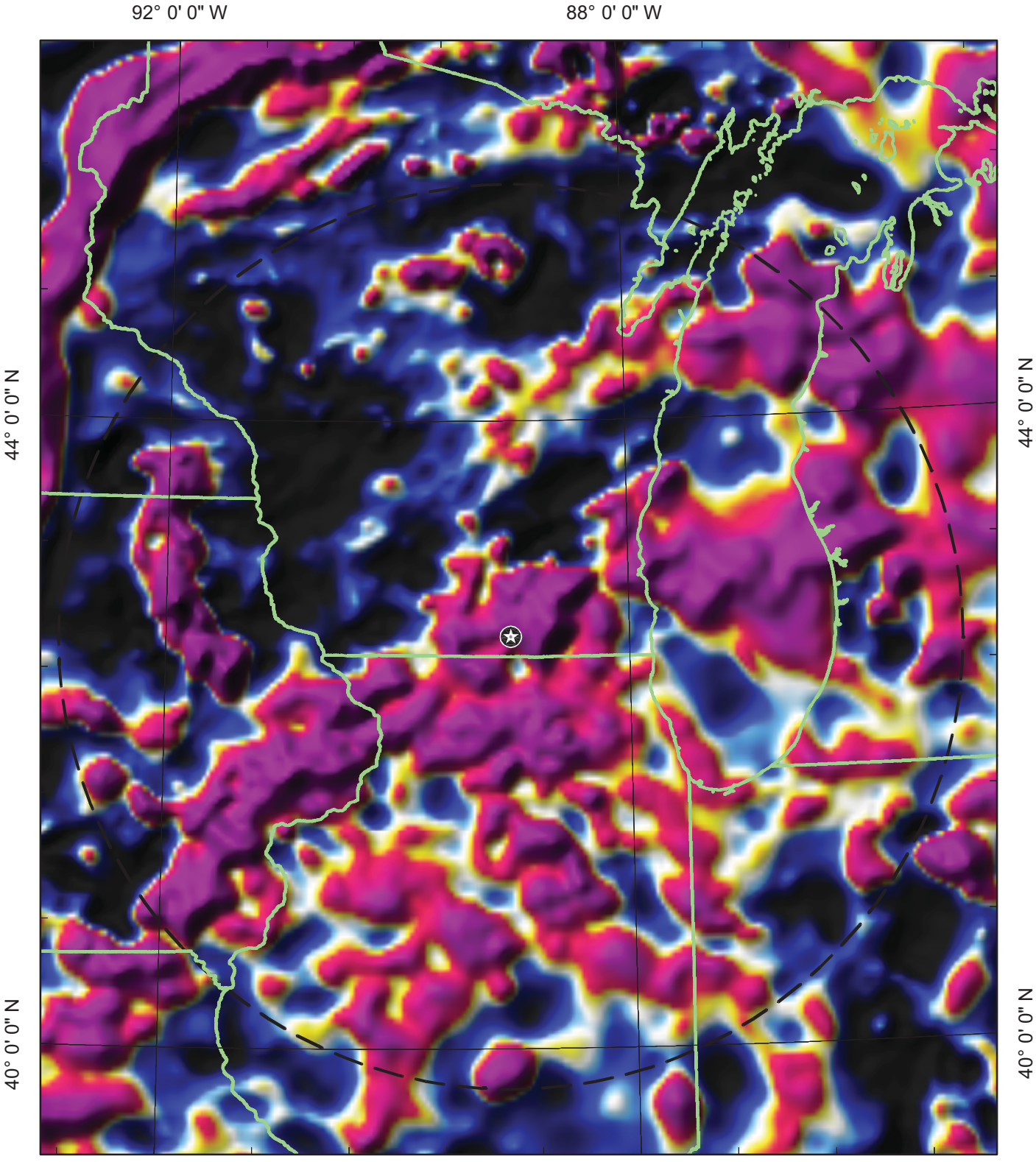
Figure 2.5-7 – Magnetic Anomaly Map of Wisconsin and Northern Illinois



LEGEND

SHINE SITE

200 MILE (322 KM) RADIUS

Total Intensity Anomaly

nT

-200 -150 -100 -50 0 50 100 150 200

62 0 62

APPROXIMATE SCALE MILES

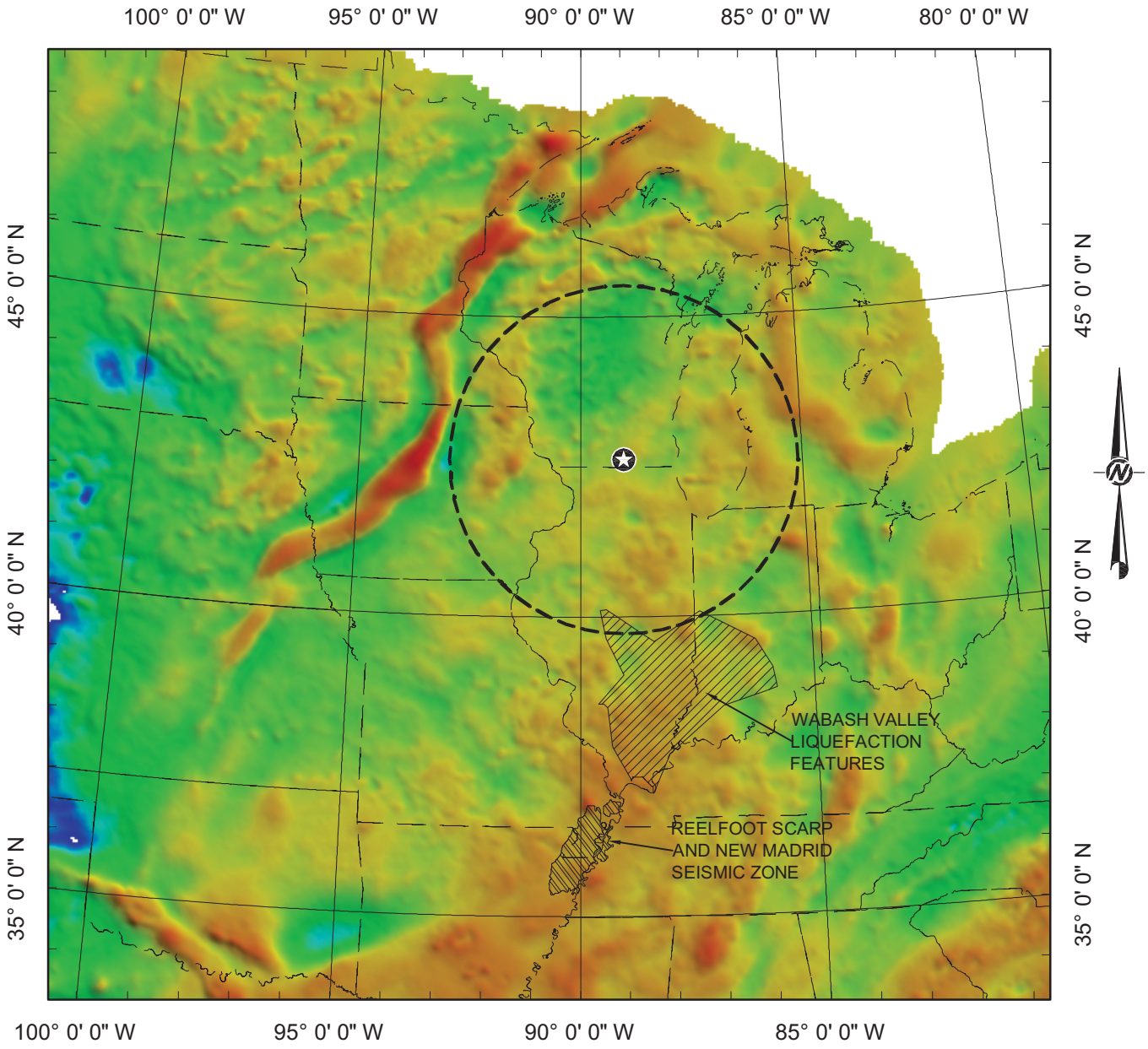
100 0 100

APPROXIMATE SCALE KM

REFERENCE

1.) MAUS ET AL., 2009.

