06	3
Franklin	NH	43.43	71.63	3
Gorham	NH	44.38	71.17	3
Keene	NH	42.92	72.28	4
Laconia	NH	43.53	71.47	4
Lakeport	NH	43.53	71.47	4
Lancaster	NH	44.48	71.57	4
Meredith	NH	43.65	71.50	2
Nashua	NH	42.77	71.47	6
North Stratford	NH	44.75	71.62	4
Raymond	NH	43.03	71.18	3
Stark	NH	44.60	71.41	2
Wolfeboro	NH	43.58	71.23	5
Woodsville	NH	44.13	72.03	6
Amherst	NS	45.83	64.20	5
Boularderie	NS	46.17	60.57	7
Canso	NS	45.33	61.00	5
Cape Breton Island	NS	46.17	60.75	8
Digby	NS	44.62	65.77	3
Liverpool	NS	44.03	64.72	6
Louisbourg	NS	45.92	59.97	4
New Glasgow	NS	45.58	62.65	5
Sherbrooke	NS	45.13	61.98	4
Sydney	NS	46.15	60.18	7
Truro	NS	45.37	63.27	4
Yarmouth	NS	43.95	66.03	4
Albany	NY	42.67	73.80	2
Binghamton	NY	42.10	75.92	2
Brooklyn	NY	40.72	74.00	3
Canton	NY	44.58	75.17	2
Delhi	NY	42.28	74.92	2
Ellenburg	NY	44.90	73.85	4
Ellenville	NY	41.72	74.40	4
Flushing	NY	40.62	73.97	4
Glens Falls	NY	43.30	73.67	4
Hamilton	NY	42.83	75.55	3
New York	NY	40.75	73.98	3
Norwich	NY	42.55	75.55	2

**Table 4. MMI for November 18, 1929 Earthquake  
(Grand Banks, Newfoundland)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Plattsburg	NY	44.70	73.47	3
Saint George (Staten Island)	NY	40.60	74.10	3
Saratoga Springs	NY	43.08	73.78	4
Scarsdale	NY	40.97	73.78	2
Schenectady	NY	42.80	73.92	2
Sherburne	NY	42.68	75.50	2
Sidney	NY	42.32	75.40	2
Troy	NY	42.73	73.72	2
Walton	NY	42.18	75.13	2
Windsor	NY	42.08	75.63	2
Ottawa	ON	45.42	75.70	3
Alberton	PE	46.82	64.07	5
Charlottetown	PE	46.24	63.13	4
Souris	PE	46.35	62.25	3
Souris East	PE	46.35	62.25	3
Summerside	PE	46.40	63.79	4
Baie St. Paul	PQ	47.45	70.50	3
Boucherville	PQ	45.60	73.45	3
Bradore Bay	PQ	51.46	57.24	4
Gaspé	PQ	48.83	64.48	4
Godbout	PQ	49.32	67.60	3
Grandmere	PQ	46.62	72.70	5
La Tuque	PQ	47.43	72.78	4
Matane	PQ	48.85	67.53	4
Rimouski	PQ	48.43	68.55	4
Saint Felicien	PQ	48.65	72.45	3
Saint Joseph de Sorel	PQ	46.03	73.12	3
Seven Islands	PQ	50.20	66.38	3
Tadoussac	PQ	48.15	69.72	3
Thetford Mines	PQ	46.08	71.30	3
Trois Rivieres	PQ	46.35	72.55	3
Block Island	RI	41.17	71.57	3
Chepachet	RI	41.92	71.67	3
Newport	RI	41.49	71.31	4
Providence	RI	41.83	71.42	5
Westerly	RI	41.38	71.82	4
Barre	VT	44.22	72.52	3
Bellows Falls	VT	43.13	72.45	4
Bethel	VT	43.83	72.63	3
Burlington	VT	44.47	73.23	3
High Gate	VT	44.96	73.05	3
Montpelier	VT	44.27	72.57	3
Newport	VT	44.93	72.22	4
Northfield	VT	44.13	72.67	4
Randolph	VT	43.93	72.67	2
Saint Johnsbury	VT	44.43	72.02	4
Wardsboro	VT	43.03	72.78	4
Waterbury	VT	44.33	72.75	3

**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Alicia	AR	35.89	91.08	3
Armored	AR	35.92	89.80	2
Beech Grove	AR	36.17	90.62	2
Biggers	AR	36.33	90.81	3
Black Oak	AR	35.84	90.37	3
Bono	AR	35.91	90.80	3
Corning	AR	36.41	90.58	4
Datto	AR	36.39	90.73	3
Egypt	AR	35.87	90.95	3
Etowah	AR	35.73	90.23	4
Gosnell	AR	35.96	89.97	2
Greenway	AR	36.34	90.22	2
Hoxie	AR	36.05	90.98	2
Keiser	AR	35.67	90.10	2
Knobel	AR	36.32	90.60	5
Mammoth Spring	AR	36.50	91.54	3
Manila	AR	35.88	90.17	2
Marmaduke	AR	36.19	90.38	3
Maynard	AR	36.42	90.90	5
McDougal	AR	36.44	90.39	3
Minturn	AR	35.97	91.03	4
Monette	AR	35.89	90.34	3
O'Kean	AR	36.17	90.81	3
Osceola	AR	35.71	89.97	2
Peach Orchard	AR	36.28	90.66	4
Piggott	AR	36.38	90.19	6
Pollard	AR	36.43	90.27	2
Portia	AR	36.09	91.07	2
Ravenden Springs	AR	36.32	91.22	2
Rector	AR	36.26	90.29	3
Reyno	AR	36.36	90.75	5
Sedgwick	AR	35.98	90.86	2
Success	AR	36.45	90.72	3
Tomato	AR	35.84	89.74	3
Walcott	AR	36.04	90.67	3
Walnut Ridge	AR	36.07	90.96	3
West Ridge	AR	35.68	90.26	4
Akin	IL	37.98	88.75	3
Alto Pass	IL	37.57	89.32	5
Anna	IL	37.47	89.23	6
Ashley	IL	38.33	89.18	4
Ava	IL	37.88	89.50	3
Baldwin	IL	38.18	89.85	3
Bartelso	IL	38.53	89.47	4
Bartonville	IL	40.65	89.67	2
Belknap	IL	37.32	88.93	4
Belle Rive	IL	38.23	88.75	5
Benld	IL	39.10	89.80	3
Benton	IL	38.00	88.92	3

**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Bethalto	IL	38.91	90.04	3
Brookport	IL	37.13	88.67	4
Broughton	IL	37.93	88.45	4
Browns	IL	38.38	87.98	3
Buckner	IL	37.98	89.02	3
Buncombe	IL	37.47	88.97	4
Bunker Hill	IL	39.05	89.95	3
Burnt Prairie	IL	38.25	88.27	3
Cambria	IL	37.78	89.12	4
Campbell Hill	IL	37.93	89.55	5
Carbondale	IL	37.73	89.22	3
Carmi	IL	38.10	88.17	4
Carriers Mills	IL	37.68	88.63	4
Carterville	IL	37.73	89.05	4
Cave In Rock	IL	37.47	88.17	5
Chester	IL	37.92	89.80	5
Christopher	IL	37.95	89.07	3
Cobden	IL	37.53	89.25	4
Coello	IL	37.00	89.07	4
Colp	IL	37.80	89.08	4
Columbia	IL	38.43	90.18	3
Coulterville	IL	38.18	89.58	3
Creal Springs	IL	37.62	88.83	4
Crossville	IL	38.17	88.07	4
Cutler	IL	38.03	89.57	2
Cypress	IL	37.37	89.02	5
Dahlgren	IL	38.20	88.68	4
Dale	IL	37.00	88.48	4
Danville	IL	40.15	87.62	2
De Soto	IL	37.82	89.23	4
Dieterich	IL	39.07	88.38	2
Dongola	IL	37.37	89.17	4
Dowell	IL	37.93	89.23	3
Du Quoin	IL	38.02	89.23	3
Dubois	IL	38.22	89.22	2
East Carondelet	IL	38.53	90.23	3
East Saint Louis	IL	38.60	90.15	3
Eddyville	IL	37.50	88.58	5
Edwardsville	IL	38.80	89.97	2
Effingham	IL	39.08	88.53	2
Elco	IL	37.30	89.27	5
Eldorado	IL	37.82	88.42	3
Eldred	IL	39.28	90.55	2
Elizabethtown	IL	37.45	88.30	4
Elkville	IL	37.92	89.23	4
Emma	IL	37.98	88.12	4
Energy	IL	37.78	89.02	4
Enfield	IL	38.10	88.33	5
Equality	IL	37.73	88.33	4

**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Evansville	IL	38.08	89.93	3
Ewing	IL	38.08	88.85	3
Fairfield	IL	38.38	88.37	2
Farina	IL	38.83	88.77	2
Frankfort Heights	IL	37.90	88.90	5
Freeburg	IL	38.42	89.95	3
Freeman Spur	IL	37.87	89.00	4
Fults	IL	38.17	90.22	2
Galatia	IL	37.85	88.62	3
Germantown	IL	38.55	89.53	3
Glen Carbon	IL	38.75	89.97	3
Goldengate	IL	38.37	88.20	3
Goreville	IL	37.55	88.97	5
Grand Chain	IL	37.25	89.02	4
Grand Tower	IL	37.63	89.50	2
Granite City	IL	38.72	90.15	5
Grantsburg	IL	37.40	88.75	5
Greenville	IL	38.88	89.40	2
Hamletsburg	IL	37.13	88.43	5
Harrisburg	IL	37.75	88.53	3
Hartford	IL	38.85	90.10	2
Hecker	IL	38.30	89.00	2
Herald	IL	37.97	88.18	3
Herod	IL	37.58	88.43	4
Highland	IL	38.74	89.67	2
Hoyleton	IL	38.45	89.28	3
Huey	IL	38.60	89.28	2
Hurst	IL	37.83	89.15	5
Ina	IL	38.15	88.90	3
Jacob	IL	37.75	89.53	5
Johnston City	IL	37.82	88.95	4
Jonesboro	IL	37.42	89.32	6
Joppa	IL	37.20	88.85	4
Junction	IL	37.73	88.23	5
Karbers Ridge	IL	37.58	88.33	5
Karnak	IL	37.30	88.97	5
Keenes	IL	38.33	88.65	4
Keyesport	IL	38.73	89.28	2
Lebanon	IL	38.60	89.82	3
Lenzburg	IL	38.28	89.82	4
Logan	IL	37.97	88.83	3
Louisville	IL	38.77	88.50	2
Macedonia	IL	38.05	88.70	4
Maeystown	IL	38.22	90.23	4
Makanda	IL	37.62	89.21	4
Marion	IL	37.73	88.93	4
Marissa	IL	38.23	89.77	3
Mascoutah	IL	38.47	89.78	4
Maunie	IL	38.03	88.05	3



**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Mc Clure	IL	37.32	89.43	5
Mc Leansboro	IL	38.10	88.53	2
Mill Shoals	IL	38.25	88.35	2
Millcreek	IL	37.35	89.25	5
Miller City	IL	37.08	89.35	4
Millstadt	IL	38.45	90.10	3
Modoc	IL	38.05	90.03	3
Mound City	IL	37.10	89.17	5
Mounds	IL	37.12	89.17	4
Mount Erie	IL	38.52	88.23	3
Mount Vernon	IL	38.28	88.92	3
Muddy	IL	37.77	88.52	4
Mulkeytown	IL	37.97	89.12	3
Murphysboro	IL	37.77	89.35	5
Nason	IL	38.18	88.97	3
National Stock Yards	IL	38.65	90.17	2
New Athens	IL	38.32	89.88	3
New Baden	IL	38.53	89.70	3
New Burnside	IL	37.58	88.77	4
New Douglas	IL	38.97	89.67	2
New Haven	IL	37.92	88.13	4
New Memphis	IL	38.48	89.68	5
Newton	IL	38.98	88.17	2
Norris City	IL	37.98	88.33	5
Oakdale	IL	38.27	89.50	3
Oblong	IL	39.00	87.92	4
Odin	IL	38.63	89.02	3
Okawville	IL	38.43	89.55	3
Olive Branch	IL	37.17	89.35	5
Olmsted	IL	37.18	89.08	4
Olney	IL	38.75	88.10	5
Omaha	IL	37.90	88.30	3
Opdyke	IL	38.27	88.78	5
Oraville	IL	37.87	89.38	3
Orient	IL	37.92	88.98	4
Ozark	IL	37.55	88.77	5
Palestine	IL	39.00	87.62	3
Patoka	IL	38.75	89.10	2
Pinckneyville	IL	38.10	89.37	3
Pittsburg	IL	37.78	88.85	4
Pomona	IL	37.63	89.33	4
Prairie Du Rocher	IL	38.08	90.10	3
Pulaski	IL	37.22	89.20	5
Radom	IL	38.28	89.20	4
Raleigh	IL	37.83	88.53	5
Raymond	IL	39.32	89.57	2
Red Bud	IL	38.20	90.00	4
Renault	IL	38.15	90.13	3
Richview	IL	38.38	89.18	2

**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Ridgway	IL	37.78	88.25	4
Rinard	IL	38.57	88.47	3
Rockwood	IL	37.83	89.70	4
Roodhouse	IL	39.47	90.33	2
Rosiclare	IL	37.42	88.33	4
Royalton	IL	37.38	89.10	6
Saint Elmo	IL	39.02	88.85	2
Saint Jacob	IL	38.72	89.77	3
Saint Libory	IL	38.37	89.72	3
Saint Peter	IL	38.87	88.85	3
Salem	IL	38.62	88.95	2
Sandoval	IL	38.63	89.08	2
Scheller	IL	38.18	89.10	2
Sesser	IL	38.08	89.05	3
Shattuc	IL	38.62	89.20	2
Shawneetown	IL	37.70	88.13	5
Shobonier	IL	38.87	89.08	2
Simpson	IL	37.47	88.75	4
Sims	IL	38.37	88.53	4
Smithton	IL	38.40	89.98	3
Springerton	IL	38.18	88.35	4
Staunton	IL	39.00	89.78	2
Steeleville	IL	38.00	89.67	2
Stonefort	IL	37.62	88.70	4
Summerfield	IL	38.60	89.75	2
Sumner	IL	38.72	87.87	3
Tamaroa	IL	38.13	89.23	3
Tamms	IL	37.23	89.27	5
Taylorville	IL	39.55	89.28	2
Texico	IL	38.43	88.90	4
Thebes	IL	37.22	89.47	5
Tilden	IL	38.22	89.68	2
Toledo	IL	39.27	88.25	2
Trenton	IL	38.60	89.68	3
Ullin	IL	37.28	89.18	5
Unity	IL	37.15	89.27	5
Valier	IL	38.02	89.05	3
Valmeyer	IL	38.30	90.32	3
Venedy	IL	38.40	89.65	3
Vergennes	IL	37.90	89.33	4
Vienna	IL	37.42	88.90	4
Villa Ridge	IL	37.17	89.20	5
Walsh	IL	38.08	89.85	4
Waltonville	IL	38.22	89.03	3
Waterloo	IL	38.32	90.15	3
West Frankfort	IL	37.92	88.93	3
West Salem	IL	38.52	88.02	2
Whittington	IL	38.08	88.90	4
Willisville	IL	37.98	89.58	2

**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Wolf Lake	IL	37.50	89.43	4
Woodlawn	IL	38.33	89.03	2
Zeigler	IL	37.90	89.05	4
Bedford	IN	38.87	86.48	2
Bicknell	IN	38.77	87.30	3
Carlisle	IN	38.97	87.40	2
Chandler	IN	38.05	87.38	3
Elberfeld	IN	38.17	87.45	5
Evansville	IN	38.00	87.55	5
Fort Branch	IN	38.27	87.57	4
Griffin	IN	38.20	87.92	4
Haubstadt	IN	38.22	87.58	3
Jeffersonville	IN	38.30	85.92	2
Mount Vernon	IN	37.93	87.88	3
New Albany	IN	38.30	85.83	3
New Harmony	IN	38.15	87.93	2
Newburgh	IN	37.97	87.43	2
Owensville	IN	38.45	87.67	3
Petersburg	IN	38.50	87.25	3
Poseyville	IN	38.17	87.78	2
Saint Meinrad	IN	38.17	86.82	2
Santa Claus	IN	38.12	86.90	3
Scottsburg	IN	38.68	85.78	2
Tell City	IN	37.97	86.77	3
Terre Haute	IN	39.47	87.42	3
Vincennes	IN	38.70	87.50	3
Wadesville	IN	38.10	87.78	5
Adairville	KY	36.67	86.85	3
Almo	KY	36.70	88.27	5
Arlington	KY	36.78	89.02	4
Bandana	KY	37.15	88.93	5
Bardstown	KY	37.80	85.48	3
Bardwell	KY	36.90	89.03	5
Barlow	KY	37.05	89.05	5
Benton	KY	36.85	88.35	4
Blandville	KY	36.95	88.97	4
Boaz	KY	36.88	88.63	4
Burna	KY	37.25	88.37	5
Cadiz	KY	36.87	87.83	4
Calhoun	KY	37.53	87.27	3
Calvert City	KY	37.03	88.35	4
Canton	KY	36.80	87.97	4
Cerulean	KY	36.97	87.72	4
Clay	KY	37.48	87.83	4
Clinton	KY	36.65	88.98	5
Cloverport	KY	37.80	86.65	2
Columbus	KY	36.77	89.10	3
Corydon	KY	37.73	87.72	4
Crayne	KY	37.27	88.08	4

**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Crofton	KY	37.05	87.48	4
Cunningham	KY	36.90	88.88	4
Dexter	KY	36.73	88.28	4
Dixon	KY	37.52	87.68	4
Dycusburg	KY	37.17	88.18	4
Earlington	KY	37.25	87.53	4
Elkton	KY	36.83	87.17	5
Fancy Farm	KY	36.80	88.78	5
Farmington	KY	36.67	88.53	5
Fort Campbell	KY	36.63	87.45	3
Fulton	KY	36.52	88.88	3
Gilbertsville	KY	37.02	88.28	5
Glasgow	KY	37.00	85.92	2
Gracey	KY	36.88	87.67	4
Grand Rivers	KY	37.00	88.23	4
Guthrie	KY	36.67	87.17	2
Hamlin	KY	36.65	88.07	5
Hampton	KY	37.28	88.37	4
Hanson	KY	37.42	87.48	2
Hardin	KY	36.77	88.30	2
Hazel	KY	36.50	88.33	4
Henderson	KY	37.83	87.55	4
Herndon	KY	36.73	87.57	4
Hickman	KY	36.55	89.17	5
Hickory	KY	36.82	88.63	4
Hopkinsville	KY	36.88	87.47	4
Kevil	KY	37.08	89.00	5
Kirksey	KY	36.70	88.40	4
Kuttawa	KY	37.07	88.10	5
La Center	KY	37.07	88.97	4
La Fayette	KY	36.67	87.67	4
Ledbetter	KY	37.05	88.47	5
Livermore	KY	37.50	87.13	2
Lola	KY	37.32	88.30	3
Lovellaceville	KY	36.97	88.83	4
Lowes	KY	36.88	88.77	4
Lynnville	KY	36.57	88.57	5
Madisonville	KY	37.33	87.50	3
Manitou	KY	37.37	87.58	3
Marion	KY	37.33	88.08	5
Mayfield	KY	36.77	88.58	4
Melber	KY	36.95	88.72	4
Milburn	KY	36.80	88.90	4
Murray	KY	36.67	88.30	4
Nebo	KY	37.38	87.65	2
Nortonville	KY	37.18	87.45	3
Oak Grove	KY	36.67	87.43	4
Owensboro	KY	37.77	87.13	3
Paducah	KY	37.03	88.59	5

**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Poole	KY	37.63	87.63	4
Princeton	KY	37.10	87.88	2
Radcliff	KY	37.92	85.92	2
Russellville	KY	36.85	86.88	5
Sacramento	KY	37.42	87.27	3
Saint Charles	KY	37.18	87.55	3
Salem	KY	37.27	88.25	4
Sedalia	KY	36.63	88.60	3
Slaughters	KY	37.48	87.50	4
Smith Mills	KY	37.80	87.77	5
Smithland	KY	37.15	88.40	4
Sturgis	KY	37.58	87.98	4
Sullivan	KY	37.50	87.95	4
Symsonia	KY	36.92	88.52	5
Tiline	KY	37.18	88.23	5
Tolu	KY	37.43	88.23	4
Water Valley	KY	36.57	88.82	2
Waverly	KY	37.72	87.80	4
West Paducah	KY	37.08	88.75	4
Wheatcroft	KY	37.48	87.87	5
Wickliffe	KY	36.97	89.08	5
Advance	MO	37.10	89.92	5
Allenton	MO	38.50	90.68	3
Altenburg	MO	37.63	89.58	4
Alton	MO	36.69	91.40	3
Annapolis	MO	37.37	90.70	3
Anniston	MO	36.83	89.33	5
Arab	MO	37.10	90.08	5
Arcadia	MO	37.58	90.63	4
Arnold	MO	38.43	90.38	5
Augusta	MO	38.57	90.88	2
Belgrade	MO	37.78	90.85	2
Bell City	MO	37.02	89.82	5
Belleview	MO	37.68	90.73	4
Benton	MO	37.10	89.57	6
Bernie	MO	36.67	89.98	3
Bertrand	MO	36.92	89.45	4
Bismarck	MO	37.77	90.63	3
Bixby	MO	37.67	91.12	2
Black	MO	37.53	90.93	5
Blackwell	MO	38.05	90.62	5
Blodgett	MO	37.00	89.53	3
Bloomfield	MO	36.90	89.97	4
Bloomsdale	MO	38.02	90.22	4
Bonne Terre	MO	37.93	90.55	4
Boss	MO	37.65	91.20	3
Bowling Green	MO	39.35	91.18	2
Bragg City	MO	36.27	89.92	2
Braggadocio	MO	36.18	89.83	3

