Central United States

Earthquake Map Catalog & Reference Guide

A GE Capital Services Company
ACKNOWLEDGMENTS

Publication of this catalog is a joint partnership between private business and government agencies: Kathleen Raupp of Employers Reinsurance Corporation, Joseph Rachel of the Federal Emergency Management Agency Region VII, and Edward Gray of the Missouri Emergency Management Agency. Support for this project was provided by the Central United States Earthquake Consortium (CUSEC), Memphis, Tennessee. The catalog was written by Ann Elledge of the Center for Earthquake Studies and final editing was performed by the Association of CUSEC State Geologists, Memphis, Tennessee. Printing was provided by Employers Reinsurance Corporation of Overland Park, Kansas. Thanks go to Tom Durham and James M. Wilkinson, Jr. of CUSEC and Edward S. Gray of the Missouri Emergency Management Agency for their many useful comments regarding this catalog. Special thanks to Kathleen Raupp of Employers Reinsurance Corporation for supporting the earthquake/disaster prevention effort in the Central United States. Southeast Missouri State University students Clayton Sneed, Mark Cummings, and Phillip Statler assisted in assembling the information.

HOW TO ORDER MAPS LISTED IN THIS GUIDE

For maps from the United States Geological Survey:
United States Geological Survey Information Services
Box 25286, MS 306
Denver, Colorado 80225
800-435-7627 (Orders)
303-202-4700 (Customer Service)
303-202-4693 (Fax)

For maps from the Missouri Department of Natural Resources - Geological Survey:
MODNR-DGLS
P.O. Box 250
Rolla, Missouri 65401-0250
573-368-2100

For maps from the Central United States Earthquake Consortium or the Association of CUSEC State Geologists:
Central United States Earthquake Consortium
2630 East Holmes Road
Memphis, Tennessee 38118
800-824-5817

For all other maps, please write to the address listed with each map in the guide. If you have any questions, please contact CUSEC at the above address.
INTRODUCTION

The Center for Earthquake Studies at Southeast Missouri State University in Cape Girardeau, Missouri, was commissioned by the Central United States Earthquake Consortium (CUSEC) in July 1996 to develop a catalog of geologic and seismotectonic maps of the New Madrid region. The intended users are the general public, elected officials, emergency managers, planners, engineers, geologists and insurance professionals who need and desire information regarding seismic hazards in the New Madrid region.

Each map in the catalog contains 12 descriptive fields. These fields consist of the following: title of map, author(s), date published, publication number, publisher/contact agency, map coordinates, map scale, map sheet size, intended users, region covered, map description, and limitations.

The catalog contains 56 reduced-size maps. The various maps include geologic and seismotectonic data for the New Madrid region, such as seismicity, faults, areas of landslides, distribution of liquefaction deposits, locations of geophysical surveys, and surface and subsurface geology. These copies are not to scale and are not intended for use in place of the original maps; they are only provided to demonstrate the coverage of the individual study areas. These maps are arranged by geographic area of the coverage ranging from state to regional scale.

Questions or comments regarding the content of the catalog may be addressed to Ms. Ann L. Elledge, Earthquake Education Specialist, Center for Earthquake Studies, 810 Normal Street, Cape Girardeau, Missouri 63701, or by phone at (573) 651-2019.

The maps in this catalog are not all inclusive of those developed for the New Madrid Seismic Zone. If the reader has developed a map, or knows of one that should be in the next edition of this catalog, please contact the Center for Earthquake Studies at Cape Girardeau.

Employers Reinsurance Corporation (ERC) is the oldest U.S. domiciled professional reinsurer, and is one of the few companies in America that is more than a century old. With more than 50 offices worldwide, ERC is recognized as one of the leading global companies in the insurance industry. A GE Capital Services company, ERC is located at 5200 Metcalf, Overland Park, Kansas 66202, telephone 913-676-5200.
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This map shows the location of epicenters from 1699 to 1977, the number of earthquakes which occurred at each coordinate and the maximum Modified Mercalli Intensity rating associated with the epicenters at the coordinate. Also included in a table are the date, origin time, epicentral location (north latitude, west longitude), depth, hypocenter quality and referenced data sources, magnitude, and Modified Mercalli Intensity and intensity source references for the epicenters.

Limitations
Epicenter locations are rounded off to the nearest tenth of a degree of latitude and longitude.

Title of Map
Seismicity Map of the State of Arkansas

Author(s)
C.W. Stover, B.G. Reagor and S.T. Algermissen

Date Published
1979

Publication Number
Miscellaneous Field Studies Map MF-1154

Map Coordinates
Latitude: 33N-36.5N; Longitude: 89.75W-94.50W

Map Scale
1:1,000,000

Map Sheet Size
30.5H x 36.5W inches

Intended Users
General Public, Planners, Emergency Managers, Engineers, Geologists, Geophysicists, Insurance Professionals

Publisher/Contact Agency
U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225, and Arkansas Geological Commission, 3815 West Roosevelt Road, Little Rock, AR 72204

Region Covered
State of Arkansas
**Map Description**
Shows locations of rock and alluvial units and principal geologic structures. Also shown are county and state borders, roads, railways, waterways, towns and cities.

**Limitations**
Scale not appropriate for site-specific applications.

<table>
<thead>
<tr>
<th>Title of Map</th>
<th>Geologic Map of Arkansas</th>
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<tbody>
<tr>
<td>Author(s)</td>
<td>Boyd R. Haley</td>
</tr>
<tr>
<td>Date Published</td>
<td>1993</td>
</tr>
<tr>
<td>Publication Number</td>
<td>Not Available</td>
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<tr>
<td>Map Coordinates</td>
<td>Latitude: 33N-36.5N; Longitude: 89.75W-94.5W</td>
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<tr>
<td>Map Scale</td>
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<tr>
<td>Map Sheet Size</td>
<td>34H x 52W inches</td>
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<tr>
<td>Intended Users</td>
<td>Geologists, Geophysicists, Engineers, Planners, Insurance Professionals</td>
</tr>
</tbody>
</table>

**Publisher/Contact Agency**
U.S. Geological Survey, Map Distribution, Box 25286, Federal Center, Denver, CO 80225, and Arkansas Geological Commission, 3815 West Roosevelt Road, Little Rock, AR 72204

**Region Covered**
State of Arkansas
**Map Description**

Shows the locations of historic epicenters from 1795 to 1975, the number of earthquakes which occurred at each coordinate, and the maximum Modified Mercalli Intensity rating associated with the epicenters at the coordinate. Also given in a table are the date, origin time, epicentral location (north latitude, west longitude), depth, hypocenter quality and referenced data sources, magnitude, and Modified Mercalli Intensity and intensity source references for the epicenters.

**Limitations**

Epicenter locations are rounded off to the nearest tenth of a degree of latitude and longitude.
Map Description
Shows locations of rock units and principal geologic structures. Also shown are county and state borders, roads, railways, waterways, towns and cities.

Limitations
Scale not appropriate for site-specific applications.

