

Quick Summary of Guilford Courthouse NMP GRI meeting September 20, 2000

Summary

A geologic resources inventory workshop was held for Guilford Courthouse NMP (GUCO) on September 20, 2000 to view and discuss the park's geologic resources, to address the status of geologic mapping for compiling both paper and digital maps, and to assess resource management issues and needs. Cooperators from the NPS Geologic Resources Division (GRD), NPS Guilford Courthouse NMP, North Carolina GS and Guilford College were present for the workshop.

This involved a half-day field trip to view the geology of the Guilford Courthouse NMP area led by Tyler Clark (NCGS) and another half-day scoping session to present overviews of the NPS Inventory and Monitoring (I&M) program, the Geologic Resources Division, and the on going Geologic Resources Inventory (GRI). Round table discussions involving geologic issues for Guilford Courthouse NMP included interpretation, the status of geologic mapping efforts, sources of available data, and action items generated from this meeting.

Because of the regional drainages flowing from south-southwest into Guilford Courthouse, the general consensus of GUCO staff was that they would like to have a geologic map showing a buffer zone in the south-southwest direction around the park.

Attendees:

Bob Vogel (GUCO Superintendent)
Tim Connors (Geologic Resources Division-GRI)
Steve Ware (GUCO Chief of Visitor Services)
Rick Wooten (NCGS, Geologist)
Tyler Clark (NCGS, Geologist)
Charles Almy (Guilford College)

Items of discussion included the following:

Geologic Mapping:

At present, the only known geologic map covering the GUCO area is the "Geologic Map of Region G, North Carolina" by Al Carpenter (1982) at 1:250,000 scale. This is too small-scale to be useful for park resource management needs at the present time. Of significance on this map is that it shows a major shear zone directly in the vicinity of the park (and probably running through the park) that should be mapped at a larger scale; this zone dates back to the time when Africa collided with North America over 200 million years ago!. It was noted that the Piedmont has not received much attention because of a general lack of rock exposures.

Additionally, Guilford College has done 1:4,800 scale mapping of local drainage basins in the vicinity. (MS Thesis 1995, unknown author)

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Tyler Clark developed a very preliminary geologic map in ArcView that he distributed to meeting attendees based on the park map from their visitor brochure, the DRG for the area, and the geology from Carpenter's map. It has lots of room for error, and is only preliminary at this point because of scale matching issues.

Digital Geologic Map coverage:

Because no acceptable map for GUCO currently exists, it was suggested for the NPS to work with both local Guilford College (Charles Almy) and the NCGS to develop a geologic coverage from Guilford College to Guilford Courthouse, encompassing much of the drainage basin in this effort and in effect capture the movement of the battle to GUCO. The NCGS would work closely with Guilford College to offer oversight and expertise for the project. In addition, the NCGS is hoping to gain better insight into the extent of this shear zone come time for them to complete a StateMap project in the Piedmont region

The NPS will send Guilford College a proposal form for them to fill out outlining the tasks to be performed and the deliverables for NPS perusal. Guilford College does have capability to digitize maps as per the shown NPS geologic map model.

Using the EdMap program is another possibility here. The proximity of Guilford College to GUCO has many benefits, but they are strictly an undergraduate institution, so EdMap is not a possibility with them.

Other desired GIS data:

Soils maps are also of interest to GUCO staff. Tim Connors will check with Pete Biggam (NPS-Soil Scientist) on the status of soils mapping for the area; will require more follow-up.

GUCO staff were interested in producing a land use map to show times of farming and intensive land use and how this has changed since 1781, as it has much to do with today's landscape.

Also water studies have been done at Guilford College on Horsebend Creek on fertilizers and the USGS has done ground-water studies that should be incorporated into the park GIS.

Interpretation:

GUCO staff are interested in how the geology related to the battle at Guilford Courthouse and if the streams are pretty much in the same position that they occupied in 1781. The group as a whole thought that the streams have not changed significantly and that the topography (and controlling geology) played a role in the events of 1781.