Figure 2.5-8 – Regional Bouguer Gravity Anomaly Map



LEGEND

75
50
0
-50
-100
-125
MILLIGALS

SHINE SITE

200 MILE (322 KM) RADIUS

186 0 186
SCALE MILES

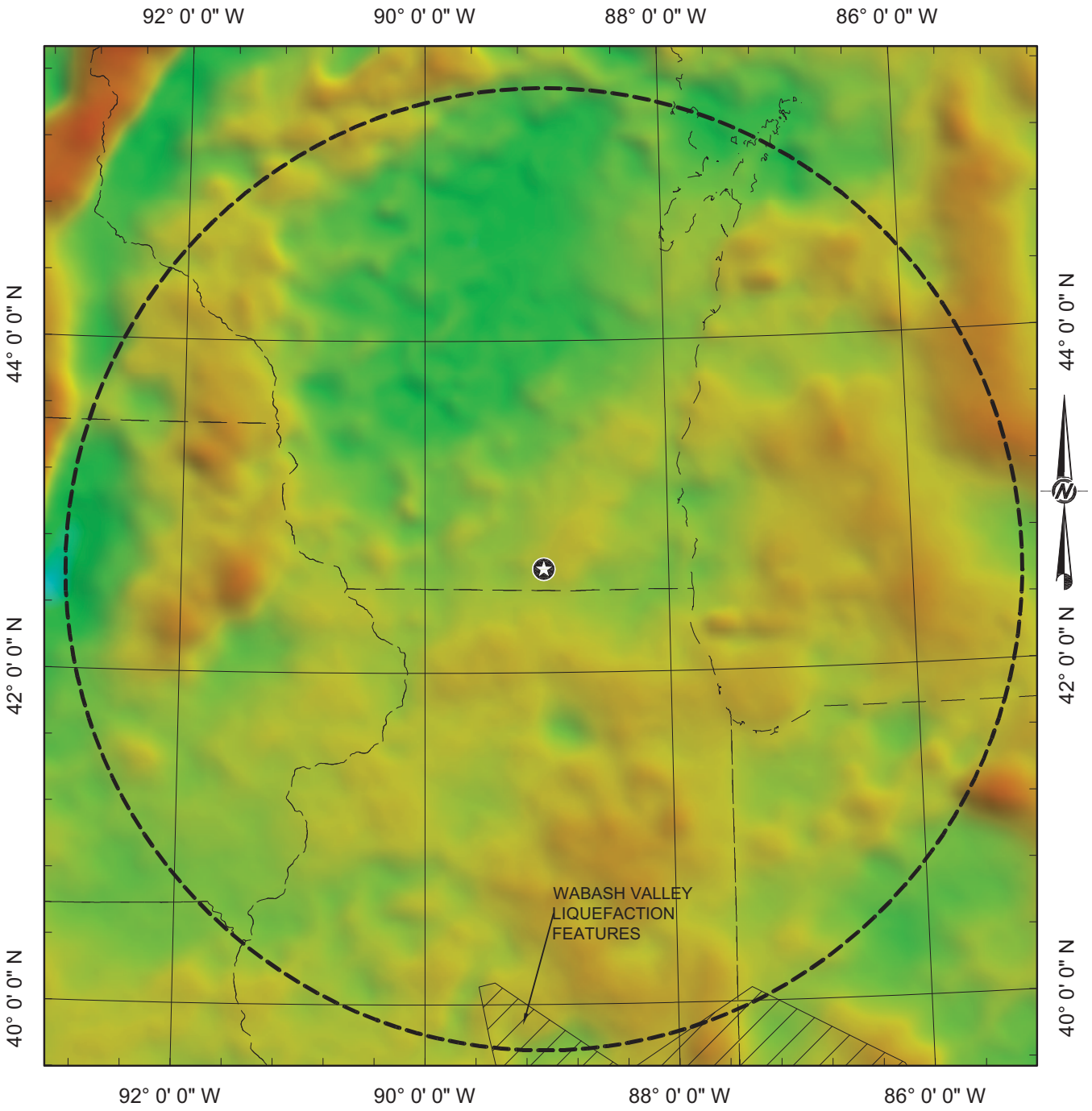
300 0 300
SCALE KM

REFERENCE

1.) KUCKS, R.P., 1999.

2.) USGS, 2012c.

Figure 2.5-9 – Bouguer Gravity Anomaly Map of Wisconsin and Northern Illinois



LEGEND

75
50
0
-50
-100
-125
MILLIGALS

SHINE SITE

200 MILE (322 KM) RADIUS

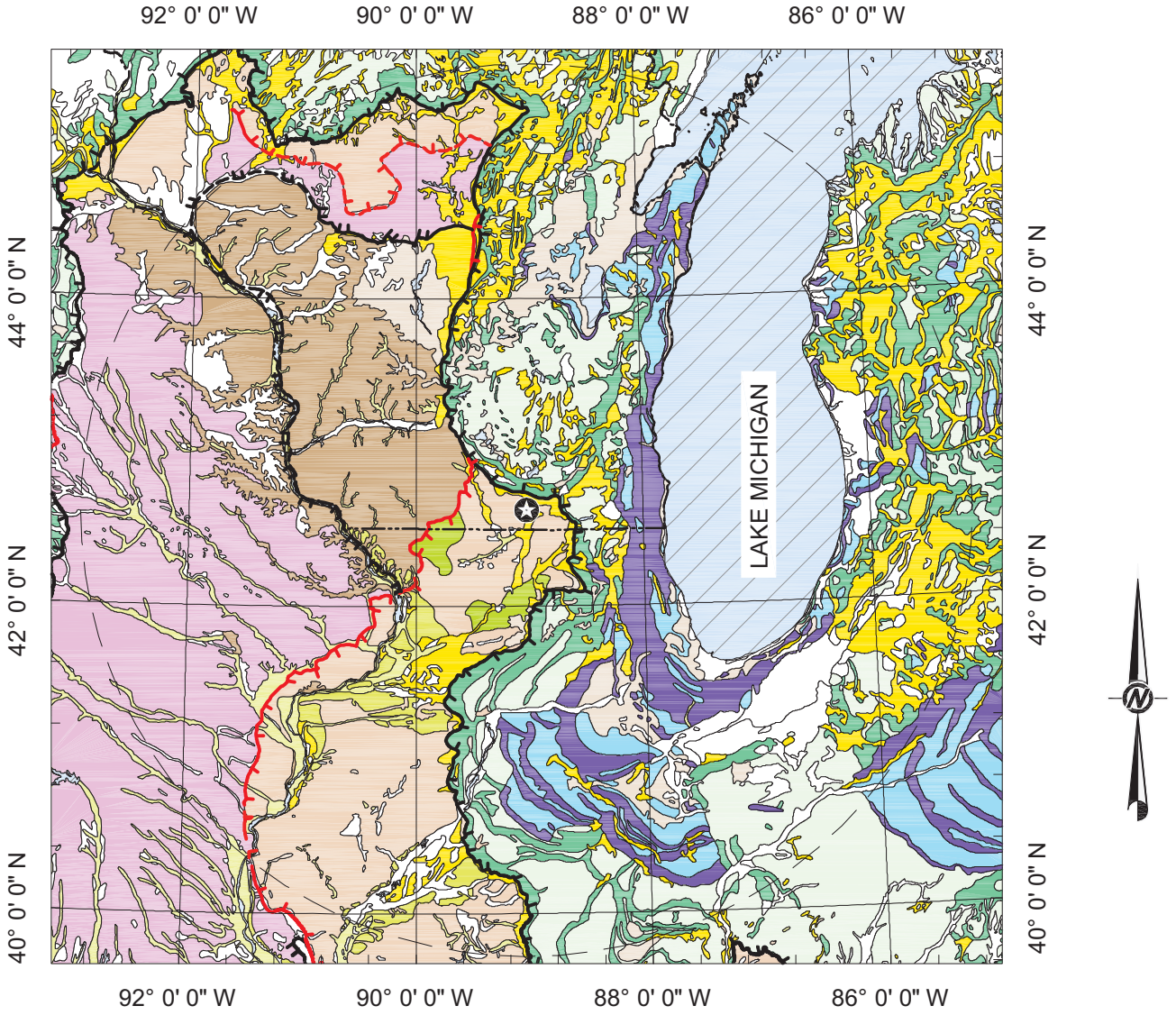
REFERENCE

1.) KUCKS, R.P., 1999.

62 0 62
SCALE MILES

100 0 100
SCALE KM

Figure 2.5-10 – Regional Surficial Geology Map



LEGEND

SURFICIAL GEOLOGIC UNIT

- CLAY AND SILT, GLACIAL AND POST GLACIAL LAKE DEPOSITS - HOLOCENE AND LATE WISCONSIN AGE
- GLACIOFLUVIAL OUTWASH DEPOSITS - LATE WISCONSIN AND HOLOCENE (?)
- CHANNEL AND FLOOD PLAIN ALLUVIUM OF HOLOCENE AND LATE WISCONSIN AGE
- END-MORAINE DEPOSITS, CLAYEY TILL - LATE WISCONSIN AND HOLOCENE (?)
- GROUND-MORAINE DEPOSITS, LOAMY TILL - LATE WISCONSIN AND HOLOCENE (?)
- GROUND-MORAINE DEPOSITS, CLAYEY TILL - LATE WISCONSIN AND HOLOCENE(?)
- END-MORAINE DEPOSITS, LOAMY TILL - LATE WISCONSIN AND HOLOCENE (?)
- CLAYEY TO LOAMY TILL - ILLINOIAN
- GROUND-MORAINE DEPOSITS, LOAMY TILL - ILLINOIAN
- LOAMY TILL - PRE-ILLINOIAN
- COLLUVIUM AND SHEETWASH ALLUVIUM - QUATERNARY AGE AGE
- SILT (LOESS) - HOLOCENE AND LATE WISCONSIN
- REFER TO REFERENCE FOR UNIT DESIGNATION
- LAKES