Title of Map
Geologic Map of Illinois

Author(s)
H.B. Willman and Others

Date Published
1967

Publication Number
Not Available

Map Coordinates
Not Available

Map Scale
1:500,000

Map Sheet Size
57.5H x 41W inches

Intended Users
Geologists, Geophysicists, Engineers, Planners, Insurance Professionals

Publisher/Contact Agency
Illinois State Geological Survey, 615 E. Peabody Drive, Champaign, IL 61820-6964

Region Covered
State of Illinois
Map Description
This map gives the locations of faults and folds within the state of Illinois. Also given are state and county borders and rivers.

Limitations
This is a generalized map with few cultural reference points; thus, site-specific are not appropriate.
Map Description
Shows locations of faults and folds. Also shows rivers, and state and county borders.

Limitations
This is a generalized map lacking cultural reference points; thus, site-specific usage would be difficult.

Title of Map
Faults and Other Structures in Southern Illinois - A Compilation

Author(s)
H.B. Stonehouse and G.M. Wilson

Date Published
1955

Publication Number
Circular C195, PLATE 1

Map Coordinates
Latitude: 36.0N-38.1N; Longitude: 87.5W-89.3W

Map Scale
1:63,360

Map Sheet Size
41.5H x 53.5W inches

Intended Users
Geologists, Geophysicists, Engineers, Insurance Professionals

Publisher/Contact Agency
Illinois State Geological Survey, 615 E. Peabody Drive, Champaign, IL 61820-6964

Region Covered
Southern Illinois Counties of Franklin, Gallatin, Hamilton, Hardin, Jackson, Johnson, Massac, Pope, Saline, Union, White, and Williamson
Map Description
This landslide inventory map shows areas of natural and man-made landslides, including rock falls, rock slumps, earth slumps, earth flows, and rock creep. Other information includes county and state borders, roads, railways, waterways, towns and cities and topography.

Limitations
Scale is not appropriate for site-specific applications.
Map Description
Shows the locations of historic epicenters from 1827 to 1976, number of earthquakes which occurred at each coordinate and the maximum Modified Mercalli Intensity rating associated with the epicenters at the coordinate. Also given in a table are the date, origin time, epicentral location (north latitude, west longitude) depth, hypocenter quality and referenced data sources, magnitude, and Modified Mercalli Intensity and intensity source references for epicenters.

Limitations
Epicenter locations are rounded off to the nearest tenth of a degree of latitude and longitude.

Title of Map
Seismicity Map of the State of Indiana

Author(s)
C.W. Stover, B.G. Reagor and S.T. Algermissen

Date Published
1987

Publication Number
Miscellaneous Field Studies, Map MF-1974

Map Coordinates
Latitude: 37.3N-41.75N; Longitude: 85W-88W

Map Scale
1:1,000,000

Map Sheet Size
22H x 35.5W inches

Intended Users
General Public, Planners, Emergency Managers, Engineers, Geologists, Geophysicists, Insurance Professionals

Publisher/Contact Agency
U.S. Geological Survey, Map Distribution, Box 25286, Federal Center, Denver, CO 80225

Region Covered
State of Indiana
**Map Description**
Shows locations of rock units and principal geologic structures. Also shown are county and state borders, roads, railways, waterways, towns and cities.

**Limitations**
Scale not appropriate for site-specific applications.

<table>
<thead>
<tr>
<th><strong>Title of Map</strong></th>
<th>Bedrock Geologic Map of Indiana</th>
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<tbody>
<tr>
<td><strong>Author(s)</strong></td>
<td>Henry H. Gray, Curtis H. Ault and Stanley J. Keller</td>
</tr>
<tr>
<td><strong>Date Published</strong></td>
<td>1987</td>
</tr>
<tr>
<td><strong>Publication Number</strong></td>
<td>Miscellaneous Map 48</td>
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<tr>
<td><strong>Map Coordinates</strong></td>
<td>Latitude: 33N-36.5N; Longitude: 89.75W-94.50W</td>
</tr>
<tr>
<td><strong>Map Scale</strong></td>
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<tr>
<td><strong>Map Sheet Size</strong></td>
<td>46H x 32.5W inches</td>
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<tr>
<td><strong>Intended Users</strong></td>
<td>Geologists, Geophysicists, Engineers, Planners, Insurance Professionals</td>
</tr>
</tbody>
</table>

**Region Covered**
State of Indiana

**Publisher/Contact Agency**
Indiana Geological Survey, 611 North Walnut Grove, Bloomington, IN 47405
**Map Description**

This map shows historic earthquake epicenters through 1983 within the boundaries of Kentucky. The coordinates of each earthquake are rounded to the nearest tenth of a degree. Locations of state boundaries and major cities in Kentucky are also shown.

**Limitations**

Epicenter locations are rounded off to the nearest tenth of a degree of latitude and longitude.

**Title of Map**

Seismicity Map of the State of Kentucky

**Author(s)**

C.W. Stover, B.G. Reagor and S.T. Algermissen

**Date Published**

1987

**Publication Number**

Miscellaneous Field Studies Map MF-1144

**Map Coordinates**

Latitude: 36.0-39.3N; Longitude: 82W-89.5W

**Map Scale**

1:1,000,000

**Map Sheet Size**

32H x 37W inches

**Intended Users**

General Public, Planners, Emergency Managers, Engineers, Geologists, Geophysicists, Insurance Professionals

**Publisher/Contact Agency**


**Region Covered**

State of Kentucky
**Map Description**
Shows locations of rock and alluvial units and principal geologic structures. Also shown are county and state borders, roads, railways, waterways, towns and cities.

**Limitations**
Scale not appropriate for site-specific applications.

<table>
<thead>
<tr>
<th>Title of Map</th>
<th>Geologic Map of Kentucky</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author(s)</td>
<td>Martin C. Noger</td>
</tr>
<tr>
<td>Date Published</td>
<td>1988</td>
</tr>
<tr>
<td>Publication Number</td>
<td>Not Available</td>
</tr>
<tr>
<td>Map Coordinates</td>
<td>Latitude: 36.5N-39.3N; Longitude: 82W-89.5W</td>
</tr>
<tr>
<td>Map Scale</td>
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<tr>
<td>Map Sheet Size</td>
<td>41H x 57.5W inches</td>
</tr>
<tr>
<td>Intended Users</td>
<td>Geologists, Geophysicists, Engineers, Planners, Insurance Professionals</td>
</tr>
</tbody>
</table>

**Publisher/Contact Agency**

**Region Covered**
State of Kentucky
**Map Description**
Shows the locations of historic epicenters from 1923 to 1977, the number of earthquakes which occurred at each coordinate and the maximum Modified Mercalli Intensity rating associated with the epicenters at the coordinate. Also given in a table are the date, origin time, location in north latitude and west longitude, depth, hypocenter quality and referenced data sources, magnitude, and Modified Mercalli Intensity and intensity source references for epicenters.

