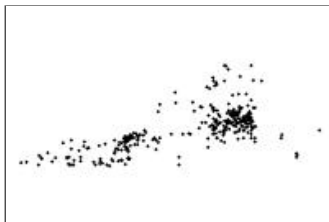


Epicenters

File Geodatabase Feature Class



Tags

epicenter, earthquake, Virginia, environment, geoscientificInformation, society

Summary

This dataset was created to catalog the locations of historic and modern earthquake epicenters from 1774 to the present. The epicenter locations were also used to identify areas of greater seismic activity in Virginia.

Description

The point locations of historic and modern earthquake epicenters from 1774 to the present. The dataset includes basic information about each earthquake including the date and time, magnitude, and source catalogs where the information was derived.

Credits

This digital data is the result of a three-year project funded by the Federal Emergency Management Agency (FEMA) through the Virginia Department of Emergency Management (VDEM) and by the Virginia Department of Mines, Minerals, and Energy (VDMME) via Grant Agreement Number HMGP-DR-4042-000-014 for \$548,969. The primary authors are Anne C. Witt, Wendy S. Kelly, and Matthew J. Heller from VDMME - Division of Geology and Mineral Resources (DGMR). Martin Chapman and Bill Henika of Virginia Tech and Chuck Bailey of the College of William and Mary served as consultants on this project and assisted with project design, the collection of earthquake and fault information, and the review of the final deliverable products. Mike Enomoto, Marques Hatfield, William Swanger, Marcie Occhi, and Aaron Cross of DGMR completed specific tasks for the project. Amy Howard of VDEM served as grant coordinator.

Use limitations

All users of this electronic data set must read and fully comprehend the metadata prior to use. All electronic and/or hardcopy products (maps, data, and text, etc.) produced by the Virginia Department of Mines, Minerals and Energy - Division of Geology and Mineral Resources and are considered public information (unless otherwise noted) and may be distributed or copied. When using, distributing or copying this data set as a source, the Originator must be acknowledged. These products are intended to serve for general planning purposes only and are provided on an "as is" basis. This data set shall not be used beyond the limits of the set source scale. This data set does not represent a survey document completed by a licensed land surveyor and should not be utilized as such.

Extent

West -83.564000 **East** -75.700000
North 39.200000 **South** 36.568000

Scale Range

There is no scale range for this item.

ArcGIS Metadata ►

Topics and Keywords ►

THEMES OR CATEGORIES OF THE RESOURCE environment, geoscientificInformation, society

* CONTENT TYPE Downloadable Data

PLACE KEYWORDS Virginia

THEME KEYWORDS epicenter, earthquake

THEME KEYWORDS environment, geoscientificInformation, society

THESAURUS ►

TITLE ISO 19115 Topic Categories

[Hide Thesaurus ▲](#)[Hide Topics and Keywords ▲](#)

Citation ►

*** TITLE** Epicenters**PUBLICATION DATE** 2017-03-31**PRESENTATION FORMATS** digital map**FGDC GEOSPATIAL PRESENTATION FORMAT** vector digital data[Hide Citation ▲](#)

Citation Contacts ►

RESPONSIBLE PARTY**ORGANIZATION'S NAME** Anne Carter Witt, Virginia Department of Mines, Minerals, and Energy, Geologist**CONTACT'S ROLE** originator[Hide Citation Contacts ▲](#)

Resource Details ►

DATASET LANGUAGES English (UNITED STATES)**STATUS** completed**SPATIAL REPRESENTATION TYPE** vector*** PROCESSING ENVIRONMENT** Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.2.2.3552

CREDITS

This digital data is the result of a three-year project funded by the Federal Emergency Management Agency (FEMA) through the Virginia Department of Emergency Management (VDEM) and by the Virginia Department of Mines, Minerals, and Energy (VDMME) via Grant Agreement Number HMGP-DR-4042-000-014 for \$548,969. The primary authors are Anne C. Witt, Wendy S. Kelly, and Matthew J. Heller from VDMME - Division of Geology and Mineral Resources (DGMR). Martin Chapman and Bill Henika of Virginia Tech and Chuck Bailey of the College of William and Mary served as consultants on this project and assisted with project design, the collection of earthquake and fault information, and the review of the final deliverable products. Mike Enomoto, Marques Hatfield, William Swanger, Marcie Occhi, and Aaron Cross of DGMR completed specific tasks for the project. Amy Howard of VDEM served as grant coordinator.