**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Briar	MO	36.65	90.97	2
Broseley	MO	36.67	90.25	3
Brownwood	MO	37.08	89.95	4
Bunker	MO	37.45	91.22	3
Burfordville	MO	37.37	89.80	5
Caledonia	MO	37.77	90.77	2
Campbell	MO	36.50	90.08	5
Canalou	MO	36.77	89.68	5
Cape Girardeau	MO	37.32	89.52	5
Cascade	MO	37.30	90.27	4
Catron	MO	36.62	89.68	2
Chaffee	MO	37.18	89.67	6
Charleston	MO	36.90	89.37	5
Cherryville	MO	37.85	91.28	3
Clarkton	MO	36.45	89.97	4
Clubb	MO	37.22	90.36	4
Commerce	MO	37.15	89.45	5
Conran	MO	36.48	89.65	5
Cooter	MO	36.05	89.82	2
Crystal City	MO	38.18	90.37	5
Daisy	MO	37.52	89.80	3
Davisville	MO	37.82	91.18	5
De Soto	MO	38.13	90.57	5
Deering	MO	36.20	89.88	3
Defiance	MO	38.63	90.78	3
Delta	MO	37.20	89.73	4
Des Arc	MO	37.28	90.63	3
Desloge	MO	37.88	90.53	4
Dexter	MO	36.80	89.97	5
Dittmer	MO	38.33	90.68	3
Doe Run	MO	37.75	90.50	4
Doniphan	MO	36.65	90.85	2
Dudley	MO	36.78	90.10	3
Dutchtown	MO	37.25	89.65	5
East Prairie	MO	36.78	89.38	4
Elk Creek	MO	37.18	91.00	2
Ellington	MO	37.23	90.97	2
Ellsinore	MO	36.93	90.75	2
Eminence	MO	37.15	91.37	4
Fairdealing	MO	36.67	90.62	3
Farmington	MO	37.78	90.42	5
Farrar	MO	37.70	89.68	4
Fenton	MO	38.52	90.43	3
Fisk	MO	36.78	90.20	4
Fredericktown	MO	37.55	90.32	4
Fremont	MO	36.95	91.17	2
Friedheim	MO	37.57	89.82	2
Frohna	MO	37.63	89.62	4
Gerald	MO	38.40	91.33	3

**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Gibson	MO	36.72	90.02	3
Gideon	MO	36.47	89.93	2
Gipsy	MO	37.15	90.18	3
Glenallen	MO	37.32	90.03	5
Glover	MO	37.48	90.70	3
Gobler	MO	36.15	89.95	3
Gordonville	MO	37.32	89.68	4
Grassy	MO	37.27	90.12	3
Grayridge	MO	36.83	89.78	5
Greenville	MO	37.13	90.45	4
Grover	MO	38.57	90.63	3
Grubville	MO	38.28	90.75	2
Harviell	MO	36.67	90.47	5
Hawk Point	MO	38.97	91.13	3
Herculaneum	MO	38.27	90.38	3
Hiram	MO	37.18	90.32	3
Holcomb	MO	36.40	90.03	2
Hornersville	MO	36.05	90.12	4
Irondale	MO	37.83	90.68	2
Jackson	MO	37.38	89.67	4
Kelso	MO	37.18	89.55	5
Kennett	MO	36.25	90.07	4
Kewanee	MO	36.67	89.57	5
Kimmswick	MO	38.37	90.37	4
Knob Lick	MO	37.68	90.37	4
Ladonia	MO	39.25	91.65	5
Lambert Airport	MO	38.67	90.25	2
Leadwood	MO	37.88	90.60	2
Lebanon	MO	37.67	92.67	3
Leopold	MO	37.25	89.93	4
Lesterville	MO	37.45	90.85	3
Lowndes	MO	37.15	90.27	2
Lutesville	MO	37.30	89.98	3
Malden	MO	36.57	89.97	2
Mapaville	MO	38.25	90.47	4
Marble Hill	MO	37.30	89.97	5
Marquand	MO	37.43	90.17	4
Marston	MO	36.52	89.62	5
Matthews	MO	36.77	89.58	6
Mc Bride	MO	37.83	89.84	3
Menfro	MO	37.78	89.72	5
Middle Brook	MO	37.67	90.65	3
Mill Spring	MO	37.07	90.68	3
Millersville	MO	37.43	89.80	4
Morehouse	MO	36.85	89.68	4
Morley	MO	37.05	89.62	5
Morse Mill	MO	38.28	90.65	2
Mountain View	MO	36.00	91.70	5
Myrtle	MO	36.51	91.27	3

**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Naylor	MO	36.57	90.60	4
Neelyville	MO	36.57	90.50	3
New Haven	MO	38.62	91.25	2
New Madrid	MO	36.57	89.53	4
O'Fallon	MO	37.50	89.73	3
Oak Ridge	MO	38.82	90.70	5
Old Appleton	MO	37.58	89.72	4
Oran	MO	37.08	89.67	4
Oxly	MO	36.60	90.68	2
Painton	MO	37.08	89.80	4
Parma	MO	36.60	89.82	4
Patterson	MO	37.18	90.55	4
Patton	MO	37.50	90.00	4
Perkins	MO	37.10	89.77	5
Perryville	MO	37.72	89.87	4
Pevely	MO	38.28	90.40	2
Piedmont	MO	37.15	90.70	4
Pilot Knob	MO	37.62	90.65	3
Pocahontas	MO	37.50	89.63	5
Poplar Bluff	MO	36.27	90.42	4
Portageville	MO	36.43	89.70	4
Puxico	MO	36.95	90.17	5
Qulin	MO	36.60	90.25	3
Redford	MO	37.32	90.90	3
Reynolds	MO	37.40	91.07	4
Richwoods	MO	38.17	90.83	2
Risco	MO	36.55	89.82	3
Riverton	MO	36.69	91.40	2
Rives	MO	36.10	89.00	4
Rombauer	MO	36.85	90.28	3
Saint Albans	MO	38.58	90.77	3
Saint Ann	MO	38.72	90.38	3
Saint Louis	MO	38.74	90.34	3
Saint Marys	MO	37.88	89.95	4
Sainte Genevieve	MO	37.98	90.05	4
Salem	MO	37.63	91.57	3
Scopus	MO	37.30	89.98	3
Scott City	MO	37.22	89.55	6
Sedgewickville	MO	37.52	89.90	4
Senath	MO	36.13	90.17	2
Shook	MO	37.05	90.32	3
Sikeston	MO	36.87	89.55	5
Silva	MO	37.18	90.47	5
Steele	MO	36.12	89.83	3
Steelville	MO	37.95	91.35	3
Sturdivant	MO	37.05	90.02	4
Sullivan	MO	38.22	91.17	2
Tallapoosa	MO	36.52	89.80	2
Thomasville	MO	36.78	91.53	4



**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Valles Mines	MO	38.03	90.50	2
Valley Park	MO	38.55	90.49	2
Van Buren	MO	36.00	91.02	2
Vandalia	MO	39.32	91.48	2
Vanduser	MO	36.98	89.68	6
Viburnum	MO	37.95	91.35	3
Vulcan	MO	37.32	90.67	5
Wappapello	MO	36.93	90.27	3
Wardell	MO	36.35	89.82	2
Warrenton	MO	38.83	91.13	4
Westalton	MO	38.87	90.22	3
Whiteoak	MO	36.35	90.03	3
Whitewater	MO	37.23	89.80	5
Williamsville	MO	36.97	90.55	3
Winona	MO	37.10	91.32	3
Wittenberg	MO	37.65	89.52	4
Wolf Island	MO	36.73	89.15	4
Wright City	MO	38.83	91.02	3
Wyatt	MO	36.92	89.22	5
Zalma	MO	37.15	90.08	4
Ashland City	TN	36.27	87.08	6
Big Rock	TN	36.58	87.77	4
Big Sandy	TN	36.25	88.08	3
Bogota	TN	36.17	89.43	2
Bruceton	TN	36.03	88.25	2
Buchanan	TN	36.43	88.20	4
Bumpus Mills	TN	36.60	87.83	4
Camden	TN	36.05	88.12	2
Charlotte	TN	36.18	87.40	3
Clarksburg	TN	35.88	88.40	2
Cottage Grove	TN	36.38	88.48	3
Dover	TN	36.48	87.83	3
Dukedom	TN	36.50	88.72	2
Erin	TN	36.32	87.70	3
Eva	TN	36.07	88.10	2
Finley	TN	36.05	89.48	4
Gates	TN	35.83	89.40	3
Gleason	TN	36.22	88.62	3
Green Brier	TN	36.43	86.80	2
Greenfield	TN	36.17	88.80	2
Henry	TN	36.20	88.42	4
Hollow Rock	TN	36.03	88.27	2
Hornbeak	TN	36.33	89.30	4
Huntingdon	TN	36.00	88.45	3
Jackson	TN	35.62	88.83	2
Joelton	TN	36.32	86.87	3
Kenton	TN	36.18	89.00	4
Lenox	TN	36.08	89.50	2
Linden	TN	35.63	87.83	3

**Table 5. MMI for September 26, 1990 Earthquake (Southeast Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Mansfield	TN	36.18	88.28	5
Martin	TN	36.33	88.78	3
Mc Ewen	TN	36.10	87.63	2
Mc Kenzie	TN	36.13	88.52	4
Mc Lemoresville	TN	35.98	88.57	3
Medina	TN	35.80	88.77	2
Milan	TN	35.92	88.78	3
New Johnsonville	TN	36.02	87.92	3
Newbern	TN	36.12	89.27	3
Obion	TN	36.17	89.33	4
Old Hickory	TN	36.27	86.65	4
Palmersville	TN	36.40	88.58	3
Paris	TN	36.28	88.33	3
Puryear	TN	36.45	88.32	3
Ripley	TN	35.75	89.55	2
Rives	TN	36.35	89.07	3
Springfield	TN	36.50	86.88	5
Stewart	TN	36.32	87.83	3
Tennessee Ridge	TN	36.32	87.77	2
Tiptonville	TN	36.35	89.48	3
Trimble	TN	36.20	89.18	3
Troy	TN	36.33	89.17	4
Union City	TN	36.42	89.05	4
Waverly	TN	36.08	87.78	2
Westport	TN	35.90	88.32	3
White Bluff	TN	36.10	87.22	5
Woodland Mills	TN	36.50	89.07	4
Wynnburg	TN	36.33	89.48	3
Yuma	TN	35.85	88.33	3

**Table 6. MMI for May 4, 1991 Earthquake (Risco, Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Amagon	AR	35.77	91.64	3
Arkansas State University	AR	36.23	90.73	4
Ash Flat	AR	36.33	90.81	5
Batesville	AR	35.93	89.92	3
Biggers	AR	35.84	90.37	5
Black Oak	AR	35.90	90.58	5
Blytheville	AR	35.42	91.46	3
Bradford	AR	35.86	90.04	3
Brookland	AR	35.82	89.94	5
Burdette	AR	35.76	90.32	5
Caraway	AR	36.41	90.58	5
Corning	AR	36.32	90.60	5
Delaplaine	AR	35.93	89.92	4
Dell	AR	35.59	90.21	3
Dyess	AR	35.49	90.97	3
Eaker AFB	AR	34.95	90.47	4
Fisher	AR	35.01	90.79	3
Forrest City	AR	36.34	90.22	3
Gosnell	AR	35.56	90.72	2
Greenway	AR	35.49	92.03	3
Harrisburg	AR	35.94	90.26	2
Heber Springs	AR	36.05	90.98	3
Hoxie	AR	36.50	91.54	3
Hughes	AR	35.84	90.70	4
Jonesboro	AR	35.67	90.10	4
Keiser	AR	35.82	90.43	4
Knobel	AR	35.53	90.42	5
Lake City	AR	35.61	90.33	4
Leachville	AR	35.21	90.20	2
Lepanto	AR	35.76	89.93	4
Luxora	AR	35.70	91.44	4
Mammoth Spring	AR	35.88	90.17	3
Manila	AR	34.77	90.76	3
Marianna	AR	36.42	90.90	3
Marion	AR	36.26	90.97	2
Marked Tree	AR	36.19	90.38	5
Marmaduke	AR	35.61	91.28	5
Maynard	AR	35.26	90.57	3
Newark	AR	36.17	90.81	4
Newport	AR	36.06	90.50	5
O'Kean	AR	35.71	89.97	4
Osceola	AR	36.28	90.66	4
Paragould	AR	36.36	90.75	5
Parkin	AR	36.43	90.27	3
Peach Orchard	AR	36.26	90.97	4
Piggott	AR	36.52	89.80	6
Pocahontas	AR	35.62	90.90	2
Pokahontas	AR	36.26	90.29	4
Pollard	AR	35.31	90.77	3

**Table 6. MMI for May 4, 1991 Earthquake (Risco, Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Rector	AR	36.45	90.15	4
Reyno	AR	36.65	88.98	5
Saint Francis	AR	35.67	90.51	4
Trumann	AR	35.49	90.36	4
Tyronza	AR	36.07	90.96	4
Vanndale	AR	34.97	90.27	3
Walls	AR	35.22	90.79	3
Walnut Ridge	AR	38.47	89.78	4
Weiner	AR	38.02	89.23	2
Wynne	AR	37.92	89.80	3
Chester	IL	38.67	89.98	3
Collinsville	IL	38.43	90.18	3
Columbia	IL	38.80	89.97	3
Du Quoin	IL	38.72	90.15	2
Edwardsville	IL	38.00	89.90	3
Ellis Grove	IL	38.88	89.40	3
Granite City	IL	38.75	87.73	2
Greenville	IL	37.42	89.32	3
Jonesboro	IL	37.32	89.43	3
Lawrenceville	IL	37.77	89.35	2
Mascoutah	IL	36.69	91.40	4
Mc Clure	IL	37.92	89.85	3
Menard	IL	38.27	89.50	3
Murphysboro	IL	37.22	89.20	2
Oakdale	IL	37.17	89.35	3
Olive Branch	IL	38.00	89.67	3
Pulaski	IL	37.17	89.20	2
Steeleville	IL	37.23	89.27	3
Tamms	IL	37.22	89.47	3
Thebes	IL	36.77	89.10	3
Villa Ridge	IL	37.50	89.43	2
Wolf Lake	IL	36.78	89.02	2
Arlington	KY	37.08	89.00	2
Clinton	KY	36.55	89.17	5
Columbus	KY	34.87	89.68	3
Hickman	KY	36.95	92.67	5
Kevil	KY	34.58	89.97	2
Advance	MO	38.43	90.38	3
Alton	MO	37.02	89.82	4
Anniston	MO	36.92	89.45	2
Arnold	MO	37.00	89.53	3
Ava	MO	36.67	89.98	5
Bell City	MO	36.67	90.25	4
Bernie	MO	36.90	89.97	5
Bertrand	MO	38.02	90.22	2
Blodgett	MO	36.27	89.92	3
Bloomfield	MO	36.18	89.83	5
Bloomsdale	MO	37.93	90.55	2
Bonne Terre	MO	38.18	90.37	2

**Table 6. MMI for May 4, 1991 Earthquake (Risco, Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Bragg City	MO	37.37	89.80	3
Braggadocio	MO	36.50	90.08	5
Broseley	MO	36.77	89.68	4
Burfordville	MO	36.90	89.37	3
Campbell	MO	36.45	89.97	5
Canalou	MO	37.32	89.52	4
Cape Girardeau	MO	36.18	89.67	4
Caruthersville	MO	36.62	89.68	4
Catron	MO	36.05	89.82	4
Charleston	MO	37.52	89.80	3
Clarkton	MO	36.65	90.85	5
Cooter	MO	36.20	89.88	4
Crystal City	MO	37.30	89.97	2
Daisy	MO	37.20	89.73	3
Deering	MO	36.80	89.97	4
Delta	MO	37.28	90.63	3
Des Arc	MO	36.78	90.10	3
Dexter	MO	37.23	90.97	4
Doniphan	MO	36.67	90.62	5
Dudley	MO	36.93	90.75	3
Ellington	MO	38.20	90.40	4
Ellsinore	MO	36.78	90.20	3
Fairdealing	MO	37.78	90.42	5
Farmington	MO	36.47	89.93	5
Festus	MO	36.72	90.02	4
Fisk	MO	37.55	90.32	3
Fredericktown	MO	37.32	90.03	3
Gibson	MO	36.83	89.78	4
Gideon	MO	36.40	90.03	5
Glenallen	MO	36.15	89.95	3
Gobler	MO	37.32	89.68	3
Gordonville	MO	37.13	90.45	3
Grayridge	MO	36.67	90.47	4
Greenville	MO	36.23	89.73	3
Harviell	MO	36.05	89.87	4
Hayti	MO	37.38	89.67	3
Holcomb	MO	36.25	90.07	5
Holland	MO	36.05	90.12	4
Hornersville	MO	36.67	89.57	4
Jackson	MO	37.16	89.98	3
Kennett	MO	36.57	89.97	5
Kewanee	MO	36.55	89.53	4
Lilbourn	MO	36.52	89.62	4
Lutesville (10 Miles South Of)	MO	37.07	90.68	3
Malden	MO	36.77	89.58	5
Marble Hill	MO	37.43	90.17	2
Marquand	MO	37.50	90.00	2
Marston	MO	36.57	90.60	4
Matthews	MO	36.00	91.70	5

**Table 6. MMI for May 4, 1991 Earthquake (Risco, Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Mill Spring	MO	37.05	89.62	3
Morley	MO	36.57	90.50	3
Mountain View	MO	36.57	89.53	5
Naylor	MO	37.18	90.55	4
Neelyville	MO	37.08	89.80	3
New Madrid	MO	36.60	89.82	5
Painton	MO	37.72	89.87	3
Parma	MO	36.27	89.83	5
Pascola	MO	36.95	90.17	5
Patterson	MO	37.10	89.77	4
Patton	MO	36.60	90.25	2
Perkins	MO	36.27	90.42	4
Perryville	MO	36.85	90.28	3
Poplar Bluff	MO	36.43	89.70	4
Portageville	MO	37.44	89.90	4
Puxico	MO	36.55	89.82	5
Qulin	MO	36.00	88.45	2
Risco	MO	36.87	89.55	5
Rombauer	MO	37.98	90.05	3
Sainte Genevieve	MO	37.63	91.57	3
Salem	MO	38.22	91.17	3
Sedgewickville (5 Miles South	MO	36.13	90.17	4
Senath	MO	36.12	89.83	4
Sikeston	MO	37.18	90.47	5
Silva	MO	35.12	90.08	5
Steele	MO	36.35	89.82	4
Sullivan	MO	37.18	91.67	3
Summersville	MO	36.00	91.02	3
Tallapoosa	MO	36.22	91.61	6
Van Buren	MO	36.98	89.68	3
Vanduser	MO	36.73	91.85	3
Wardell	MO	36.35	90.03	4
West Plains	MO	36.98	91.98	3
Whiteoak	MO	36.16	89.49	4
Willow Springs	MO	37.10	91.32	3
Winona	MO	36.73	89.15	3
Wolf Island	MO	37.15	90.08	3
Zalma	MO	36.25	88.08	3
Byhalia	MS	34.83	90.00	3
Hernando	MS	34.97	90.03	3
Horn Lake	MS	37.10	89.92	3
Senatobia	MS	36.83	89.33	2
Big Sandy	TN	35.48	89.72	3
Brighton	TN	35.07	89.67	3
Collierville	TN	35.15	89.78	3
Cordova	TN	35.53	89.67	3
Covington	TN	36.33	89.30	3
Hornbeak	TN	35.82	89.22	3
Huntingdon	TN	34.53	90.59	2

**Table 6. MMI for May 4, 1991 Earthquake (Risco, Missouri)**

<b>Place</b>	<b>State/ Prov.</b>	<b>Latitude (°N)</b>	<b>Longitude (°W)</b>	<b>MMI</b>
Maury City	TN	35.43	89.80	3
Memphis	TN	35.83	90.67	5
Miston	TN	36.35	89.48	4
Munford	TN	36.26	89.48	3
Ridgely	TN	35.23	89.37	3
Rives	TN	36.35	89.067	2
Somerville	TN	36.42	89.05	3
Tiptonville	TN	36.33	89.17	4
Troy	TN	35.56	91.11	4
Union City	TN	35.96	89.97	3

