Digital Bedrock Geologic-GIS Map of New River Gorge National Park and Preserve, and Vicinity, West Virginia (NPS, GRD, GRI, NERI, NERI_bedrock digital map) adapted from a West Virginia Geological and Economic Survey Open-File Reports map by McColloch, Hunt, McColloch, Peck, Blake, Matchen, and Gooding (2013)

Metadata also available as

Frequently-anticipated questions:

- What does this data set describe?
    1. How should this data set be cited?
    2. What geographic area does the data set cover?
    3. What does it look like?
    4. Does the data set describe conditions during a particular time period?
    5. What is the general form of this data set?
    6. How does the data set represent geographic features?
    7. How does the data set describe geographic features?
- Who produced the data set?
    1. Who are the originators of the data set?
    2. Who also contributed to the data set?
    3. To whom should users address questions about the data?
- Why was the data set created?
- How was the data set created?
    1. From what previous works were the data drawn?
    2. How were the data generated, processed, and modified?
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- How reliable are the data; what problems remain in the data set?
    1. How well have the observations been checked?
    2. How accurate are the geographic locations?
    3. How accurate are the heights or depths?
    4. Where are the gaps in the data? What is missing?
    5. How consistent are the relationships among the data, including topology?
- How can someone get a copy of the data set?
    1. Are there legal restrictions on access or use of the data?
    2. Who distributes the data?
    3. What's the catalog number I need to order this data set?
    4. What legal disclaimers am I supposed to read?
    5. How can I download or order the data?
- Who wrote the metadata?

What does this data set describe?

Who produced the data set?

1. **Who are the originators of the data set?** (may include formal authors, digital compilers, and editors)
    - National Park Service (NPS) Geologic Resources Inventory (GRI) program
2. **Who also contributed to the data set?**

    James R. Chappell, Stephanie O'Meara and Derek Witt (Colorado State University)

3. **To whom should users address questions about the data?**

    Stephanie O'Meara
    Colorado State University
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    Hours_of_Service: 9:00 a.m. to 5:00 p.m. (MST), Monday - Friday

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Why was the data set created?

The data are intended to assist NPS personnel in the protection and management of New River Gorge National Park and Preserve.

How was the data set created?

1. **From what previous works were the data drawn?**

    WVGES Open-File Reports OF-1301 (source 1 of 1)

    McColloch, G.H., Hunt, P.J., McColloch, J.S., Pe, 2013, Bedrock Geology of the New River Gorge National River (Beckwith, Fayetteville, Winona, Thurmond, Danese, Prince, Meadow Creek, Meadow Bridge, Hinton, and Talcott 7.5' Quadrangles), West Virginia: Open-File Reports OF-1301, West Virginia Geological and Economic Survey (WVGES), Morgantown, West Virginia.

Type_of_Source_Media: digital data and image
Source_Scale_Denominator: 24000
Source_Contribution:
Geologic features were derived from source digital data. In addition, geologic features not present with the digital data were digitized using a TIF image of the source map georeferenced in NAD83 UTM. The source map image was also used to attribute features, as well as to check (QC) line quality, both positionally and spatially, and feature attribution. Ancillary source map text, including unit descriptions, and graphics, if present, were captured, formatted and added to the ancillary map information document. See the Process Step section for additional information.

2. **How were the data generated, processed, and modified?**

Date: 07-Feb-2025 (process 1 of 1)
1.) GIS features were produced from source digital data or digitized from a source map. See the Source Information Contribution section(s) for specific source map details. GIS features converted from source digital data were imported into a GRI data model compliant geodatabase. For details on the GRI data model see the NPS GRI Geology-GIS Geodatabase Data Model v. 2.3 (available at: https://www.nps.gov/articles/gri-geodatabase-model.htm). GIS features captured from a source map were digitized from a TIF image of the map georeferenced in NAD83 UTM. 2.) Line quality of digitized features was checked against the source scan to ensure that GIS features were represented accurately, both positionally and spatially. Line quality of digital data was checked and if warranted edited to ensure good quality linework. 3.) Feature attribution was derived for all features using the source data attribution and the source printed/plotted map if available. 4.) Data Model topology rules were validated on all features and any topology errors corrected. 5.) Quality control (QC) consisted of checking features and their attribution against the source digital data, as well as against the source printed/plotted map if available. GRI developed Python tools were run to check for GRI data model validation and feature-related consistency. 6.) The UNIT and MAP tables were populated and checked against the source(s). Relationship classes were also added and used to ensure attribution consistency between feature class and table attribution. 7.) Feature symbology was produced for all feature classes. An attempt was made to best match symbology to its source map, however, in some cases features symbology maybe slightly modified, primarily based on the limitations of the ArcGIS geology styles. In some cases, however, symbology may have been modified to reconcile differences from multiple sources. 8.) An ArcGIS Pro map (.mapx) file, as well as individual layer (.lyrx) files, were produced. 9.) The ancillary map information PDF document, see the Supplemental Information section for additional information, was produced from textual information and figures present on the source map(s) and/or in digital data files. If applicable, source map images were produced at 150dpi or greater resolution and optical character recognition (OCR) software was used to produce text from source map text. The text, source map images and other ancillary source map information were added to a Help & Manual (.hmxz) template file. The .hmxz file was then compiled to produce the ancillary map information document. Any compilation errors were then checked and corrected and the document was reviewed for content, usability and grammatical errors. 10.) A Google

Earth .kmz/.kml file, as well as a OGC GeoPackage and QGIS project file was produced from the finalized file geodatabase and ArcMap document.