ARCGIS ITEM PROPERTIES

*** NAME** Epicenters*** LOCATION** file:///wdb01513

\dgm\PROJECTS\MAPPING\Earthquake\Final_Deliverables\GIS_Data\Planners_Deliverables\Fault_Geodatabase_Planners.gdb

*** ACCESS PROTOCOL** Local Area Network[Hide Resource Details ▲](#)

Extents ►

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

WEST LONGITUDE -83.564**EAST LONGITUDE** -75.7**SOUTH LATITUDE** 36.568**NORTH LATITUDE** 39.2

EXTENT

DESCRIPTION

This dataset includes epicenters from 1774 to the present.

TEMPORAL EXTENT

DATE AND TIME 2017-04-17

EXTENT

GEOGRAPHIC EXTENT

BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching*** WEST LONGITUDE** -83.564000

* EAST LONGITUDE -75.700000
 * NORTH LATITUDE 39.200000
 * SOUTH LATITUDE 36.568000
 * EXTENT CONTAINS THE RESOURCE Yes

EXTENT IN THE ITEM'S COORDINATE SYSTEM

* WEST LONGITUDE -83.564000
 * EAST LONGITUDE -75.700000
 * SOUTH LATITUDE 36.568000
 * NORTH LATITUDE 39.200000
 * EXTENT CONTAINS THE RESOURCE Yes

[Hide Extents ▲](#)

Resource Points of Contact ►

POINT OF CONTACT

INDIVIDUAL'S NAME Anne Carter Witt
 ORGANIZATION'S NAME Virginia Department of Mines, Minerals, and Energy
 CONTACT'S POSITION Geologist
 CONTACT'S ROLE point of contact

CONTACT INFORMATION ►

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 CITY Charlottesville
 ADMINISTRATIVE AREA VA
 POSTAL CODE 22903
 E-MAIL ADDRESS anne.witt@dmme.virginia.gov

[Hide Contact information ▲](#)

[Hide Resource Points of Contact ▲](#)

Resource Maintenance ►

RESOURCE MAINTENANCE

UPDATE FREQUENCY not planned

[Hide Resource Maintenance ▲](#)

Resource Constraints ►

LEGAL CONSTRAINTS

LIMITATIONS OF USE

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CONSTRAINTS

LIMITATIONS OF USE

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[Hide Resource Constraints ▲](#)

Spatial Reference ►

ARCGIS COORDINATE SYSTEM

```

* TYPE Geographic
* GEOGRAPHIC COORDINATE REFERENCE GCS_WGS_1984
* COORDINATE REFERENCE DETAILS
  GEOGRAPHIC COORDINATE SYSTEM
    WELL-KNOWN IDENTIFIER 4326
    X ORIGIN -400
    Y ORIGIN -400
    XY SCALE 999999999.99999988
    Z ORIGIN -100000
    Z SCALE 10000
    M ORIGIN -100000
    M SCALE 10000
    XY TOLERANCE 8.983152841195215e-009
    Z TOLERANCE 0.001
    M TOLERANCE 0.001
    HIGH PRECISION true
    LEFT LONGITUDE -180
    LATEST WELL-KNOWN IDENTIFIER 4326
    WELL-KNOWN TEXT GEOGCS["GCS_WGS_1984",DATUM["D_WGS_1984",SPHEROID
["WGS_1984",6378137.0,298.257223563]],PRIMEM["Greenwich",0.0],UNIT
["Degree",0.0174532925199433],AUTHORITY["EPSG",4326]]

