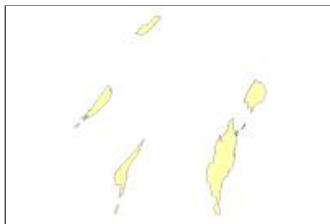


## Mesozoic Basins in the Seismically Active Areas of Virginia

File Geodatabase Feature Class



### Tags

earthquake, fault, Virginia, society, geoscientificInformation, environment

### Summary

This dataset shows the polygon locations of Mesozoic-age sedimentary rift basins in Central Virginia. These basins were added to the final maps to provide context for the faults that border these basins. In addition, these basins contain sedimentary rock which could potentially behave differently during an earthquake.

### Description

This dataset shows the polygon locations of Mesozoic-age sedimentary rift basins in Central Virginia. These basins formed during continental rifting associated with the breakup of Pangea beginning 230-240 million years ago.

### 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

There are no access and use limitations for this item.

### Extent

**West** -78.745632 **East** -77.405496  
**North** 38.261111 **South** 37.158390

### Scale Range

**Maximum (zoomed in)** 1:50,000  
**Minimum (zoomed out)** 1:625,000

### ArcGIS Metadata ►

#### Topics and Keywords ►

THEMES OR CATEGORIES OF THE RESOURCE society, geoscientificInformation, environment

\* CONTENT TYPE Downloadable Data

EXPORT TO FGDC CSDGM XML FORMAT AS RESOURCE DESCRIPTION No

PLACE KEYWORDS Virginia

THEME KEYWORDS earthquake, fault, Mesozoic basin, geology

THEME KEYWORDS society, geoscientificInformation, environment

THESAURUS ►

TITLE ISO 19115 Topic Categories

[Hide Thesaurus ▲](#)

[Hide Topics and Keywords ▲](#)**Citation ►**

TITLE **Mesozoic Basins in the Seismically Active Areas of Virginia**  
 PUBLICATION DATE 2017-03-31

PRESENTATION FORMATS digital map  
 FGDC GEOSPATIAL PRESENTATION FORMAT vector digital data

COLLECTION TITLE GIS Fault Mapping of Virginia Seismic Zones

[Hide Citation ▲](#)**Citation Contacts ►**

## RESPONSIBLE PARTY

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

## CONTACT INFORMATION ►

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 VOICE 434-951-6341

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 POSTAL CODE 22903  
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[Hide Contact information ▲](#)[Hide Citation Contacts ▲](#)**Resource Details ►**

DATASET LANGUAGES English (UNITED STATES)  
 DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

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).

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## ARCGIS ITEM PROPERTIES

\* NAME Mesozoic\_Basins  
 \* LOCATION file:///wdb01513  
 \dgmr\PROJECTS\MAPPING\Earthquake\Final\_Deliverables\GIS\_Data\Planners\_Deliverables\Fault\_Geodatabase\_Planners.gdb  
 \* ACCESS PROTOCOL Local Area Network

[Hide Resource Details ▲](#)**Extents ►**

EXTENT  
 DESCRIPTION

This dataset contains polygon locations of Mesozoic basins in Central Virginia.

#### GEOGRAPHIC EXTENT

##### BOUNDING RECTANGLE

WEST LONGITUDE -83.797031  
 EAST LONGITUDE -77.164786  
 SOUTH LATITUDE 36.522088  
 NORTH LATITUDE 38.272082

#### TEMPORAL EXTENT

BEGINNING DATE 2013-03-01 00:00:00  
 ENDING DATE 2017-04-28 00:00:00

#### EXTENT

##### GEOGRAPHIC EXTENT

##### BOUNDING RECTANGLE

EXTENT TYPE Extent used for searching  
 \* WEST LONGITUDE -78.745632  
 \* EAST LONGITUDE -77.405496  
 \* NORTH LATITUDE 38.261111  
 \* SOUTH LATITUDE 37.158390  
 \* EXTENT CONTAINS THE RESOURCE Yes

##### EXTENT IN THE ITEM'S COORDINATE SYSTEM

\* WEST LONGITUDE 1929462.958390  
 \* EAST LONGITUDE 2314317.744125  
 \* SOUTH LATITUDE 302181.890123  
 \* NORTH LATITUDE 701916.904956  
 \* 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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 POSTAL CODE 22903  
 E-MAIL ADDRESS [anne.witt@dmme.virginia.gov](mailto: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

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.

