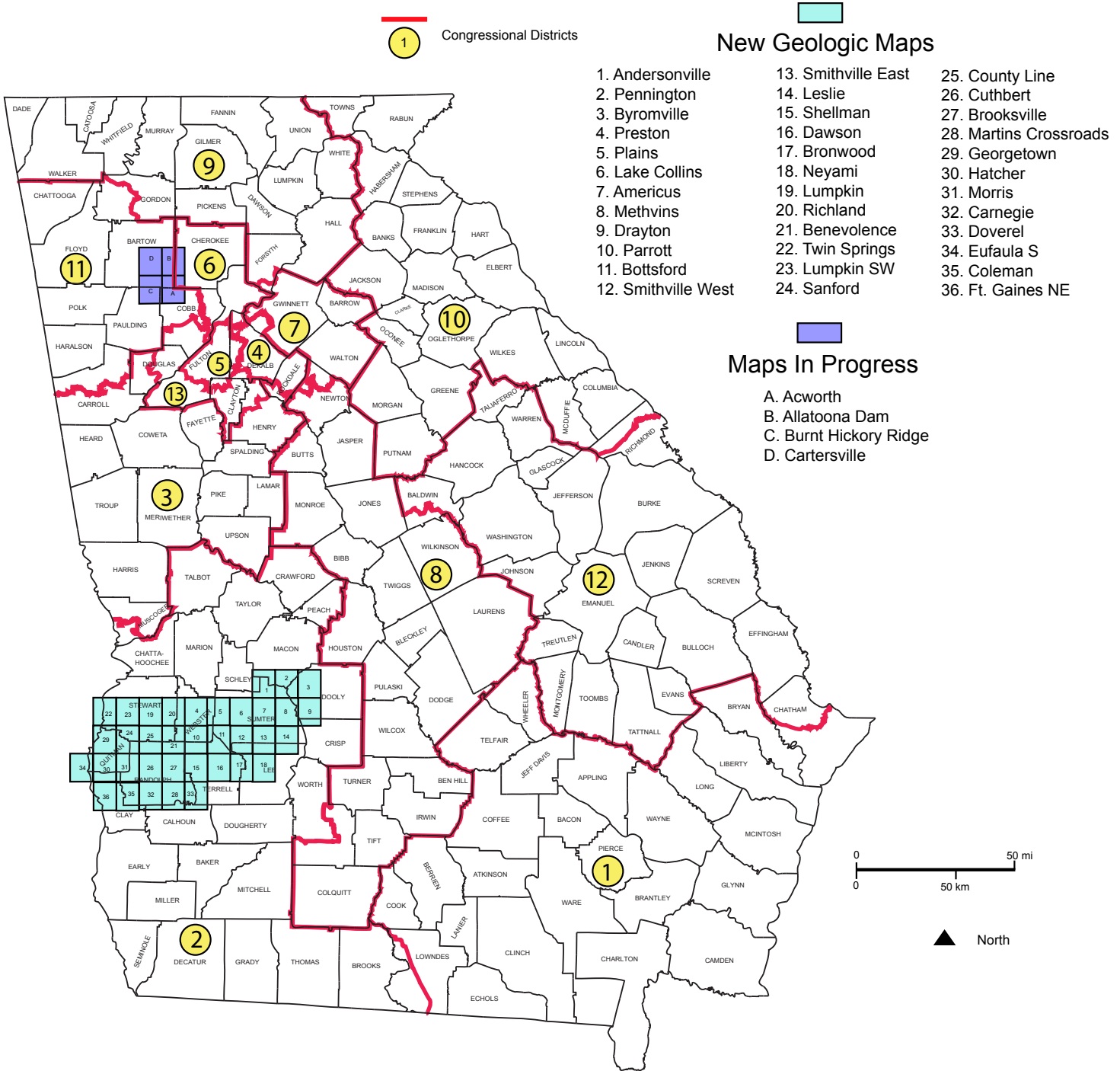




# National Cooperative Geologic Mapping Program

STATEMAP Component: States compete for federal matching funds for geologic mapping

## GEORGIA - 2009



### Contact information

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## SUMMARY OF STATEMAP-FUNDED GEOLOGIC MAPPING IN GEORGIA

For eleven years the STATEMAP part of the National Geologic Mapping Program contributed to completing new geologic maps in Georgia. Federal funding for this mapping has been matched equally with State funds. Project proposals have been submitted annually to the United States Geological Survey by the Geologic unit of the Georgia Department of Natural Resources' Environmental Protection Division.