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
New Market	AL	34.91	86.43	1.21 ± 0.30 **	0.42	2
Augusta	AR	35.28	91.36	0.14 ± 0.29	0.50	3
Bassett	AR	35.54	90.13	-0.90 ± 0.59 *	0.83	2
Batesville	AR	35.77	93.92	0.73 ± 0.52 *	0.90	3
Beebe	AR	35.07	91.88	-0.83 ± 0.03 **	0.05	2
Bexar	AR	36.29	92.01	0.36 ± 0.03 **	0.04	2
Biggers	AR	36.33	90.81	0.44 ± 0.41 *	0.71	3
Black Oak	AR	35.84	90.37	-0.53 ± 1.60	2.27	2
Blytheville	AR	35.93	89.92	-0.39 ± 0.58	1.15	4
Bradford	AR	35.42	91.46	-0.66 ± 0.69	0.98	2
Brickeys	AR	34.86	90.59	-0.22 ± 0.26	0.37	2
Brinkley	AR	34.89	91.19	0.28 ± 0.53	0.92	3
Brookland	AR	35.90	90.58	0.39 ± 0.77	1.09	2
Burdette	AR	35.82	89.94	0.00 ± 0.92	1.30	2
Caldwell	AR	35.07	90.82	-0.17 ± 0.56	0.80	2
Cash	AR	35.80	90.93	-0.25 ± 0.15 *	0.21	2
Cave City	AR	35.94	91.55	0.17 ± 0.19	0.32	3
Chatfield	AR	35.01	90.40	-0.48 ± 0.27 *	0.38	2
Choctaw	AR	35.53	92.44	-0.47 ± 0.03 **	0.04	2
Clarendon	AR	34.69	91.31	0.09 ± 0.26	0.45	3
Clarkedale	AR	35.31	90.24	-0.34 ± 0.39	0.55	2
Clinton	AR	35.60	92.46	-0.38 ± 0.05 **	0.07	2
Concord	AR	35.66	91.85	-0.04 ± 0.09	0.13	2
Conway	AR	35.09	92.44	-1.70 ± 0.50 **	0.70	2
Cord	AR	35.81	91.34	-0.22 ± 0.26	0.37	2
Corning	AR	36.41	90.58	0.17 ± 0.22	0.49	5
Cotter	AR	36.27	92.54	0.72 ± 0.02 **	0.03	2
Cotton Plant	AR	35.00	91.25	-0.24 ± 0.52	0.91	3
Crawfordsville	AR	35.23	90.33	-0.21 ± 0.51	0.88	3
Cushman	AR	35.88	91.75	0.14 ± 0.14	0.20	2
Damascus	AR	33.26	93.00	1.65 ± 0.91 *	1.28	2
Datto	AR	36.39	90.73	0.12 ± 0.30	0.51	3
De Valls Bluff	AR	34.78	91.46	0.82 ± 0.75 *	1.06	2
De Witt	AR	34.29	91.34	0.32 ± 0.48	0.68	2
Delaplaine	AR	36.23	90.72	-0.23 ± 0.27	0.55	4
Dell	AR	35.85	90.04	-1.44 ± 0.39 **	0.55	2
Drasco	AR	35.63	91.95	-0.06 ± 0.79	1.12	2
Earle	AR	35.27	90.47	-0.45 ± 0.94	1.33	2
Edgemont	AR	35.60	92.19	-0.14 ± 0.41	0.72	3
Edmondson	AR	35.11	90.31	0.17 ± 1.09	1.54	2
Egypt	AR	35.87	90.95	0.33 ± 0.30 *	0.42	2
Etowah	AR	35.73	90.24	-0.60 ± 0.62	1.07	3
Fisher	AR	35.78	90.98	-0.68 ± 0.35 *	0.49	2
Forrest City	AR	35.01	90.78	0.46 ± 0.56	0.97	3
Gilmore	AR	35.41	90.28	-0.78 ± 0.89	1.26	2
Glencoe	AR	36.29	91.75	0.16 ± 0.03 **	0.05	2
Greenway	AR	36.34	90.22	-1.01 ± 0.60 *	0.84	2



**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Grubbs	AR	35.65	91.07	-0.48 ± 0.47 *	0.67	2
Harrisburg	AR	35.56	90.72	-0.51 ± 0.22 **	0.39	3
Harrison	AR	36.23	93.11	0.32 ± 0.32 *	0.55	3
Haynes	AR	34.89	90.79	-0.68 ± 0.79	1.11	2
Hazen	AR	34.78	91.58	0.05 ± 0.46	0.79	3
Heber Springs	AR	35.49	92.04	-0.72 ± 0.05 **	0.07	2
Helena	AR	34.53	90.59	0.42 ± 0.23 *	0.45	4
Higden	AR	35.57	92.20	-0.08 ± 0.44	0.63	2
Hughes	AR	34.95	90.47	0.20 ± 0.36	0.73	4
Huntsville	AR	36.09	93.74	1.01 ± 0.13 **	0.18	2
Joiner	AR	35.51	90.15	-0.87 ± 0.65 *	0.93	2
Jonesboro	AR	35.85	90.70	0.10 ± 0.22	0.49	5
Keiser	AR	35.68	90.10	-0.34 ± 0.52	0.90	3
Kensett	AR	35.23	91.67	-0.23 ± 0.18 *	0.25	2
Knobel	AR	36.32	90.60	0.16 ± 0.41	0.93	5
Lake City	AR	35.82	90.43	-0.28 ± 0.43	0.60	2
Lake Village	AR	33.33	91.28	-0.23 ± 0.70	0.99	2
Leachville	AR	35.94	90.26	-0.84 ± 0.17 **	0.30	3
Lepanto	AR	35.61	90.33	-0.05 ± 0.41	0.92	5
Leslie	AR	35.83	92.56	-0.11 ± 0.24	0.33	2
Little Rock	AR	34.75	92.29	0.03 ± 0.37	0.53	2
Lonoke	AR	34.78	91.90	-0.83 ± 0.20 **	0.29	2
Luxora	AR	35.76	89.93	-0.49 ± 0.52	0.90	3
Madison	AR	35.01	90.72	-0.37 ± 1.32	1.87	2
Mammoth Spring	AR	36.49	91.54	-0.24 ± 0.30	0.52	3
Manila	AR	35.88	90.17	-0.62 ± 0.35 *	0.61	3
Marianna	AR	34.77	90.76	0.08 ± 0.13	0.27	4
Marked Tree	AR	35.53	90.42	0.00 ± 0.52	1.16	5
Marmaduke	AR	36.19	90.38	-0.02 ± 0.68	0.97	2
Marshall	AR	35.91	92.63	-0.19 ± 0.48	0.67	2
Marvell	AR	34.56	90.91	0.04 ± 0.03 *	0.04	2
Maynard	AR	36.42	90.90	0.26 ± 0.46	0.91	4
Mcrae	AR	35.11	91.82	-0.30 ± 0.44	0.62	2
Minturn	AR	35.98	91.03	0.43 ± 0.16 **	0.22	2
Morrilton	AR	35.15	92.74	-0.97 ± 0.54 *	0.76	2
Mountain View	AR	35.87	92.12	0.35 ± 0.09 **	0.18	4
Naylor	AR	35.15	92.18	-1.95 ± 1.00 *	1.41	2
Newark	AR	35.70	91.44	0.27 ± 0.38	0.65	3
Newport	AR	33.43	92.69	1.77 ± 0.18 **	0.44	6
Nimmons	AR	36.31	90.09	-0.21 ± 0.19 *	0.27	2
Okean	AR	36.17	90.82	-0.15 ± 0.51	0.72	2
Osceola	AR	35.70	89.97	-0.47 ± 0.34 *	0.59	3
Palestine	AR	34.97	90.90	0.29 ± 0.81	1.15	2
Pangburn	AR	35.43	91.84	-0.24 ± 0.71	1.01	2
Paragould	AR	36.05	90.49	0.16 ± 0.37	0.75	4
Parkin	AR	35.27	90.56	-0.15 ± 0.29	0.41	2
Peach Orchard	AR	36.28	90.66	-0.18 ± 0.25	0.56	5
Piggott	AR	36.38	90.19	0.33 ± 0.42	1.02	6

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Pocahontas	AR	36.26	90.97	-0.01 ± 0.31	0.54	3
Ravenden Springs	AR	36.32	91.23	-0.25 ± 0.09 **	0.12	2
Rector	AR	36.26	90.29	-0.32 ± 0.32	0.65	4
Reyno	AR	36.36	90.75	0.43 ± 0.44	0.99	5
Rosie	AR	35.67	91.54	-0.06 ± 0.22	0.31	2
Saint Francis	AR	36.46	90.14	-0.65 ± 0.44 *	0.62	2
Salem	AR	36.37	91.82	-0.27 ± 0.44	0.62	2
Sedgwick	AR	35.98	90.86	-0.20 ± 0.28	0.39	2
Smithville	AR	36.08	91.30	0.36 ± 0.35 *	0.60	3
Stonewall	AR	36.24	90.55	-0.82 ± 0.20 **	0.28	2
Stuttgart	AR	34.51	91.55	-0.57 ± 0.08 **	0.11	2
Success	AR	36.45	90.72	-1.14 ± 0.12 **	0.17	2
Sulphur Rock	AR	35.75	91.50	-0.56 ± 0.75	1.06	2
Swifton	AR	35.82	91.13	-0.46 ± 0.29 *	0.42	2
Trumann	AR	35.67	90.51	-0.40 ± 0.45	0.90	4
Tuckerman	AR	35.73	91.20	-0.40 ± 0.31 *	0.44	2
Tupelo	AR	35.39	91.23	-0.29 ± 1.35	1.90	2
Tyronza	AR	35.49	90.36	-0.62 ± 0.81	1.40	3
Vanndale	AR	35.31	90.77	-0.13 ± 0.58	1.01	3
Walnut Ridge	AR	36.07	90.96	0.32 ± 0.26 *	0.53	4
Ward	AR	34.67	92.30	0.21 ± 0.52	0.73	2
Weiner	AR	35.62	90.90	-0.35 ± 0.97	1.37	2
West Helena	AR	34.54	90.64	0.17 ± 0.20	0.28	2
West Memphis	AR	35.15	90.18	-0.07 ± 0.43	0.74	3
West Ridge	AR	35.68	90.26	-0.67 ± 1.18	1.67	2
Wilburn	AR	35.51	91.89	-0.68 ± 0.23 **	0.33	2
Wilson	AR	35.21	92.93	1.49 ± 0.41 **	0.71	3
Wynne	AR	35.22	90.79	-0.66 ± 0.70	1.21	3
Bethel	CT	41.41	73.41	1.18 ± 0.73 *	1.03	2
Danbury	CT	41.38	73.43	1.24 ± 0.67 *	0.95	2
Hartford	CT	41.75	72.70	1.43 ± 0.44 **	0.98	5
Melrose	CT	41.93	72.52	0.38 ± 0.09 **	0.12	2
New Hartford	CT	41.88	72.98	1.01 ± 0.36 **	0.52	2
New Haven	CT	41.30	72.92	1.25 ± 0.56 **	0.80	2
New Milford	CT	41.58	73.42	1.20 ± 0.74 *	1.04	2
Torrington	CT	41.80	73.12	0.55 ± 0.19 **	0.27	2
Winsted	CT	41.93	73.07	1.23 ± 0.57 **	1.14	4
Woodbury	CT	41.55	73.20	1.13 ± 0.74 *	1.05	2
Cleveland	GE	34.60	83.76	2.18 ± 0.04 **	0.06	2
Hiawassee	GE	34.95	83.76	0.26 ± 0.79	1.12	2
Akin	IL	37.99	88.75	-0.50 ± 1.00	1.42	2
Anna	IL	37.47	89.23	0.12 ± 0.35	0.61	3
Ashley	IL	38.33	89.19	-0.62 ± 0.73	1.04	2
Ava	IL	37.89	89.50	-0.05 ± 0.08	0.11	2
Belle Rive	IL	38.23	88.74	0.22 ± 0.68	1.17	3
Belleville	IL	38.51	89.99	0.56 ± 0.06 **	0.09	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Bonnie	IL	38.20	88.90	-0.69 ± 1.19	1.69	2
Brookport	IL	37.12	88.63	-0.80 ± 0.29 **	0.41	2
Broughton	IL	37.93	88.46	-1.17 ± 1.26	1.78	2
Cairo	IL	37.00	89.18	0.12 ± 0.17	0.38	5
Cambria	IL	37.78	89.12	-0.57 ± 0.03 **	0.04	2
Campbell Hill	IL	37.93	89.55	0.39 ± 0.15 **	0.21	2
Carbondale	IL	37.73	89.22	0.34 ± 0.41	0.71	3
Carriers Mills	IL	37.69	88.68	-0.71 ± 0.46 *	0.66	2
Carterville	IL	37.77	89.08	-0.60 ± 0.04 **	0.06	2
Cave In Rock	IL	37.47	88.17	-0.27 ± 1.35	1.90	2
Centralia	IL	38.58	89.13	-0.18 ± 0.96	1.36	2
Chester	IL	37.92	89.80	0.25 ± 0.29	0.41	2
Chicago	IL	41.88	87.63	2.48 ± 0.99 **	1.71	3
Cobden	IL	37.53	89.25	-0.23 ± 0.54	0.93	3
Colp	IL	37.81	89.08	-0.59 ± 0.09 **	0.13	2
Creal Springs	IL	37.62	88.84	-0.20 ± 0.29	0.41	2
Crossville	IL	38.16	88.07	-0.27 ± 0.76	1.08	2
Dahlgren	IL	38.20	88.69	-0.54 ± 0.70	1.00	2
Dale	IL	38.00	88.49	-1.15 ± 0.88 *	1.24	2
Danville	IL	40.13	87.63	0.81 ± 0.47 *	0.67	2
De Soto	IL	37.82	89.23	-0.65 ± 0.44 *	0.76	3
Des Plaines	IL	42.04	87.89	1.09 ± 0.49 **	0.69	2
Dongola	IL	37.36	89.16	-0.31 ± 0.35	0.70	4
Edwardsville	IL	38.81	89.96	0.75 ± 0.64 *	1.10	3
Elco	IL	37.30	89.27	-0.51 ± 0.04 **	0.06	2
Elizabethtown	IL	37.45	88.30	-0.85 ± 0.80 *	1.13	2
Elkville	IL	37.92	89.24	-0.13 ± 0.28	0.40	2
Emma	IL	37.97	88.12	-0.10 ± 0.63	1.09	3
Energy	IL	37.78	89.02	-0.18 ± 0.29	0.42	2
Enfield	IL	38.10	88.34	-0.26 ± 1.55	2.19	2
Eureka	IL	40.72	89.27	0.02 ± 0.73	1.03	2
Fairfield	IL	42.22	88.06	2.18 ± 0.50 **	0.71	2
Frankfort Heights	IL	37.91	88.90	0.33 ± 0.41	0.58	2
Galatia	IL	37.84	88.61	-0.22 ± 0.59	0.83	2
Gale	IL	37.25	89.45	-0.11 ± 0.45	0.63	2
Geneseo	IL	41.45	90.16	0.08 ± 1.26	1.79	2
Golconda	IL	37.36	88.49	-0.17 ± 0.33	0.46	2
Goreville	IL	37.55	88.97	0.37 ± 0.08 **	0.11	2
Grand Chain	IL	37.25	89.02	-1.08 ± 0.03 **	0.05	2
Hillsboro	IL	39.16	89.49	0.66 ± 0.43 *	0.61	2
Ina	IL	38.15	88.90	-0.75 ± 1.21	1.71	2
Jacob	IL	37.75	89.53	-0.32 ± 0.38	0.65	3
Jerseyville	IL	39.12	90.33	0.48 ± 0.47 *	0.66	2
Jonesboro	IL	37.42	89.32	-0.16 ± 0.39	0.78	4
Joppa	IL	37.20	88.84	-0.96 ± 0.18 **	0.26	2
Junction	IL	37.72	88.24	-0.07 ± 1.19	1.68	2
Karnak	IL	37.30	88.97	-0.46 ± 0.38 *	0.66	3
Lawrenceville	IL	38.73	87.68	0.53 ± 0.44 *	0.62	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Louisville	IL	38.77	88.50	0.12 ± 1.27	1.79	2
Macedonia	IL	38.05	88.71	-1.27 ± 1.29	1.83	2
Maeystown	IL	38.22	90.23	0.11 ± 0.04 **	0.05	2
Makanda	IL	37.62	89.21	-0.22 ± 0.65	0.92	2
Marion	IL	38.65	88.92	0.17 ± 0.63	0.90	2
Mascoutah	IL	38.47	89.78	0.72 ± 0.49 *	0.69	2
Montgomery	IL	39.26	89.42	1.20 ± 0.50 **	0.71	2
Mound City	IL	37.09	89.16	-0.26 ± 0.21 *	0.37	3
Mount Vernon	IL	38.32	88.90	-0.06 ± 0.65	0.92	2
Muddy	IL	37.76	88.52	0.14 ± 0.22	0.32	2
Murphysboro	IL	37.76	89.34	0.37 ± 0.24 *	0.54	5
New Haven	IL	37.90	88.12	-0.02 ± 0.31	0.44	2
Norris City	IL	37.98	88.33	-0.53 ± 1.74	2.45	2
Oak Lawn	IL	41.72	87.75	1.02 ± 0.37 **	0.53	2
Oblong	IL	39.00	87.91	0.18 ± 0.91	1.28	2
Olive Branch	IL	37.17	89.35	-0.82 ± 0.15 **	0.22	2
Olney	IL	38.75	88.10	0.36 ± 1.49	2.11	2
Oquawka	IL	40.93	90.95	0.53 ± 0.70	0.99	2
Oraville	IL	37.87	89.38	-0.61 ± 0.66	0.93	2
Ozark	IL	37.54	88.76	-0.11 ± 0.63	0.89	2
Pomona	IL	37.63	89.34	-0.20 ± 0.53	0.92	3
Quincy	IL	39.92	91.41	1.23 ± 0.34 **	0.48	2
Radom	IL	38.28	89.20	-0.66 ± 0.72	1.02	2
Renault	IL	38.15	90.13	0.15 ± 0.07 **	0.10	2
Ridgway	IL	37.80	88.26	0.38 ± 0.61	1.05	3
Robbs	IL	37.46	88.70	-0.78 ± 0.85	1.20	2
Rockwood	IL	37.84	89.70	-0.26 ± 0.36	0.51	2
Rosiclare	IL	37.43	88.34	-0.48 ± 0.58	1.01	3
Royalton	IL	37.88	89.11	0.62 ± 0.29 **	0.40	2
Salem	IL	38.63	88.95	0.73 ± 0.52 *	0.90	3
Shawneetown	IL	37.67	88.19	0.21 ± 0.66	1.15	3
Shelbyville	IL	39.41	88.79	0.63 ± 0.99	1.40	2
Sims	IL	38.36	88.53	-0.78 ± 1.16	1.64	2
Springerton	IL	38.18	88.35	-1.07 ± 1.41	1.99	2
Springfield	IL	39.80	89.65	0.39 ± 0.22 *	0.31	2
Stonefort	IL	37.62	88.71	-1.16 ± 0.80 *	1.13	2
Streator	IL	41.12	88.83	0.44 ± 0.55	0.77	2
Tamaroa	IL	38.14	89.23	-0.05 ± 0.39	0.55	2
Texico	IL	38.44	88.90	-0.11 ± 0.41	0.58	2
Thebes	IL	37.22	89.46	-0.36 ± 0.59	1.03	3
Ullin	IL	37.28	89.18	-0.39 ± 0.02 **	0.03	2
Unity	IL	37.15	89.27	-0.63 ± 0.03 **	0.04	2
Urbana	IL	40.11	88.21	0.22 ± 0.03 **	0.04	2
Varna	IL	41.04	89.23	0.38 ± 0.58	0.82	2
Villa Ridge	IL	37.17	89.20	0.21 ± 0.69	0.97	2
Walsh	IL	38.09	89.85	-0.48 ± 0.27 *	0.38	2
Waltonville	IL	38.21	89.04	-0.10 ± 0.56	0.79	2
Whittington	IL	38.09	88.90	-1.04 ± 0.98 *	1.39	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Wolf Lake	IL	37.50	89.44	-0.51 ± 0.43 *	0.75	3
Zeigler	IL	37.90	89.05	-0.56 ± 0.21 **	0.30	2
Bloomfield	IN	38.02	87.10	-0.08 ± 0.71	1.00	2
Crawfordsville	IN	40.04	86.90	0.69 ± 0.25 **	0.35	2
Crown Point	IN	41.42	87.36	0.61 ± 0.64	0.90	2
Evansville	IN	37.97	87.57	0.79 ± 0.60 *	1.03	3
Fort Branch	IN	38.25	87.58	0.79 ± 0.03 **	0.05	2
Gary	IN	41.60	87.34	0.66 ± 0.69	0.98	2
Goshen	IN	41.58	85.83	1.25 ± 0.35 **	0.50	2
Griffin	IN	38.21	87.92	-0.06 ± 0.66	0.93	2
Indianapolis	IN	39.77	86.15	1.02 ± 0.47 **	0.66	2
Jasper	IN	38.39	86.93	0.48 ± 1.04	1.47	2
Lafayette	IN	40.42	86.90	0.84 ± 0.26 **	0.37	2
Little York	IN	38.70	85.91	1.00 ± 0.76 *	1.08	2
New Albany	IN	38.29	85.81	0.99 ± 0.77 *	1.09	2
Petersburg	IN	38.49	87.28	0.96 ± 0.24 **	0.33	2
South Bend	IN	41.68	86.26	1.59 ± 0.03 **	0.06	3
Terre Haute	IN	39.47	87.40	0.92 ± 0.04 **	0.06	2
Wadesville	IN	38.10	87.79	0.51 ± 1.11	1.57	2
Burlington	IO	40.80	91.11	0.79 ± 0.39 **	0.68	3
Cedar Rapids	IO	41.98	91.67	1.04 ± 0.87 *	1.22	2
Clinton	IO	41.84	90.19	1.08 ± 0.62 *	1.08	3
Elkader	IO	42.85	91.40	1.32 ± 0.99 *	1.40	2
Farmington	IO	40.64	91.74	0.77 ± 0.33 **	0.46	2
Muscatine	IO	41.47	91.08	1.14 ± 0.41 **	0.57	2
Kansas City	KA	39.12	94.63	1.73 ± 0.56 **	0.79	2
Arlington	KY	36.79	89.01	-0.57 ± 0.11 **	0.20	3
Bandana	KY	37.14	88.95	0.38 ± 0.29 *	0.41	2
Bardwell	KY	36.87	89.01	0.11 ± 0.16	0.32	4
Barlow	KY	37.05	89.05	-0.26 ± 0.12 **	0.20	3
Benton	KY	36.86	88.35	0.08 ± 0.16	0.23	2
Boaz	KY	36.88	88.63	-0.21 ± 0.09 **	0.15	3
Burna	KY	37.25	88.37	-0.23 ± 1.06	1.50	2
Cadiz	KY	36.86	87.83	0.34 ± 0.02 **	0.04	3
Calvert City	KY	37.03	88.35	0.00 ± 0.14	0.19	2
Canton	KY	36.80	87.96	0.74 ± 0.47 *	0.66	2
Carrsville	KY	37.40	88.42	0.25 ± 0.02 **	0.03	2
Clay	KY	37.09	83.74	1.39 ± 1.03 *	1.46	2
Clinton	KY	36.76	85.14	1.65 ± 0.35 **	0.86	6
Cobb	KY	36.99	87.78	-0.10 ± 0.65	0.91	2
Corydon	KY	37.74	87.70	0.04 ± 0.47	0.66	2
Crofton	KY	37.05	87.49	0.47 ± 0.13 **	0.18	2
Cunningham	KY	36.91	88.89	-0.47 ± 0.24 *	0.34	2
Dixon	KY	37.52	87.69	-0.38 ± 0.86	1.21	2
Earlington	KY	37.27	87.51	-0.15 ± 0.71	1.00	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Elkton	KY	36.83	87.17	0.78 ± 1.07	1.51	2
Fancy Farm	KY	36.80	88.79	1.13 ± 0.63 *	0.90	2
Farmers	KY	38.14	83.55	-1.26 ± 0.00 **	0.00	2
Farmington	KY	36.67	88.53	0.84 ± 0.00 **	0.00	2
Frakes	KY	36.64	83.93	-0.01 ± 0.19	0.27	2
Frenchburg	KY	37.95	83.63	-0.43 ± 0.68	0.96	2
Fulton	KY	36.50	88.88	-0.07 ± 0.30	0.53	3
Germantown	KY	38.66	83.97	0.22 ± 0.91	1.28	2
Grand Rivers	KY	37.00	88.24	0.57 ± 0.58	0.82	2
Green Hall	KY	37.40	83.83	-0.50 ± 0.60	0.85	2
Greenup	KY	38.58	82.84	0.63 ± 0.55 *	0.78	2
Hamlin	KY	36.65	88.07	0.54 ± 0.36 *	0.62	3
Hampton	KY	37.28	88.37	-0.26 ± 0.10 **	0.14	2
Hazard	KY	37.25	83.19	0.11 ± 0.80	1.14	2
Hazel	KY	36.50	88.33	-0.05 ± 0.16	0.28	3
Henderson	KY	37.79	87.59	0.68 ± 0.02 **	0.02	2
Hickman	KY	36.57	89.19	0.13 ± 0.17	0.45	7
Hickory	KY	36.82	88.65	-0.25 ± 0.10 **	0.14	2
Hodgenville	KY	37.57	85.74	0.06 ± 0.22	0.31	2
Hopkinsville	KY	36.86	87.49	0.68 ± 0.04 **	0.06	2
Irvine	KY	37.70	83.98	0.39 ± 1.03	1.46	2
Kenton	KY	38.95	84.52	0.05 ± 0.99	1.40	2
Kevil	KY	37.08	89.00	-0.14 ± 0.08 *	0.15	3
Kirksey	KY	36.70	88.40	-0.07 ± 0.01 **	0.01	2
Kuttawa	KY	37.07	88.10	0.06 ± 1.04	1.46	2
La Center	KY	37.07	88.97	-0.67 ± 0.28 **	0.39	2
Lovelaceville	KY	36.97	88.83	-0.05 ± 0.46	0.80	3
Lynn Grove	KY	36.59	88.44	-0.07 ± 0.08	0.11	2
Lynnville	KY	36.57	88.57	0.32 ± 0.56	0.79	2
Marion	KY	37.33	88.08	0.84 ± 0.28 **	0.40	2
Mayfield	KY	36.74	88.64	-0.22 ± 0.05 **	0.07	2
Maysville	KY	38.64	83.76	0.90 ± 0.39 **	0.55	2
Melber	KY	36.95	88.73	0.13 ± 0.66	0.93	2
Milburn	KY	36.80	88.90	-0.53 ± 0.11 **	0.15	2
Murray	KY	36.61	88.30	-0.22 ± 0.26	0.37	2
Newport	KY	39.09	84.50	0.65 ± 0.43 *	0.61	2
Owensboro	KY	37.77	87.11	0.44 ± 1.22	1.72	2
Owenton	KY	38.54	84.84	0.98 ± 0.03 **	0.05	2
Owingsville	KY	38.14	83.76	-0.37 ± 0.74	1.04	2
Paducah	KY	37.08	88.60	0.19 ± 0.20	0.35	3
Pathfork	KY	36.76	83.46	-0.40 ± 0.11 **	0.16	2
Pineville	KY	36.76	83.70	0.50 ± 0.82	1.16	2
Poole	KY	37.64	87.64	0.63 ± 0.09 **	0.12	2
Revelo	KY	36.68	84.47	-0.40 ± 0.23 *	0.32	2
Salem	KY	37.26	88.25	-0.67 ± 0.62 *	0.88	2
Sandy Hook	KY	38.09	83.13	-0.22 ± 0.19 *	0.27	2
Sheridan	KY	37.35	88.20	-0.54 ± 0.89	1.25	2
Smith Mills	KY	37.80	87.76	0.98 ± 0.52 *	0.74	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Smithland	KY	37.14	88.40	-0.07 ± 0.10	0.17	3
Stanton	KY	37.85	83.86	-0.33 ± 0.70	0.99	2
Strunk	KY	36.63	84.44	-0.42 ± 0.29 *	0.41	2
Sturgis	KY	37.55	87.98	-0.16 ± 0.42	0.60	2
Tolu	KY	37.43	88.25	0.18 ± 0.17 *	0.25	2
Uniontown	KY	37.77	87.94	0.44 ± 0.25 *	0.35	2
Vanceburg	KY	38.60	83.32	0.09 ± 0.50	0.71	2
Waco	KY	37.74	84.14	0.38 ± 0.03 **	0.04	2
Washington	KY	38.61	83.81	-0.80 ± 1.00	1.41	2
Wendover	KY	37.13	83.36	-0.36 ± 0.28 *	0.40	2
West Liberty	KY	37.92	83.26	0.26 ± 0.25 *	0.35	2
Wheatcroft	KY	37.48	87.87	-0.02 ± 1.35	1.91	2
Wheelwright	KY	37.34	82.72	-0.08 ± 0.42	0.60	2
Wickliffe	KY	36.97	89.08	-0.37 ± 0.20 *	0.35	3
Wingo	KY	36.64	88.74	0.21 ± 0.49	0.69	2
Winston	KY	37.71	84.08	-0.62 ± 1.00	1.42	2
Amesbury	MA	42.85	70.93	0.71 ± 1.24	1.75	2
Amherst	MA	42.38	72.52	0.60 ± 0.25 **	0.50	4
Ashfield	MA	42.53	72.80	-0.07 ± 0.14	0.19	2
Athol	MA	42.60	72.23	0.61 ± 0.48 *	1.08	5
Ayer	MA	42.56	71.59	0.47 ± 0.17 **	0.24	2
Baldwinville	MA	42.60	72.08	-0.14 ± 0.20	0.29	2
Bernardston	MA	42.67	72.55	0.31 ± 0.51	0.72	2
Brimfield	MA	42.12	72.20	0.75 ± 0.47 *	0.66	2
Cambridge	MA	42.37	71.10	0.51 ± 0.56	0.79	2
Charlemont	MA	42.63	72.87	0.36 ± 0.33 *	0.47	2
Charlton	MA	42.13	71.97	0.26 ± 0.10 **	0.14	2
Cheshire	MA	42.56	73.16	1.29 ± 0.40 **	0.69	3
Chester	MA	42.28	72.98	0.13 ± 0.22	0.31	2
Chicopee	MA	42.15	72.60	0.21 ± 0.09 **	0.13	2
Danvers	MA	42.57	70.94	0.77 ± 0.97	1.38	2
Dedham	MA	42.25	71.17	0.59 ± 0.52 *	0.73	2
Dover	MA	42.25	71.28	0.32 ± 0.25 *	0.36	2
Dracut	MA	42.65	71.32	-0.04 ± 0.43	0.60	2
Dunstable	MA	42.67	71.48	-0.10 ± 0.40	0.57	2
East Princeton	MA	42.47	71.83	0.50 ± 0.27 *	0.38	2
Easton	MA	42.03	71.10	0.52 ± 0.22 **	0.31	2
Erving	MA	42.60	72.40	0.85 ± 0.06 **	0.09	2
Great Barrington	MA	42.19	73.36	0.47 ± 0.61	0.86	2
Greenfield	MA	42.60	72.62	0.45 ± 0.55	0.94	3
Groton	MA	42.62	71.58	-0.07 ± 0.35	0.50	2
Hatfield	MA	42.38	72.60	0.99 ± 0.02 **	0.03	2
Holliston	MA	42.22	71.42	0.30 ± 0.23 *	0.32	2
Holyoke	MA	42.20	72.60	1.26 ± 0.81 *	1.61	4
Hyannis	MA	41.65	70.27	1.64 ± 0.27 **	0.38	2
Lake Pleasant	MA	42.56	72.52	0.39 ± 0.49	0.70	2
Lawrence	MA	42.72	71.15	-0.02 ± 0.46	0.64	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Leeds	MA	42.35	72.70	0.56 ± 0.39 *	0.56	2
Leominster	MA	42.53	71.76	0.47 ± 0.22 **	0.31	2
Lowell	MA	42.63	71.32	1.36 ± 1.02 *	1.76	3
Lynn	MA	42.48	70.95	0.95 ± 1.05	1.48	2
Malden	MA	42.42	71.07	1.94 ± 0.11 **	0.15	2
Millers Falls	MA	42.57	72.48	0.37 ± 0.49	0.70	2
Montague	MA	42.53	72.53	-0.09 ± 0.02 **	0.03	2
Nantucket	MA	41.28	70.10	0.77 ± 0.15 **	0.21	2
New Bedford	MA	41.62	70.92	0.89 ± 0.23 **	0.32	2
North Adams	MA	42.70	73.11	0.15 ± 0.49	0.85	3
North Chelmsford	MA	42.63	71.38	0.88 ± 0.25 **	0.43	3
North Hatfield	MA	42.40	72.62	1.01 ± 0.08 **	0.11	2
Northampton	MA	42.32	72.63	0.08 ± 0.08 *	0.11	2
Orange	MA	42.58	72.30	-0.13 ± 0.10 *	0.14	2
Palmer	MA	42.17	72.32	0.64 ± 0.43 *	0.74	3
Pepperell	MA	42.67	71.58	-0.11 ± 0.37	0.52	2
Plymouth	MA	41.97	70.67	0.91 ± 0.07 **	0.10	2
Revere	MA	42.40	71.00	0.45 ± 0.50	0.71	2
Rowe	MA	42.68	72.90	-0.19 ± 0.19	0.27	2
Russell	MA	42.18	72.85	0.70 ± 0.33 **	0.47	2
Shelburne Falls	MA	42.61	72.74	0.93 ± 0.04 **	0.05	2
Shirley	MA	42.55	71.65	0.98 ± 0.30 **	0.42	2
Shutesbury	MA	42.45	72.42	0.47 ± 0.52	0.74	2
South Barre	MA	42.38	72.09	0.68 ± 0.25 **	0.44	3
South Hadley	MA	42.27	72.58	0.63 ± 0.42 *	0.60	2
South Hamilton	MA	42.62	70.88	0.19 ± 0.41	0.58	2
South Lee	MA	42.26	73.26	0.15 ± 0.33	0.46	2
Springfield	MA	42.12	72.58	1.34 ± 0.60 **	1.20	4
Sudbury	MA	42.38	71.42	0.17 ± 0.29	0.41	2
Taunton	MA	41.90	71.10	1.28 ± 0.86 *	1.22	2
Templeton	MA	42.55	72.07	0.41 ± 0.32 *	0.45	2
Wales	MA	42.07	72.22	0.29 ± 0.02 **	0.03	2
West Brookfield	MA	42.24	72.14	1.16 ± 0.07 **	0.10	2
West Roxbury	MA	42.33	71.08	1.05 ± 1.02 *	1.44	2
Westford	MA	42.57	71.43	0.88 ± 0.39 **	0.67	3
Whately	MA	42.43	72.63	0.50 ± 0.43 *	0.61	2
Wheelwright	MA	42.35	72.13	0.07 ± 0.10	0.15	2
Williamsburg	MA	42.38	72.73	0.53 ± 0.39 *	0.55	2
Williamstown	MA	42.71	73.20	-0.19 ± 0.33	0.47	2
Windsor	MA	42.50	73.05	-0.04 ± 0.26	0.37	2
Worcester	MA	42.27	71.80	1.15 ± 0.15 **	0.22	2
Worthington	MA	42.40	72.93	0.03 ± 0.20	0.28	2
Alfred	ME	43.48	70.72	1.43 ± 1.38 *	1.95	2
Andover	ME	44.63	70.75	-0.23 ± 0.51	0.87	3
Anson	ME	44.80	69.88	-0.23 ± 0.67	0.95	2
Auburn	ME	44.09	70.24	0.61 ± 0.59 *	1.01	3
Bangor	ME	44.78	68.78	0.46 ± 0.60	0.86	2