```

REFERENCE SYSTEM IDENTIFIER

```

* VALUE 4326
* CODESPACE EPSG
* VERSION 8.2.6

```

[Hide Spatial Reference ▲](#)

Spatial Data Properties ►

VECTOR ►

```

* LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

```

GEOMETRIC OBJECTS

```

FEATURE CLASS NAME Epicenters
* OBJECT TYPE point
* OBJECT COUNT 476

```

[Hide Vector ▲](#)

ARCGIS FEATURE CLASS PROPERTIES ►

```

FEATURE CLASS NAME Epicenters
* FEATURE TYPE Simple
* GEOMETRY TYPE Point
* HAS TOPOLOGY FALSE
* FEATURE COUNT 476
* SPATIAL INDEX TRUE
* LINEAR REFERENCING FALSE

```

[Hide ArcGIS Feature Class Properties ▲](#)

[Hide Spatial Data Properties ▲](#)

Data Quality ►

SCOPE OF QUALITY INFORMATION ►

```

RESOURCE LEVEL dataset

```

[Hide Scope of quality information ▲](#)

DATA QUALITY REPORT - CONCEPTUAL CONSISTENCY ►

MEASURE DESCRIPTION

Each epicenter has an attribute describing the quality of the location data in a field called "Location_Quality". This field describes whether the latitude and longitude location was derived based on seismometers (precise) or if the location is only as accurate as the reported town (approximate) or region (arbitrary).

[Hide Data quality report - Conceptual consistency ▲](#)

DATA QUALITY REPORT - COMPLETENESS OMISSION ►

MEASURE DESCRIPTION

The each earthquake location and the associated attribute information is as accurate as possible based on the catalog from which it was derived.

[Hide Data quality report - Completeness omission ▲](#)

[Hide Data Quality ▲](#)

Lineage ►

PROCESS STEP ►

WHEN THE PROCESS OCCURRED 2017-03-31

DESCRIPTION

The final version of the epicenter catalog was converted from an Excel spreadsheet to a point feature class using the Latitude and Longitude fields.

PROCESS CONTACT

INDIVIDUAL'S NAME Anne Carter Witt
 ORGANIZATION'S NAME Virginia Department of Mines, Minerals, and Energy
 CONTACT'S POSITION Geologist
 CONTACT'S ROLE processor

CONTACT INFORMATION ►

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VOICE 434-951-6341

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[Hide Contact information ▲](#)

[Hide Process step ▲](#)

PROCESS STEP ►

WHEN THE PROCESS OCCURRED 2016-01-01

DESCRIPTION

The initial compilation of earthquakes contained approximately 360 modern earthquakes and 200 historic earthquakes. Modern earthquakes are those that were instrumentally recorded by a seismograph. Following review of the data, approximately 85 events were removed. The most common reasons for removal were: 1) the epicenter was determined to be outside Virginia, 2) the event was determined to be mining-related or have another anthropogenic cause, 3) the event was determined be a duplicate of an existing event, or 4) insufficient data on location, or date.

PROCESS CONTACT

INDIVIDUAL'S NAME Wendy Kelly
 ORGANIZATION'S NAME Virginia Department of Mines, Minerals, and Energy
 CONTACT'S POSITION Geologist
 CONTACT'S ROLE processor

CONTACT INFORMATION ►

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 POSTAL CODE 22903
 E-MAIL ADDRESS anne.witt@dmme.virginia.gov

[Hide Contact information ▲](#)

[Hide Process step ▲](#)

PROCESS STEP ►

WHEN THE PROCESS OCCURRED 2016-01-01

DESCRIPTION

DGMR compiled earthquakes from a number of academic and governmental seismic catalogs.