78 0 78
SCALE MILES

125 0 125
SCALE KM

SHINE SITE

200 MILE (322 KM) RADIUS

CONTACT

LIMIT OF GLACIAL ADVANCE - DASHED WHERE INFERRED HATCHURES POINT IN DIRECTION OF GLACIATED AREA

LATE WISCONSIN

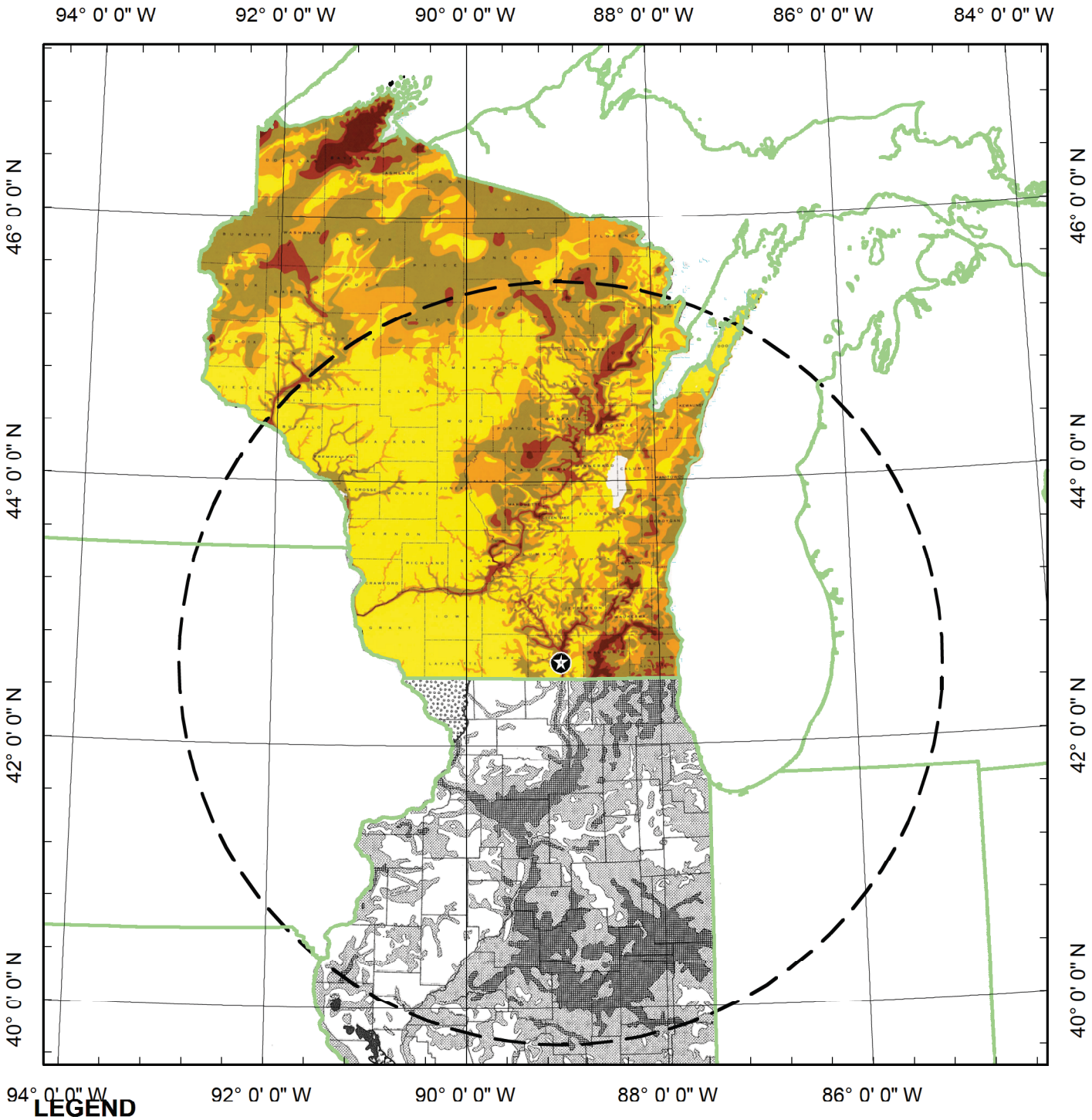
ILLINOIAN

PRE-ILLINOIAN

REFERENCE

1.) FULLERTON ET AL., 2003.

Figure 2.5-11 – Unconsolidated and Drift Thicknesses Map for Wisconsin and Northern Illinois



LEGEND

- SHINE SITE
- 200 MILE (322 KM) RADIUS

LEGEND FOR WISCONSIN

THICKNESS OF UNCONSOLIDATED MATERIAL

- 0-50 FEET
- 50-100 FEET
- 100-200 FEET
- 200-300 FEET
- 300-600 FEET

LEGEND FOR ILLINOIS

- DRIFTLESS AREA
- LESS THAN 50 FEET THICK. BEDROCK EXPOSED IN SOME AREAS.
- BETWEEN 50 AND 200 FEET THICK
- MORE THAN 200 FEET THICK
- LIMIT OF GLACIATION

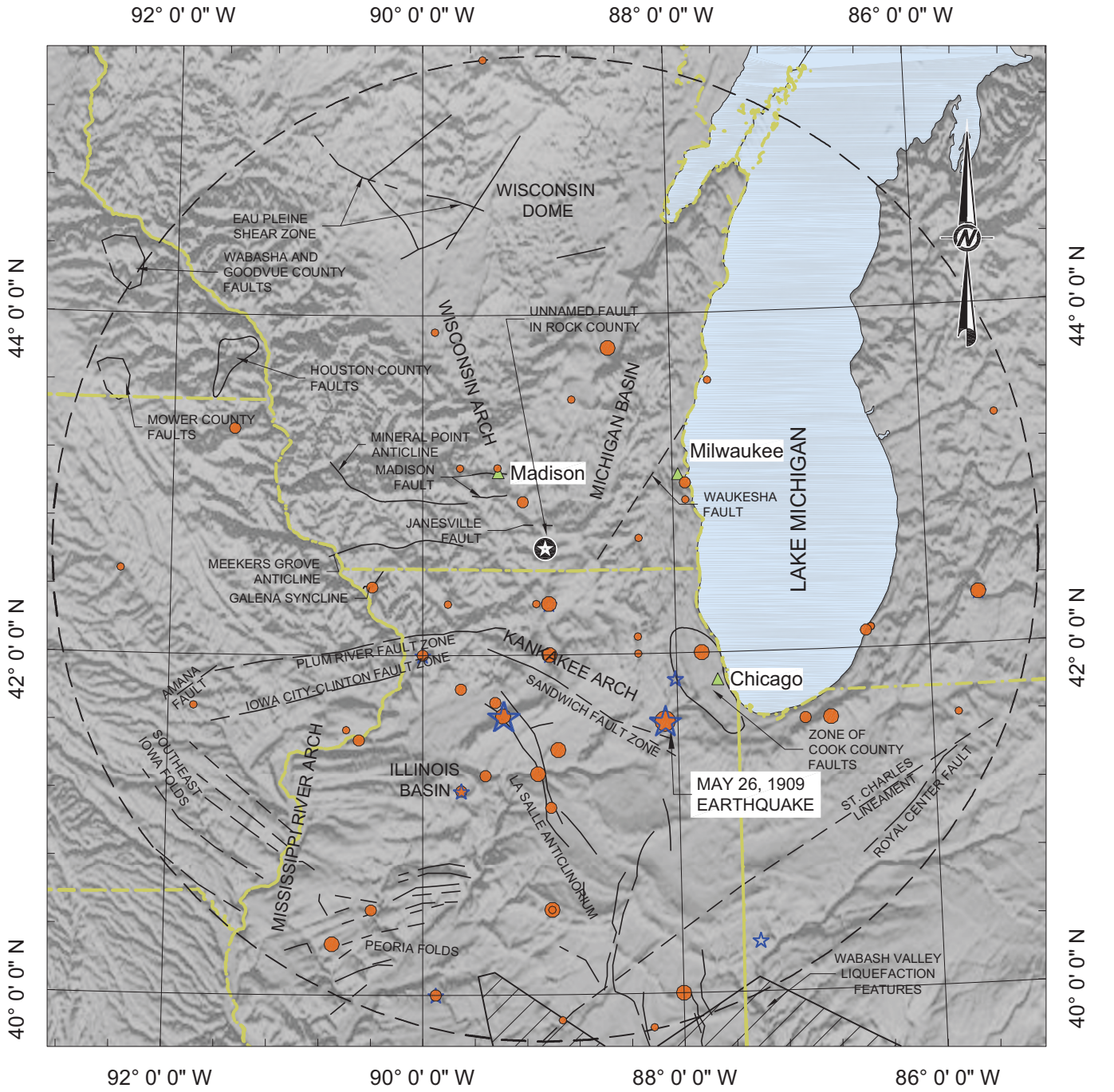
78 0 78
SCALE MILES

125 0 125
SCALE KM

REFERENCE

1.) ILLINOIS: PISKIN, K., AND BERGSTROM, R.E., 1975.
2.) WISCONSIN: WGNHS, 1983.