**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Bethel	ME	44.40	70.78	0.09 ± 0.51	0.88	3
Brownfield	ME	43.94	70.91	-0.08 ± 0.69	0.98	2
Bryant Pond	ME	44.38	70.65	0.82 ± 0.66 *	0.93	2
Buckfield	ME	44.29	70.37	0.30 ± 0.19 *	0.34	3
Caribou	ME	46.86	68.01	0.21 ± 0.35	0.49	2
Cherryfield	ME	44.60	67.93	0.58 ± 0.20 **	0.28	2
Cornish	ME	43.80	70.80	-0.21 ± 0.34	0.58	3
Denmark	ME	43.97	70.81	-0.03 ± 0.38	0.54	2
Dixfield	ME	44.53	70.46	0.32 ± 0.28 *	0.40	2
East Peru	ME	44.49	70.38	0.11 ± 0.99	1.40	2
East Sebago	ME	43.85	70.65	-0.05 ± 0.52	0.73	2
Eastport	ME	44.92	66.98	0.17 ± 1.27	1.79	2
Farmington	ME	44.67	70.15	-0.33 ± 0.63	0.89	2
Fryeburg	ME	44.02	70.98	-0.31 ± 0.31 *	0.53	3
Gorham	ME	43.68	70.44	-0.27 ± 0.18 *	0.25	2
Greenville	ME	45.46	69.59	-0.89 ± 1.02	1.44	2
Harrison	ME	44.11	70.68	0.03 ± 0.57	0.80	2
Hiram	ME	43.88	70.81	0.11 ± 0.43	0.74	3
Jackman	ME	45.63	70.27	0.02 ± 1.54	2.18	2
Kezar Falls	ME	43.82	70.88	-0.26 ± 0.35	0.61	3
Lewiston	ME	44.10	70.21	0.46 ± 0.12 **	0.16	2
Limington	ME	43.73	70.71	0.18 ± 0.18	0.31	3
Lisbon Center	ME	44.02	70.09	-0.17 ± 0.15 *	0.21	2
Lovell	ME	44.13	70.88	-0.26 ± 0.30	0.52	3
Mexico	ME	44.57	70.55	-0.24 ± 0.80	1.13	2
Millinocket	ME	45.66	68.71	0.42 ± 0.39 *	0.55	2
Milo	ME	45.25	68.98	0.37 ± 0.76	1.07	2
Moody	ME	43.27	70.60	0.39 ± 0.17 **	0.24	2
Newry	ME	44.49	70.79	-0.06 ± 0.05 *	0.07	2
North Waterboro	ME	43.62	70.73	-0.18 ± 0.62	0.88	2
Norway	ME	44.22	70.55	0.04 ± 0.66	0.93	2
Portland	ME	43.65	70.28	0.65 ± 0.48 *	0.97	4
Raymond	ME	43.90	70.47	0.63 ± 0.07 **	0.10	2
Rumford Center	ME	44.51	70.62	0.00 ± 0.01	0.01	2
Sanford	ME	43.44	70.78	-0.39 ± 0.47	0.67	2
Scarborough	ME	43.58	70.35	0.33 ± 0.31 *	0.44	2
Skowhegan	ME	44.76	69.72	0.37 ± 0.12 **	0.17	2
South Paris	ME	44.23	70.52	0.74 ± 0.06 **	0.09	2
South Portland	ME	43.64	70.25	0.35 ± 0.63	0.89	2
Waterville	ME	44.57	69.62	0.79 ± 0.29 **	0.50	3
Weld	ME	44.70	70.42	0.44 ± 0.20 **	0.28	2
West Buxton	ME	43.67	70.60	-0.36 ± 0.26 *	0.37	2
West Poland	ME	44.04	70.45	0.14 ± 0.57	0.81	2
West Sumner	ME	44.37	70.46	0.09 ± 0.14	0.19	2
Westbrook	ME	43.68	70.37	0.39 ± 0.62	1.08	3
Wilton	ME	44.58	70.23	0.00 ± 0.48	0.84	3
Abbeville	MI	34.50	89.50	1.33 ± 0.02 **	0.03	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Batesville	MI	34.31	89.95	0.40 ± 0.09 **	0.13	2
Byhalia	MI	34.87	89.69	-0.62 ± 0.52 *	0.73	2
Cleveland	MI	33.75	90.72	0.09 ± 0.69	0.98	2
Coffeeville	MI	33.98	89.67	0.41 ± 0.28 *	0.39	2
Coldwater	MI	32.72	89.22	1.30 ± 0.31 **	0.53	3
Detroit	MI	42.33	83.05	1.82 ± 0.90 **	1.57	3
Grenada	MI	33.54	90.17	-0.34 ± 0.30 *	0.43	2
Hernando	MI	34.82	89.99	0.07 ± 0.25	0.43	3
Indianola	MI	33.45	90.65	-0.37 ± 0.40	0.57	2
Lake Cormorant	MI	34.90	90.22	0.02 ± 0.52	0.74	2
Lamar	MI	31.21	89.51	2.62 ± 0.05 **	0.07	2
Lambert	MI	34.20	90.28	-0.02 ± 0.63	0.89	2
Lansing	MI	42.73	84.55	2.02 ± 1.06 *	1.50	2
Marks	MI	34.26	90.27	0.07 ± 0.22	0.32	2
Minter City	MI	33.75	90.29	0.00 ± 0.77	1.09	2
Moorhead	MI	33.45	90.50	0.36 ± 0.66	0.94	2
Mount Clemens	MI	42.58	82.88	1.45 ± 0.43 **	0.60	2
Mount Pleasant	MI	43.60	84.77	0.67 ± 1.76	2.49	2
New Albany	MI	34.49	89.00	0.05 ± 0.46	0.65	2
Port Huron	MI	42.97	82.43	1.23 ± 1.18 *	1.66	2
Potts Camp	MI	34.65	89.31	0.28 ± 0.02 **	0.03	2
Ripley	MI	34.73	88.95	0.28 ± 0.45	0.77	3
Robinsonville	MI	34.82	90.32	-0.21 ± 0.20 *	0.28	2
Senatobia	MI	34.62	89.96	-0.15 ± 0.44	0.76	3
Shelby	MI	33.95	90.77	-0.20 ± 0.20	0.28	2
Taylor	MI	34.27	89.59	0.28 ± 0.18 *	0.26	2
Tunica	MI	34.69	90.38	0.40 ± 0.45	0.78	3
Walls	MI	34.96	90.15	-0.40 ± 0.17 **	0.23	2
Water Valley	MI	34.16	89.63	1.10 ± 0.55 *	0.78	2
Waterford	MI	34.65	89.46	0.29 ± 0.08 **	0.11	2
Advance	MO	37.10	89.92	-0.44 ± 0.07 **	0.13	3
Altenburg	MO	37.63	89.59	-0.56 ± 0.25 **	0.51	4
Alton	MO	36.69	91.40	0.66 ± 0.16 **	0.35	5
Annapolis	MO	37.36	90.70	-0.86 ± 0.36 **	0.51	2
Anniston	MO	36.83	89.33	-0.55 ± 0.21 **	0.37	3
Arab	MO	37.09	90.08	0.24 ± 0.56	1.12	4
Arbyrd	MO	36.05	90.24	0.17 ± 0.39	0.68	3
Arcadia	MO	37.59	90.63	-0.76 ± 0.51 *	1.01	4
Augusta	MO	38.57	90.88	0.71 ± 0.34 **	0.59	3
Ava	MO	36.95	92.67	0.78 ± 0.63 *	1.26	4
Bakersfield	MO	36.52	92.14	0.49 ± 0.10 **	0.14	2
Belgique	MO	37.84	89.78	-0.33 ± 0.25 *	0.43	3
Bell City	MO	37.02	89.82	-0.62 ± 0.05 **	0.09	3
Belleview	MO	37.68	90.73	-0.82 ± 0.52 *	1.04	4
Benton	MO	37.10	89.57	-0.82 ± 0.10 **	0.18	3
Bernie	MO	36.67	89.98	-1.11 ± 0.49 **	0.85	3
Bertrand	MO	36.91	89.45	-0.56 ± 0.56	0.98	3