Geologic maps provide important natural-resource information including the type, age, and three-dimensional distribution of near-surface bedrock. The maps are prepared on a 1:24,000-scale topographic base that depicts natural and man-made features (e.g., landforms, water bodies, roadways, utility lines, infrastructure, urban areas, political boundaries, building locations, etc.).

Geologic maps serve many purposes, including public utility site selection, transportation and utility route planning, geologic hazard evaluations, land-use planning, natural resource (water and mineral) assessments, development, and protection, and for regulatory agency decision making. The maps are used for public- and private-sector engineering and construction projects (e.g., buildings, dams, bridges, etc.) and for a variety of environmental concerns including locating waste-disposal facilities and new municipal wells. Geologic maps are useful for evaluating and predicting the consequences of natural and human activities on the environment, and can assist in preventing or minimizing environmental impacts or problems.

A 1999 economic analysis by the Illinois State Geological Survey estimated the value of a 1:24,000 scale geologic map to be \$43,527. Based on that estimate and eliminating inflation, the value of these 38 Georgia geologic quadrangle maps is roughly \$1,654,026.

Federal funding provided by the STATEMAP program (matched by State Funds) awarded to the Geologic Survey Branch for eight years and the Geologic unit for the last three years is as follows:

Year 1 (7/1/98 - 6/30/99) Federal \$68,631 (3 quads)	Year 7 (7/1/04 - 6/30/05) Federal \$71,148 (4 quads)
Year 2 (7/1/99 - 6/30/00) Federal \$80,000 (4 quads)	Year 8 (7/1/05 - 6/30/06) Federal \$63,044 (4 quads)
Year 3 (7/1/00 - 6/30/01) Federal \$83,361 (4 quads)	Year 9 (7/1/06 - 6/30/07) Federal \$51,188 (5 quads)
Year 4 (7/1/01 - 6/30/02) Federal \$72,500 (4 quads)	Year 10 (7/1/07 - 6/30/08) Federal \$55,424 (2 quads, 1 County map, 1 Atlas)
Year 5 (7/1/02 - 6/30/03) Federal \$70,000 (3 quads)	Year 11 (7/1/08 - 6/30/09) Federal \$51,558 (4 quads)
Year 6 (7/1/03 - 6/30/04) Federal \$66,098 (3 quads)	

**Total \$742,952**

STATEMAP-supported mapping will assist in completing a geologic map of Georgia's upper and western Coastal Plain which includes the recharge areas for some of the most productive aquifers in the state. The mapping has covered parts of Macon, Dooley, Crisp, Sumter, Schley, Stewart, Lee, Webster, Terrell, Randolph, and Clay Counties. Severe drought conditions in Georgia for the past decade resulted in decreased ground-water availability and reduced stream-flow volumes. This critical situation has increased the need for accurate small-scale geologic maps that will allow improved precision in evaluating future ground-water and surface-water availability and the ability to better protect these resources. The mapping has also identified geologic hazards that affect agricultural lands, roads, and other infrastructures. The recent shift in focus of STATEMAP geologic mapping to the Ridge and Valley of northwest Georgia will help improve our understanding of lithologies and structures that govern productivity of Paleozoic-rock aquifers and the occasionally problematic sinkholes, slope failures, and other geologic hazards that affect this rapidly developing part of the state and the Interstate Highway 75 corridor between Atlanta and Chattanooga, TN.