Figure 2.5-12 – Historical Earthquake Epicenters



LEGEND

- SHINE SITE
- 200 MILE (322 KM) RADIUS
- FAULT AND FOLD TREND

MAGNITUDE
- 0 to 2.9
- 3 to 3.9
- 4 to 4.9
- 5 to 5.9

EPICENTER WITH FELT INTENSITY AT JANESVILLE (MMI)
- NO MMI VALUE
- MMI 5

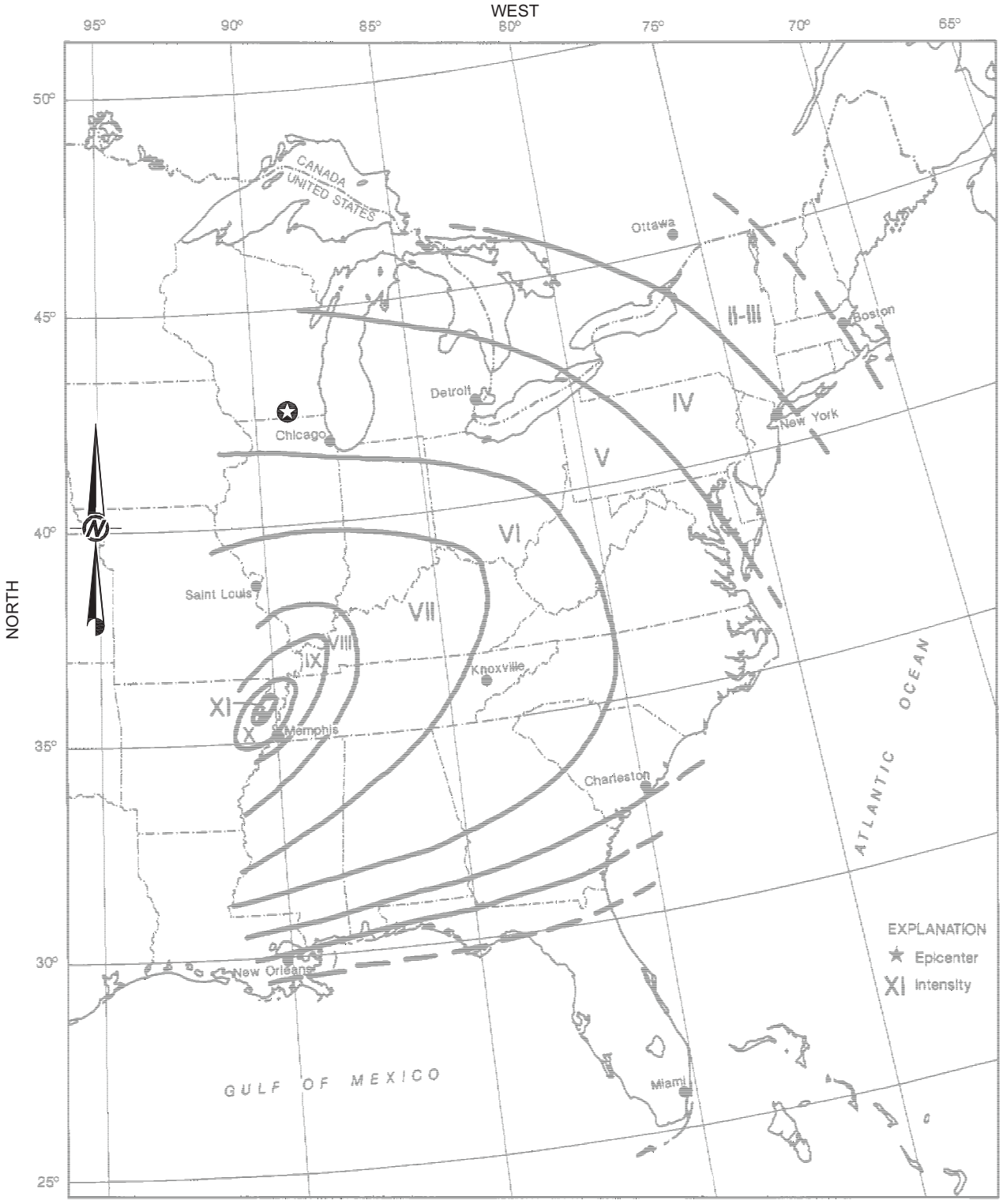
62 0 62
SCALE MILES

70 0 70
SCALE KM

REFERENCE

1.) EARTHQUAKE LOCATIONS: CEUS-SSC, 2012 AND NEID, 2012.
2.) FAULT REFERENCE: GARRITY, C.P., AND SOLLER, D.R., 2009.

Figure 2.5-13 – Isoseismal Map December 16, 1811 Earthquake



LEGEND

SHINE SITE

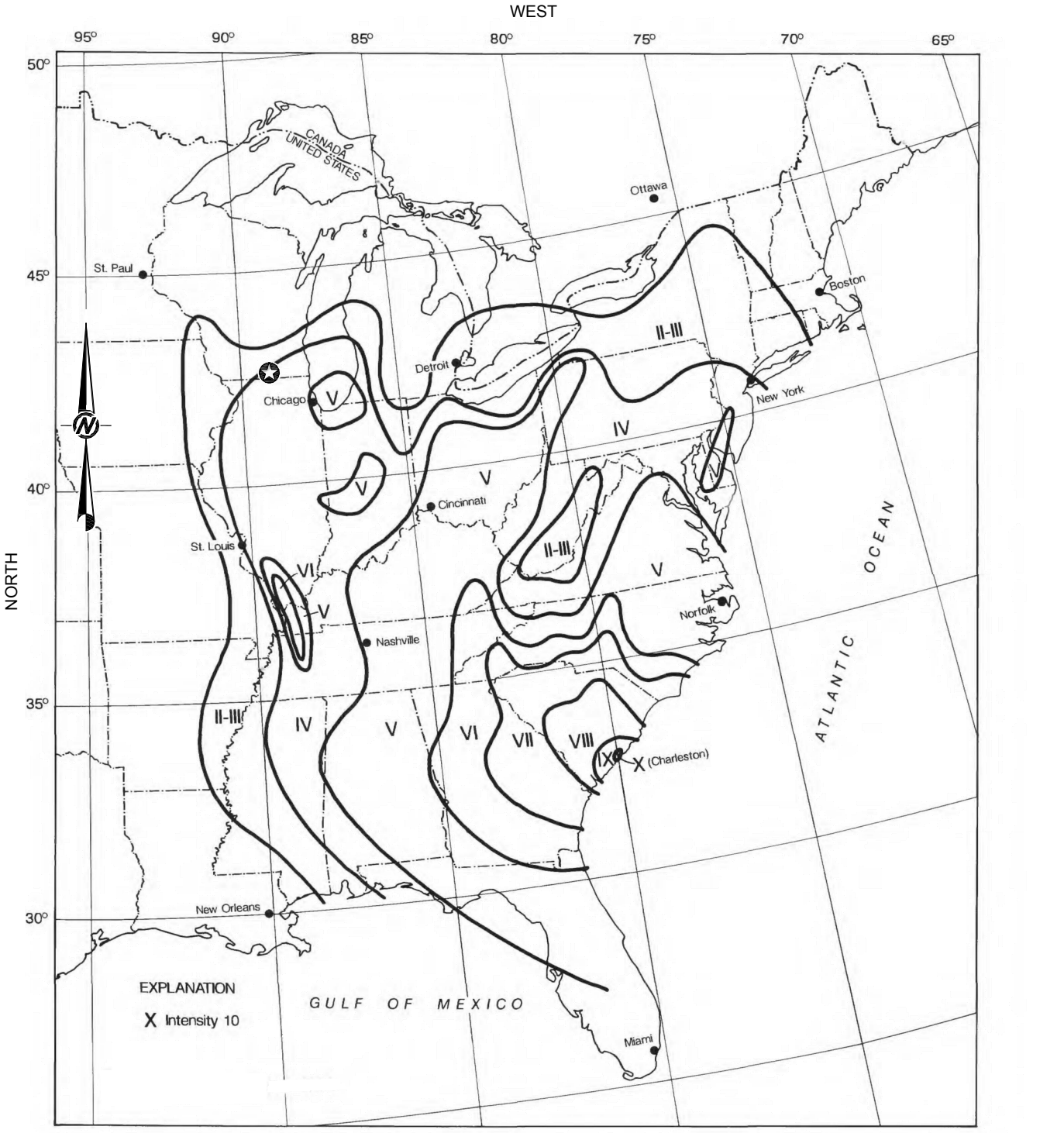
REFERENCE

1.) STOVER, C.W. AND COFFMAN, J.L., 1993.