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Beulah	MO	37.63	91.92	-0.31 ± 0.79	1.12	2
Birch Tree	MO	36.99	91.49	-0.26 ± 0.17 *	0.23	2
Black	MO	37.53	90.93	0.20 ± 0.84	1.19	2
Bloomfield	MO	36.88	89.93	-0.39 ± 0.36 *	0.72	4
Bloomsdale	MO	38.02	90.22	-0.63 ± 0.49 *	0.69	2
Bonne Terre	MO	37.92	90.56	0.13 ± 0.36	0.63	3
Bowling Green	MO	39.34	91.20	0.32 ± 0.23 *	0.33	2
Bragg City	MO	36.27	89.91	-0.89 ± 0.55 *	0.77	2
Braggadocio	MO	36.18	89.83	-0.21 ± 0.18 *	0.32	3
Brandsville	MO	36.65	91.70	0.59 ± 0.42 *	0.73	3
Brazeau	MO	37.66	89.65	-0.16 ± 0.10 *	0.14	2
Broseley	MO	36.67	90.25	-0.13 ± 0.29	0.71	6
Brownwood	MO	37.08	89.96	-0.48 ± 0.98	1.39	2
Burfordville	MO	37.37	89.80	-0.66 ± 0.04 **	0.05	2
Caledonia	MO	37.76	90.77	-1.08 ± 1.05 *	1.48	2
Campbell	MO	36.49	90.08	-0.22 ± 0.19 *	0.46	6
Canalou	MO	36.75	89.69	-0.73 ± 0.47 *	0.93	4
Cape Girardeau	MO	37.37	89.65	-0.25 ± 0.24 *	0.59	6
Caruthersville	MO	36.19	89.65	-0.87 ± 0.20 **	0.45	5
Catron	MO	36.61	89.71	-0.76 ± 0.68 *	1.17	3
Centerville	MO	37.43	90.96	-1.83 ± 2.00	2.83	2
Chaffee	MO	37.18	89.67	-0.50 ± 0.30 *	0.52	3
Charleston	MO	36.92	89.35	0.16 ± 0.22	0.44	4
Clarkton	MO	36.45	89.97	-0.81 ± 0.34 **	0.75	5
Commerce	MO	37.16	89.45	-0.40 ± 0.41	0.82	4
Conran	MO	36.48	89.64	0.46 ± 0.11 **	0.25	5
Conway	MO	37.50	92.82	0.70 ± 0.26 **	0.37	2
Cooter	MO	36.05	89.81	-0.94 ± 0.42 **	0.73	3
Crystal City	MO	38.18	90.37	0.31 ± 0.29 *	0.58	4
Cuba	MO	38.06	91.40	-0.13 ± 0.57	0.99	3
De Soto	MO	38.13	90.56	0.99 ± 0.16 **	0.23	2
Deering	MO	36.19	89.89	-0.65 ± 0.23 **	0.32	2
Delta	MO	37.20	89.74	-1.64 ± 0.70 **	0.99	2
Des Arc	MO	37.28	90.64	-0.78 ± 0.42 *	0.60	2
Desloge	MO	37.88	90.53	-0.31 ± 0.23 *	0.32	2
Dexter	MO	36.79	89.96	-0.30 ± 0.19 *	0.50	7
Doniphan	MO	36.65	90.85	0.53 ± 0.54	0.77	2
Dudley	MO	36.79	90.09	-0.59 ± 0.78	1.10	2
Dutchtown	MO	37.25	89.65	-1.05 ± 0.27 **	0.46	3
East Prairie	MO	36.78	89.39	-0.24 ± 0.43	0.87	4
Ellington	MO	37.24	90.97	0.22 ± 0.34	0.59	3
Elsberry	MO	39.17	90.78	1.20 ± 0.07 **	0.10	2
Eminence	MO	37.15	91.37	0.01 ± 0.35	0.49	2
Essex	MO	36.81	89.86	-1.13 ± 0.42 **	0.73	3
Fairdealing	MO	36.67	90.62	0.20 ± 0.29	0.51	3
Farmington	MO	37.78	90.42	0.24 ± 0.43	0.96	5
Farrar	MO	37.70	89.69	-0.48 ± 0.39 *	0.55	2
Festus	MO	38.22	90.39	0.55 ± 0.20 **	0.41	4

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Fisk	MO	36.78	90.20	-0.73 ± 0.51 *	1.03	4
Florissant	MO	38.79	90.33	-0.25 ± 0.10 **	0.15	2
Fredericktown	MO	37.56	90.29	-0.45 ± 0.05 **	0.10	4
Friedheim	MO	37.57	89.82	-0.66 ± 0.29 **	0.42	2
Frohna	MO	37.64	89.62	-0.60 ± 0.30 **	0.51	3
Fruitland	MO	37.39	93.23	0.61 ± 0.56 *	0.79	2
Gainesville	MO	36.60	92.43	0.14 ± 0.25	0.43	3
Gibson	MO	36.44	90.03	-0.76 ± 0.56 *	0.80	2
Gideon	MO	36.55	89.92	-0.67 ± 0.24 **	0.53	5
Gipsy	MO	37.15	90.18	-0.29 ± 0.83	1.17	2
Glenallen	MO	37.32	90.03	-0.52 ± 0.30 *	0.43	2
Gordonville	MO	37.31	89.68	-1.10 ± 0.96 *	1.35	2
Grandin	MO	36.83	90.83	-0.56 ± 0.26 **	0.46	3
Gray Summit	MO	38.49	90.82	-0.09 ± 0.71	1.00	2
Grayridge	MO	36.82	89.78	-0.30 ± 0.32	0.63	4
Greenville	MO	37.13	90.45	-0.26 ± 0.30	0.61	4
Harviell	MO	36.67	90.47	-0.46 ± 0.39 *	0.87	5
Hayti	MO	36.23	89.75	-0.41 ± 0.26 *	0.52	4
Hendrickson	MO	36.90	90.47	0.16 ± 0.10 *	0.15	2
Holcomb	MO	36.40	90.03	-0.82 ± 0.55 *	0.96	3
Holland	MO	36.06	89.87	-0.97 ± 0.30 **	0.61	4
Hornersville	MO	36.04	90.11	-0.47 ± 0.22 **	0.43	4
Hunter	MO	36.89	90.85	0.02 ± 0.79	1.37	3
Illmo	MO	37.22	89.51	0.51 ± 0.30 *	0.60	4
Iron Mountain	MO	37.70	90.64	-0.53 ± 0.38 *	0.53	2
Ironton	MO	37.60	90.63	-0.53 ± 0.36 *	0.62	3
Jackson	MO	37.38	89.67	-0.90 ± 0.47 *	0.82	3
Kennett	MO	36.25	90.07	-0.24 ± 0.11 **	0.25	5
Kewanee	MO	36.67	89.57	-0.44 ± 0.40 *	0.90	5
Knob Lick	MO	37.68	90.37	-0.78 ± 0.38 **	0.54	2
Leopold	MO	37.26	89.92	-1.15 ± 0.18 **	0.32	3
Lilbourn	MO	36.59	89.61	0.29 ± 0.44	0.99	5
Lodi	MO	37.26	90.45	-0.90 ± 0.52 *	0.74	2
Malden	MO	36.56	89.97	-0.36 ± 0.23 *	0.52	5
Marble Hill	MO	37.30	89.97	-0.73 ± 0.15 **	0.31	4
Marquand	MO	37.43	90.17	-0.75 ± 0.12 **	0.17	2
Marston	MO	36.52	89.61	-0.11 ± 0.55	1.09	4
Matthews	MO	36.77	89.58	-0.01 ± 0.44	0.76	3
Mill Spring	MO	37.06	90.68	-0.63 ± 1.07	1.51	2
Millersville	MO	37.43	89.80	-0.99 ± 0.24 **	0.42	3
Montier	MO	36.98	91.57	-0.32 ± 0.91	1.29	2
Morehouse	MO	36.85	89.69	-1.01 ± 0.38 **	0.54	2
Morley	MO	37.05	89.62	-0.77 ± 0.46 *	0.80	3
Mountain View	MO	36.00	91.70	1.52 ± 0.43 **	0.74	3
Naylor	MO	36.58	90.60	-0.40 ± 0.21 *	0.51	6
Neelyville	MO	36.56	90.51	-0.80 ± 0.66 *	0.93	2
New Haven	MO	38.61	91.21	0.54 ± 0.17 **	0.24	2
New London	MO	39.59	91.40	0.53 ± 0.22 **	0.31	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
New Madrid	MO	36.57	89.53	-0.74 ± 0.16 **	0.32	4
Old Appleton	MO	37.60	89.71	-0.65 ± 0.47 *	0.67	2
Oran	MO	37.08	89.66	-0.84 ± 0.42 **	0.93	5
Oxly	MO	36.60	90.69	-0.38 ± 0.28 *	0.49	3
Painton	MO	37.08	89.80	-0.94 ± 0.49 *	0.84	3
Parma	MO	36.61	89.82	-0.92 ± 0.41 **	1.00	6
Pascola	MO	36.27	89.83	-0.50 ± 0.31 *	0.54	3
Patterson	MO	37.19	90.55	-0.33 ± 0.29 *	0.66	5
Patton	MO	37.50	90.01	-0.39 ± 0.62	0.88	2
Perkins	MO	38.90	90.37	0.11 ± 0.90	1.55	3
Perryville	MO	37.72	89.87	-0.86 ± 0.10 **	0.14	2
Piedmont	MO	37.15	90.70	-0.31 ± 0.30 *	0.60	4
Pocahontas	MO	37.50	89.63	-0.31 ± 0.11 **	0.18	3
Pomona	MO	36.87	91.91	-0.08 ± 0.75	1.06	2
Poplar Bluff	MO	36.76	90.40	0.28 ± 0.35	0.92	7
Portageville	MO	36.43	89.70	-0.46 ± 0.48	0.95	4
Potosi	MO	37.89	90.79	-0.17 ± 0.16 *	0.22	2
Puxico	MO	36.95	90.16	0.72 ± 0.28 **	0.56	4
Qulin	MO	36.60	90.25	0.18 ± 0.25	0.35	2
Reynolds	MO	37.33	91.03	-0.31 ± 0.44	0.62	2
Risco	MO	36.55	89.82	-1.08 ± 0.47 **	1.05	5
Rives	MO	36.10	90.02	-0.29 ± 0.36	0.51	2
Saint Clair	MO	38.03	93.78	1.80 ± 0.20 **	0.28	2
Saint Marys	MO	37.88	89.95	-0.56 ± 0.11 **	0.15	2
Sainte Genevieve	MO	37.90	90.20	-0.36 ± 0.09 **	0.13	2
Salem	MO	37.65	91.54	0.33 ± 0.94	1.33	2
Scott City	MO	37.22	89.55	-0.53 ± 0.62	0.87	2
Seaton	MO	37.81	91.61	-0.48 ± 0.89	1.26	2
Sedgewickville	MO	37.52	89.91	-0.80 ± 0.16 **	0.33	4
Senath	MO	36.13	90.16	-0.44 ± 0.12 **	0.24	4
Sikeston	MO	36.88	89.59	0.08 ± 0.39	0.96	6
Silva	MO	37.18	90.47	0.14 ± 0.62	1.08	3
St Louis	MO	38.65	90.25	1.16 ± 0.28 **	0.55	4
Steele	MO	36.12	89.83	-1.12 ± 0.30 **	0.52	3
Sturdivant	MO	37.05	90.01	-0.54 ± 0.39 *	0.77	4
Sturgeon	MO	39.23	92.28	0.87 ± 0.63 *	0.90	2
Tallapoosa	MO	36.51	89.82	-0.31 ± 0.31 *	0.54	3
Thayer	MO	36.52	91.54	-0.04 ± 0.34	0.60	3
Thomasville	MO	36.79	91.53	0.54 ± 0.00 **	0.01	2
Troy	MO	38.98	90.98	0.53 ± 0.78	1.10	2
Van Buren	MO	37.00	91.01	-0.12 ± 0.25	0.43	3
Vanduser	MO	36.98	89.68	0.06 ± 0.20	0.39	4
Versailles	MO	38.43	92.84	1.16 ± 1.15 *	1.63	2
Vulcan	MO	37.32	90.67	0.60 ± 0.10 **	0.15	2
Wardell	MO	36.35	89.82	-1.03 ± 0.31 **	0.62	4
Washington	MO	38.56	91.01	0.82 ± 0.30 **	0.61	4
Weingarten	MO	37.89	90.21	-0.43 ± 0.01 **	0.02	2
West Plains	MO	36.73	91.85	0.52 ± 0.20 **	0.34	3

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Whiteoak	MO	36.33	90.03	-0.26 ± 0.89	1.25	2
Williamsville	MO	36.97	90.55	-0.32 ± 0.24 *	0.41	3
Wittenberg	MO	37.65	89.52	-0.37 ± 0.32 *	0.56	3
Wolf Island	MO	36.74	89.21	-0.71 ± 0.11 **	0.19	3
Wyatt	MO	36.92	89.22	-0.49 ± 0.26 *	0.37	2
Zalma	MO	37.14	90.08	-0.59 ± 0.40 *	0.80	4
Bathurst	N.B.	47.63	65.63	-0.67 ± 0.85	1.20	2
Edmundston	N.B.	47.37	68.33	-0.52 ± 0.53	0.74	2
Moncton	N.B.	46.10	64.78	-1.09 ± 0.22 **	0.32	2
Amherst	N.S.	45.83	64.20	-0.56 ± 0.01 **	0.01	2
New Glasgow	N.S.	45.58	62.65	-0.56 ± 0.61	0.86	2
Asheville	NC	35.60	82.55	0.53 ± 0.28 *	0.40	2
Bryson City	NC	35.43	83.44	-0.10 ± 0.90	1.27	2
Fletcher	NC	35.43	82.50	0.11 ± 0.23	0.32	2
Franklin	NC	35.18	83.38	0.66 ± 0.31 **	0.44	2
Morganton	NC	35.75	81.69	0.41 ± 0.55	0.78	2
Murphy	NC	35.09	84.03	0.63 ± 0.38 *	0.54	2
Robbinsville	NC	35.32	83.81	0.38 ± 0.48	0.68	2
Rutherfordton	NC	35.37	81.96	0.77 ± 0.46 *	0.64	2
Statesville	NC	35.79	80.89	0.46 ± 0.75	1.06	2
Sylva	NC	35.37	83.22	-0.04 ± 0.68	0.96	2
Waynesville	NC	35.49	82.99	-0.05 ± 0.54	0.76	2
Acworth	NH	43.22	72.29	-0.29 ± 0.69	0.97	2
Alstead	NH	43.15	72.37	-0.60 ± 0.23 **	0.32	2
Alton	NH	43.45	71.22	-0.12 ± 0.80	1.38	3
Alton Bay	NH	43.47	71.23	-0.48 ± 0.61	1.05	3
Andover	NH	43.44	71.82	-0.72 ± 0.58 *	0.82	2
Ashland	NH	43.69	71.63	-0.12 ± 0.04 **	0.06	2
Bartlett	NH	44.08	71.28	-0.43 ± 0.29 *	0.50	3
Bath	NH	44.17	71.97	-0.16 ± 0.44	0.75	3
Bennington	NH	43.00	71.93	-0.53 ± 0.47 *	0.66	2
Berlin	NH	44.45	71.18	0.23 ± 0.51	1.01	4
Bethlehem	NH	44.28	71.68	-0.46 ± 0.18 **	0.31	3
Bristol	NH	43.59	71.74	0.09 ± 0.48	0.82	3
Canterbury	NH	43.33	71.57	-1.07 ± 1.10	1.56	2
Center Barnstead	NH	43.35	71.27	-0.41 ± 0.59	1.02	3
Center Conway	NH	44.00	71.06	-0.10 ± 0.34	0.49	2
Chesterfield	NH	42.88	72.47	0.12 ± 0.59	0.83	2
Claremont	NH	43.37	72.34	0.34 ± 0.62	1.25	4
Colebrook	NH	44.90	71.50	0.10 ± 0.38	0.76	4
Concord	NH	43.21	71.54	-0.79 ± 0.83	1.18	2
Contoocook	NH	43.22	71.72	-0.84 ± 0.82 *	1.16	2
Conway	NH	43.98	71.12	-0.48 ± 0.43 *	0.61	2
Cornish Flat	NH	43.50	72.28	-0.15 ± 0.70	1.21	3
Danbury	NH	43.53	71.86	-0.11 ± 0.09 *	0.16	3

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Dover	NH	43.20	70.87	0.29 ± 0.06 **	0.11	4
Drewsville	NH	43.13	72.40	0.11 ± 0.69	1.20	3
Dublin	NH	42.91	72.06	0.07 ± 0.16	0.23	2
East Andover	NH	43.46	71.75	-0.91 ± 0.80 *	1.14	2
East Hebron	NH	43.69	71.77	-1.05 ± 0.97 *	1.38	2
East Sullivan	NH	42.99	72.20	-0.50 ± 0.29 *	0.41	2
East Swanzey	NH	42.85	72.25	0.14 ± 0.29	0.42	2
Elkins	NH	43.42	71.93	-0.55 ± 0.34 *	0.48	2
Enfield	NH	43.64	72.15	-0.15 ± 0.20	0.28	2
Etna	NH	43.70	72.22	-0.21 ± 0.14 *	0.25	3
Exeter	NH	42.98	70.93	0.65 ± 0.28 **	0.40	2
Franconia	NH	44.23	71.75	0.13 ± 0.29	0.41	2
Franklin	NH	43.43	71.63	-0.31 ± 0.89	1.53	3
Freedom	NH	43.82	71.03	-0.40 ± 0.66	0.94	2
Georges Mills	NH	43.43	72.07	-0.55 ± 0.52 *	0.90	3
Gilmanton Iron Works	NH	43.42	71.30	0.15 ± 0.95	1.35	2
Gilsum	NH	43.05	72.26	0.85 ± 0.66 *	0.94	2
Glencliff	NH	43.98	71.90	-0.69 ± 0.40 *	0.56	2
Goffstown	NH	43.03	71.60	-0.51 ± 0.62	0.87	2
Gorham	NH	44.39	71.17	-0.05 ± 0.13	0.26	4
Goshen	NH	43.28	72.13	-0.78 ± 0.49 *	0.69	2
Grafton	NH	43.97	71.84	-0.23 ± 0.08 **	0.11	2
Groveton	NH	44.60	71.52	0.10 ± 0.51	1.01	4
Hanover	NH	43.70	72.29	-0.52 ± 0.18 **	0.40	5
Haverhill	NH	44.03	72.07	0.15 ± 0.52	0.90	3
Henniker	NH	43.18	71.82	-0.77 ± 0.70 *	0.99	2
Hill	NH	43.53	71.71	-1.13 ± 1.04 *	1.47	2
Hillsboro	NH	43.12	71.89	-0.18 ± 0.09 **	0.12	2
Hinsdale	NH	42.79	72.49	0.70 ± 0.06 **	0.08	2
Hooksett	NH	43.10	71.46	0.04 ± 0.32	0.45	2
Hudson	NH	42.73	71.43	-0.17 ± 0.47	0.67	2
Intervale	NH	44.08	71.13	-0.29 ± 0.49	0.70	2
Jackson	NH	44.15	71.18	-0.38 ± 0.28 *	0.48	3
Jaffrey	NH	42.81	72.02	0.16 ± 0.20	0.28	2
Jefferson	NH	44.42	71.47	-0.64 ± 0.23 **	0.33	2
Kearsarge	NH	44.07	71.12	-0.29 ± 0.49	0.70	2
Keene	NH	42.93	72.28	0.36 ± 0.36	0.73	4
Laconia	NH	43.53	71.47	0.12 ± 0.34	0.68	4
Lakeport	NH	43.55	71.46	-0.21 ± 1.26	1.79	2
Lancaster	NH	44.49	71.57	0.26 ± 0.40	0.69	3
Lincoln	NH	44.05	71.67	-0.19 ± 0.46	0.80	3
Lisbon	NH	44.22	71.92	-0.48 ± 0.12 **	0.21	3
Littleton	NH	44.30	71.77	-0.46 ± 0.11 **	0.22	4
Lyme	NH	43.81	72.16	-0.22 ± 0.60	1.05	3
Lyme Center	NH	43.80	72.13	-0.56 ± 0.33 *	0.57	3
Madison	NH	43.90	71.15	0.30 ± 0.36	0.51	2
Manchester	NH	42.97	71.47	-0.22 ± 0.41	0.70	3
Meadows	NH	44.37	71.47	-0.64 ± 0.17 **	0.24	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Melvin Village	NH	43.69	71.31	-0.23 ± 0.23	0.40	3
Meriden	NH	43.54	72.25	-0.53 ± 0.69	0.97	2
Milan	NH	44.57	71.18	0.55 ± 0.68	0.97	2
Milford	NH	42.83	71.65	0.33 ± 0.13 **	0.22	3
Monroe	NH	44.26	72.04	-0.13 ± 0.29	0.50	3
Moultonboro	NH	43.75	71.40	-0.81 ± 0.87	1.22	2
Mount Sunapee	NH	43.35	72.07	-0.86 ± 0.58 *	0.82	2
Nashua	NH	42.77	71.47	0.85 ± 0.81 *	1.61	4
New Boston	NH	42.98	71.70	0.51 ± 0.56	0.79	2
New Durham	NH	43.43	71.17	-0.07 ± 0.22	0.38	3
New Ipswich	NH	42.75	71.85	0.74 ± 0.36 **	0.50	2
Newport	NH	43.37	72.17	-0.13 ± 0.20	0.34	3
Newton	NH	42.87	71.03	-0.08 ± 0.53	0.75	2
North Conway	NH	44.07	71.12	-0.15 ± 0.35	0.50	2
North Haverhill	NH	44.08	72.03	-0.17 ± 0.43	0.75	3
North Salem	NH	42.83	71.22	0.35 ± 0.01 **	0.02	2
North Stratford	NH	44.75	71.63	0.71 ± 0.68 *	1.37	4
North Sutton	NH	43.36	71.94	-0.76 ± 0.99	1.40	2
Orford	NH	43.91	72.14	0.13 ± 0.37	0.64	3
Ossipee	NH	43.68	71.12	-0.55 ± 0.77	1.09	2
Peterborough	NH	42.88	71.95	0.10 ± 0.88	1.24	2
Piermont	NH	43.97	72.08	-0.53 ± 0.23 **	0.39	3
Pike	NH	44.03	71.97	-0.18 ± 0.47	0.82	3
Pittsburg	NH	45.05	71.39	-0.31 ± 0.58	0.83	2
Pittsfield	NH	43.31	71.33	-0.43 ± 0.61	1.06	3
Plainfield	NH	43.53	72.36	-0.16 ± 0.35	0.50	2
Plymouth	NH	43.75	71.72	-0.18 ± 0.03 **	0.06	3
Raymond	NH	43.03	71.18	-0.32 ± 0.64	0.91	2
Rumney	NH	43.80	71.82	-0.39 ± 0.19 **	0.26	2
Rye	NH	43.01	70.77	0.43 ± 0.99	1.41	2
Salem	NH	42.79	71.20	0.49 ± 0.09 **	0.12	2
Salisbury	NH	43.38	71.72	-1.22 ± 1.15 *	1.62	2
Sanbornton	NH	43.49	71.59	-1.31 ± 1.37	1.94	2
South Lyndeboro	NH	42.88	71.78	-0.38 ± 0.45	0.64	2
Spofford	NH	42.91	72.42	0.12 ± 0.36	0.51	2
Sunapee	NH	43.39	72.09	-0.38 ± 0.09 **	0.13	2
Tamworth	NH	43.87	71.27	-0.47 ± 0.41 *	0.70	3
Tilton	NH	43.44	71.59	-0.63 ± 0.67	1.17	3
Troy	NH	42.82	72.18	-0.01 ± 0.36	0.62	3
Twin Mountain	NH	44.27	71.55	-0.11 ± 0.54	0.94	3
Walpole	NH	43.08	72.43	0.87 ± 0.43 **	0.95	5
Warner	NH	43.28	71.82	-0.53 ± 0.62	1.08	3
Warren	NH	43.92	71.90	0.09 ± 0.33	0.58	3
Washington	NH	43.18	72.10	0.30 ± 0.47	0.67	2
West Lebanon	NH	43.65	72.31	0.28 ± 0.81	1.14	2
West Ossipee	NH	43.82	71.20	-0.45 ± 0.42 *	0.73	3
West Springfield	NH	43.50	72.05	-0.25 ± 1.38	1.95	2
West Stewartstown	NH	44.99	71.53	-0.24 ± 0.41	0.57	2