**Limitations**
Epicenter locations are rounded off to the nearest tenth of a degree of latitude and longitude.

**Title of Map**
Seismicity Map of the State of Mississippi

**Author(s)**
C.W. Stover, B.G. Reagor and S.T. Algermissen

**Date Published**
1979

**Publication Number**
Miscellaneous Field Studies, Map MF-1058

**Map Coordinates**
Latitude: 30N-35N; Longitude: 88.25W-91.75W

**Map Scale**
1:1,000,000

**Map Sheet Size**
31H x 24W inches

**Intended Users**
General Public, Planners, Emergency Managers, Engineers Geologists, Geophysicists, Insurance Professionals

**Publisher/Contact Agency**
U.S. Geological Survey, Map Distribution, Box 25286, Federal Center, Denver, CO 80225

**Region Covered**
State of Mississippi
**Map Description**
Show locations of rock units and principal geologic structures. Also, shown are county and state borders, roads, railways, waterways, towns and cities.

**Limitations**
Scale not appropriate for site-specific applications.

<table>
<thead>
<tr>
<th>Title of Map</th>
<th>Geologic Map of Mississippi</th>
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<tbody>
<tr>
<td>Author(s)</td>
<td>Alvin R. Bicker, Jr.</td>
</tr>
<tr>
<td>Date Published</td>
<td>1969</td>
</tr>
<tr>
<td>Publication Number</td>
<td>Not Available</td>
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<td>Map Scale</td>
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<tr>
<td>Map Sheet Size</td>
<td>45.5H x 36W inches</td>
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<tr>
<td>Intended Users</td>
<td>Geologists, Geophysicists, Engineers, Planners, Insurance Professionals</td>
</tr>
</tbody>
</table>

**Publisher/Contact Agency**
Mississippi Department of Environmental Quality, Office of Geology, P.O. Box 20307, Jackson, MS 39289-1307

**Region Covered**
State of Mississippi
**Map Description**

This map gives the locations of anticlinal and synclinal features along with faults, salt domes, aeromagnetic contours, oil fields and gas fields.

**Limitations**

This is a generalized map with few cultural reference points; thus, site-specific applications are not appropriate.

---

**Title of Map**

Structural Features of Mississippi

**Author(s)**

Conrad A. Gazzier and Michael B.E. Bograd

**Date Published**

1988

**Publication Number**

Not Available

**Map Coordinates**

Latitude: 30N-35N; Longitude: 89.5W-91.4W

**Map Scale**

1:500,000

**Map Sheet Size**

46.5H x 29W inches

**Intended Users**

Geologists, Geophysicists, Engineers, Insurance Professionals

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**Region Covered**

State of Mississippi

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**Publisher/Contact Agency**

Mississippi Department of Environmental Quality, Office of Geology, P.O. Box 20307, Jackson, MS 39289-1307
Map Description
This map shows hypothetical maximum intensities by county that would result from a magnitude 6.7, 7.6 or 8.6 earthquake anywhere along the New Madrid seismic zone. The composite intensity map is believed to represent the upper level of shaking likely to occur in any county regardless of the location of the epicenter within the seismic zone. State and county boundaries are shown.

Limitations
This composite intensity map shows a more widespread distribution of effects than would result from a single earthquake of magnitude 6.7, 7.6 or 8.6 because the distribution of effects were plotted for magnitude 6.7, 7.6 or 8.6 earthquakes occurring anywhere from the northern to the southern end of the seismic zone. Thus, for an actual epicenter near the southern end of the seismic zone, intensities in the northern part of the map would be lower than shown and, similarly, for an epicenter near the northern part of the seismic zone, intensities in the southern part of the map would be lower than shown.

Title of Map
Projected Earthquake Intensities

Author(s)
Not Available

Date Published
Not Available

Publication Number
Not Available

Map Coordinates
Not Available

Map Scale
Not Available

Map Sheet Size
11H x 17W inches also available in 22H x 34W inches

Intended Users
Emergency Response Planners, Land Use Planners, Insurance Professionals

Publisher/Contact Agency
The Missouri State Emergency Management Agency, P.O. Box 116, Jefferson City, MO 65102

Region Covered
State of Missouri along with parts of Arkansas, Illinois, Indiana, Kansas, Nebraska, Kentucky, Oklahoma and Tennessee
Map Description
This map shows the locations of epicenters from 1812 to 1977, the number of earthquakes which occurred at each coordinate and the maximum Modified Mercalli intensity rating associated with the epicenters at the coordinate. Also given in a table are the date, origin time, epicentral location (north latitude, west longitude), depth, hypocenter quality and referenced data sources, magnitude, and Modified Mercalli intensity and intensity source references for epicenters.

Limitations
Epicenter locations are rounded off to the nearest tenth of a degree of latitude and longitude.

Title of Map
Seismicity Map of the State of Missouri

Author(s)
C.W. Stover, B.G. Reagor and S.T. Algermissen

Date Published
1979

Publication Number
Miscellaneous Field Studies, Map MF-1155

Map Coordinates
Latitude: 36N-40,N Longitude: 89W-95,8W

Map Scale
1:1,000,000

Map Sheet Size
39.5H x 41.5W inches

Intended Users
General Public, Planners, Emergency Managers, Engineers, Geologists, Geophysicists, Insurance Professionals

Region Covered
State of Missouri

Publisher/Contact Agency
U.S. Geological Survey, Map Distribution, Box 25286, Federal Center, Denver, CO 80225
Map Description
Generalized areas of severe liquefaction potential, moderate liquefaction potential, landslide potential and collapse potential. Also shows highways, waterways, railroads, pipelines, electric transmission lines, regulated and nonregulated dams, airports, river bridges, hospitals, power plants, municipalities, and county and state boundaries.

Limitations
The scale of the map has necessitated combining large areas of diverse character into single generalized units. Therefore, this map should not be used for site specific applications such as evaluating the earthquake hazard potential of an individual land parcel or building. The map provides information only on the potential for a particular hazard accompanying a large earthquake anywhere in or near the region. The map provides no information on the likely locations of future earthquakes or the areas that will be most strongly affected by these earthquakes.
Map Description
Generalized areas of liquefaction potential, soil amplification potential, landslide potential and ground collapse potential. Also shows highways, waterways, railroads, pipelines, electric transmission lines, regulated and nonregulated dams, airports, bridges, emergency facilities and county and state boundaries.

Limitations
The scale of the map has necessitated combining large areas of diverse character into single generalized units. Therefore, this map should not be used for site specific applications such as evaluating the earthquake hazard potential of an individual land parcel or building. The map gives information only on the potential for a particular hazard accompanying a large earthquake anywhere in or near the region. The map provides no information on the likely locations of future earthquakes or the areas that will be most strongly affected by these earthquakes.

Title of Map
Earthquake Hazards Map of the St. Louis, Missouri Metro Area

Author(s)
David Hoffman

Date Published
1995

Publication Number
Not Available

Map Coordinates
Latitude: 38N-39N; Longitude: 90W-91W

Map Scale
1:100,000

Map Sheet Size
59.5H x 34.5W inches

Intended Users
Emergency Response Planners, Land Use Planners, Engineers, Geologists, Insurance Professionals

Publisher/Contact Agency
Missouri Department of Natural Resources, Division of Geology and Land Survey, P.O. Box 250, Rolla, MO 65402 and Missouri State Emergency Management Agency, P.O. Box 116, Jefferson City, MO 65102

Region Covered
Missouri Counties: St. Louis and St. Louis City, St. Charles, Jefferson, Lincoln, Warren, Franklin, Washington, St. Francis and Ste. Genevieve
Map Description
Generalized areas of liquefaction potential, soil amplification potential, landslide potential and ground collapse potential. Also shows highways, waterways, railroads, electric transmission lines, pipelines, regulated and nonregulated dams, airports, bridges, emergency facilities and county and state boundaries.