249 0 249
APPROXIMATE SCALE MILES

400 0 400
APPROXIMATE SCALE KM

Figure 2.5-14 – Isoseismal Map September 01, 1886 Earthquake



LEGEND

SHINE SITE

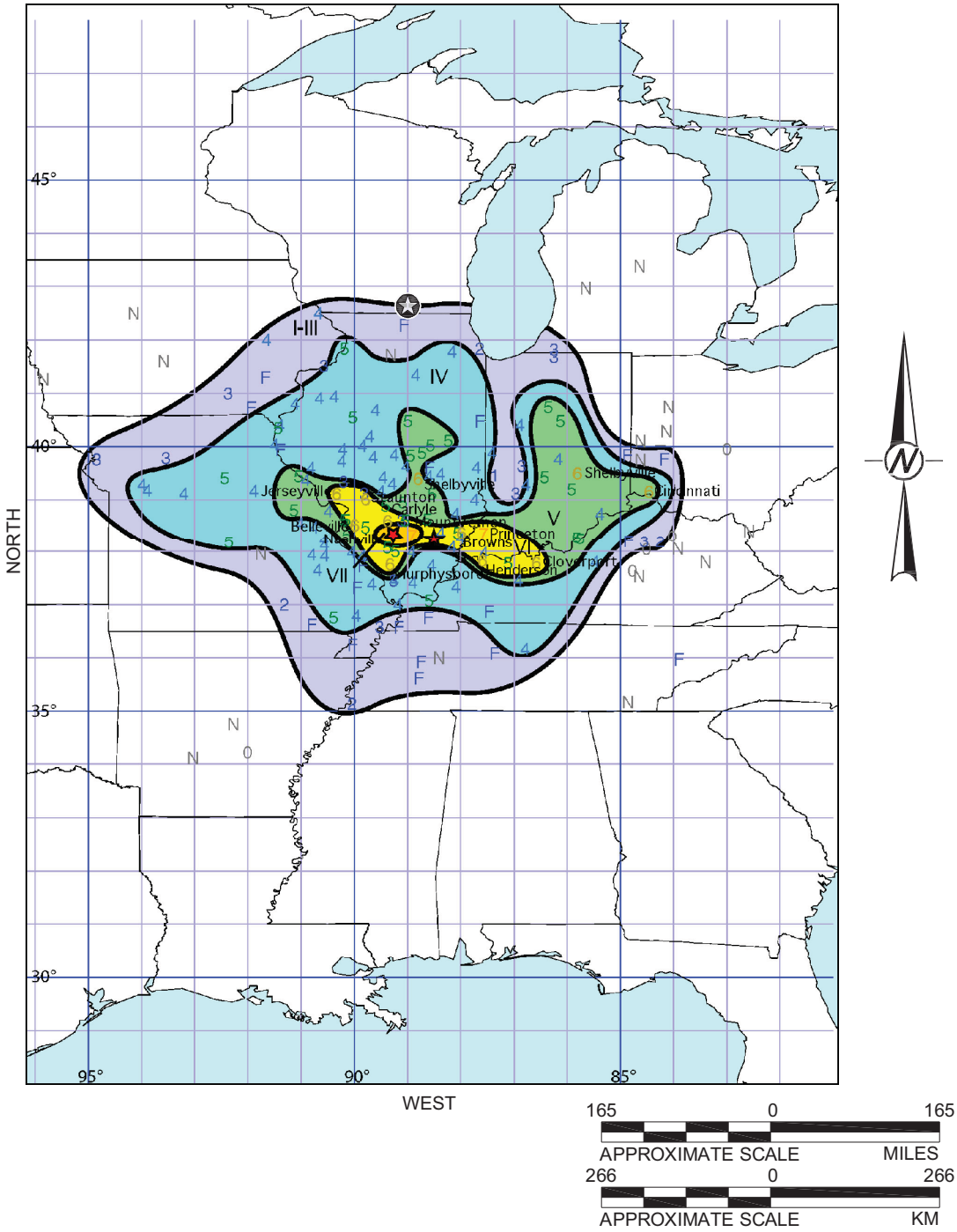
REFERENCE

1.) ISOSEISMAL MAP OF 09/01/1886 EARTHQUAKE FROM (STOVER, C.W. AND COFFMAN, J.L., 1993).

249 0 249
APPROXIMATE SCALE MILES

400 0 400
APPROXIMATE SCALE KM

Figure 2.5-15 – Isoseismal Map September 27, 1891 Earthquake



LEGEND

✪ SHINE SITE

NUMBERS ARE MMI ASSIGNMENTS:

F - DENOTES THAT THE EVENT WAS FELT, BUT THAT THE INFORMATION IS NOT SUFFICIENT TO ASSIGN AN MMI.

O - DENOTES THAT THE EVENT WAS REPORTED AS NOT FELT.

N - DENOTES THAT THE EVENT WAS NOT MENTIONED AND IS PRESUMED "NOT FELT".

THE THICK BLACK ISOSEISMAL LINES ENCLOSE ISOSEISMAL AREAS.

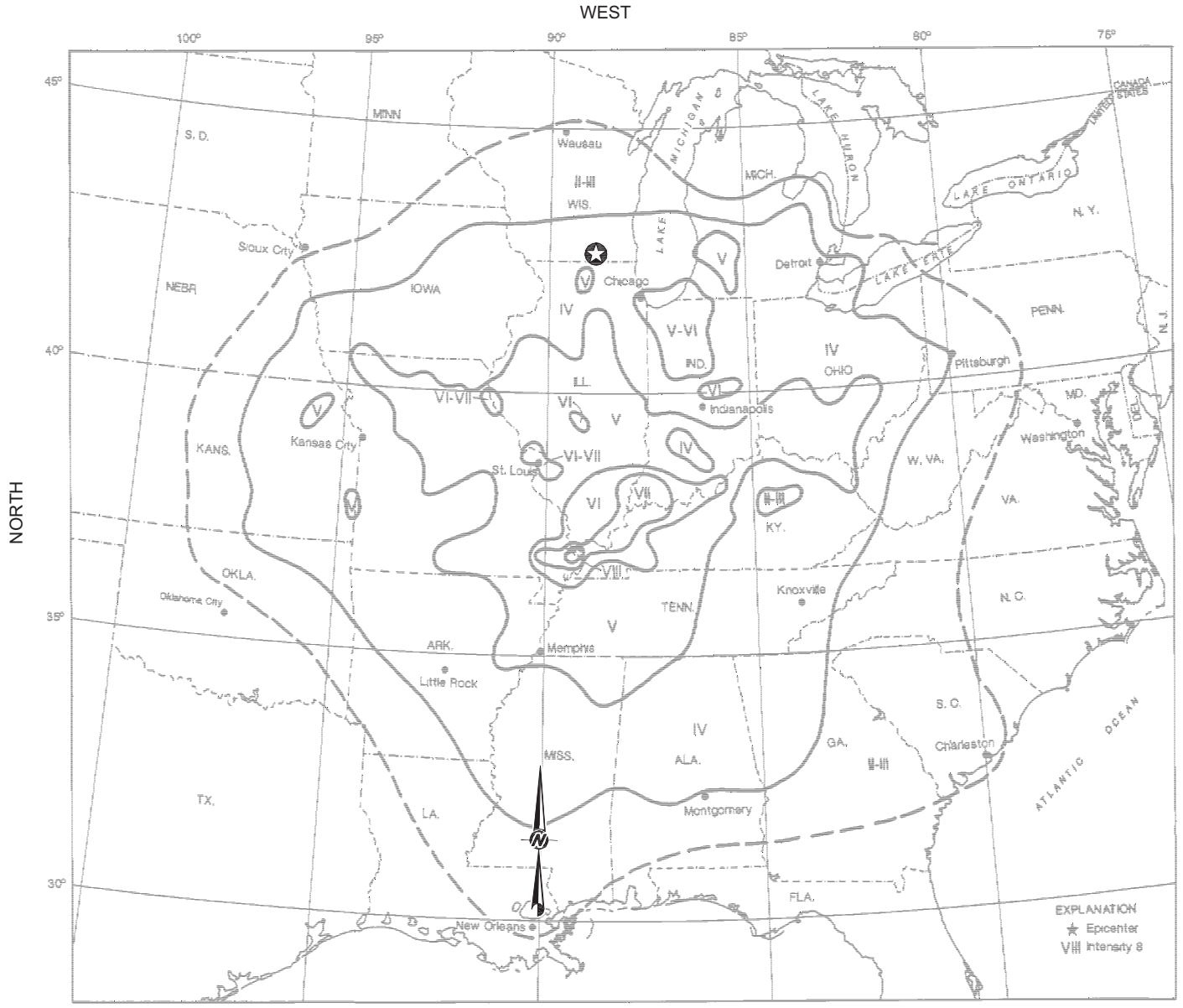
THE EASTERN RED STAR IS STOVER AND COFFMAN'S (1993) EPICENTER LOCATION.

THE WESTERN RED STAR IS BAKUN AND HOPPER'S (2004) PREFERRED EPICENTER LOCATION.

REFERENCE

1.) BAKUN, W.H. AND HOPPER, M.G., 2004.

Figure 2.5-16 – Isoseismal Map October 31, 1895 Earthquake



LEGEND

SHINE SITE

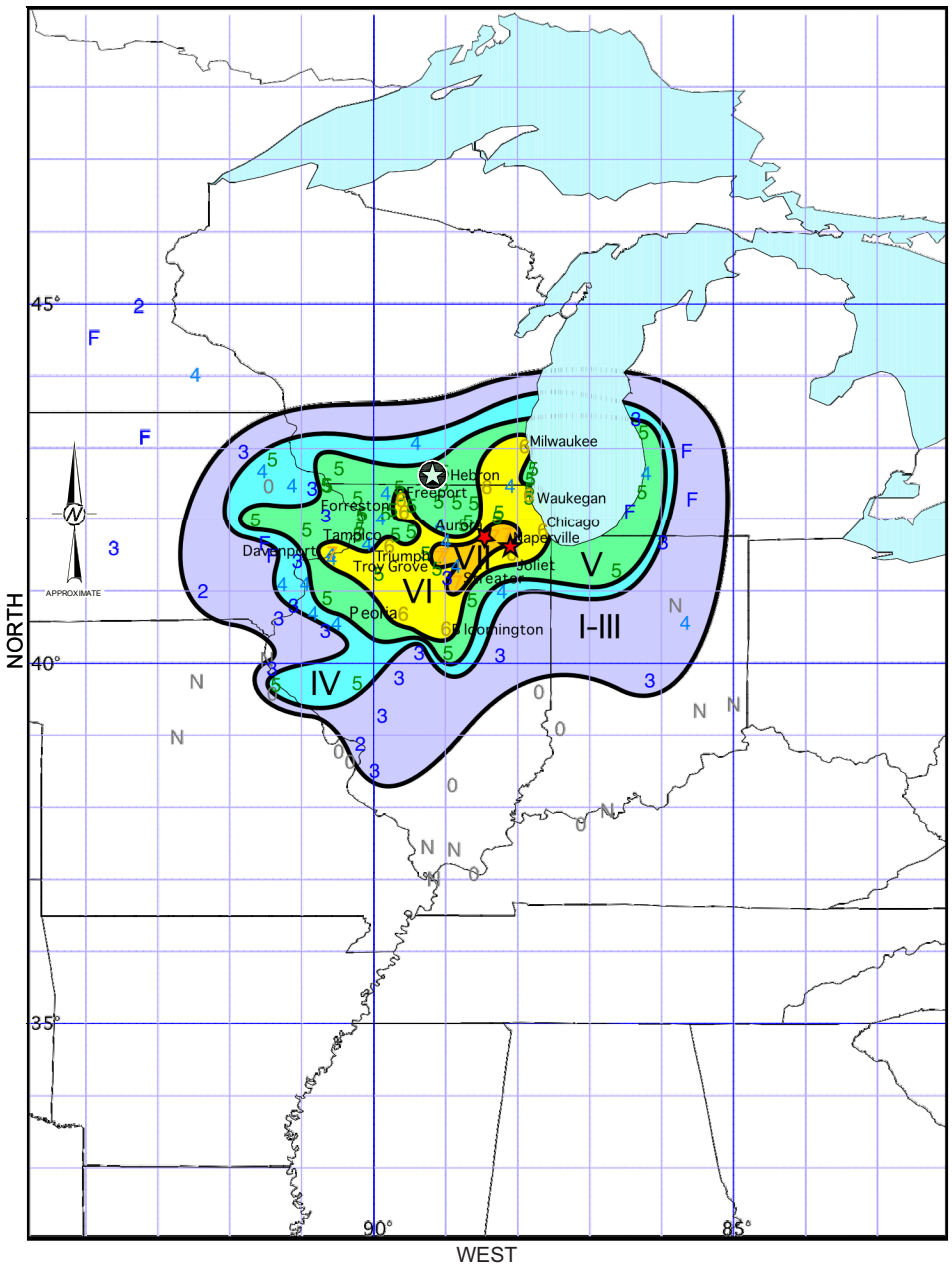
REFERENCE

1.) STOVER, C.W. AND COFFMAN, J.L., 1993.