**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Westmoreland	NH	42.96	72.44	0.06 ± 0.39	0.55	2
Whitefield	NH	44.38	71.62	0.26 ± 0.39	0.67	3
Wilmot Flat	NH	43.42	71.90	-0.40 ± 0.57	0.81	2
Windham	NH	42.80	71.30	-0.15 ± 0.49	0.70	2
Wolfeboro	NH	43.58	71.23	0.17 ± 1.05	1.81	3
Wonalancet	NH	43.91	71.35	-0.78 ± 0.44 *	0.63	2
Woodstock	NH	43.98	71.68	-0.25 ± 0.07 **	0.10	2
Woodsville	NH	44.13	72.03	0.93 ± 0.79 *	1.57	4
Englewood	NJ	40.90	73.97	0.95 ± 0.18 **	0.25	2
Trenton	NJ	40.22	74.76	1.38 ± 0.18 **	0.25	2
Akron	NY	43.03	78.50	-0.35 ± 1.24	1.76	2
Alabama	NY	43.10	78.38	-0.10 ± 0.91	1.29	2
Albany	NY	42.65	73.76	1.08 ± 0.29 **	0.72	6
Alden	NY	42.90	78.50	-0.64 ± 1.56	2.20	2
Alfred	NY	42.26	77.78	0.50 ± 0.28 *	0.40	2
Altona	NY	44.89	73.66	-0.12 ± 0.85	1.20	2
Amsterdam	NY	42.94	74.19	-0.79 ± 0.21 **	0.30	2
Arcade	NY	42.53	78.41	-0.12 ± 0.70	0.99	2
Argyle	NY	43.23	73.50	-0.01 ± 0.15	0.21	2
Attica	NY	42.86	78.26	0.35 ± 0.65	1.12	3
Au Sable Forks	NY	44.44	73.68	0.40 ± 0.59	1.02	3
Auburn	NY	42.93	76.57	0.19 ± 0.26	0.45	3
Bakers Mills	NY	43.60	74.02	-0.84 ± 1.33	1.89	2
Baldwinsville	NY	43.16	76.33	0.71 ± 0.22 **	0.31	2
Ballston Lake	NY	42.91	73.87	0.04 ± 0.96	1.36	2
Batavia	NY	42.00	78.18	0.71 ± 1.16	2.01	3
Bath	NY	42.33	77.32	0.38 ± 0.90	1.27	2
Belfast	NY	42.34	78.11	-0.23 ± 0.86	1.21	2
Belmont	NY	40.73	73.35	0.05 ± 0.92	1.30	2
Berlin	NY	42.70	73.38	0.36 ± 0.07 **	0.11	2
Binghamton	NY	42.10	75.91	0.69 ± 0.22 **	0.43	4
Bloomington	NY	44.42	74.08	-0.21 ± 0.63	0.89	2
Bolton Landing	NY	43.55	73.65	-0.71 ± 0.94	1.34	2
Boonville	NY	43.47	75.33	-0.59 ± 0.45 *	0.63	2
Brainardsville	NY	44.86	74.03	-0.41 ± 0.68	0.96	2
Brant Lake	NY	43.68	73.75	-0.32 ± 0.63	0.89	2
Broadalbin	NY	43.07	74.22	0.42 ± 0.62	0.87	2
Brockport	NY	43.21	77.93	-0.09 ± 0.55	1.11	4
Buffalo	NY	42.89	78.88	0.20 ± 0.66	1.31	4
Canastota	NY	43.08	75.75	-0.05 ± 0.53	0.75	2
Canton	NY	44.59	75.17	-0.29 ± 0.65	1.12	3
Cape Vincent	NY	44.13	76.33	0.19 ± 0.35	0.50	2
Caroga Lake	NY	43.13	74.48	0.27 ± 0.53	0.75	2
Carthage	NY	43.98	75.61	-0.24 ± 0.80	1.14	2
Castile	NY	42.63	78.05	-0.30 ± 0.56	0.98	3
Cato	NY	43.17	76.57	-0.10 ± 0.03 **	0.05	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Cattaraugus	NY	42.28	78.87	0.63 ± 0.46 *	0.81	3
Central Bridge	NY	42.70	74.33	0.04 ± 0.79	1.12	2
Central Square	NY	43.29	76.15	0.62 ± 1.05	1.49	2
Chateaugay	NY	44.93	74.08	-0.30 ± 0.26 *	0.37	2
Chatham	NY	42.36	73.60	0.30 ± 0.63	0.89	2
Chestertown	NY	43.65	73.80	-0.81 ± 1.16	1.64	2
Childwold	NY	44.23	74.60	-0.20 ± 0.93	1.32	2
Churubusco	NY	44.96	73.93	-0.39 ± 0.58	0.82	2
Cincinnatus	NY	42.54	75.90	0.13 ± 0.28	0.40	2
Clayton	NY	44.24	76.08	0.00 ± 0.61	0.87	2
Clemons	NY	43.64	73.45	-0.32 ± 0.61	1.06	3
Cleverdale	NY	43.47	73.65	-0.16 ± 0.39	0.55	2
Clifton Park	NY	42.86	73.77	-0.20 ± 0.65	0.92	2
Clinton	NY	43.07	75.38	0.76 ± 0.55 *	0.78	2
Cobleskill	NY	42.68	74.48	-0.55 ± 0.15 **	0.21	2
Cold Brook	NY	43.25	75.05	0.48 ± 0.63	0.90	2
Colton	NY	44.55	74.93	-0.25 ± 0.81	1.39	3
Cortland	NY	42.60	76.18	0.87 ± 0.07 **	0.09	2
Cossayuna	NY	43.18	73.42	-0.47 ± 0.58	0.83	2
Crown Point	NY	43.95	73.42	-0.24 ± 0.38	0.54	2
Cuba	NY	42.21	78.26	-0.17 ± 0.75	1.06	2
Dale	NY	42.82	78.17	0.74 ± 0.04 **	0.06	2
Dannemora	NY	44.72	73.73	-0.10 ± 0.35	0.70	4
Dansville	NY	42.63	77.70	-0.08 ± 0.53	0.92	3
Delmar	NY	42.62	73.83	0.77 ± 0.38 **	0.53	2
Deposit	NY	42.06	75.42	0.94 ± 0.14 **	0.20	2
Diamond Point	NY	43.47	73.68	0.33 ± 0.92	1.31	2
Dolgeville	NY	43.10	74.77	0.69 ± 0.41 *	0.72	3
Dundee	NY	42.53	76.98	0.00 ± 0.34	0.48	2
East Aurora	NY	42.75	78.60	0.78 ± 0.22 **	0.31	2
East Chatham	NY	42.42	73.53	0.58 ± 0.06 **	0.09	2
East Greenwich	NY	43.15	73.40	0.86 ± 0.87	1.23	2
East Nassau	NY	42.51	73.51	0.35 ± 0.77	1.09	2
Elizabethtown	NY	44.22	73.60	-0.16 ± 0.64	1.27	4
Ellenburg	NY	44.90	73.85	-0.23 ± 1.97	2.79	2
Ellenville	NY	41.72	74.40	1.70 ± 0.53 **	0.75	2
Elma	NY	42.85	78.63	-0.19 ± 1.17	1.66	2
Elmira	NY	42.09	76.81	0.59 ± 0.37 *	0.65	3
Elnora	NY	42.88	73.82	-0.22 ± 0.69	0.98	2
Fillmore	NY	42.47	78.11	-0.51 ± 0.83	1.17	2
Fonda	NY	42.95	74.40	0.56 ± 0.58	0.82	2
Forestport	NY	43.45	75.20	0.48 ± 0.71	1.01	2
Fort Ann	NY	43.40	73.48	-0.12 ± 1.23	1.74	2
Fort Covington	NY	44.99	74.50	0.49 ± 1.11	1.57	2
Fort Edward	NY	43.27	73.58	-0.49 ± 0.76	1.07	2
Fort Hunter	NY	42.74	73.93	0.78 ± 0.81	1.15	2
Fulton	NY	43.33	76.40	-0.27 ± 0.20 *	0.34	3
Gansevoort	NY	43.18	73.65	0.54 ± 0.74	1.05	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Geneva	NY	42.88	76.98	0.03 ± 0.16	0.23	2
Glens Falls	NY	43.31	73.65	1.01 ± 0.38 **	0.86	5
Gloversville	NY	43.05	74.35	0.89 ± 0.56 *	0.97	3
Gouverneur	NY	44.33	75.47	0.34 ± 0.31 *	0.54	3
Gowanda	NY	42.46	78.94	1.22 ± 0.35 **	0.49	2
Granville	NY	43.41	73.26	0.38 ± 0.55	0.78	2
Greene	NY	42.33	75.76	0.25 ± 0.30	0.42	2
Greenwich	NY	43.09	73.50	0.99 ± 0.54 *	0.93	3
Groton	NY	42.60	76.37	0.66 ± 0.29 **	0.50	3
Groveland	NY	42.70	77.75	0.19 ± 0.45	0.64	2
Guilderland	NY	42.70	73.90	-0.06 ± 0.65	0.92	2
Hadley	NY	43.32	73.85	0.46 ± 0.07 **	0.09	2
Hague	NY	43.75	73.50	0.30 ± 0.53	0.91	3
Hamilton	NY	42.83	75.55	0.02 ± 0.48	0.67	2
Hancock	NY	41.95	75.28	0.50 ± 0.41 *	0.58	2
Hartwick	NY	42.65	75.03	0.82 ± 1.39	1.96	2
Hogansburg	NY	44.97	74.67	-0.95 ± 0.04 **	0.05	2
Hoosick	NY	42.86	73.33	-0.27 ± 0.44	0.62	2
Hoosick Falls	NY	42.90	73.35	-0.33 ± 0.27 *	0.46	3
Hornell	NY	42.32	77.66	0.90 ± 0.47 *	0.94	4
Hudson	NY	42.25	73.78	0.37 ± 0.39	0.55	2
Hudson Falls	NY	43.28	73.60	-0.04 ± 0.24	0.34	2
Ilion	NY	43.02	75.07	0.62 ± 0.52 *	0.73	2
Inlet	NY	43.75	74.80	-0.01 ± 0.98	1.38	2
Ithaca	NY	42.44	76.50	0.79 ± 0.47 *	0.94	4
Jay	NY	44.37	73.73	0.41 ± 1.08	1.53	2
Johnsburg	NY	43.62	73.97	0.77 ± 1.89	2.68	2
Johnsonville	NY	42.90	73.50	-0.28 ± 0.55	0.77	2
Johnstown	NY	43.01	74.37	0.33 ± 0.74	1.27	3
Keene	NY	44.25	73.92	-0.30 ± 0.79	1.11	2
Keene Valley	NY	44.20	73.78	-0.06 ± 0.47	0.81	3
Keeseville	NY	44.50	73.48	0.39 ± 0.59	1.19	4
Kingston	NY	41.92	74.00	0.59 ± 0.42 *	0.60	2
Lake George	NY	43.42	73.71	-0.63 ± 0.92	1.29	2
Lake Hill	NY	42.07	74.20	0.70 ± 0.82	1.17	2
Lake Luzerne	NY	43.32	73.83	0.24 ± 0.37	0.64	3
Lake Placid	NY	44.29	73.99	-0.44 ± 1.05	1.82	3
Le Roy	NY	42.98	78.00	-0.59 ± 1.25	1.77	2
Little Falls	NY	43.05	74.87	-0.36 ± 0.33 *	0.47	2
Lockport	NY	43.17	78.69	-0.69 ± 1.06	1.50	2
Lyon Mountain	NY	44.72	73.92	-0.02 ± 0.25	0.36	2
Lyons	NY	43.06	76.98	0.35 ± 0.22 *	0.32	2
Lyons Falls	NY	43.62	75.36	-0.21 ± 0.99	1.40	2
Mallory	NY	43.32	76.12	0.40 ± 0.13 **	0.18	2
Malone	NY	44.85	74.29	-0.03 ± 0.11	0.16	2
Maplecrest	NY	42.28	74.19	0.31 ± 0.61	0.87	2
Marcellus	NY	42.98	76.34	0.35 ± 0.54	0.76	2
Marion	NY	43.13	77.18	-0.20 ± 0.41	0.58	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Massena	NY	44.93	74.89	0.31 ± 0.20 *	0.34	3
Mayfield	NY	43.10	74.27	-0.27 ± 0.97	1.36	2
Medina	NY	43.23	78.38	-0.72 ± 0.06 **	0.09	2
Middle Falls	NY	43.10	73.52	-0.42 ± 0.63	0.89	2
Middle Granville	NY	43.43	73.28	-0.12 ± 0.07 *	0.10	2
Middle Grove	NY	43.08	73.58	0.05 ± 1.21	1.71	2
Minerva	NY	43.78	73.98	-0.02 ± 0.50	0.71	2
Minetto	NY	43.40	76.48	0.65 ± 0.08 **	0.11	2
Mineville	NY	44.09	73.52	-0.28 ± 0.29	0.50	3
Mooers	NY	44.96	73.58	-0.43 ± 0.42 *	0.59	2
Moriah	NY	44.05	73.50	0.79 ± 0.50 *	0.71	2
Moriah Center	NY	44.07	73.50	-0.06 ± 0.32	0.56	3
Morrisonville	NY	44.70	73.57	-0.05 ± 0.10	0.14	2
Naples	NY	42.62	77.42	-0.14 ± 0.64	0.90	2
New Lebanon Center	NY	42.47	73.42	0.38 ± 0.75	1.06	2
Newark	NY	43.05	77.09	-0.36 ± 0.18 **	0.25	2
Newport	NY	43.18	75.00	0.00 ± 1.10	1.55	2
Niagara Falls	NY	43.10	79.06	0.13 ± 0.40	0.57	2
Norfolk	NY	44.80	74.99	0.58 ± 0.76	1.07	2
North Hudson	NY	43.98	73.72	-0.37 ± 0.72	1.02	2
North River	NY	43.73	74.08	0.48 ± 1.05	1.48	2
North Syracuse	NY	43.13	76.12	0.67 ± 0.99	1.40	2
Northville	NY	43.22	74.18	0.10 ± 0.51	0.73	2
Norwich	NY	42.55	75.55	0.37 ± 0.63	1.09	3
Norwood	NY	44.75	75.00	-0.55 ± 0.48 *	0.68	2
Nunda	NY	42.58	77.94	0.41 ± 0.39 *	0.67	3
Ogdensburg	NY	44.69	75.50	-0.02 ± 0.80	1.13	2
Olean	NY	42.08	78.43	0.85 ± 0.79 *	1.37	3
Oneida	NY	43.10	75.67	0.45 ± 0.09 **	0.12	2
Oneonta	NY	42.45	75.06	0.34 ± 0.36	0.62	3
Oswego	NY	43.45	76.52	0.38 ± 0.20 *	0.35	3
Owego	NY	42.11	76.26	0.50 ± 0.26 *	0.46	3
Oxford	NY	41.35	74.22	0.68 ± 0.86	1.21	2
Painted Post	NY	42.17	77.12	0.16 ± 0.40	0.56	2
Palmyra	NY	43.07	77.25	0.79 ± 0.48 *	0.67	2
Paradox	NY	43.90	73.65	-0.27 ± 0.70	0.99	2
Parishville	NY	44.63	74.81	-0.68 ± 0.93	1.61	3
Pavilion	NY	42.88	78.02	-1.70 ± 0.22 **	0.31	2
Penn Yan	NY	42.58	77.03	0.96 ± 0.38 **	0.53	2
Pennellville	NY	43.28	76.27	1.17 ± 0.53 **	0.75	2
Peru	NY	44.58	73.53	0.78 ± 1.03	1.46	2
Phelps	NY	42.95	77.05	0.34 ± 0.86	1.21	2
Pittsford	NY	43.11	77.55	0.20 ± 0.21	0.29	2
Plattsburgh	NY	44.70	73.45	-0.07 ± 0.49	0.99	4
Port Henry	NY	44.05	73.47	-0.57 ± 0.46 *	0.79	3
Port Leyden	NY	43.58	75.35	0.53 ± 0.72	1.02	2
Portageville	NY	42.57	78.03	0.79 ± 0.00 **	0.00	2
Porter Corners	NY	43.13	73.88	0.10 ± 1.34	1.90	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Potsdam	NY	44.67	74.99	1.04 ± 1.20	1.70	2
Prattsburg	NY	42.53	77.28	0.43 ± 1.05	1.48	2
Prospect	NY	43.30	75.15	0.01 ± 1.15	1.63	2
Pulaski	NY	43.57	76.12	0.30 ± 0.09 **	0.16	3
Raquette Lake	NY	43.82	74.67	-0.62 ± 0.76	1.32	3
Redford	NY	44.62	73.80	0.16 ± 0.29	0.51	3
Rensselaer	NY	42.65	73.73	0.46 ± 0.07 **	0.10	2
Richfield Springs	NY	42.85	74.98	1.19 ± 0.95 *	1.35	2
Richmondville	NY	42.63	74.57	0.17 ± 0.81	1.14	2
Riparius	NY	43.67	73.90	-0.37 ± 0.77	1.09	2
Ripley	NY	42.26	79.71	0.19 ± 0.48	0.68	2
Rochester	NY	43.16	77.61	0.41 ± 0.25 *	0.56	5
Rome	NY	43.22	75.47	0.74 ± 0.59 *	0.83	2
Rouses Point	NY	44.99	73.37	-0.54 ± 0.20 **	0.34	3
Sackets Harbor	NY	43.95	76.12	-0.89 ± 0.27 **	0.38	2
Saint Johnsville	NY	43.00	74.67	0.59 ± 0.63	0.89	2
Saint Regis Falls	NY	44.67	74.55	-1.15 ± 0.21 **	0.29	2
Salamanca	NY	42.16	78.71	0.70 ± 0.34 **	0.67	4
Salem	NY	43.18	73.33	0.35 ± 0.35 *	0.49	2
Saranac	NY	44.65	73.75	0.17 ± 0.47	0.66	2
Saranac Lake	NY	44.33	74.12	-0.18 ± 0.89	1.25	2
Saratoga Springs	NY	43.08	73.78	0.55 ± 0.45 *	0.90	4
Schenectady	NY	42.80	73.92	-0.15 ± 0.34	0.48	2
Schuylerville	NY	43.10	73.57	0.59 ± 0.65	0.91	2
Sherburne	NY	42.68	75.50	0.12 ± 0.53	0.75	2
Sherman	NY	42.16	79.60	-0.30 ± 0.00 **	0.00	2
Shushan	NY	43.08	73.33	0.08 ± 0.99	1.40	2
Sodus Point	NY	43.27	76.98	0.34 ± 0.72	1.02	2
South Colton	NY	44.52	74.88	0.37 ± 0.77	1.09	2
South Schroon	NY	43.80	73.92	-0.54 ± 0.90	1.27	2
Speculator	NY	43.50	74.36	-0.53 ± 0.43 *	0.61	2
Spencerport	NY	43.20	77.80	0.13 ± 0.38	0.54	2
Springfield Center	NY	42.83	74.88	0.66 ± 0.43 *	0.61	2
Springville	NY	42.51	78.67	0.62 ± 0.34 *	0.75	5
Stockton	NY	42.32	79.36	1.33 ± 1.39	1.97	2
Stony Creek	NY	43.42	73.93	-0.13 ± 0.56	0.79	2
Syracuse	NY	43.05	76.15	0.76 ± 0.46 *	0.91	4
Thousand Island	NY	44.28	76.03	-0.65 ± 0.00 **	0.00	2
Ticonderoga	NY	43.85	73.43	-0.32 ± 0.34	0.68	4
Tonawanda	NY	43.02	78.87	-0.52 ± 1.10	1.56	2
Tribes Hill	NY	42.95	74.28	0.35 ± 0.38	0.54	2
Troy	NY	42.73	73.72	0.32 ± 0.07 **	0.12	3
Tupper Lake	NY	44.23	74.45	0.19 ± 0.85	1.48	3
Upper Jay	NY	44.33	73.78	-0.15 ± 0.65	0.91	2
Utica	NY	43.10	75.23	-0.31 ± 0.59	0.83	2
Varysburg	NY	42.76	78.31	0.23 ± 0.32	0.45	2
Vernon Center	NY	43.05	75.50	0.39 ± 1.10	1.55	2
Voorheesville	NY	42.65	73.92	-0.01 ± 0.63	0.89	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Waddington	NY	44.86	75.20	-0.33 ± 0.51	0.72	2
Wadhams	NY	44.22	73.45	0.35 ± 0.91	1.29	2
Warrensburg	NY	43.47	73.78	-0.17 ± 0.49	0.70	2
Warsaw	NY	42.75	78.13	0.13 ± 0.86	1.21	2
Watertown	NY	43.97	75.91	0.76 ± 0.33 **	0.58	3
Wells	NY	43.38	74.28	-0.54 ± 1.21	1.71	2
West Bloomfield	NY	42.90	77.53	0.20 ± 1.25	1.77	2
Whallonsburg	NY	44.25	73.40	-0.60 ± 0.85	1.20	2
Whippleville	NY	44.81	74.26	-0.39 ± 0.79	1.12	2
Whitehall	NY	43.55	73.40	0.25 ± 0.42	0.73	3
Wilmington	NY	44.38	73.82	0.03 ± 0.40	0.69	3
Winthrop	NY	44.79	74.79	-0.81 ± 0.71 *	1.00	2
Witherbee	NY	44.08	73.53	-0.24 ± 0.50	0.70	2
Wyoming	NY	42.83	78.09	0.84 ± 0.06 **	0.10	3
York	NY	42.87	77.89	0.01 ± 0.62	0.88	2
Yorkshire	NY	42.53	78.47	-0.02 ± 0.57	0.81	2
Akron	OH	41.08	81.50	0.52 ± 0.71	1.00	2
Albany	OH	39.23	82.20	0.37 ± 0.45	0.64	2
Ashland	OH	40.82	82.28	0.24 ± 0.65	0.91	2
Ashtabula	OH	41.90	80.78	-0.09 ± 0.64	0.90	2
Bay Village	OH	41.49	81.92	-0.74 ± 0.50 *	0.70	2
Bethel	OH	38.96	84.08	-0.11 ± 1.00	1.41	2
Botkins	OH	40.47	84.18	1.14 ± 0.71 *	1.00	2
Bridgeport	OH	40.08	80.74	0.53 ± 0.48 *	0.68	2
Bucyrus	OH	40.81	82.98	0.34 ± 0.41	0.58	2
Cambridge	OH	40.03	81.58	0.86 ± 0.22 **	0.31	2
Canton	OH	40.83	81.36	1.34 ± 0.76 *	1.31	3
Chillicothe	OH	39.33	82.97	1.71 ± 0.11 **	0.16	2
Cincinnati	OH	39.11	84.51	0.63 ± 0.39 *	0.55	2
Cleveland	OH	41.49	81.69	1.48 ± 1.21 *	2.10	3
Columbus	OH	39.96	83.00	1.76 ± 0.62 **	1.25	4
Crestline	OH	40.79	82.73	0.34 ± 0.44	0.62	2
Dayton	OH	39.75	84.18	1.81 ± 1.99	2.82	2
Defiance	OH	41.28	84.36	0.88 ± 0.15 **	0.21	2
Dover	OH	40.52	81.48	1.24 ± 1.70	2.40	2
Eaton	OH	39.75	84.63	1.14 ± 0.12 **	0.21	3
Elyria	OH	41.36	82.11	0.66 ± 0.59 *	0.84	2
Fremont	OH	41.35	83.11	1.01 ± 1.08	1.53	2
Galion	OH	40.73	82.78	0.35 ± 0.38	0.53	2
Gallipolis	OH	38.81	82.20	-0.23 ± 0.06 **	0.09	2
Glouster	OH	39.16	82.08	0.49 ± 0.36 *	0.51	2
Greenwich	OH	41.03	82.52	0.30 ± 0.67	0.95	2
Jackson	OH	39.52	82.62	0.18 ± 0.28	0.40	2
Kenton	OH	40.65	83.61	1.02 ± 0.55 *	0.77	2
Langsville	OH	39.05	82.18	0.39 ± 0.55	0.78	2
Mansfield	OH	40.78	82.53	0.79 ± 0.00 **	0.00	2
Marietta	OH	39.40	81.50	0.51 ± 0.10 **	0.14	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Massillon	OH	40.79	81.53	0.67 ± 0.41 *	0.58	2
Mount Gilead	OH	40.56	82.83	0.85 ± 0.26 **	0.36	2
Napoleon	OH	41.39	84.12	0.85 ± 0.24 **	0.34	2
Nelsonville	OH	39.50	82.23	0.33 ± 0.30 *	0.42	2
New Lexington	OH	39.75	82.20	0.32 ± 0.12 **	0.17	2
New Philadelphia	OH	40.49	81.45	2.13 ± 0.95 **	1.65	3
Newark	OH	40.06	82.41	0.31 ± 0.05 **	0.08	2
Painesville	OH	41.73	81.26	-0.05 ± 0.90	1.28	2
Paulding	OH	41.14	84.58	1.19 ± 0.27 **	0.47	3
Portsmouth	OH	38.75	83.00	0.61 ± 0.44 *	0.62	2
Rockbridge	OH	39.58	82.53	0.32 ± 0.33	0.47	2
Sherrodsville	OH	40.49	81.24	0.29 ± 0.72	1.02	2
Sidney	OH	40.28	84.16	1.07 ± 0.22 **	0.31	2
Springfield	OH	39.92	83.81	1.23 ± 0.73 *	1.04	2
Steubenville	OH	40.37	80.62	0.46 ± 0.72	1.02	2
Toledo	OH	41.65	83.53	1.24 ± 1.02 *	1.45	2
Upper Sandusky	OH	40.83	83.28	0.50 ± 0.23 **	0.32	2
Wapakoneta	OH	40.57	84.20	1.16 ± 0.35 **	0.49	2
Waterford	OH	40.55	82.62	1.07 ± 0.57 *	0.80	2
Waverly	OH	39.13	82.98	1.24 ± 0.17 **	0.24	2
Wilmington	OH	39.45	83.82	1.32 ± 0.18 **	0.25	2
Wooster	OH	40.81	81.93	0.68 ± 0.27 **	0.38	2
Youngstown	OH	41.09	80.65	0.70 ± 0.79	1.12	2
Zanesville	OH	39.94	82.00	0.84 ± 0.59 *	0.84	2
Apsley	ONT.	44.75	78.10	0.63 ± 0.02 **	0.02	2
Aylmer	ONT.	42.77	80.98	0.79 ± 1.25	1.76	2
Bancroft	ONT.	45.08	77.87	0.58 ± 0.07 **	0.11	3
Barrie	ONT.	44.40	79.67	0.87 ± 0.29 **	0.50	3
Belleville	ONT.	44.17	77.37	0.62 ± 0.51 *	0.88	3
Blenheim	ONT.	42.33	82.00	0.87 ± 1.58	2.24	2
Bracebridge	ONT.	45.03	79.31	1.38 ± 0.19 **	0.26	2
Brampton	ONT.	43.68	79.81	0.73 ± 0.11 **	0.16	2
Brantford	ONT.	46.80	80.27	0.33 ± 0.32 *	0.56	3
Burlington	ONT.	43.32	79.78	0.89 ± 0.53 *	0.75	2
Chatham	ONT.	42.40	82.18	1.03 ± 0.87 *	1.51	3
Cornwall	ONT.	45.03	74.73	-0.20 ± 0.64	0.91	2
Dundas	ONT.	43.27	79.97	1.70 ± 0.90 *	1.28	2
Eganville	ONT.	45.55	77.10	0.27 ± 0.18 *	0.26	2
Elgin	ONT.	44.60	76.22	-0.17 ± 0.24	0.33	2
Etobicoke	ONT.	43.70	79.53	0.98 ± 0.29 **	0.41	2
Gravenhurst	ONT.	44.92	79.37	1.12 ± 0.13 **	0.19	2
Haliburton	ONT.	45.05	78.52	0.65 ± 0.02 **	0.03	2
Hamilton	ONT.	43.25	79.83	0.83 ± 0.38 **	0.67	3
Hanover	ONT.	44.15	81.03	1.35 ± 0.56 **	0.79	2
Kingston	ONT.	44.23	76.50	0.06 ± 0.38	0.54	2
Kitchener	ONT.	43.45	80.55	1.96 ± 0.26 **	0.37	2
Lindsay	ONT.	44.35	78.73	0.61 ± 0.30 **	0.52	3