Limitations
The scale of the map has necessitated combining large areas of diverse character into single generalized units. Therefore, this map should not be used for site specific applications such as evaluating the earthquake hazard potential of an individual land parcel or building. The map gives information only on the potential for a particular hazard accompanying a large earthquake anywhere in or near the region. The map gives no information on the likely locations of future earthquakes or the areas that will be most strongly affected by these earthquakes.

Title of Map
Earthquake Hazards Map of the Cape Girardeau Perryville Area, Missouri

Author(s)
David Hoffman

Date Published
1997

Publication Number
Not Available

Map Coordinates
Latitude: 37N-38N; Longitude: 89.125W-90W

Map Scale
1:100,000

Map Sheet Size
58.5H x 35.5W inches

Intended Users
Emergency Response Planners, Land Use Planners, Engineers, Geologists, Insurance Professionals

Publisher/Contact Agency
Missouri Department of Natural Resources, Division of Geology and Land Survey, P.O. Box 250, Rolla, MO 65402 and Missouri State Emergency Management Agency, P.O. Box 116, Jefferson City, MO 65102

Region Covered
Missouri counties: Bollinger, Cape Girardeau, Mississippi, Perry, Scott, Ste. Genevieve, Stoddard
Map Description
This map shows the bedrock geology of Missouri except where alluvium is very thick. Rock units are distinguished by type and age. Also shown are faults and the southern limit of glaciation. Other information includes state and county boundaries, cities and towns, railroads, roadways and waterways.

Limitations
This is a generalized map; thus, site-specific details may differ from those shown.

<table>
<thead>
<tr>
<th>Title of Map</th>
<th>Geologic Map of Missouri</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author(s)</td>
<td>Kenneth G. Anderson</td>
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<tr>
<td>Date Published</td>
<td>1979</td>
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<td>Publication Number</td>
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<td>Map Scale</td>
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<td>Map Sheet Size</td>
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<tr>
<td>Intended Users</td>
<td>Geologists, Geophysicists, Engineers, Planners, Insurance Professionals</td>
</tr>
</tbody>
</table>

Publisher/Contact Agency
Missouri Department of Natural Resources, Division of Geology and Land Survey, P.O. Box 250, Rolla, MO 65402

Region Covered
State of Missouri
Map Description
This map shows the locations of petroleum product pipelines and bulk terminals, electric transmission lines, electric power plants, past, present, and potential oil and gas fields, coal fields and mines, potential geothermal waters and speculative uranium resources. Other information includes state and county boundaries, cities and towns, railroads, roadways and waterways.

Limitations
Large scale limits use to general planning purposes.

Title of Map
Energy Resources and Facilities Map of Missouri

Author(s)
Not Available

Date Published
1982

Publication Number
Not Available

Map Coordinates
Not Available

Map Scale
1:500,000

Map Sheet Size
41H x 45W inches

Intended Users
Planners, Emergency Managers, Engineers, Geologists, Insurance Professionals

Publisher/Contact Agency
Missouri Department of Natural Resources, Division of Geology and Land Survey, P.O. Box 250, Rolla, MO 65402

Region Covered
State of Missouri
Map Description
This map shows bedrock geology, thick alluvium and mapped faults. Rock units are distinguished by type and age. Other information includes state and county boundaries, cities and towns, railroads, roadways and waterways.

Limitations
This is a moderately detailed map; however, site-specific details may differ from those shown.

Note: On the reproduced copy of the map, the map title has been cut off.

Title of Map
Geologic Map of St. Louis City and County, Missouri

Author(s)
K.G. Brill, Jr.

Date Published
1991

Publication Number
Open-File Map OFM-91-259-GI

Map Coordinates
Latitude: 38.38N-38.88N; Longitude: 90.13W-90.75W

Map Scale
1:62,500

Map Sheet Size
38H x 40W inches

Intended Users
Geologists, Geophysicists, Engineers, Planners, Insurance Professionals

Region Covered
The city of St. Louis and surrounding St. Louis County, MO

Publisher/Contact Agency
Missouri Department of Natural Resources, Division of Geology and Land Survey, P.O. Box 250, Rolla, MO 65402
UNDERGROUND COAL AND CLAY MINES IN THE CITY OF ST. LOUIS, MISSOURI

Map Description
This map shows mine entry locations, shaft locations and mined-out areas. Also shown are highways, roads, streets, bridges, railroads, high schools, hospitals and ground elevations. A description of all mines is included.

Limitations
Map compiled from old possibly incomplete records. Some mines may exist but are not shown on the map.

Title of Map
Underground Coal and Clay Mines in the City of St. Louis, Missouri

Author(s)
Mimi Garstang

Date Published
1987

Publication Number
Open File Map OFM-87-238-MR

Map Coordinates
Not Available

Map Scale
Not Available

Map Sheet Size
35H x 56W inches

Intended Users
Planners, Emergency Managers, Engineers, Geologists, Insurance Professionals

Publisher/Contact Agency
Missouri Department of Natural Resources, Division of Geology and Land Survey, P.O. Box 250, Rolla, MO 65402

Region Covered
The city of St. Louis and adjacent suburbs
Map Description
Shows the locations of epicenters from 1777 to 1983, the number of earthquakes which occurred at each coordinate and the maximum Modified Mercalli intensity rating associated with the epicenters at the coordinate. Also given in a table are the date, origin time, epicentral location (north latitude, west longitude), depth, hypocenter quality and referenced data sources, magnitude, and Modified Mercalli Intensity and intensity source references for epicenters.

Limitations
Epicenter locations are rounded off to the nearest tenth of a degree of latitude and longitude.

Title of Map
Seismicity Map of the State of Tennessee

Author(s)
C.W. Stover, B.G. Reagor and S.T. Algermissen

Date Published
1987

Publication Number
Miscellaneous Field Studies, Map MF-1157

Map Coordinates
Latitude: 35N-37N; Longitude: 81.5W-90W

Map Scale
1:1,000,000

Map Sheet Size
31.5H x 43.5W inches

Intended Users
General Public, Planners, Emergency Managers, Engineers, Geologists, Geophysicists, Insurance Professionals

Publisher/Contact Agency
U.S. Geological Survey, Map Distribution, Box 25286, Federal Center, Denver, CO 80225

Region Covered
State of Tennessee
Map Description
Shows earthquake, mass movement (landslide) karst (caves, sinkholes, springs, etc.) and flooding hazards for the State of Tennessee.

Limitations
This is a generalized map; thus, site specific details may differ from those shown.

Title of Map
Geologic Hazards Map of Tennessee

Author(s)
Robert A. Miller and Preston D. Sitterly

Date Published
1977

Publication Number
Environmental Geology Series No. 5

Map Coordinates
Not Available

Map Scale
Not Available

Map Sheet Size
24H x 52W inches

Intended Users
General Public, Planners, Emergency Managers, Engineers Geologists, Geophysicists, Insurance Professionals

Publisher/Contact Agency
Tennessee Department of Environment and Conservation, Division of Geology, Maps and Publications Sales Office, 401 Church Street, 13th Floor, Nashville, TN 37243-0445

Region Covered
State of Tennessee
## Map Description
Shows locations of rock units and principal geologic structures. Also shown are county and state borders, roads, railways, waterways, towns and cities.