211 0 211
APPROXIMATE SCALE MILES

340 0 340
APPROXIMATE SCALE KM

Figure 2.5-17 – Isoseismal Map May 26, 1909 Earthquake



LEGEND

SHINE SITE

NUMBERS ARE MMI ASSIGNMENTS:

F - DENOTES THAT THE EVENT WAS FELT, BUT THAT THE INFORMATION IS NOT SUFFICIENT TO ASSIGN AN MMI.

O - DENOTES THAT THE EVENT WAS REPORTED AS NOT FELT.

N - DENOTES THAT THE EVENT WAS NOT MENTIONED AND IS PRESUMED "NOT FELT".

THE THICK BLACK ISOSEISMAL LINES ENCLOSE ISOSEISMAL AREAS.

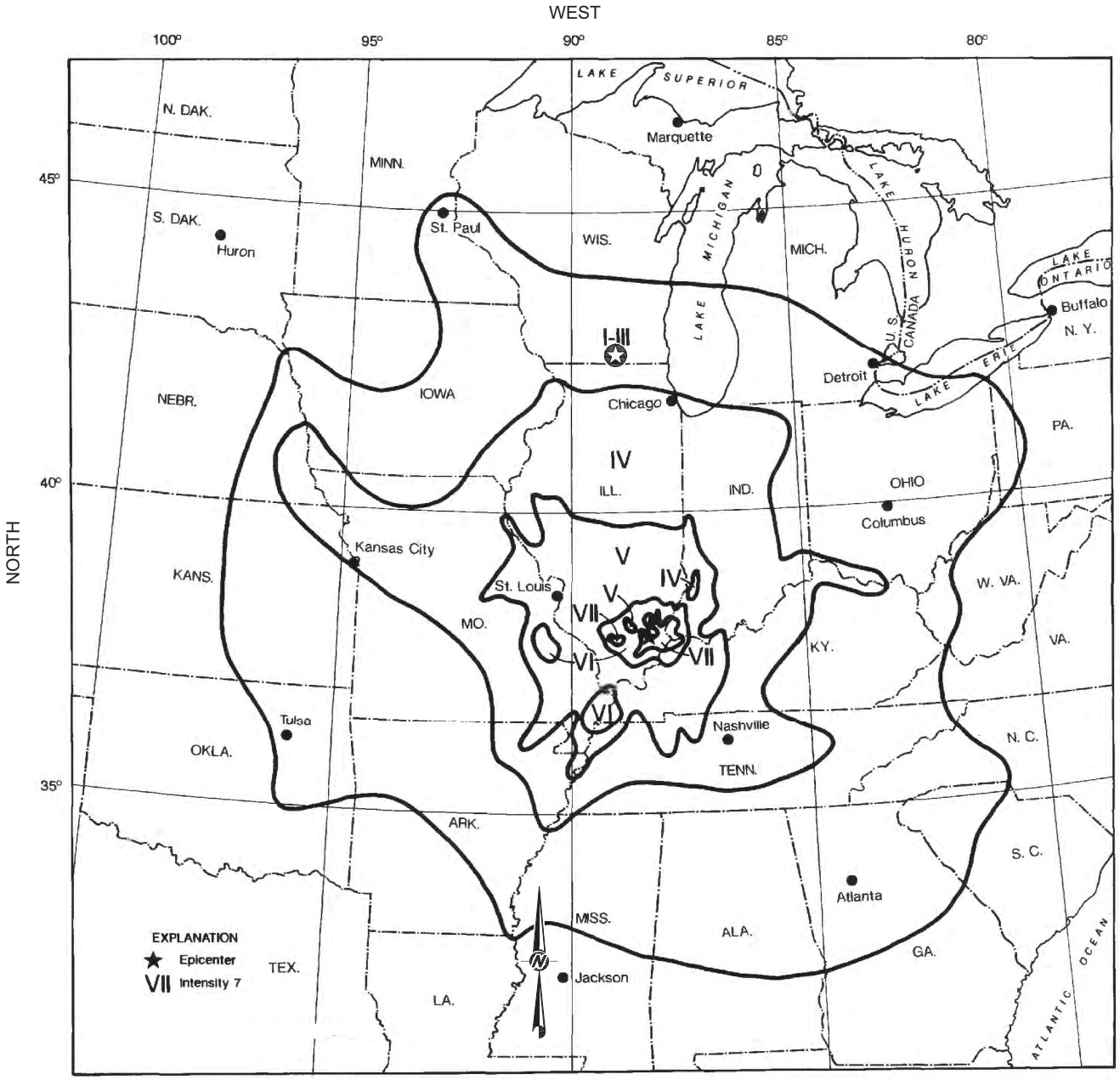
THE EASTERN RED STAR IS STOVER AND COFFMAN'S (1993) EPICENTER LOCATION.

THE WESTERN RED STAR IS BAKUN AND HOPPER'S (2004) PREFERRED EPICENTER LOCATION.

REFERENCE

1.) BAKUN, W.H. AND HOPPER, M.G., 2004.

Figure 2.5-18 – Isoseismal Map November 09, 1968 Earthquake



LEGEND

SHINE SITE

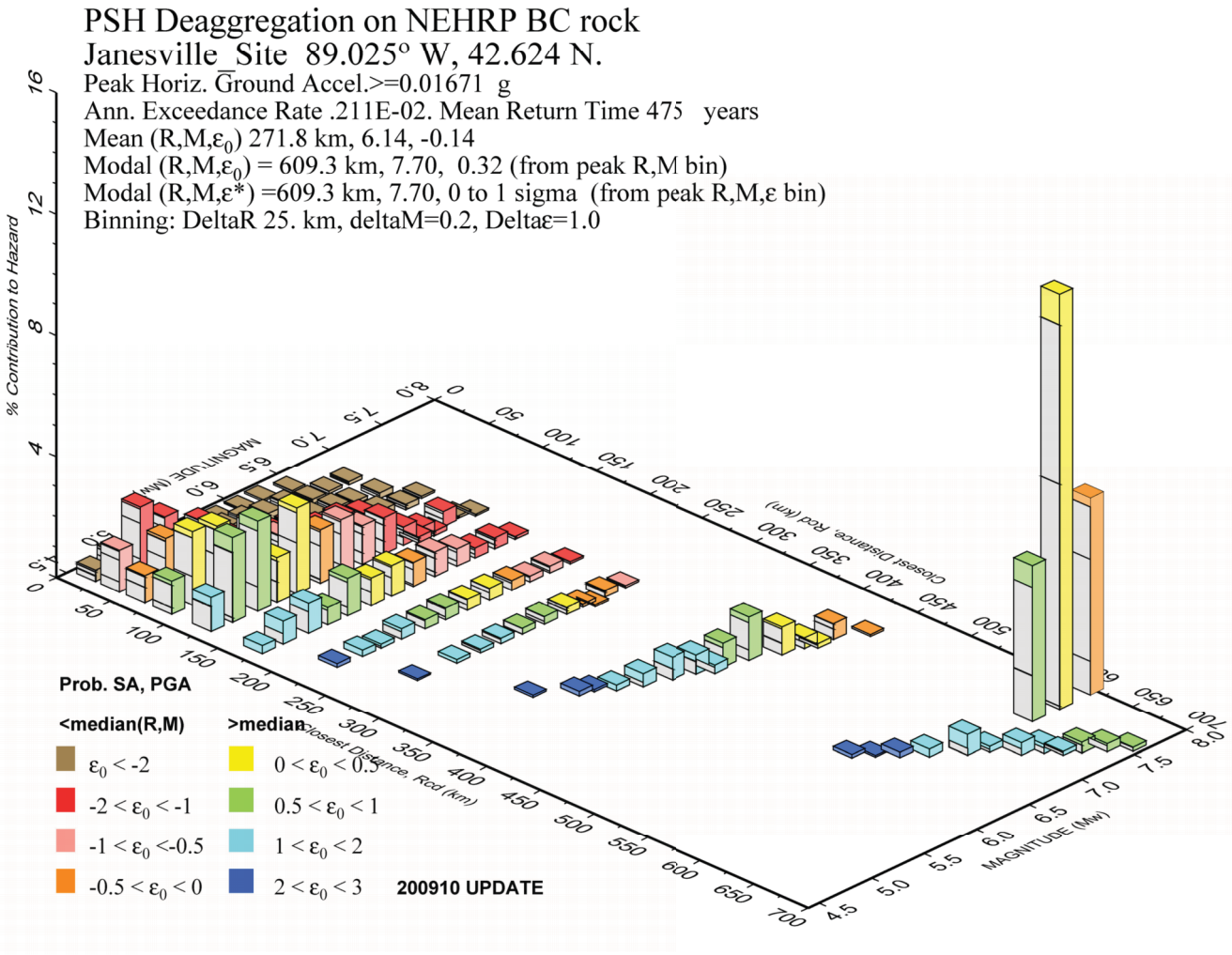
REFERENCE

1.) STOVER, C.W. AND COFFMAN, J.L., 1993.