PROCESS CONTACT

INDIVIDUAL'S NAME Wendy Kelly

ORGANIZATION'S NAME Virginia Department of Mines, Minerals, and Energy

CONTACT'S POSITION Geologist

CONTACT'S ROLE processor

CONTACT INFORMATION ►

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[Hide Contact information ▲](#)

[Hide Process step ▲](#)

PROCESS STEP ►

WHEN THE PROCESS OCCURRED 2016-01-01

DESCRIPTION

In addition to the seismic catalogs listed above, DGMR also located and reviewed reports of historical earthquakes that occurred between 1774 and the late 1970s. Many of these events are described in existing compilations of historic earthquakes (e.g. Bollinger, 1969, 1971, 1975; Bollinger and Hopper, 1972; Hopper and Bollinger, 1971; MacCarthy, 1974). In addition, DGMR obtained an online account to Newspapers.com, reviewed hundreds of newspaper articles, and identified more than 180 newspaper articles that provided additional details about historical earthquakes in Virginia.

PROCESS CONTACT

INDIVIDUAL'S NAME Wendy Kelly

ORGANIZATION'S NAME Virginia Department of Mines, Minerals, and Energy

CONTACT'S POSITION Geologist

CONTACT'S ROLE processor

CONTACT INFORMATION ►

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POSTAL CODE 22903

E-MAIL ADDRESS anne.witt@dmme.virginia.gov

[Hide Contact information ▲](#)

[Hide Process step ▲](#)

[Hide Lineage ▲](#)

Geoprocessing history ▼**Distribution ►****DISTRIBUTOR ►****CONTACT INFORMATION**

INDIVIDUAL'S NAME Anne Carter Witt
 ORGANIZATION'S NAME Virginia Department of Mines, Minerals, and Energy
 CONTACT'S POSITION Geologist
 CONTACT'S ROLE distributor

CONTACT INFORMATION ►**PHONE**

VOICE 434-951-6341

ADDRESS

TYPE both
 DELIVERY POINT 900 Natural Resources Drive, Suite 500
 CITY Charlottesville
 ADMINISTRATIVE AREA VA
 POSTAL CODE 22903
 E-MAIL ADDRESS anne.witt@dmme.virginia.gov

Hide Contact information ▲

ORDERING PROCESS

TERMS AND FEES None
 DATE OF AVAILABILITY 2017-03-31
 INSTRUCTIONS

Data is available by internet download or by contacting the distributor directly.

Hide Distributor ▲

DISTRIBUTION FORMAT

* NAME File Geodatabase Feature Class

Hide Distribution ▲

Fields ►**DETAILS FOR OBJECT [Epicenters ►](#)**

* TYPE Feature Class
 * ROW COUNT 476

DEFINITION

The point on the Earth's surface that is directly above the earthquake focus.

DEFINITION SOURCE

Jackson, 1997

FIELD [OBJECTID ►](#)

* ALIAS OBJECTID
 * DATA TYPE OID
 * WIDTH 4
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Internal feature number.

DESCRIPTION SOURCE

Esri

DESCRIPTION OF VALUES

Sequential unique whole numbers that are automatically generated.

Hide Field OBJECTID ▲

FIELD SHAPE ►

* ALIAS Shape
 * DATA TYPE Geometry
 * WIDTH 0
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Feature geometry.

DESCRIPTION SOURCE

Esri

DESCRIPTION OF VALUES

Coordinates defining the features.

Hide Field SHAPE ▲

FIELD Date ►

* ALIAS Date
 * DATA TYPE Date
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

The date when the earthquake occurred.

DESCRIPTION SOURCE

None

DESCRIPTION OF VALUES

The date when the earthquake occurred.

Hide Field Date ▲

FIELD Year ►

* ALIAS Year
 * DATA TYPE Integer
 * WIDTH 4
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

The year in which the earthquake occurred.

DESCRIPTION SOURCE

None

DESCRIPTION OF VALUES

The year in which the earthquake occurred.