## Limitations
This is a generalized map; thus, site specific details may differ from those shown.

<table>
<thead>
<tr>
<th>Title of Map</th>
<th>Geologic Map of Tennessee: East Sheet</th>
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<tbody>
<tr>
<td>Author(s)</td>
<td>William D. Hardeman, Robert A. Miller and George D. Swingle</td>
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<tr>
<td>Date Published</td>
<td>1966</td>
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<td>Publication Number</td>
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<td>Intended Users</td>
<td>Geologists, Geophysicists, Engineers, Planners, Insurance Professionals</td>
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</tbody>
</table>

**Publisher/Contact Agency**
Tennessee Department of Environment and Conservation, Division of Geology, Maps and Publications Sales Office, 401 Church Street, 13th Floor, Nashville, TN 37243-0445

**Region Covered**
Eastern Tennessee
**Map Description**
This map gives the locations of rock units and principal geologic structures. Also shown are county and state borders, roads, railways, waterways, towns and cities.

**Limitations**
This is a generalized map; thus, site specific details may differ from those shown.

<table>
<thead>
<tr>
<th>Title of Map</th>
<th>Geologic Map of Tennessee: East-Central Sheet</th>
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<tbody>
<tr>
<td>Author(s)</td>
<td>William D. Hardeman, Robert A. Miller, George D. Swingle, Edward T. Luther, Donald S. Fullerton, E. Ronald Sykes and R. Keith Garman</td>
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<tr>
<td>Date Published</td>
<td>1966</td>
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<td>Intended Users</td>
<td>Geologists, Geophysicists, Engineers, Planners, Insurance Professionals</td>
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</table>

**Publisher/Contact Agency**
Tennessee Department of Environment and Conservation, Division of Geology, Maps and Publications Sales Office, 401 Church Street, 13th Floor, Nashville, TN 37243-0445

**Region Covered**
East-Central Tennessee
Map Description
Shows locations of rock and alluvial units and principal geologic structures. Also shown are county and state borders, roads, railways, waterways, towns and cities.

Limitations
This is a generalized map; thus, site specific details may differ from those shown.

Title of Map
Geologic Map of Tennessee: West-Central Sheet

Author(s)
William D. Hardeman, Robert A. Miller, Donald S. Fullerton, C. Ronald Sykes and R. Keith Garman

Date Published
1966

Publication Number
Not Available

Map Coordinates
Latitude: 35N-36.6N; Longitude: 86W-88W

Map Scale
1:250,000

Map Sheet Size
49H x 31W inches

Intended Users
Geologists, Geophysicists, Engineers, Planners, Insurance Professionals

Publisher/Contact Agency
Tennessee Department of Environment and Conservation, Division of Geology, Maps and Publications Sales Office, 401 Church Street, 13th Floor, Nashville, TN 37243-0445

Region Covered
West-Central Tennessee
Map Description
Shows locations of rock and alluvial units and principal geologic structures. Also shown are county and state borders, roads, railways, waterways, towns and cities.

Limitations
This is a generalized map; thus, site specific details may differ from those shown.
Map Description
This map shows the locations of earthquake epicenters from 1974 through 1991. The base is a mosaic of false-color Landsat images. State boundaries are marked.

Limitations
Base map does not have cultural features plotted for reference.

Title of Map
Central United States Earthquakes

Author(s)
Not Available

Date Published
1993

Publication Number
Not Available

Map Coordinates
Not Available

Map Scale
1:1,000,000

Map Sheet Size
32H x 26W inches

Intended Users
General Public, Planners, Engineers, Geologists, Insurance Professionals

Publisher/Contact Agency
U.S. Geological Survey, Map Distribution, Box 25286, Federal Center, Denver, CO 80225

Region Covered
Southeast Missouri, Southern Illinois, Southwest Indiana, Western Kentucky, Western Tennessee, Northeastern Arkansas
Map Description
Map sheet consists of photographs from around the world showing the types of earthquake damage that could occur in the New Madrid area. In addition, earthquake survival tips and the seismic history of the New Madrid region are presented. No map is included.

Limitations
Damage photographs shown are not from the New Madrid area but show examples of the types of damage that could occur in the New Madrid area from a large earthquake.
PRELIMINARY SEISMOTECTONIC MAP OF THE CENTRAL MISSISSIPPI VALLEY AND ENVIRONS

Map Description
This map shows locations of earthquake epicenters, faults, and sandblow zones. Also shown are county and state borders, roads, railways, waterways, towns and cities.

Limitations
This is a generalized map; thus, site specific details may differ from those shown.

Title of Map
Preliminary Seismotectonic Map of the Central Mississippi Valley and Environs

Author(s)
A.V. Heyl and F.A. McKeown

Date Published
1978

Publication Number
Miscellaneous Field Studies, Map MF-1011, Sheet 1 of 2

Map Coordinates
Latitude: 35N-39N; Longitude: 87W-92W

Map Scale
1:250,000

Map Sheet Size
41H x 49W inches

Intended Users
Geologists, Geophysicists, Insurance Professionals

Region Covered
Southeast Missouri, Southern Illinois, Southwest Indiana, Western Kentucky, Western Tennessee, Northeastern Arkansas

Publisher/Contact Agency
U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225
MAP SHOWING SYNOPSIS OF SEISMOTECTONIC FEATURES IN THE VICINITY OF NEW MADRID, MISSOURI

Map Description
This is one of a series of seismotectonic maps of the New Madrid area in southeast Missouri and adjacent parts of Arkansas, Kentucky, and Tennessee whose purpose is to help assess the seismic hazards in the area. It shows geologic and geophysical information selected from other maps in the series to provide a framework of seismicity, its geologic effects, and local geologic structure. This map shows faults, drill holes, earthquake epicenters, areas of 1811-1812 sandblows, 1811-1812 energy release centers, lineaments from aerial photos and space imagery, generalized rock type distributions, river geomorphology anomalies and geologic structures inferred from geophysical data. Other information includes state and county boundaries, cities and towns, railroads, roadways and waterways.

Limitations
None

Title of Map
Map Showing Synopsis of Seismotectonic Features in the Vicinity of New Madrid, Missouri

Author(s)
Susan Rhea and Russell L. Wheeler

Date Published
1995

Publication Number
Miscellaneous Investigations Series, Map I-2521

Map Coordinates
Latitude: 35N-37N; Longitude: 89W-91W

Map Scale
1:250,000

Map Sheet Size
40H x 50W inches

Intended Users
Geologists, Geophysicists, Engineers, Insurance Professionals

Region Covered

Publisher/Contact Agency
U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225
SEISMOTECTONIC MAP FOLIO IN THE VICINITY OF NEW MADRID, MISSOURI, MAP SHOWING SEISMICITY AND SANDBLOWS IN THE VICINITY OF NEW MADRID, MISSOURI

Map Description
This is one of a series of five seismotectonic maps in the vicinity of the New Madrid seismic zone. The theme of this map is seismicity. It shows earthquake epicenters, selected focal mechanisms, maximum horizontal stress directions, seismic velocities, seismograph and accelerograph locations, and sand blow distribution from the 1811-1812 earthquakes. Other information includes state and county boundaries, cities and towns, railroads, roadways and waterways.

