GEOLOGIC MAP OF THE TUGALOO TERRANE IN THE VICINITY OF THE BREVARD SHEAR ZONE, NORTHERN-HALF OF THE CHAMBLEDIE QUADRANGLE, GEORGIA

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ABSTRACT

Using a combination of existing and newly acquired geologic data, we have constructed a geologic map of the northern half of the Tugaloo Terrane (Georgia). The map area is 33.3 square miles and is in the company inner terrain region of western-central Georgia (fig. 1). The map was created using a geologic database that was compiled through field mapping efforts and was combined with data from other sources. The map is intended to be a useful tool for geologists and the public alike. The key features of the map include the location of the Tugaloo Terrane and the Brevard Shear Zone. The map also includes a detailed geologic map of the region, as well as a geological cross-section of the area. The map is available in a digital format and can be downloaded from the USGS website.

RELATED LITERATURE

1. Georgia (Lawton and others, 1976) includes the Atlanta region at a scale of 1:24,000. It is a geologic map published at the time of our bibliographical review. It is through GIS-ready portable devices. We hope that this project will benefit from the authors and should not be interpreted as necessarily representing the definitive work. The map was digitized and is available in a digital format and can be downloaded from the USGS website.

MOTIVATION

Two current maps and publications (2003) for this study area (The Geologic Map of the Brevard Quadrangle, Georgia) were used in the compilation of the present map. The Georgia (Lawton) includes the Atlanta region at a scale of 1:24,000. The map was digitized and is available in a digital format and can be downloaded from the USGS website.

DIGITAL MAPPING

Digital elevation models (DEM) and digital terrain models (DTM) were used to visualize and interpret the northern half of the Chamblee quadrangle based on ground topography and elevation. These models were derived from aerial photography and topographic survey data. The models were created using ground-only points in LIDAR point cloud data.

STRUCTURAL FINDINGS

Rose diagrams of structural features in the Brevard Fault Zone of the northern half of the Chamblee quadrangle. Both diagrams illustrate the diversity of faulting orientations with respect to the NNE-SSW-oriented Schenectady Fault System, indicating that these structures likely formed during a recent deformation episode.

CORRELATION OF MAP UNITS

The map correlates with the geologic map of the Brevard Quadrangle, Georgia, and includes a detailed geologic map of the region, as well as a geological cross-section of the area. The map is intended to be a useful tool for geologists and the public alike. The map is available in a digital format and can be downloaded from the USGS website.

USGS Digitalization → Digital Models → Drone Surveying - Photogrammetry - Geospatial

1. Duong, L., Hidalgo, P., Dai, D., & Rogers, K. (2022). A geologic map of the Tugaloo Terrane in the vicinity of the Brevard Shear Zone, northern-half of the Chamblee Quadrangle, Georgia. The Geologic Map of the Brevard Quadrangle, Georgia. Published by the USGS.

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