

U.S. GEOLOGICAL SURVEY SCIENTIFIC INVESTIGATIONS MAP 2887

**Geologic Map of the Headwaters Region of the Cullasaja River,  
Macon and Jackson Counties, North Carolina**

**By William C. Burton**

**2007**

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## System Requirements:

This CD-ROM was produced in accordance with the ISO 9660 standard for universal file system compatibility. Contents are intended for use on either UNIX, Macintosh, or Windows NT/2000/XP platforms.

The report stored on this CD-ROM can be viewed using Adobe Acrobat Reader or other software that reads Portable Document Format (PDF) files. Adobe Acrobat Reader may be downloaded at no cost from the Adobe website at <http://www.adobe.com>.

## CD Directory Layout:

```
--GIS DATA FILES-- | --Geodatabase—Contains GIS layers for geologic and base-map themes. ArcGIS Map
|                   | Document file for viewing all layers in ESRI ArcView 3.x and above.
|                   | --Shapefiles—GIS layers are in shapefile format. ArcGIS Map Document file
|                   | for viewing all layers in ESRI ArcView 3.x and above.
|
|-----MAP-----| --GeologicMap.pdf—Portable Document Format version of the geologic map.
|
|---METADATA-----| --Metadata files for all of the data layers.
|
|-----TEXT-----| --MapText.pdf—Portable Document Format version of explanatory text.
|                   | --Figure 11.pdf—Portable Document Format version of text figure 11.
|
|-README (This file)-| --Readme.pdf—Portable Document Format version of Readme file.
|                   | --Readme.txt—Text version of Readme file.
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## Report Description, Map-Construction Summary, Projection Information, and Keywords:

### Report Description:

This is a bedrock geologic map of the headwaters region of the Cullasaja River, Macon and Jackson Counties, western North Carolina. The map area is within the Highlands 7.5-minute quadrangle and includes the town of Highlands, about 3 miles north of the Georgia State line. This map was produced as part of a cooperative hydrogeologic project, the Piedmont-Mountains Ground Water Project, between the U.S. Geological Survey and the North Carolina Department of Environment and Natural Resources. The goal of the project is to better understand the hydrologic characteristics of major hydrogeologic settings in the North Carolina Piedmont and Blue Ridge geologic provinces, for the purpose of ground-water resource planning. The main focus of the project is an intensive study of small watersheds that are considered to be representative of larger areas within each geologic province.

### Map-Construction Summary:

Geologic data were compiled digitally in the field using a PDA with GPS capabilities. Field stations, outcrops, and contacts were recorded using ArcPad and saved in ArcView shapefile format. Attribute data for each station were recorded in an MS Access file using Pendragon Forms. Editing was done in ArcGIS 8.3 using the Geodatabase format and converted to shapefiles.

The base-map information consists of hydrology, roads and culture, and hypsography. The base-map data were scanned at 400 dpi from film positives of the Highlands, N.C.-Ga., 7.5-minute quadrangle (1946, photorevised 1980). The TIFF images were rectified using ArcGIS 8.3, then converted to bitmap in Adobe Photoshop and saved to .psd (Photoshop document) for easy import into Adobe Illustrator.

### Projection Information:

#### Spatial\_Reference\_Information:

##### Horizontal\_Coordinate\_System\_Definition:

Planar:

##### Map\_Projection:

Map\_Projection\_Name: Transverse Mercator UTM Zone 17 N

##### Transverse\_Mercator:

Scale\_Factor\_at\_Central\_Meridian: 0.999600

Longitude\_of\_Central\_Meridian: -81.000000

Latitude\_of\_Projection\_Origin: 0.000000

False\_Easting: 500000.000000

False\_Northing: 0.000000

##### Planar\_Coordinate\_Information:

Planar\_Coordinate\_Encoding\_Method: coordinate pair

##### Coordinate\_Representation:

Abscissa\_Resolution: 0.000016

Ordinate\_Resolution: 0.000016

Planar\_Distance\_Units: meters

##### Geodetic\_Model:

Horizontal\_Datum\_Name: North American Datum of 1927

Ellipsoid\_Name: Clarke 1866

Semi-major\_Axis: 6378206.400000

Denominator\_of\_Flattening\_Ratio: 294.978698

### Keywords:

Ground water, hydrology, Highlands, North Carolina, Cullasaja River, Piedmont, Blue Ridge, Bent Creek Experimental Forest, Lake Sequoyah

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