Limitations
None

Title of Map
Seismotectonic Map Folio in the Vicinity of New Madrid, Missouri, Map Showing Seismicity and Sandblows in the Vicinity of New Madrid, Missouri

Author(s)
Susan Rhea, Russell L. Wheeler and Arthur C. Tarr

Date Published
1994

Publication Number
Miscellaneous Field Studies Map MF-2264-A

Map Coordinates
Latitude: 35N-37N; Longitude: 89W-91W

Map Scale
1:250,000

Map Sheet Size
28.5H x 35W inches

Intended Users
Geologists, Geophysicists, Engineers, Insurance Professionals

Publisher/Contact Agency
U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225

Region Covered
Western Tennessee, Western Kentucky, Northeast Arkansas, Southeast Missouri
Map Description
This is one of a series of five seismotectonic maps in the vicinity of the New Madrid seismic zone. The theme of this map is crustal structure. It shows earthquake epicenters, and large structures inferred from gravity, aeromagnetic, seismic reflection, seismic refraction, and magnetotelluric data. Other information includes state and county boundaries, cities and towns, railroads, roadways and waterways.

Limitations
None

Title of Map
Seismotectonic Map Folio in the Vicinity of New Madrid, Missouri, Map Showing Large Structures Interpreted from Geophysical Data in the Vicinity of New Madrid, Missouri

Author(s)
Susan Rhea, Russell L. Wheeler

Date Published
1994

Publication Number
Miscellaneous Field Studies Map MF-2264-B

Map Coordinates
Latitude: 35N-37N; Longitude: 89W-91W

Map Scale
1:250,000

Map Sheet Size
28.5H x 35W inches

Intended Users
Geologists, Geophysicists, Insurance Professionals

Publisher/Contact Agency
U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225

Region Covered
Western Tennessee, Western Kentucky, Northeast Arkansas, Southeast Missouri
Map Description
This is one of a series of five seismotectonic maps in the vicinity of the New Madrid seismic zone. The theme of this map is geophysical surveys. It shows the locations of geophysical surveys that resulted in interpreted cross sections. Shown are lines of gravity, aeromagnetic, magnetotelluric, seismic reflection and seismic refraction surveys. Excluded are most of the petroleum industries' seismic reflection lines and also short, shallow, high resolution seismic reflection lines. Other information includes earthquake epicenters, state and county boundaries, cities and towns, railroads, roadways and waterways.

Limitations
None

Title of Map
Seismotectonic Map Folio in the Vicinity of New Madrid, Missouri, Map Showing Locations of Geophysical Survey and Modeling Lines in the Vicinity of New Madrid, Missouri

Author(s)
Susan Rhea and Russell L. Wheeler

Date Published
1994

Publication Number
Miscellaneous Field Studies Map MF-2264-C

Map Coordinates
Latitude: 35N-37N; Longitude: 89W-91W

Map Scale
1:250,000

Map Sheet Size
28.5H x 35W inches

Intended Users
Geologists, Geophysicists, Insurance Professionals

Publisher/Contact Agency
U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225

Region Covered
Western Tennessee, Western Kentucky, Northeast Arkansas, Southeast Missouri
**Map Description**
This is one of a series of five seismotectonic maps in the vicinity of the New Madrid seismic zone. The theme of this map is bedrock geology. It shows earthquake epicenters, geologic and subcrop contacts, structure contours, radon concentrations, selected wells, selected faults and arches, troughs and faulted boundaries of the Mississippi Valley graben. Other information includes state and county boundaries, cities and towns, railroads, roadways and waterways.

**Limitations**
None

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**Title of Map**
Seismotectonic Map Folio in the Vicinity of New Madrid, Missouri, Map Showing Structure of the Mississippi Valley Graben in the Vicinity of New Madrid, Missouri

**Author(s)**
Russell L. Wheeler, Susan Rhea and Richard L. Dart

**Date Published**
1994

**Publication Number**
Miscellaneous Field Studies Map MF-2264-D

**Map Coordinates**
Latitude: 35N-37N; Longitude: 89W-91W

**Map Scale**
1:250,000

**Map Sheet Size**
28.5H x 35W inches

**Intended Users**
Geologists, Geophysicists, Engineers, Insurance Professionals

**Region Covered**
Western Tennessee, Western Kentucky, Northeast Arkansas, Southeast Missouri

**Publisher/Contact Agency**
U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225
Map Description
This is one of a series of five seismotectonic maps in the vicinity of the New Madrid seismic zone. The focus of this map is earthquake effects from the 1811-1812 earthquakes and possibly previous earthquakes. It shows earthquake epicenters, Global Positioning System stations, river morphology anomalies, ground water hydrology anomalies, liquefaction study sites, probable 1811-1812 landslides, 1811-1812 energy release centers, sand blow density distributions and lineaments mapped from aerial photographs and satellite imagery. Other information includes state and county boundaries, cities and towns, railroads, roadways and waterways.

Limitations
None

Title of Map
Seismotectonic Map Folio in the Vicinity of New Madrid, Missouri, Map Showing Surficial and Hydrologic Features in the Vicinity of New Madrid, Missouri

Author(s)
Russell L. Wheeler and Susan Rhea

Date Published
1994

Publication Number
Miscellaneous Field Studies Map MF-2264-E

Map Coordinates
Latitude: 35N-37N; Longitude: 89W-91W

Map Scale
1:250,000

Map Sheet Size
28.5H x 35W inches

Intended Users
Geologists, Geophysicists, Engineers, Insurance Professionals

Publisher/Contact Agency
U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225

Region Covered
Western Tennessee, Western Kentucky, Northeast Arkansas, Southeast Missouri
Map Description
This map shows sand blow distribution and intensity on alluvium of the St. Francis Basin, relative difficulty of identifying sand blows and fissures in alluvium of the St. Francis Basin, principal inferred faults and fault zones beneath the alluvium and major geologic and geographic features in late Quaternary alluvium. Also shown are roads, towns, county and state boundaries, rivers and topographic contours.

Limitations
Not for detailed, site-specific use.
Map Description
This map shows locations of fissures longer than 0.8 km induced by earthquake shaking in alluvium of the St. Francis Basin. These fissures are presumed to be caused by the 1811-12 earthquakes. Also shown are roads, towns, county and state boundaries, rivers and topographic contours.

Limitations
Not for detailed, site-specific use.