193 0 193
APPROXIMATE SCALE MILES

310 0 310
APPROXIMATE SCALE KM

Figure 2.5-19 – Deaggregation of USGS 2008 PSHA Model for 475-Year Return Period PGA



Distance (R), magnitude (M), epsilon (E0,E) deaggregation for a site on rock with average vs= 760. m/s top 30 m.
USGS CGHT PSHA2008 UPDATE Bins with lt 0.05% contrib. omitted

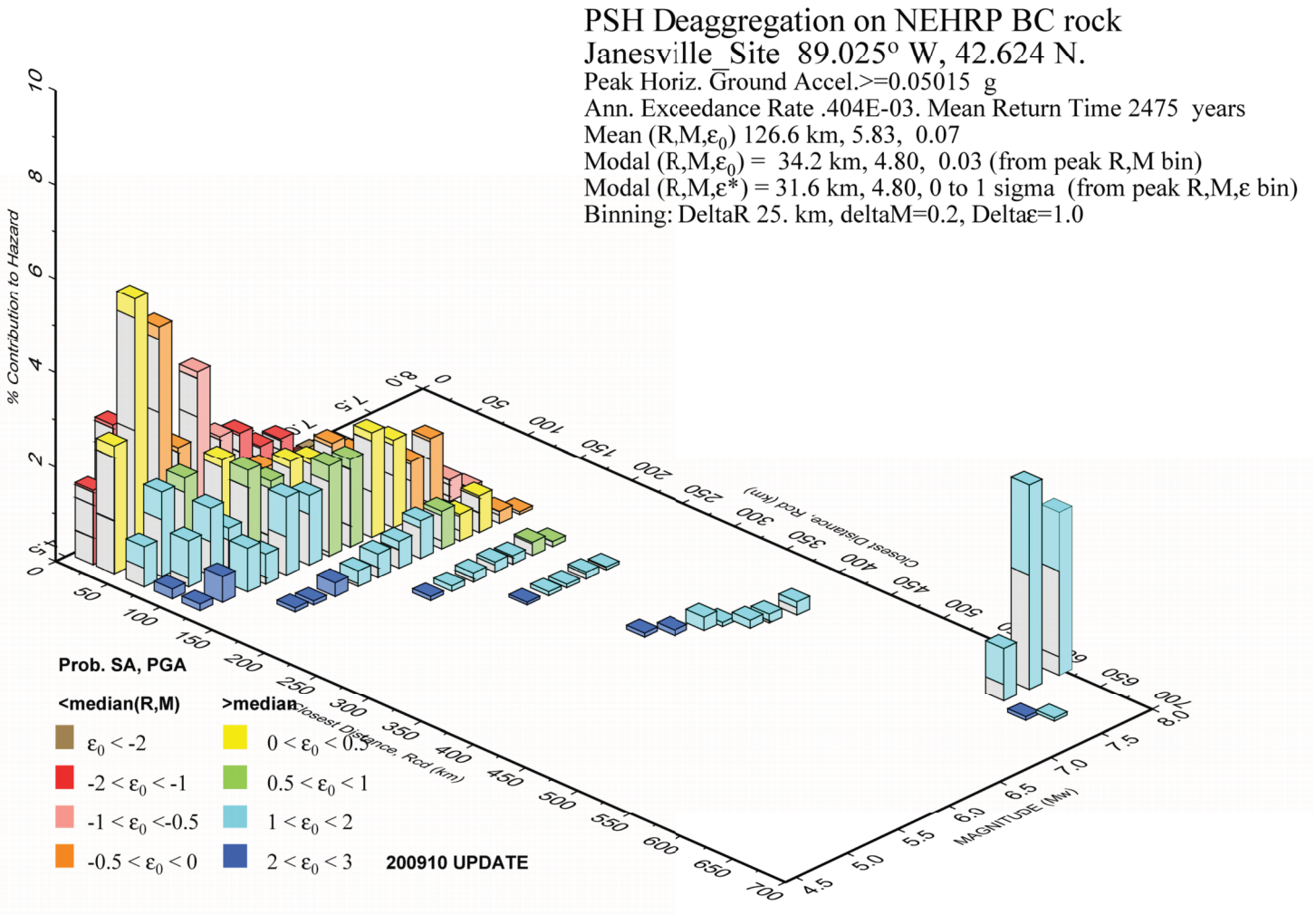
NOTE

1.) CALCULATION FOR SHINE SITE (42.624°N, 89.025°W) FROM THE 2008 USGS NATIONAL PSHA (V_s^{30} = 760 m/s, SITE CLASS BC).

REFERENCE

1.) USGS, 2012a.

Figure 2.5-20 – Deaggregation of USGS 2008 PSHA Model for 2,475-Year Return Period PGA



Distance (R), magnitude (M), epsilon (E0,E) deaggregation for a site on rock with average vs= 760. m/s top 30 m.

USGS CGHT PSHA2008 UPDATE Bins with lt 0.05% contrib. omitted

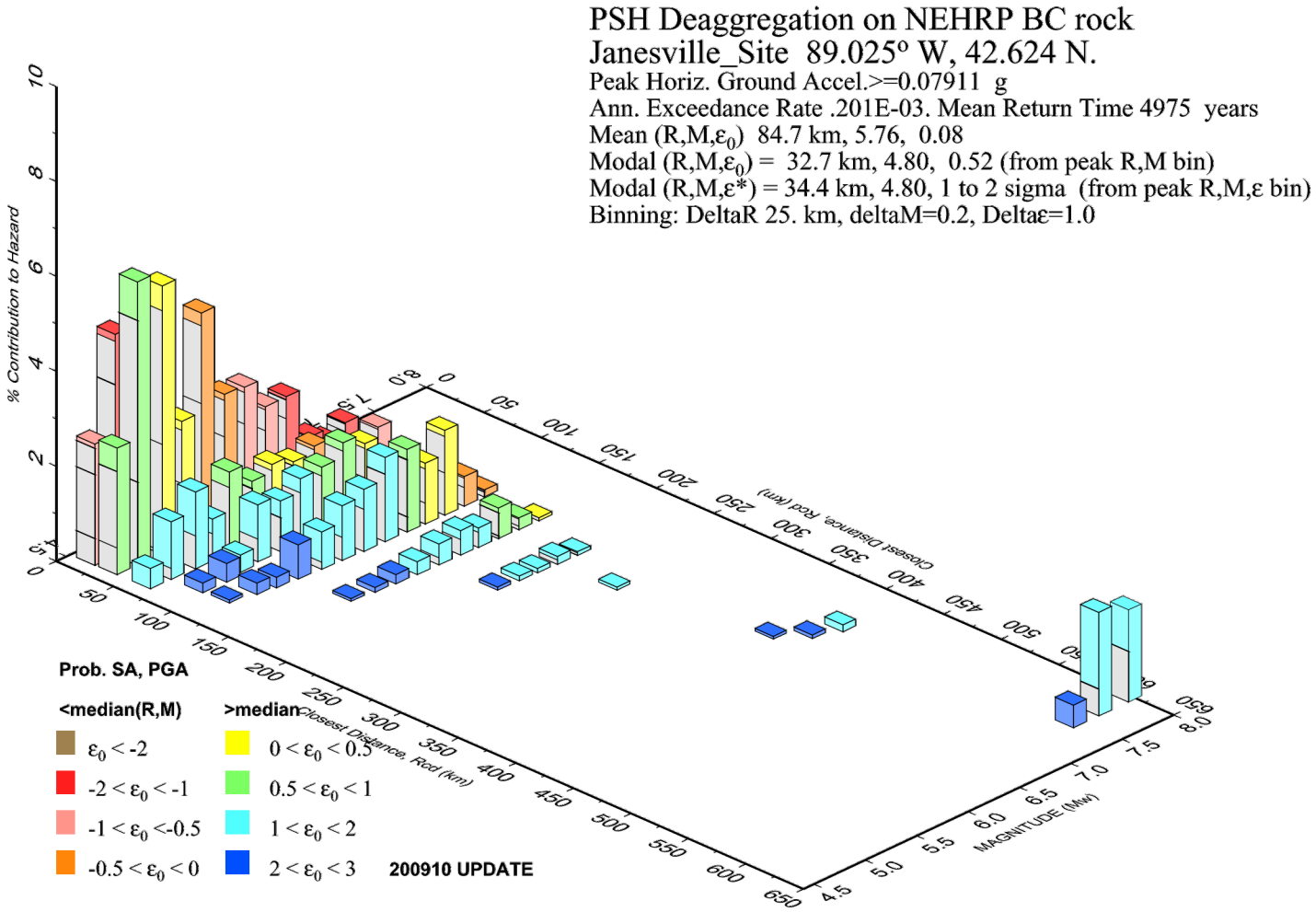
NOTE

1.) CALCULATION FOR SHINE SITE (42.624°N, 89.025°W) FROM THE 2008 USGS NATIONAL PSHA (V_s^{30} = 760 m/s, SITE CLASS BC).