[Hide Resource Constraints](#) ▲

## Spatial Reference ►

### ARCGIS COORDINATE SYSTEM

- \* TYPE **Projected**
- \* GEOGRAPHIC COORDINATE REFERENCE **GCS\_North\_American\_1927**
- \* PROJECTION **NAD\_1927\_StatePlane\_Virginia\_South\_FIPS\_4502**
- \* COORDINATE REFERENCE DETAILS
  - PROJECTED COORDINATE SYSTEM
    - WELL-KNOWN IDENTIFIER **32047**
    - X ORIGIN **-120618000**
    - Y ORIGIN **-94806700**
    - XY SCALE **3048.0060960121928**
    - Z ORIGIN **-100000**
    - Z SCALE **10000**
    - M ORIGIN **-100000**
    - M SCALE **10000**
    - XY TOLERANCE **0.0032808333333333331**
    - Z TOLERANCE **0.001**
    - M TOLERANCE **0.001**
    - HIGH PRECISION **true**
    - LATEST WELL-KNOWN IDENTIFIER **32047**
    - WELL-KNOWN TEXT **PROJCS["NAD\_1927\_StatePlane\_Virginia\_South\_FIPS\_4502",GEOGCS["GCS\_North\_American\_1927",DATUM["D\_North\_American\_1927",SPHEROID["Clarke\_1866",6378206.4,294.9786982]],PRIMEM["Greenwich",0.0],UNIT["Degree",0.0174532925199433]],PROJECTION["Lambert\_Conformal\_Conic"],PARAMETER["False\_Easting",2000000.0],PARAMETER["False\_Northing",0.0],PARAMETER["Central\_Meridian",-78.5],PARAMETER["Standard\_Parallel\_1",36.766666666666667],PARAMETER["Standard\_Parallel\_2",37.966666666666667],PARAMETER["Latitude\_Of\_Origin",36.33333333333334],UNIT["Foot\_US",0.3048006096012192],AUTHORITY["EPSG",32047]]**

### REFERENCE SYSTEM IDENTIFIER

- \* VALUE **32047**
- \* 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 **Mesozoic\_Basins**
- \* OBJECT TYPE **composite**
- \* OBJECT COUNT **9**

[Hide Vector](#) ▲

### ARCGIS FEATURE CLASS PROPERTIES ►

- FEATURE CLASS NAME **Mesozoic\_Basins**
- \* FEATURE TYPE **Simple**
- \* GEOMETRY TYPE **Polygon**
- \* HAS TOPOLOGY **FALSE**
- \* FEATURE COUNT **9**
- \* SPATIAL INDEX **TRUE**
- \* LINEAR REFERENCING **FALSE**

[Hide ArcGIS Feature Class Properties](#) ▲

[Hide Spatial Data Properties](#) ▲

## 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  
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## ADDRESS

TYPE both  
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POSTAL CODE 22903  
E-MAIL ADDRESS [anne.witt@dmme.virginia.gov](mailto:anne.witt@dmme.virginia.gov)

[Hide Contact information ▲](#)

## ORDERING PROCESS

TERMS AND FEES None  
DATE OF AVAILABILITY 2017-03-31 00:00:00  
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 [Mesozoic\\_Basins ►](#)

\* TYPE Feature Class  
\* ROW COUNT 9

## DEFINITION

This dataset shows the polygon locations of fault-bounded Mesozoic-age sedimentary rift basins in Central Virginia.

## DEFINITION SOURCE

DMME

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 Name ►

\* ALIAS Name  
 \* DATA TYPE String  
 \* WIDTH 50  
 \* PRECISION 0  
 \* SCALE 0

## FIELD DESCRIPTION

The name of the Mesozoic Basin, if known.

## DESCRIPTION SOURCE

DMME

## DESCRIPTION OF VALUES

The name of the Mesozoic Basin, if known.

*Hide Field Name ▲*

## FIELD DataSource ►

\* ALIAS DataSource  
 \* DATA TYPE String  
 \* WIDTH 50  
 \* PRECISION 0  
 \* SCALE 0

## FIELD DESCRIPTION

A unique ID number that corresponds to an entry in the Data Sources table. Each entry is a map reference from which the Mesozoic Basin data was derived.

## DESCRIPTION SOURCE

DMME

## DESCRIPTION OF VALUES

A unique ID number that corresponds to an entry in the Data Sources table. Each entry is a map reference from which the Mesozoic Basin data was derived.

*Hide Field DataSource ▲*

## FIELD SHAPE\_Length ►

\* ALIAS SHAPE\_Length  
 \* DATA TYPE Double  
 \* WIDTH 8  
 \* PRECISION 0  
 \* SCALE 0

## FIELD DESCRIPTION

Length of feature in internal units.

## DESCRIPTION SOURCE

Esri

## DESCRIPTION OF VALUES

Positive real numbers that are automatically generated.

*Hide Field SHAPE\_Length ▲*

## FIELD SHAPE\_Area ►

\* ALIAS SHAPE\_Area

\* DATA TYPE Double  
 \* WIDTH 8  
 \* PRECISION 0  
 \* SCALE 0  
 \* FIELD DESCRIPTION  
 Area of feature in internal units squared.  
  
 \* DESCRIPTION SOURCE  
 Esri  
  
 \* DESCRIPTION OF VALUES  
 Positive real numbers that are automatically generated.

[Hide Field SHAPE\\_Area ▲](#)

[Hide Details for object Mesozoic\\_Basins ▲](#)

[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  
 STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS FOR THE ITEM 2017-04-17 16:34:35  
 LAST MODIFIED IN ARCGIS FOR THE ITEM 2017-05-23 15:28:31

AUTOMATIC UPDATES  
 HAVE BEEN PERFORMED Yes  
 LAST UPDATE 2017-05-23 15:28:31

[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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[Hide Contact information ▲](#)

[Hide Metadata Contacts ▲](#)

## Metadata Maintenance ►

## MAINTENANCE

UPDATE FREQUENCY not planned

## MAINTENANCE CONTACT

INDIVIDUAL'S NAME Anne Carter Witt

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

CONTACT'S POSITION Geologist

CONTACT'S ROLE originator

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[Hide Contact information ▲](#)[Hide Metadata Maintenance ▲](#)**Thumbnail and Enclosures ►**

## THUMBNAIL

THUMBNAIL TYPE JPG

[Hide Thumbnail and Enclosures ▲](#)**FGDC Metadata (read-only) ▼**