Title of Map
Fissures Longer than 0.8 KM, St. Francis Basin

Author(s)
Stephen F. Obermeier

Date Published
1989

Publication Number
Professional Paper 1336-B, PLATE 2

Map Coordinates
Latitude: 35N-37.25N; Longitude: 89W-91.5W

Map Scale
1:500,000

Map Sheet Size
27H x 24W inches

Intended Users
Geologists, Engineers, Emergency Managers, Insurance Professionals

Publisher/Contact Agency
U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225

Region Covered
Western Tennessee, Western Kentucky, Northeast Arkansas, Southeast Missouri
Map Description
Numbers on the map show the locations of engineering boring logs that have Standard Penetration Test blow counts on course-grained alluvium, field evaluation of soil classification and information regarding sediment layering. The map also shows boundaries of ten regions compared in this report for evaluation of engineering and geologic factors relevant to sand blow development. Also shown are roads, towns, county and state boundaries, rivers and topographic contours.

Limitations
Not for detailed, site-specific use.

Title of Map
Geologic Regions Compared for Susceptibility to Sand Blow Development and Boring Locations

Author(s)
Stephen F. Obermeier

Date Published
1989

Publication Number
Professional Paper 1336-B, PLATE 3

Map Coordinates
Latitude: 35N-37.25N; Longitude: 89W-91.5W

Map Scale
1:500,000

Map Sheet Size
27H x 24W inches

Intended Users
Geologists, Engineers, Insurance Professionals

Publisher/Contact Agency
U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225

Region Covered
Western Tennessee, Western Kentucky, Northeast Arkansas, Southeast Missouri
Map Description
This map shows areas of approximate regional development of sand blow intensity in the St. Francis Basin. Boundaries were determined by using old (vintage 1938-41) and modern aerial photographs, field observations, sand blow distribution maps by Fuller (1912), soil survey maps and other data.

Limitations
Not for detailed, site-specific use. At many places the boundaries are approximate and at other places it is impossible to delineate boundaries.
**Title of Map**
Modern Epicenters, Sand Blows, and Possible Energy Centers, December 16, 1811 and February 7, 1812 Earthquakes

**Author(s)**
Stephen F. Obermeier

**Date Published**
1989

**Publication Number**
Professional Paper 1336-B, PLATE 11

**Map Coordinates**
Latitude: 35N-37.25N; Longitude: 89W-91.5W

**Map Scale**
1:500,000

**Map Sheet Size**
27H x 24W inches

**Intended Users**
Geologists, Geophysicists, Engineers, Insurance Professionals

**Publisher/Contact Agency**
U.S. Geological Survey Map Distribution,
Box 25286, Federal Center, Denver, CO 80225

**Region Covered**
Western Tennessee, Western Kentucky, Northeast Arkansas, Southeast Missouri

---

**Map Description**
This map shows the relations of modern epicenters, sand blow development, and possible energy centers for the December 16, 1811 and February 7, 1812 earthquakes. Also shown are roads, towns, county and state boundaries, rivers and topographic contours.

**Limitations**
Not for detailed, site-specific use.
Map Description
This map shows the reported maximum Modified Mercalli Intensities of historic earthquakes in the map region. Dates and maximum intensities at reporting sites are shown. The base is a shaded relief map and all state and county boundaries, rivers, lakes, roads and highways are shown. Three smaller accompanying maps on the same sheet show the estimated cumulative number of historical shakings of at least Modified Mercalli Intensity VI, VII, or VIII.

Limitations
None

Title of Map
Map Showing Earthquake Intensities in the Vicinity of the Lower Wabash Valley, Illinois, Indiana, and Kentucky

Author(s)
Susan Rhea, Russell L. Wheeler and Margaret G. Hopper

Date Published
1996

Publication Number
Geologic Investigations Map I-2583-B

Map Coordinates
Latitude: 36.5N-39N; Longitude: 87W-89W

Map Scale
1:250,000

Map Sheet Size
50H x 40W inches

Intended Users
Geologists, Geophysicists, Engineers, Insurance Professionals

Publisher/Contact Agency
U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225

Region Covered
Southeast Illinois, Southwest Indiana, Northwest Kentucky
Map Description
This earthquake hazards map shows areas of higher and lower potential for enhanced shaking of geologic materials (including bedrock) or liquefaction of loose surficial deposits (soils). The areas were defined on the basis of bedrock geology and sediments in the uppermost 50 feet. The map also shows selected oil and gas products pipelines, petrochemical plants, refineries, pipeline terminals, state capitolis and epicenters of historical earthquakes with epicentral intensities greater than Modified Mercalli Intensity VI.

Limitations
The mapping of shaking potential areas is very general, and therefore this map is not appropriate for site-specific use.

Title of Map
Earthquake Hazards Map Showing Areas of Relative Potential for Shaking and/or Liquefaction

Author(s)

Date Published
1995

Publication Number
Not Available

Map Coordinates
Not Available

Map Scale
1:2,000,000

Map Sheet Size
35.5H x 25.5W inches

Intended Users
Emergency Managers, Planners, Elected Officials, Engineers, Geologists, Insurance Professionals

Region Covered
The States of Missouri, Illinois, Indiana, Kentucky, Tennessee, Mississippi, Arkansas

Publisher/Contact Agency
Central United States Earthquake Consortium Organization of State Geologist, c/o Department of Natural Resources, Illinois State Geological Survey, Natural Resources Building, 615 East Peabody Drive, Champaign, IL 61820-6964
Map Description
This map shows hypothetical maximum intensities by county that would result from a magnitude 8.6, maximum intensity XI, earthquake anywhere along the New Madrid seismic zone. The composite intensity map is believed to represent the upper level of shaking likely to occur in any county regardless of the location of the epicenter within the seismic zone. State and county boundaries are shown.

Limitations
This composite intensity map shows a more widespread distribution of effects than would result from a single earthquake of magnitude 8.6, because the distribution of effects were plotted for magnitude 8.6 earthquakes that could occur anywhere from the northern to the southern end of the seismic zone. Thus, for an actual epicenter near the southern end of the seismic zone, intensities in the northern part of the map would be lower than shown; and similarly for an epicenter near the northern part of the seismic zone, intensities in the southern part of the map would be lower than shown. Although each county is shown as all one intensity, the variation in intensity across a county can be substantial.

Title of Map
Estimated Maximum Regional Seismic Intensities Associated With an Ensemble of Great Earthquakes That Might Occur Along the New Madrid Seismic Zone, East-Central United States

Author(s)
S.T. Algermissen and Margaret G. Hopper

Date Published
1984

Publication Number
Miscellaneous Field Studies Map MF-1712

Map Coordinates
Latitude: 25N-49N; Longitude: 80W-95W

Map Scale
Not Available

Map Sheet Size
16.8H x 20W inches

Intended Users
Emergency Response Planners, Land Use Planners, Geologist, Engineers, Insurance Professionals

Region Covered
Louisiana, Arkansas, Missouri, Iowa, Illinois, Indiana, Ohio, West Virginia, Kentucky, Tennessee, South Carolina, Georgia, Alabama and Mississippi. Parts of Texas, Oklahoma, Kansas, Nebraska, Minnesota, Wisconsin, Michigan, Pennsylvania, New York, Virginia, North Carolina and Florida are also shown.