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
London	ONT.	42.98	81.23	0.87 ± 0.66 *	1.14	3
Midland	ONT.	44.75	79.88	1.32 ± 0.13 **	0.19	2
Millbrook	ONT.	44.15	78.45	0.34 ± 0.55	0.78	2
Minden	ONT.	44.92	78.72	0.87 ± 0.10 **	0.14	2
Niagara Falls	ONT.	43.10	79.07	0.07 ± 1.32	1.87	2
North Bay	ONT.	46.32	79.47	1.61 ± 0.01 **	0.01	2
Norwood	ONT.	44.38	77.98	0.61 ± 0.07 **	0.10	2
Oakville	ONT.	43.45	79.68	0.05 ± 0.43	0.61	2
Omeme	ONT.	44.30	78.55	0.85 ± 0.03 **	0.05	2
Orangeville	ONT.	43.92	80.10	0.83 ± 0.68 *	0.96	2
Orillia	ONT.	44.62	79.42	0.72 ± 0.35 **	0.50	2
Oshawa	ONT.	43.90	78.85	0.29 ± 0.44	0.87	4
Ottawa	ONT.	45.42	75.70	2.03 ± 1.82 *	3.15	3
Owen Sound	ONT.	44.57	80.93	1.51 ± 0.23 **	0.39	3
Pakenham	ONT.	45.33	76.28	-0.08 ± 0.07 *	0.10	2
Peterborough	ONT.	44.30	78.32	0.88 ± 0.06 **	0.09	2
Port Dover	ONT.	42.78	80.20	0.79 ± 1.02	1.44	2
Port Hope	ONT.	43.95	78.30	0.28 ± 0.35	0.60	3
Port Perry	ONT.	44.10	78.95	0.92 ± 0.08 **	0.12	2
Port Stanley	ONT.	42.66	81.23	0.50 ± 0.10 **	0.14	2
Saint Catharines	ONT.	43.17	79.25	0.79 ± 0.33 **	0.57	3
Saint Thomas	ONT.	42.77	81.20	0.06 ± 0.51	0.73	2
Samia	ONT.	42.97	82.38	1.26 ± 0.72 *	1.24	3
Scarborough	ONT.	43.78	79.25	0.98 ± 0.16 **	0.22	2
Simcoe	ONT.	42.83	80.30	0.80 ± 1.02	1.45	2
St Catharines	ONT.	43.17	79.25	1.31 ± 0.11 **	0.15	2
Toronto	ONT.	43.67	79.38	0.71 ± 0.39 *	0.78	4
Warkworth	ONT.	44.20	77.88	0.59 ± 0.12 **	0.16	2
Welland	ONT.	42.98	79.25	0.06 ± 0.28	0.40	2
Woodstock	ONT.	43.12	80.77	0.18 ± 0.12 *	0.20	3
Butler	PA	40.84	79.90	0.24 ± 0.56	0.80	2
Corry	PA	41.93	79.65	0.25 ± 0.34	0.48	2
Cowanesque	PA	41.93	77.49	0.90 ± 0.08 **	0.11	2
Erie	PA	42.13	80.08	1.34 ± 0.33 **	0.74	5
Lake City	PA	42.08	80.35	0.42 ± 1.46	2.06	2
Lock Haven	PA	41.13	77.44	0.75 ± 0.29 **	0.41	2
Meadville	PA	41.63	80.15	0.77 ± 0.58 *	1.00	3
Mercer	PA	41.23	80.23	-0.11 ± 0.76	1.07	2
New Castle	PA	41.00	80.35	1.59 ± 0.88 *	1.77	4
Oil City	PA	41.43	79.71	0.65 ± 0.77	1.33	3
Pittsburgh	PA	40.44	80.00	1.31 ± 0.75 *	1.29	3
Sayre	PA	41.98	76.53	0.83 ± 0.39 **	0.56	2
Smethport	PA	41.80	78.43	0.53 ± 0.90	1.28	2
Tionesta	PA	41.50	79.45	0.45 ± 0.28 *	0.39	2
Titusville	PA	41.61	79.66	0.35 ± 0.19 *	0.27	2
Union City	PA	41.90	79.85	-0.28 ± 0.32	0.45	2
Warren	PA	41.81	79.26	0.25 ± 0.49	0.70	2