Person who carried out this activity:

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Hours_of_Service: 9:00 a.m. to 5:00 p.m. (MST), Monday - Friday

Data sources used in this process:

- WVGES Open-File Reports OF-1301

3. **What similar or related data should the user be aware of?**

   National Park Service Geologic Resources Inventory (GRI) program, 20250207, Metadata for the Digital Bedrock Geologic-GIS Map of New River Gorge National Park and Preserve, and Vicinity, West Virginia (NPS, GRD, GRI, NERI, NERI_bedrock digital map).

How reliable are the data; what problems remain in the data set?

1. **How well have the observations been checked?**

   Feature and table attribution was derived and checked with the source map(s). Attribution was checked (QCd) for errors. Users of this data are advised to FULLY and CAREFULLY READ the "DISTRIBUTION LIABILITY" section of this metadata before using the data.

2. **How accurate are the geographic locations?**

   Data was produced from digital source data and digitized from a georeferenced source map .TIF image(s) (300dpi). Users of this data are cautioned about the locational accuracy of features within this dataset. Based on the source map scale and United States National Map Accuracy Standards features are within (horizontally) 12.2 meters or 40 feet of their actual location as presented by this dataset. Users of this data should thus not assume the location of features is exactly where they portrayed are in ArcGIS Pro or other software used to display this dataset. The PRECISION of any Shapefile (.shp) files

is DOUBLE. The maximum root mean square (RMS) horizontal accuracy of the georeferenced image is 0.9 meters. Coordinate tics on the georeferenced (registered and rectified) source map image(s) were checked against control points that had the exact specified coordinates of the tic. The direct distance between the image tic and its control point were measured. All measured distances were less than 50% of the required distance to meet National Map Accuracy Standards (1/50th of an inch for maps at 1:20,000 scale and smaller). Features were checked (QCd) after digitizing for positional accuracy errors using the georeferenced source map image.

3. **How accurate are the heights or depths?**

   No vertical coordinates are present in this GRI digital dataset.

4. **Where are the gaps in the data? What is missing?**

   All data is considered complete to the extent of the source map(s).

5. **How consistent are the relationships among the observations, including topology?**

   GIS data in ESRI file geodatabase, OGC geopackage and 2.2 KML/KMZ file formats.

How can someone get a copy of the data set?

Are there legal restrictions on access or use of the data?

Access_Constraints: None
Use_Constraints:

Not for use at scale greater than 1:24,000 (source map scale). Users of this data are cautioned about the locational accuracy of features within this dataset. Based on the source map scale and United States National Map Accuracy Standards features are within (horizontally) 12.2 meters or 40 feet of their actual location as presented by this dataset. Users of this data should thus not assume the location of features is exactly where they are portrayed in Google Earth, ArcGIS Pro, QGIS or other software used to display this dataset.

1. **Who distributes the data set?** (Distributor 1 of 1)

Stephanie O'Meara
Colorado State University
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USA

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stephanie_o'meara@partner.nps.gov

Hours_of_Service: 8:00 a.m. to 4:00 p.m. (MST), Monday - Friday
Contact_Instructions:
GRI data are available at: <http://irma.nps.gov/App/Reference/Search>

2. **What's the catalog number I need to order this data set?**

   GIS map data available in several GRI-supported GIS data formats

3. **What legal disclaimers am I supposed to read?**

   The National Park Service shall not be held liable for improper or incorrect use of the data described and/or contained herein. These data and related graphics are not legal documents and are not intended to be used as such.

   The information contained in these data is dynamic and may change over time. The data are not better than the original sources from which they were derived. It is the responsibility of the data user to use the data appropriately and consistent within the limitations of geospatial data in general and these data in particular. The related graphics are intended to aid the data user in acquiring relevant data; it is not appropriate to use the related graphics as data.

   The National Park Service gives no warranty, expressed or implied, as to the accuracy, reliability, or completeness of these data. It is strongly recommended that these data are directly acquired from an NPS server and not indirectly through other sources which may have changed the data in some way. Although these data have been processed successfully on a computer system at the National Park Service, no warranty, expressed or implied is made regarding the utility of the data on another system or for general scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies to both to individual use of the data and aggregate use with other data.

4. **How can I download or order the data?**
   - **Availability in digital form:**

     Data format: GDB (version ArcGIS Pro 3.0) GIS (file geodatabase format) data package with a Pro map (.mapx) file (neri_bedrock_geology_gdb_pro.zip) Size: 7.53

Network links:	NPS Data Store, https://irma.nps.gov/DataStore/
Data format:	KML/KMZ (version 2.2) Google Earth (kml/kmz format) data package (neri_bedrock_geology_kml.zip) Size: 22.36
Network links:	NPS Data Store, https://irma.nps.gov/DataStore/
Data format:	GPKG (version OGC geopackage) GIS (geopackage format) data package with a QGIS project (.qgz) file (neri_bedrock_geology_gpkg.zip) Size: 15.81
Network links:	NPS Data Store, https://irma.nps.gov/DataStore/
Data format:	PDF (version 9) Ancillary Map Information Document Size: 8.37
Network links:	NPS Data Store, https://irma.nps.gov/DataStore/
Data format:	PDF (version 9) GIS Readme Document Size: 0.1
Network links:	NPS Data Store, https://irma.nps.gov/DataStore/
Data format:	PDF (version 9) FAQ Metadata File Size: 0.1
Network links:	NPS Data Store, https://irma.nps.gov/DataStore/

- **Cost to order the data:** None
- **Special instructions:**

  Search for the GRI map, then download the GRI data at: https://irma.nps.gov/DataStore/

Who wrote the metadata?

Dates:

Last modified: 07-Feb-2025

Metadata author:

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Metadata standard:

FGDC Content Standards for Digital Geospatial Metadata (FGDC-STD-001-1998)
Metadata extensions used:

- <http://www.fgdc.gov/standards/>

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