Publisher/Contact Agency
U.S. Geological Survey Map Distribution, Box 25286, Federal Center, Denver, CO 80225
GREAT EARTHQUAKE MOTION INTENSITY MAP FOR USE WITH CLUSEIS - RICHTER MAGNITUDES, Ms=8.0 to 8.9 ORIGINATING IN THE NEW MADRID SEISMIC ZONE

Map Description
This map shows hypothetical maximum intensities by county that would result from a magnitude 8.0-8.9 earthquake anywhere along the New Madrid seismic zone. The composite intensity map is believed to represent the upper level of shaking likely to occur in any county regardless of the location of the epicenter within the seismic zone. State and county boundaries are shown.

Limitations
This composite intensity map shows a more widespread distribution of effects than would result from a single earthquake of magnitude 8.0-8.9 because the distribution of effects were plotted for magnitude 8.0-8.9 earthquakes occurring anywhere from the northern to the southern end of the seismic zone. Thus, for an actual epicenter near the southern end of the seismic zone, intensities in the northern part of the map would be lower than shown and, similarly, for an epicenter near the northern part of the seismic zone, intensities in the southern part of the map would be lower than shown. Although each county is shown as all one intensity, the variation in intensity across a county can be substantial.

Title of Map
Great Earthquake Motion Intensity Map for Use With CLUSEIS—Richter Magnitudes, Ms=8.0 to 8.9 Originating in the New Madrid Seismic Zone

Author(s)
Not Available

Date Published
1994 (Third Printing)

Publication Number
Damages and Losses From Future New Madrid Earthquakes: A Central U.S. Earthquake Intensity Scale, "CUEREIS," for Pre-Earthquake Planning

Map Coordinates
Latitude: 27N-44N; Longitude: 80W-95W

Map Scale
1:9,000,000 (Estimated)

Map Sheet Size
20H x 16W inches

Intended Users
Emergency Response Planners, Land Use Planners, Insurance Professionals

Region Covered
All of the States of Louisiana, Arkansas, Missouri, Iowa, Illinois, Indiana, Ohio, West Virginia, Kentucky, Tennessee, South Carolina, Georgia, Alabama and Mississippi. Parts of Texas, Oklahoma, Kansas, Nebraska, South Dakota, Minnesota, Wisconsin, Michigan, Pennsylvania, New York, Maryland, Virginia, North Carolina and Florida are also included.

Publisher/Contact Agency
Center for Earthquake Studies, Southeast Missouri State University, On University Plaza, Cape Girardeau, MO 63701
MAJOR EARTHQUAKE MOTION INTENSITY MAP FOR USE WITH CLUSEIS - RICHTER MAGNITUDES, MS=7.0 to 7.9 ORIGINATING IN THE NEW MADRID SEISMIC ZONE

Map Description
This map shows hypothetical maximum intensities by county that would result from a magnitude 7.0-7.9 earthquake anywhere along the New Madrid seismic zone. The composite intensity map is believed to represent the upper level of shaking likely to occur in any county regardless of the location of the epicenter within the seismic zone. State and county boundaries are shown.

Limitations
This composite intensity map shows a more widespread distribution of effects than would result from a single earthquake of magnitude 7.0-7.9 because the distribution of effects were plotted for magnitude 7.0-7.9 earthquakes occurring anywhere from the northern to the southern end of the seismic zone. Thus, for an actual epicenter near the southern end of the seismic zone, intensities in the northern part of the map would be lower than shown and, similarly, for an epicenter near the northern part of the seismic zone, intensities in the southern part of the map would be lower than shown. Although each county is shown as all one intensity, the variation in intensity across a county can be substantial.

Title of Map
Major Earthquake Motion Intensity Map for Use with CUSEIS—Richter Magnitudes, Ms=7.0 to 7.9 Originating in the New Madrid Seismic Zone

Author(s)
Not Available

Date Published
1994 (Third Printing)

Publication Number

Publication Description
Damages and Losses From Future New Madrid Earthquakes: A Central U.S. Earthquake Intensity Scale, "CUSEIS," for Pre-Earthquake Planning

Map Coordinates
Latitude: 27N-44N; Longitude: 80W-95W

Map Scale
1:9,000,000 (Estimated)

Map Sheet Size
20H x 16W inches

Intended Users
Emergency Response Planners, Land Use Planners, Insurance Professionals

Region Covered
All of the States of Louisiana, Arkansas, Missouri, Iowa, Illinois, Indiana, Ohio, West Virginia, Kentucky, Tennessee, South Carolina, Georgia, Alabama and Mississippi. Parts of Texas, Oklahoma, Kansas, Nebraska, South Dakota, Minnesota, Wisconsin, Michigan, Pennsylvania, New York, Maryland, Virginia, North Carolina and Florida are also included.

Publisher/Contact Agency
Center for Earthquake Studies, Southeast Missouri State University, One University Plaza, Cape Girardeau, MO 63701
**Map Description**

This map shows hypothetical maximum intensities by county that would result from a magnitude 6.0-6.9 earthquake anywhere along the New Madrid seismic zone. The composite intensity map is believed to represent the upper level of shaking likely to occur in any county regardless of the location of the epicenter within the seismic zone. State and county boundaries are shown.

**Limitations**

This composite intensity map shows a more widespread distribution of effects than would result from a single earthquake of magnitude 6.0-6.9 because the distribution of effects were plotted for magnitude 6.0-6.9 earthquakes occurring anywhere from the northern to the southern end of the seismic zone. Thus, for an actual epicenter near the southern end of the seismic zone, intensities in the northern part of the map would be lower than shown and, similarly, for an epicenter near the northern part of the seismic zone, intensities in the southern part of the map would be lower than shown. Although each county is shown as all one intensity, the variation in intensity across a county can be substantial.

<table>
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<tr>
<th><strong>Title of Map</strong></th>
<th>Strong Earthquake Motion Intensity Map for Use with CUSEIS—Richer Magnitudes, Ms=6.0 to 6.9 Originating in the New Madrid Seismic Zone</th>
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<td><strong>Intended Users</strong></td>
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</tr>
</tbody>
</table>

**Region Covered**

All of the States of Louisiana, Arkansas, Missouri, Iowa, Illinois, Indiana, Ohio, West Virginia, Kentucky, Tennessee, South Carolina, Georgia, Alabama and Mississippi. Parts of Texas, Oklahoma, Kansas, Nebraska, South Dakota, Minnesota, Wisconsin, Michigan, Pennsylvania, New York, Maryland, Virginia, North Carolina and Florida are also included.

**Publisher/Contact Agency**

Center for Earthquake Studies, Southeast Missouri State University, One University Plaza, Cape Girardeau, MO 63701
**Map Description**

This map shows earthquake ground accelerations having 10 percent probability of being exceeded in 50 years for a firm rock site condition. This map is based on seismicity and fault-slip rates and takes into account the frequency of occurrence of earthquakes of various magnitude.

**Limitations**

Locally, hazard may be greater than that shown because site geology may amplify ground motions.

<table>
<thead>
<tr>
<th><strong>Title of Map</strong></th>
<th>Ground-Shaking Hazards from Earthquakes in the Contiguous United States</th>
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<td>Emergency Response Planners, Land Use Planners, Insurance Professionals</td>
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</tbody>
</table>

**Publisher/Contact Agency**

U.S. Geological Survey Map Distribution, Box 25286, Federal Center, CO 80225

**Region Covered**

48 Contiguous States