**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Williamsport	PA	41.23	77.03	0.74 ± 0.26 **	0.37	2
Berthierville	QUÉ.	46.08	73.17	-0.16 ± 0.37	0.52	2
Buckingham	QUÉ.	45.58	75.42	-0.33 ± 0.18 *	0.26	2
Chambly	QUÉ.	45.45	73.30	-0.58 ± 0.31 *	0.54	3
Chicoutimi	QUÉ.	48.43	71.07	-2.59 ± 0.50 **	0.71	2
Coaticook	QUÉ.	45.13	71.80	-0.17 ± 0.26	0.37	2
Daveluyville	QUÉ.	46.20	72.13	-0.72 ± 1.26	1.79	2
Disraeli	QUÉ.	45.90	71.35	-1.82 ± 0.23 **	0.32	2
Drummondville	QUÉ.	45.88	72.48	-0.72 ± 0.96	1.36	2
Gaspe	QUÉ.	48.83	64.48	-0.91 ± 0.01 **	0.02	2
Gracefield	QUÉ.	46.10	76.05	0.48 ± 0.09 **	0.13	2
Grenville	QUÉ.	45.63	74.60	-0.04 ± 0.22	0.31	2
Joliette	QUÉ.	46.02	73.45	0.36 ± 0.24 *	0.35	2
Knowlton	QUÉ.	45.25	72.67	0.74 ± 0.02 **	0.03	2
La Tuque	QUÉ.	47.43	72.78	0.81 ± 0.49 *	0.84	3
Lachine	QUÉ.	45.43	73.68	-0.74 ± 0.32 **	0.46	2
Lachute	QUÉ.	45.65	74.33	-0.59 ± 0.33 *	0.47	2
Matane	QUÉ.	48.85	67.53	-1.13 ± 1.12 *	1.59	2
Montreal	QUÉ.	45.50	73.60	-0.15 ± 0.03 **	0.05	2
Nicolet	QUÉ.	46.22	72.62	-0.62 ± 0.18 **	0.25	2
Portneuf	QUÉ.	46.70	71.88	0.76 ± 0.14 **	0.19	2
Rigaud	QUÉ.	45.48	74.30	-0.65 ± 0.23 **	0.32	2
Scotstown	QUÉ.	45.53	71.28	-0.19 ± 1.38	1.95	2
Shawinigan	QUÉ.	46.55	72.75	0.86 ± 0.24 **	0.34	2
Sherbrooke	QUÉ.	45.42	71.90	-0.63 ± 0.48 *	0.84	3
Sorel	QUÉ.	46.03	73.12	-0.17 ± 0.35	0.50	2
Stratford Centre	QUÉ.	45.78	71.27	0.06 ± 0.95	1.34	2
Terrebonne	QUÉ.	45.70	73.63	0.32 ± 1.51	2.14	2
Waterloo	QUÉ.	45.35	72.52	-0.25 ± 0.14 *	0.19	2
Yamachiche	QUÉ.	46.27	72.83	0.84 ± 0.42 *	0.60	2
Charlestown	RI	41.38	71.64	1.08 ± 0.45 **	0.63	2
Hope	RI	41.73	71.57	0.62 ± 0.10 **	0.14	2
North Scituate	RI	41.83	71.58	0.54 ± 0.13 **	0.18	2
Oakland	RI	41.97	71.65	0.44 ± 0.13 **	0.18	2
Providence	RI	41.83	71.42	1.20 ± 0.40 **	0.80	4
Gaffney	SC	35.07	81.65	2.07 ± 0.69 **	0.97	2
Pickens	SC	34.85	82.71	0.91 ± 0.85 *	1.20	2
Union	SC	34.71	81.63	1.19 ± 0.44 **	0.62	2
Alamo	TN	35.79	89.12	0.23 ± 0.18 *	0.25	2
Alcoa	TN	35.80	83.98	-0.24 ± 0.75	1.06	2
Bath Springs	TN	35.44	88.09	0.59 ± 0.07 **	0.10	2
Beech Bluff	TN	35.60	88.63	0.36 ± 0.10 **	0.15	2
Bemis	TN	35.58	88.82	0.00 ± 0.17	0.24	2
Big Rock	TN	36.58	87.76	0.51 ± 0.02 **	0.03	2
Blountville	TN	36.53	82.33	-0.10 ± 0.36	0.51	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Braden	TN	35.38	89.57	-0.60 ± 0.18 **	0.26	2
Brighton	TN	35.49	89.73	-0.32 ± 0.18 *	0.31	3
Brownsville	TN	35.59	89.26	0.10 ± 0.21	0.29	2
Brunswick	TN	35.27	89.77	-0.16 ± 0.56	0.79	2
Buchanan	TN	36.43	88.20	0.09 ± 0.16	0.23	2
Bumpus Mills	TN	36.60	87.83	0.32 ± 0.12 **	0.17	2
Burlison	TN	35.56	89.77	-0.56 ± 0.19 **	0.27	2
Camden	TN	36.06	88.10	0.14 ± 0.16	0.29	3
Chattanooga	TN	35.05	85.31	1.36 ± 0.09 **	0.16	3
Clarksville	TN	36.53	87.36	0.32 ± 0.48	0.68	2
Clinton	TN	36.10	84.13	0.21 ± 1.27	1.79	2
Collierville	TN	35.05	89.66	0.69 ± 0.98	1.38	2
Como	TN	36.29	88.51	-0.16 ± 0.15 *	0.22	2
Cookeville	TN	36.16	85.50	0.69 ± 0.17 **	0.24	2
Covington	TN	35.56	89.65	0.09 ± 0.30	0.61	4
Dresden	TN	36.29	88.71	-0.31 ± 0.13 **	0.19	2
Drummonds	TN	35.46	89.91	-0.06 ± 0.11	0.15	2
Dukedom	TN	36.50	88.72	0.20 ± 0.44	0.63	2
Dyer	TN	36.05	89.44	-0.41 ± 0.26 *	0.37	2
Dyersburg	TN	36.03	89.39	0.12 ± 0.53	1.07	4
Elbridge	TN	36.26	89.32	-0.44 ± 0.34 *	0.59	3
Elizabethton	TN	36.35	82.21	0.01 ± 0.42	0.59	2
Ellendale	TN	35.24	89.82	0.34 ± 0.02 **	0.03	2
Enville	TN	35.39	88.43	-0.05 ± 0.31	0.44	2
Finger	TN	35.36	88.60	-0.18 ± 0.31	0.44	2
Finley	TN	36.04	89.48	-0.25 ± 0.31	0.62	4
Fort Pillow	TN	35.66	89.74	-0.52 ± 0.18 **	0.26	2
Friendship	TN	35.92	89.23	-0.38 ± 0.37 *	0.52	2
Gadsden	TN	35.78	88.99	0.02 ± 0.22	0.38	3
Gallaway	TN	35.33	89.62	-0.10 ± 0.36	0.50	2
Gates	TN	35.84	89.41	-0.65 ± 0.43 *	0.60	2
Gibson	TN	36.01	88.95	-0.29 ± 0.06 **	0.09	2
Greeneville	TN	36.16	82.83	-0.03 ± 0.25	0.43	3
Greenfield	TN	36.15	88.80	0.12 ± 0.32	0.45	2
Halls	TN	35.88	89.40	-0.23 ± 0.11 **	0.20	3
Harriman	TN	35.93	84.55	0.04 ± 0.42	0.59	2
Henderson	TN	35.62	88.40	0.43 ± 0.21 **	0.30	2
Henry	TN	36.20	88.42	0.18 ± 0.09 **	0.12	2
Hornbeak	TN	36.33	89.30	0.04 ± 0.10	0.21	5
Humboldt	TN	35.82	88.91	-0.38 ± 0.20 *	0.34	3
Jacks Creek	TN	35.47	88.52	-0.14 ± 0.30	0.42	2
Jackson	TN	36.37	85.68	2.03 ± 0.26 **	0.37	2
Jefferson City	TN	36.12	83.49	-0.54 ± 0.82	1.16	2
Johnson City	TN	36.32	82.35	0.54 ± 0.15 **	0.21	2
Jonesboro	TN	36.29	82.48	0.12 ± 0.25	0.35	2
Kenton	TN	36.18	89.00	-0.37 ± 0.14 **	0.28	4
Kingsport	TN	36.54	82.55	0.26 ± 0.22 *	0.39	3
Knoxville	TN	35.98	83.92	-0.23 ± 0.60	0.85	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
La Fayette	TN	36.52	86.03	1.32 ± 0.19 **	0.26	2
La Follette	TN	36.38	84.12	-0.12 ± 0.16	0.23	2
Lavinia	TN	35.85	88.66	0.27 ± 0.19 *	0.27	2
Lenoir City	TN	35.79	84.27	-0.24 ± 0.77	1.09	2
Loudon	TN	35.74	84.34	-0.09 ± 0.66	0.94	2
Martin	TN	36.34	88.85	0.66 ± 1.09	1.88	3
Maryville	TN	35.75	83.97	-0.01 ± 0.56	0.79	2
Mason	TN	35.41	89.53	-0.40 ± 0.40	0.57	2
Mckenzie	TN	36.13	88.52	1.42 ± 1.30 *	1.84	2
Medina	TN	35.80	88.77	0.10 ± 0.27	0.38	2
Memphis	TN	35.14	89.98	1.20 ± 0.50 **	1.22	6
Mercer	TN	35.48	89.04	-0.11 ± 0.24	0.34	2
Milan	TN	35.92	88.76	-0.26 ± 0.17 *	0.30	3
Millington	TN	35.34	89.90	-0.37 ± 0.48	0.67	2
Mountain City	TN	36.47	81.81	-0.11 ± 0.62	0.88	2
Munford	TN	35.45	89.82	-0.96 ± 0.16 **	0.22	2
Newbern	TN	36.12	89.26	-0.32 ± 0.38	0.53	2
Newport	TN	35.96	83.19	-0.07 ± 0.46	0.79	3
Oak Ridge	TN	36.01	84.27	-0.81 ± 1.17	1.66	2
Oakfield	TN	35.71	88.79	0.09 ± 0.15	0.26	3
Oakland	TN	36.05	83.47	0.51 ± 1.78	2.52	2
Obion	TN	36.36	89.15	-0.20 ± 0.15 *	0.35	5
Oneida	TN	36.50	84.51	-0.42 ± 0.42 *	0.59	2
Parsons	TN	35.65	88.13	0.41 ± 0.03 **	0.04	2
Pinson	TN	35.49	88.72	0.18 ± 0.22	0.30	2
Ridgely	TN	36.26	89.48	0.00 ± 0.03	0.04	2
Ripley	TN	35.75	89.53	-0.68 ± 0.30 **	0.52	3
Selmer	TN	35.16	88.59	0.40 ± 0.16 **	0.22	2
Sharon	TN	36.23	88.83	0.09 ± 0.65	0.91	2
Sneedville	TN	36.53	83.22	0.02 ± 0.04	0.07	3
Somerville	TN	35.24	89.35	0.24 ± 0.35	0.50	2
Sparta	TN	35.93	85.46	0.80 ± 0.55 *	0.96	3
Springfield	TN	36.50	86.88	1.08 ± 1.02 *	1.44	2
Stanton	TN	35.46	89.40	-0.62 ± 0.62 *	0.88	2
Sweetwater	TN	35.50	87.63	1.45 ± 0.16 **	0.23	2
Tigrett	TN	35.95	89.24	-0.71 ± 0.30 **	0.42	2
Tipton	TN	35.51	89.83	0.00 ± 0.17	0.23	2
Tiptonville	TN	36.38	89.48	-0.23 ± 0.39	0.67	3
Trezevant	TN	36.01	88.62	-0.24 ± 0.23 *	0.33	2
Trimble	TN	36.21	89.19	-0.22 ± 0.38	0.54	2
Troy	TN	36.34	89.16	0.07 ± 0.14	0.34	6
Union City	TN	36.42	89.06	-0.05 ± 0.30	0.74	6
Woodland Mills	TN	36.49	89.11	-0.05 ± 0.38	0.54	2
Yorkville	TN	36.10	89.12	-0.18 ± 0.35	0.49	2
Abingdon	VA	36.71	81.98	0.28 ± 0.11 **	0.15	2
Big Stone Gap	VA	36.87	82.78	-0.10 ± 0.07 *	0.10	2
Dungannon	VA	36.83	82.47	0.07 ± 0.07	0.10	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Ewing	VA	36.65	83.43	-0.40 ± 0.23 *	0.32	2
Grundy	VA	37.28	82.10	-0.54 ± 0.47 *	0.66	2
Marion	VA	36.83	81.52	0.20 ± 1.51	2.13	2
Rose Hill	VA	38.72	78.13	2.35 ± 0.43 **	0.60	2
Wytheville	VA	36.95	81.09	-0.10 ± 0.73	1.03	2
Adamant	VT	44.33	72.50	0.00 ± 0.65	0.92	2
Arlington	VT	43.07	73.15	0.28 ± 0.55	0.95	3
Ascutney	VT	43.35	72.40	0.28 ± 0.24 *	0.34	2
Bakersfield	VT	44.78	72.80	0.07 ± 0.26	0.45	3
Barnet	VT	44.30	72.05	-0.42 ± 0.08 **	0.12	2
Beecher Falls	VT	45.01	71.51	-0.25 ± 0.44	0.62	2
Bellows Falls	VT	43.13	72.45	0.43 ± 0.62	1.08	3
Belmont	VT	43.41	72.82	-0.29 ± 0.36	0.63	3
Benson	VT	43.70	73.30	-0.72 ± 0.70 *	0.99	2
Bethel	VT	43.83	72.58	0.29 ± 0.08 **	0.12	2
Bomoseen	VT	43.64	73.20	0.81 ± 1.08	1.52	2
Bradford	VT	43.98	72.15	0.14 ± 0.23	0.40	3
Brandon	VT	43.80	73.09	-0.44 ± 0.25 *	0.43	3
Brattleboro	VT	42.85	72.57	0.39 ± 0.27 *	0.46	3
Bridgewater	VT	43.59	72.62	-0.71 ± 0.02 **	0.03	2
Bridgewater Corners	VT	43.58	72.65	-0.71 ± 0.06 **	0.08	2
Bristol	VT	44.14	73.08	0.28 ± 0.35	0.61	3
Brownsville	VT	43.47	72.47	0.27 ± 0.09 **	0.15	3
Burlington	VT	44.48	73.21	0.38 ± 0.36 *	0.81	5
Cabot	VT	44.40	72.31	-0.09 ± 0.41	0.71	3
Calais	VT	44.37	72.50	-0.40 ± 0.12 **	0.21	3
Cambridge	VT	44.65	72.88	-0.04 ± 0.29	0.41	2
Canaan	VT	45.00	71.54	0.26 ± 0.09 **	0.13	2
Castleton	VT	43.61	73.18	-0.68 ± 0.55 *	0.78	2
Cavendish	VT	43.38	72.62	0.34 ± 0.01 **	0.03	3
Center Rutland	VT	43.60	73.01	-0.18 ± 0.89	1.26	2
Charlotte	VT	44.32	73.25	-0.48 ± 0.46 *	0.79	3
Chelsea	VT	43.99	72.45	0.36 ± 1.02	1.44	2
Chester	VT	43.26	72.60	-0.12 ± 0.47	0.66	2
Chittenden	VT	43.71	72.95	-0.37 ± 0.38	0.65	3
Concord	VT	44.40	71.85	-0.43 ± 0.16 **	0.27	3
Corinth	VT	44.02	72.29	-0.47 ± 0.26 *	0.37	2
Craftsbury Common	VT	44.65	72.38	-0.54 ± 0.10 **	0.15	2
Cuttingsville	VT	43.48	72.87	-0.66 ± 0.24 **	0.33	2
Danby	VT	43.33	72.98	0.40 ± 0.31 *	0.44	2
Danville	VT	44.41	72.14	-0.46 ± 0.13 **	0.18	2
Derby Line	VT	45.01	72.10	-0.31 ± 0.42	0.72	3
Dorset	VT	43.25	73.10	-0.54 ± 0.37 *	0.53	2
East Arlington	VT	43.07	73.15	0.07 ± 0.14	0.19	2
East Barre	VT	44.15	72.45	-0.55 ± 0.09 **	0.12	2
East Corinth	VT	44.07	72.22	-0.11 ± 0.63	0.89	2
East Dorset	VT	43.23	73.02	-0.04 ± 0.20	0.29	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
East Middlebury	VT	43.97	73.10	-0.54 ± 0.70	0.99	2
East Montpelier	VT	44.27	72.49	0.51 ± 0.17 **	0.24	2
East Ryegate	VT	44.20	72.07	-0.15 ± 0.39	0.68	3
East Saint Johnsbury	VT	44.43	71.95	-0.30 ± 0.06 **	0.09	2
East Thetford	VT	43.81	72.19	-0.28 ± 0.18 *	0.25	2
East Wallingford	VT	43.45	72.87	-0.14 ± 0.27	0.38	2
Eden	VT	44.71	72.54	-0.32 ± 0.23 *	0.39	3
Ely	VT	43.88	72.18	0.13 ± 0.21	0.36	3
Essex	VT	44.68	71.70	0.47 ± 0.45 *	0.63	2
Fair Haven	VT	43.59	73.27	-0.31 ± 0.52	0.90	3
Fairfax	VT	44.66	73.01	-0.27 ± 0.32	0.56	3
Fairfield	VT	44.80	72.93	0.33 ± 1.03	1.45	2
Florence	VT	43.72	73.07	-0.03 ± 0.16	0.28	3
Forest Dale	VT	43.83	73.05	-0.19 ± 0.01 **	0.01	2
Gaysville	VT	43.78	72.70	-0.42 ± 0.28 *	0.49	3
Grafton	VT	43.17	72.61	0.46 ± 0.60	1.04	3
Grand Isle	VT	44.72	73.30	0.27 ± 0.24 *	0.34	2
Granville	VT	43.98	72.85	-0.64 ± 0.35 *	0.50	2
Greensboro	VT	44.58	72.30	-0.53 ± 0.11 **	0.16	2
Greensboro Bend	VT	44.55	72.26	-0.02 ± 0.38	0.54	2
Groton	VT	44.22	72.20	0.20 ± 0.30	0.52	3
Guildhall	VT	44.57	71.57	0.26 ± 0.38	0.67	3
Hancock	VT	43.93	72.84	-0.08 ± 0.49	0.84	3
Hardwick	VT	44.52	72.37	-0.51 ± 0.03 **	0.04	2
Hartford	VT	43.66	72.34	-0.29 ± 0.26 *	0.37	2
Hartland	VT	43.53	72.40	0.23 ± 0.22 *	0.30	2
Highgate Center	VT	44.94	73.05	0.01 ± 0.66	0.93	2
Highgate Springs	VT	44.97	73.10	-0.02 ± 0.57	0.80	2
Hinesburg	VT	44.33	73.12	-0.09 ± 0.05 *	0.07	2
Huntington Center	VT	44.28	72.97	-0.02 ± 1.01	1.43	2
Hyde Park	VT	44.59	72.62	-0.34 ± 0.20 *	0.35	3
Hydeville	VT	43.60	73.22	0.32 ± 0.58	0.83	2
Island Pond	VT	44.82	71.88	-0.19 ± 0.15 *	0.30	4
Jacksonville	VT	42.78	72.82	-0.27 ± 0.15 *	0.21	2
Jamaica	VT	43.10	72.77	-0.49 ± 0.10 **	0.15	2
Jericho	VT	44.50	73.00	-0.39 ± 0.55	0.78	2
Johnson	VT	44.64	72.68	0.46 ± 0.09 **	0.13	2
Jonesville	VT	44.38	72.93	0.54 ± 0.49 *	0.70	2
Lake Elmore	VT	44.53	72.52	0.24 ± 0.28	0.40	2
Londonderry	VT	43.23	72.81	-0.06 ± 0.64	0.91	2
Lower Waterford	VT	44.36	71.91	-0.12 ± 0.25	0.42	3
Ludlow	VT	43.37	72.70	0.03 ± 0.31	0.54	3
Lyndon	VT	44.51	72.01	-0.08 ± 0.17	0.29	3
Lyndon Center	VT	44.54	72.01	-0.08 ± 0.46	0.80	3
Manchester Center	VT	43.18	73.06	0.00 ± 0.83	1.17	2
Marshfield	VT	44.35	72.35	-0.42 ± 0.06 **	0.11	3
Mcindoe Falls	VT	44.27	72.07	-0.02 ± 0.52	0.73	2
Middlebury	VT	44.03	73.17	-0.48 ± 0.33 *	0.57	3

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Middletown Springs	VT	43.48	73.12	-0.14 ± 0.05 **	0.07	2
Milton	VT	44.63	73.12	0.07 ± 0.15	0.25	3
Monkton	VT	44.23	73.15	-0.07 ± 0.15	0.21	2
Montgomery Center	VT	44.88	72.62	-0.54 ± 0.08 **	0.12	2
Montpelier	VT	44.27	72.57	-0.31 ± 0.60	0.85	2
Moretown	VT	44.25	72.76	0.48 ± 0.35 *	0.50	2
Morrisville	VT	44.57	72.60	-0.03 ± 0.42	0.59	2
Mount Holly	VT	43.45	72.82	-0.65 ± 0.18 **	0.25	2
New Haven	VT	44.12	73.15	-0.13 ± 0.14	0.20	2
Newbury	VT	44.08	72.06	-0.51 ± 0.15 **	0.27	3
Newfane	VT	42.98	72.66	0.27 ± 0.36	0.62	3
Newport	VT	44.94	72.21	0.30 ± 0.41	0.91	5
Newport Center	VT	44.95	72.31	0.02 ± 0.27	0.38	2
North Bennington	VT	42.92	73.23	-0.33 ± 0.40	0.56	2
North Concord	VT	44.47	71.86	-0.55 ± 0.23 **	0.32	2
North Hartland	VT	43.59	72.36	-0.14 ± 0.20	0.35	3
North Montpelier	VT	44.30	72.45	-0.46 ± 0.15 **	0.21	2
North Pomfret	VT	43.72	72.48	-0.24 ± 0.58	0.82	2
North Thetford	VT	43.84	72.19	0.42 ± 0.48	0.68	2
North Troy	VT	44.99	72.40	0.08 ± 0.18	0.31	3
Northfield	VT	44.13	72.67	0.78 ± 0.34 **	0.69	4
Northfield Falls	VT	44.17	72.65	0.58 ± 0.19 **	0.33	3
Norwich	VT	43.71	72.31	-0.51 ± 0.31 *	0.54	3
Orleans	VT	44.81	72.20	-0.38 ± 0.50	0.71	2
Orwell	VT	43.80	73.30	-0.23 ± 0.21 *	0.30	2
Passumpsic	VT	44.38	72.03	-0.45 ± 0.09 **	0.16	3
Peacham	VT	44.33	72.17	-0.46 ± 0.05 **	0.07	2
Perkinsville	VT	43.37	72.52	-0.70 ± 0.12 **	0.17	2
Pittsford	VT	43.71	73.03	0.02 ± 0.26	0.37	2
Post Mills	VT	43.88	72.26	-0.52 ± 0.24 **	0.41	3
Pownal	VT	42.75	73.23	-0.21 ± 0.37	0.52	2
Proctor	VT	43.66	73.04	-0.02 ± 0.57	0.98	3
Proctorsville	VT	43.38	72.64	0.35 ± 0.58	1.01	3
Randolph	VT	43.92	72.67	0.09 ± 0.92	1.31	2
Randolph Center	VT	43.94	72.61	-0.44 ± 0.22 **	0.38	3
Richford	VT	44.98	72.68	-0.06 ± 0.54	0.93	3
Richmond	VT	44.40	72.99	0.43 ± 0.43 *	0.61	2
Ripton	VT	43.97	73.04	-0.06 ± 0.66	1.15	3
Rochester	VT	43.87	72.81	-0.02 ± 0.30	0.61	4
Roxbury	VT	44.10	72.73	-0.09 ± 0.13	0.22	3
Rutland	VT	43.61	72.98	0.29 ± 0.21 *	0.37	3
Saint Albans	VT	44.81	73.08	-0.38 ± 0.34 *	0.59	3
Saint Albans Bay	VT	44.82	73.13	0.14 ± 0.21	0.36	3
Saint Johnsbury	VT	44.42	72.03	0.00 ± 0.30	0.75	6
Salisbury	VT	43.90	73.10	-0.19 ± 0.05 **	0.07	2
Saxtons River	VT	43.13	72.52	-0.56 ± 0.10 **	0.15	2
Shaftsbury	VT	43.01	73.19	0.62 ± 1.38	1.95	2
Sharon	VT	43.78	72.45	-0.14 ± 0.34	0.59	3

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
Shelburne	VT	44.38	73.23	0.00 ± 0.12	0.21	3
Sheldon	VT	44.88	72.94	-0.20 ± 0.32	0.55	3
Shoreham	VT	43.89	73.31	-0.73 ± 0.76	1.08	2
South Barre	VT	44.18	72.51	-0.44 ± 0.13 **	0.22	3
South Hero	VT	44.65	73.32	-1.30 ± 0.26 **	0.37	2
South Londonderry	VT	43.19	72.82	-0.54 ± 0.15 **	0.21	2
South Newbury	VT	44.05	72.08	-0.58 ± 0.27 **	0.39	2
South Pomfret	VT	43.67	72.53	-0.73 ± 0.05 **	0.07	2
South Royalton	VT	43.82	72.52	-0.13 ± 0.30	0.52	3
South Ryegate	VT	44.19	72.14	-0.14 ± 0.27	0.46	3
South Strafford	VT	43.83	72.37	-0.73 ± 0.14 **	0.20	2
South Woodstock	VT	43.57	72.53	-0.23 ± 0.43	0.61	2
Springfield	VT	43.30	72.48	-0.66 ± 0.15 **	0.21	2
Starksboro	VT	44.23	73.06	-0.56 ± 0.58	0.82	2
Stockbridge	VT	43.78	72.76	-0.68 ± 0.21 **	0.29	2
Stowe	VT	44.47	72.68	-0.03 ± 0.18	0.31	3
Strafford	VT	43.86	72.38	-0.49 ± 0.23 **	0.40	3
Taftsville	VT	43.63	72.47	0.22 ± 0.59	1.01	3
Thetford	VT	43.80	72.19	-0.22 ± 0.13 *	0.23	3
Thetford Center	VT	43.82	72.23	-0.27 ± 0.23 *	0.33	2
Troy	VT	44.90	72.40	0.45 ± 0.23 *	0.32	2
Tunbridge	VT	43.88	72.50	-0.03 ± 0.33	0.58	3
Underhill	VT	44.53	72.95	-0.06 ± 0.17	0.25	2
Underhill Center	VT	44.51	72.90	-0.33 ± 0.29 *	0.50	3
Vergennes	VT	44.18	73.25	-0.04 ± 0.15	0.26	3
Vernon	VT	42.77	72.52	0.22 ± 0.54	0.76	2
Vershire	VT	43.97	72.32	-0.16 ± 0.40	0.56	2
Waitsfield	VT	44.19	72.82	-0.56 ± 0.39 *	0.55	2
Wallingford	VT	43.47	72.98	-0.64 ± 0.33 *	0.46	2
Wardsboro	VT	43.03	72.78	0.61 ± 0.93	1.31	2
Warren	VT	44.12	72.86	-0.40 ± 0.29 *	0.50	3
Washington	VT	44.11	72.43	-0.37 ± 0.15 **	0.21	2
Waterbury Center	VT	44.38	72.72	0.29 ± 0.24 *	0.41	3
Websterville	VT	44.16	72.46	-0.55 ± 0.10 **	0.15	2
Wells	VT	43.42	73.20	-0.11 ± 1.00	1.41	2
Wells River	VT	44.16	72.05	-0.03 ± 0.33	0.46	2
West Barnet	VT	44.31	72.14	-0.48 ± 0.03 **	0.04	2
West Burke	VT	44.63	71.97	0.46 ± 0.34 *	0.49	2
West Charleston	VT	44.90	72.06	-0.34 ± 0.37	0.65	3
West Danville	VT	44.41	72.19	-0.36 ± 0.05 **	0.07	2
West Fairlee	VT	43.91	72.26	-0.18 ± 0.18	0.32	3
West Rupert	VT	43.24	73.24	1.29 ± 0.66 *	0.93	2
West Rutland	VT	43.59	73.05	0.67 ± 0.42 *	0.73	3
West Topsham	VT	44.12	72.31	-0.07 ± 0.48	0.67	2
Westfield	VT	44.89	72.43	-0.25 ± 0.51	0.72	2
Westford	VT	44.61	73.01	-0.55 ± 0.32 *	0.45	2
Westminster	VT	43.07	72.47	-0.52 ± 0.13 **	0.18	2
Weston	VT	43.29	72.79	-0.59 ± 0.13 **	0.18	2

**Table 7. Empirical MMI Site Corrections  
for Eastern North America**

Location Name	St/ Pr	Lat (°N)	Long (°W)	Site Correction <sup>‡</sup>	Std. Dev.	# of events (N)
White River Junction	VT	43.65	72.32	0.37 ± 0.46	0.80	3
Whiting	VT	43.86	73.20	-0.54 ± 0.80	1.13	2
Wilder	VT	43.67	72.31	-0.30 ± 0.23 *	0.33	2
Williamstown	VT	44.12	72.54	-0.11 ± 0.47	0.82	3
Wilmington	VT	42.87	72.87	0.18 ± 0.67	0.94	2
Windsor	VT	43.59	72.59	-0.02 ± 0.26	0.45	3
Winooski	VT	44.49	73.19	-0.86 ± 0.40 **	0.70	3
Wolcott	VT	44.55	72.45	-0.52 ± 0.00 **	0.00	2
Woodbury	VT	44.44	72.42	-0.32 ± 0.14 **	0.21	2
Woodstock	VT	43.63	72.52	-0.25 ± 0.44	0.63	2
Worcester	VT	44.37	72.55	-0.42 ± 0.24 *	0.34	2
Jefferson	WI	43.02	88.77	1.51 ± 0.63 **	0.89	2
Kenosha	WI	42.59	87.83	0.91 ± 0.99	1.40	2
Buckhannon	WV	38.99	80.23	0.36 ± 0.58	0.82	2
Charleston	WV	38.35	81.64	-0.40 ± 0.41	0.58	2
Huntington	WV	38.42	82.45	-0.46 ± 0.16 **	0.22	2
Logan	WV	37.85	81.99	-0.10 ± 0.11	0.16	2
Point Pleasant	WV	38.85	82.14	0.31 ± 0.53	0.75	2
Switzer	WV	37.79	81.99	0.86 ± 0.06 **	0.09	2
Washington	WV	39.26	81.66	0.98 ± 0.74 *	1.05	2
Wayne	WV	38.23	82.45	-0.03 ± 0.39	0.55	2
Williamson	WV	37.67	82.25	0.41 ± 0.23 *	0.33	2

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<sup>‡</sup>  $\pm(1\sigma) = (\text{std. dev.})/N^{1/2}$ . \* if |Site Correction| > 1  $\sigma$ . \*\* if |Site Correction| > 2  $\sigma$ .