Hide Field Year ▲

FIELD Time_Military ►

* ALIAS Time_military
 * DATA TYPE String
 * WIDTH 10
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

The approximate time of the earthquake reported in 24-hour military time.

DESCRIPTION SOURCE

None

DESCRIPTION OF VALUES

The approximate time of the earthquake reported in 24-hour military time.

[Hide Field Time_Military ▲](#)

FIELD Time_Local ►

* ALIAS Time_Local
 * DATA TYPE String
 * WIDTH 10
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

The approximate time of the earthquake in local (Eastern-Standard) time.

DESCRIPTION SOURCE

None

DESCRIPTION OF VALUES

The approximate time of the earthquake in local (Eastern-Standard) time.

[Hide Field Time_Local ▲](#)

FIELD Latitude ►

* ALIAS Latitude
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

The latitude of the earthquake in decimal degrees.

DESCRIPTION SOURCE

None

DESCRIPTION OF VALUES

The latitude of the earthquake in decimal degrees.

[Hide Field Latitude ▲](#)

FIELD Longitude ►

* ALIAS Longitude
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

The longitude of the earthquake in decimal degrees.

DESCRIPTION SOURCE

None

DESCRIPTION OF VALUES

The longitude of the earthquake in decimal degrees.

[Hide Field Longitude ▲](#)

FIELD Location_Quality ►

* ALIAS Location_Quality
 * DATA TYPE String
 * WIDTH 20
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

The quality of the earthquake location data based on the data source. For older earthquakes, the location is not precise and is based on where earthquake shaking was most acutely felt and reported. For instrumentally located earthquakes, the location quality will be more precise.

DESCRIPTION SOURCE
DMME

LIST OF VALUES

VALUE Precise

DESCRIPTION The earthquake location is accurate to within a few kilometers of the point. This value is only used for earthquakes that were recorded by a seismograph.

ENUMERATED DOMAIN VALUE DEFINITION SOURCE DMME

VALUE Approximate

DESCRIPTION The earthquake location is accurate to within 10-20 kilometers.

ENUMERATED DOMAIN VALUE DEFINITION SOURCE DMME

VALUE Arbitrary

DESCRIPTION The earthquake location is accurate only to a place or region.

ENUMERATED DOMAIN VALUE DEFINITION SOURCE DMME

DESCRIPTION OF VALUES

The quality of the earthquake location data is based on the data source.

Hide Field Location_Quality ▲

FIELD Depth_km ►

* ALIAS Depth_km

* DATA TYPE Double

* WIDTH 8

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

The depth where the earthquake begins to rupture. Measurement is in kilometers.

DESCRIPTION SOURCE

USGS

DESCRIPTION OF VALUES

The depth where the earthquake begins to rupture. Measurement is in kilometers.

Hide Field Depth_km ▲

FIELD Magnitude ►

* ALIAS Magnitude

* DATA TYPE Double

* WIDTH 8

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

The magnitude is a number that characterizes the relative size of an earthquake. Magnitude is based on the measurement of the maximum motion recorded by a seismograph.

DESCRIPTION SOURCE

USGS

DESCRIPTION OF VALUES

The magnitude is a number that characterizes the relative size of an earthquake.

Hide Field Magnitude ▲

FIELD Magnitude_Type ►

* ALIAS Magnitude_Type

* DATA TYPE String

* WIDTH 5

* PRECISION 0

* SCALE 0

FIELD DESCRIPTION

There are several different ways to measure the magnitude of an earthquake. This field describes the magnitude

type as reported by the data source for the earthquake.

