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

U.S. DEPARTMENT OF THE INTERIOR
Dirk Kempthorne, Secretary

U.S. GEOLOGICAL SURVEY
Mark D. Myers, Director

For sale by U.S. Geological Survey
Information Services
Box 25286, Federal Center
Denver, CO 80225

Table of Contents

Disclaimer:

Accessibility:

Section 508 and Accessibility at the USGS

The USGS is committed to and is making every possible effort to ensure that all electronic and information technology developed, procured, maintained, or used by the USGS is accessible to people with disabilities, including both employees and the customers we serve. If you cannot fully access the information on this CD-ROM, please e-mail the contact person or group named in the contact information provided on this CD-ROM, and they will help you. This may includes providing the information to you in an alternate format.

For further information and to learn more about the regulations governing the accessibility of Federal electronic information products, visit the Section 508 web pages listed below:

Section 508 home page - (URL:http://www.section508.gov/)
Access Board - (URL: http://www.access-board.gov/508.htm)
Web Accessibility Initiative (WAI) - (URL: http://www.w3.org/WAI/)

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 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.
```

==========

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

Contact:

William C. Burton, 926A National Center, U.S. Geological Survey, Reston, VA 20192-0002.
Telephone: 703-648-6904; E-mail: bburton@usgs.gov