REFERENCE

1.) USGS, 2012a.

Figure 2.5-21 – Deaggregation of USGS 2008 PSHA Model for 4,975-Year Return Period PGA



Distance (R), magnitude (M), epsilon (E0,E) deaggregation for a site on rock with average vs= 760. m/s top 30 m.
USGS CGHT PSHA2008 UPDATE Bins with lt 0.05% contrib. omitted

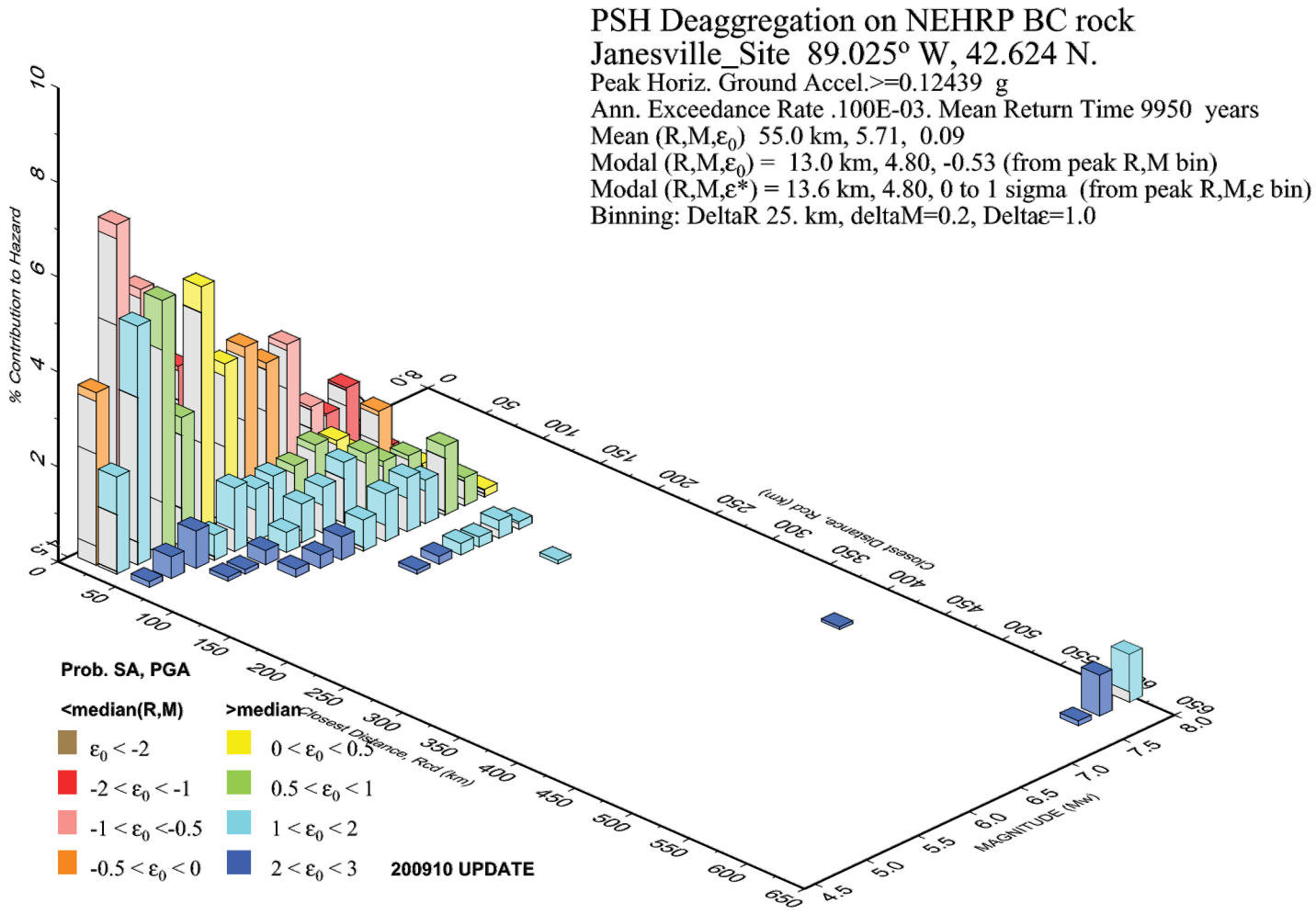
NOTE

1.) CALCULATION FOR SHINE SITE (42.624°N, 89.025°W) FROM THE 2008 USGS NATIONAL PSHA (V_s^{30}= 760 m/s, SITE CLASS BC).

REFERENCE

1.) USGS, 2012a.

Figure 2.5-22 – Deaggregation of USGS 2008 PSHA Model for 9,950-Year Return Period PGA



Distance (R), magnitude (M), epsilon (E0,E) deaggregation for a site on rock with average vs= 760. m/s top 30 m.
USGS CGHT PSHA2008 UPDATE Bins with lt 0.05% contrib. omitted

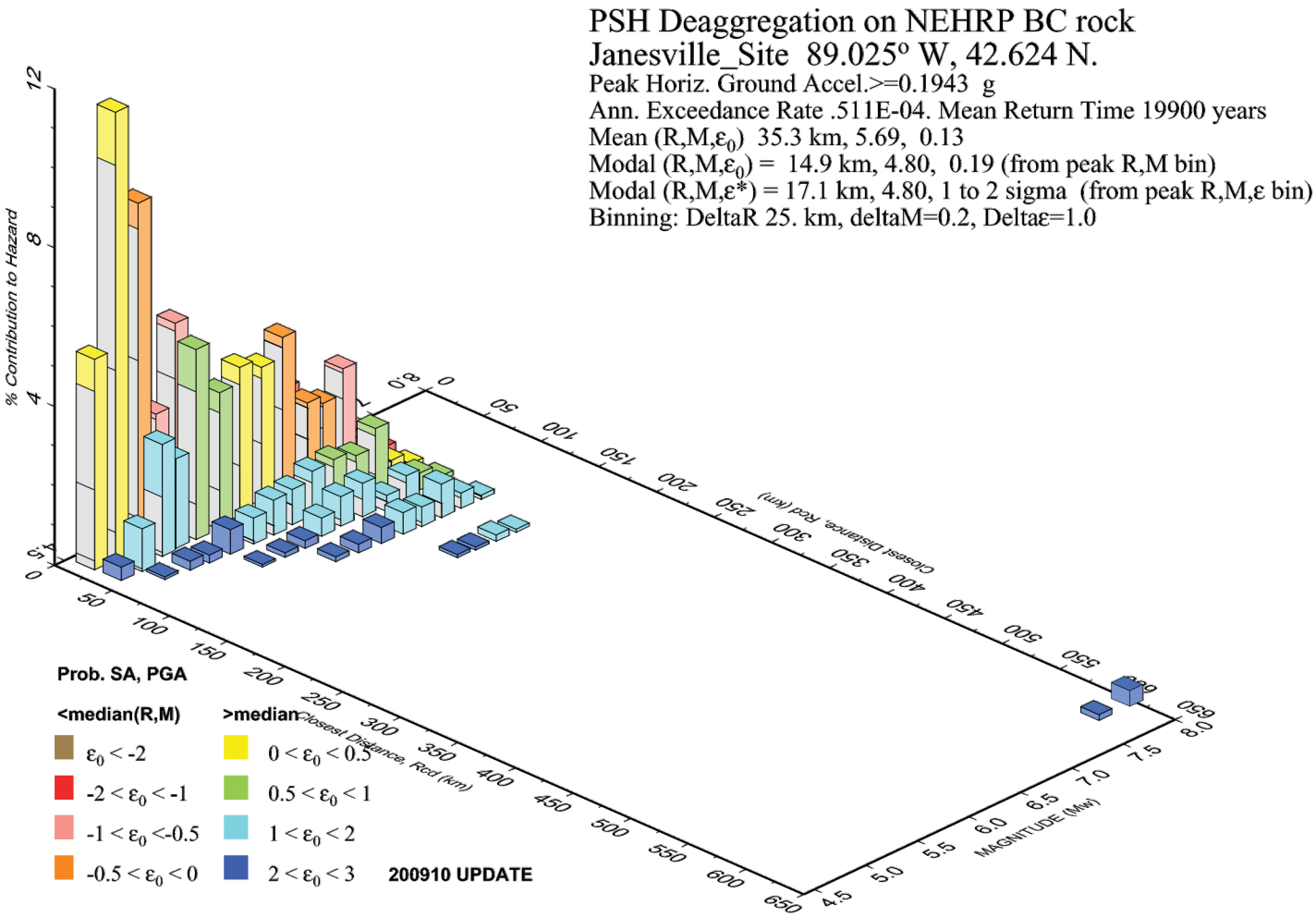
NOTE

1.) CALCULATION FOR SHINE SITE (42.624°N, 89.025°W) FROM THE 2008 USGS NATIONAL PSHA (V_s^{30}= 760 m/s, SITE CLASS BC).

REFERENCE

1.) USGS, 2012a.

Figure 2.5-23 – Deaggregation of USGS 2008 PSHA Model for 19,900-Year Return Period PGA



Distance (R), magnitude (M), epsilon (E0,E) deaggregation for a site on rock with average vs= 760. m/s top 30 m.

USGS CGHT PSHA2008 UPDATE Bins with lt 0.05% contrib. omitted

NOTE

1.) CALCULATION FOR SHINE SITE (42.624°N, 89.025°W) FROM THE 2008 USGS NATIONAL PSHA (V_s^{30}= 760 m/s, SITE CLASS BC).

REFERENCE

1.) USGS, 2012a.