DESCRIPTION SOURCE

USGS

LIST OF VALUES

VALUE MAG

DESCRIPTION A magnitude generated from felt intensities for the NCEER seismic catalog

ENUMERATED DOMAIN VALUE DEFINITION SOURCE NCEER

VALUE MDB

DESCRIPTION Duration/coda length magnitude where D is signal duration measured from the P-wave arrival time to the time

ENUMERATED DOMAIN VALUE DEFINITION SOURCE Virginia Tech Seismological Observatory (VTSO)

VALUE ML

DESCRIPTION Local magnitude, also known as the Richter scale

ENUMERATED DOMAIN VALUE DEFINITION SOURCE U.S. Geological Survey

VALUE MLD

DESCRIPTION Local magnitude determined from duration of vibrations

ENUMERATED DOMAIN VALUE DEFINITION SOURCE Virginia Tech Seismological Observatory (VTSO)

VALUE MN

DESCRIPTION Nuttli magnitude

ENUMERATED DOMAIN VALUE DEFINITION SOURCE Nuttli (1973)

VALUE Mb

DESCRIPTION Body-wave magnitude

ENUMERATED DOMAIN VALUE DEFINITION SOURCE U.S. Geological Survey

VALUE Mb_lg

DESCRIPTION Body wave magnitude determination using Nuttli's formulas for the Lg phase (Nuttli, 1973)

ENUMERATED DOMAIN VALUE DEFINITION SOURCE Virginia Tech Seismological Observatory (VTSO)

VALUE Mc

DESCRIPTION Coda amplitude magnitude

ENUMERATED DOMAIN VALUE DEFINITION SOURCE Advanced National Seismic System (ANSS)

VALUE Md

DESCRIPTION Coda duration magnitude

ENUMERATED DOMAIN VALUE DEFINITION SOURCE Advanced National Seismic System (ANSS)

VALUE Mw

DESCRIPTION Moment magnitude

ENUMERATED DOMAIN VALUE DEFINITION SOURCE U.S. Geological Survey

DESCRIPTION OF VALUES

This field describes the magnitude type as reported by the data source for the earthquake.

Hide Field Magnitude_Type ▲

FIELD Num_of_Stations ►

*ALIAS Num_of_Stations

*DATA TYPE Double

*WIDTH 8

*PRECISION 0

*SCALE 0

FIELD DESCRIPTION

Number of seismic stations which reported P- and S-arrival times for this earthquake.

DESCRIPTION SOURCE

USGS

DESCRIPTION OF VALUES

Number of seismic stations which reported P- and S-arrival times for this earthquake.

Hide Field Num_of_Stations ▲

FIELD Azimuth_Gap ►

* ALIAS Azimuth_Gap
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

The largest azimuthal gap between azimuthally adjacent stations (in degrees). In general, the smaller this number, the more reliable is the calculated horizontal position of the earthquake.

DESCRIPTION SOURCE

USGS

DESCRIPTION OF VALUES

The largest azimuthal gap between azimuthally adjacent stations (in degrees).

Hide Field Azimuth_Gap ▲

FIELD Closest_Station ►

* ALIAS Closest_Station
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

This represents the seismic monitoring center that was closest to the epicenter during the event. This is reported as distance in kilometers.

DESCRIPTION SOURCE

USGS

DESCRIPTION OF VALUES

The seismic monitoring center that was closest to the epicenter during the event.

Hide Field Closest_Station ▲

FIELD RMS ►

* ALIAS RMS
 * DATA TYPE Double
 * WIDTH 8
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

The root-mean-square (RMS) travel time residual, in seconds. This parameter provides a measure of the fit of the observed arrival times to the predicted arrival times for this location. Smaller numbers reflect a better fit of the data. The value is dependent on the accuracy of the velocity model used to compute the earthquake location, the quality weights assigned to the arrival time data, and the procedure used to locate the earthquake.

DESCRIPTION SOURCE

USGS

DESCRIPTION OF VALUES

The root-mean-square (RMS) travel time residual, in seconds.

Hide Field RMS ▲

FIELD Intensity ►

* ALIAS Intensity
 * DATA TYPE String
 * WIDTH 10
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

The Modified Mercalli scale intensity (written as a Roman numeral from I to X) describing the severity of an earthquake in terms of its effects on the earth's surface and on humans and their structures.

DESCRIPTION SOURCE
USGS

DESCRIPTION OF VALUES
The Modified Mercalli scale intensity (written as a Roman numeral from I to X).

Hide Field Intensity ▲

FIELD Town ►

* ALIAS Town
* DATA TYPE String
* WIDTH 100
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION
Nearby geographical reference point to the earthquake

DESCRIPTION SOURCE
DMME

DESCRIPTION OF VALUES
Nearby geographical reference point to the earthquake

Hide Field Town ▲

FIELD Felt_Area_mi2 ►

* ALIAS Felt_Area_mi2
* DATA TYPE String
* WIDTH 1000
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION
The size of the approximate geographic area, in square miles, where the earthquake was felt.

DESCRIPTION SOURCE
DMME

DESCRIPTION OF VALUES
The size of the approximate geographic area, in square miles, where the earthquake was felt.

Hide Field Felt_Area_mi2 ▲

FIELD VA_Damage ►

* ALIAS VA_Damage
* DATA TYPE String
* WIDTH 10
* PRECISION 0
* SCALE 0

FIELD DESCRIPTION
Yes or no field indicating if there was damage to buildings, the contents of buildings, or infrastructure due to an earthquake.

DESCRIPTION SOURCE
DMME

DESCRIPTION OF VALUES
Yes or no field indicating if there was damage due to the earthquake.

Hide Field VA_Damage ▲

FIELD Type_Shock ►

* ALIAS Type_Shock
* DATA TYPE String

* WIDTH 10
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Indicates if the earthquake was a foreshock, aftershock or primary shock.

DESCRIPTION SOURCE

DMME

DESCRIPTION OF VALUES

Indicates if the earthquake was a foreshock, aftershock or primary shock.

[Hide Field Type_Shock ▲](#)

FIELD Notes ►

* ALIAS Notes
 * DATA TYPE String
 * WIDTH 1500
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

Text narrative of any additional information pertinent to the earthquake.

DESCRIPTION SOURCE

DMME

DESCRIPTION OF VALUES

Text narrative of any additional information pertinent to the earthquake.

[Hide Field Notes ▲](#)

FIELD Source ►

* ALIAS Source
 * DATA TYPE String
 * WIDTH 500
 * PRECISION 0
 * SCALE 0

FIELD DESCRIPTION

The data sources or seismic catalogs used to obtain information about the earthquake.

DESCRIPTION SOURCE

DMME

DESCRIPTION OF VALUES

The data sources or seismic catalogs used to obtain information about the earthquake.

[Hide Field Source ▲](#)

[Hide Details for object Epicenters ▲](#)

[Hide Fields ▲](#)

Metadata Details ►

METADATA LANGUAGE English (UNITED STATES)
 METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset
 SCOPE NAME *dataset

* LAST UPDATE 2017-05-23

ARCGIS METADATA PROPERTIES

METADATA FORMAT ArcGIS 1.0
 METADATA STYLE FGDC CSDGM Metadata

CREATED IN ARCGIS FOR THE ITEM 2017-05-22 15:57:48
LAST MODIFIED IN ARCGIS FOR THE ITEM 2017-05-23 15:26:10

AUTOMATIC UPDATES
HAVE BEEN PERFORMED Yes
LAST UPDATE 2017-05-23 15:26:10

[Hide Metadata Details ▲](#)

Metadata Contacts ►

METADATA CONTACT

INDIVIDUAL'S NAME Anne Carter Witt
ORGANIZATION'S NAME Virginia Department of Mines, Minerals, and Energy
CONTACT'S POSITION Geologist
CONTACT'S ROLE point of contact

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E-MAIL ADDRESS anne.witt@dmme.virginia.gov

[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

Thumbnail and Enclosures ►

THUMBNAIL

THUMBNAIL TYPE JPG

[Hide Thumbnail and Enclosures ▲](#)

FGDC Metadata (read-only) ▼