



# 2023 NCGIS

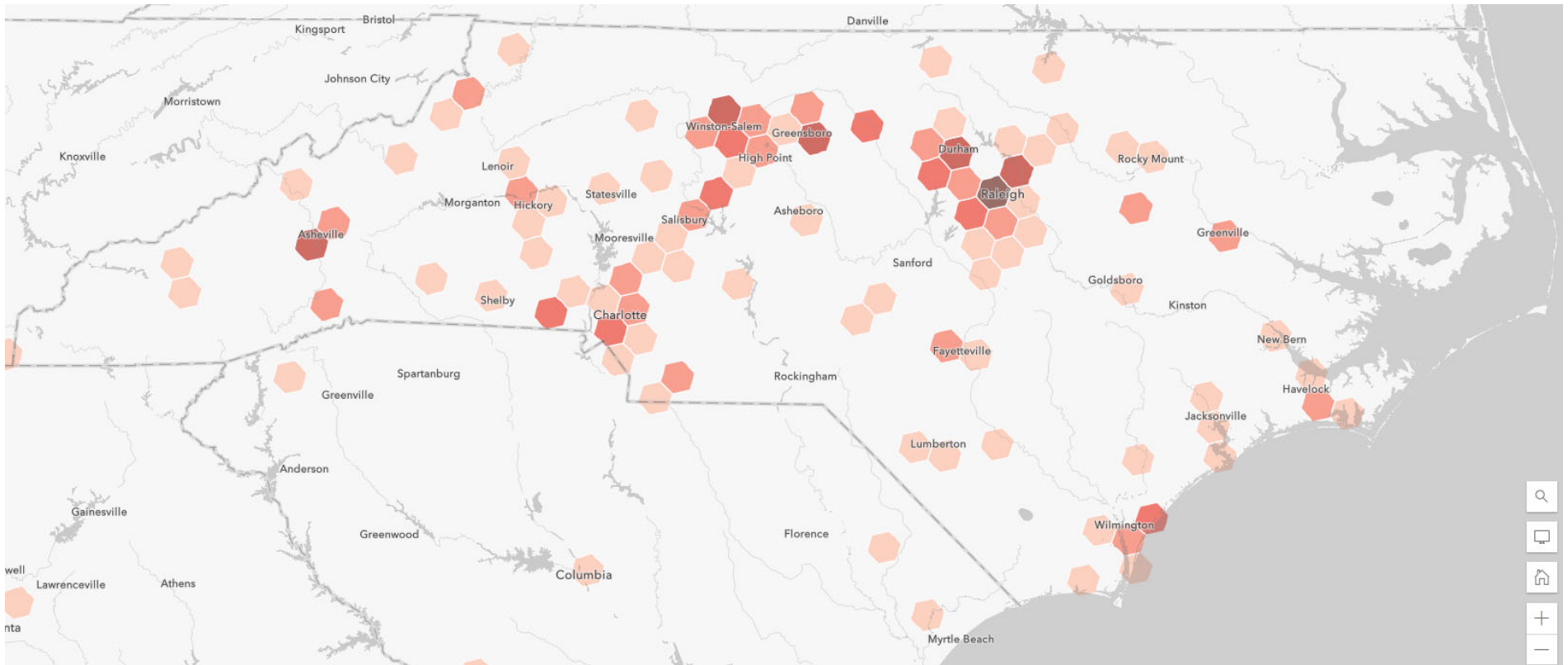
North Carolina Geographic Information Systems Conference

## Conference Recap

Geographic Information Coordinating Council

May 17, 2023







ONLY PARKING

Convention Center  
Convention Center Parking



NO PARKING  
LOADING ZONE

2023  
NCGIS

GET IT  
WALK

**Debra Troxell,  
West Forsyth HS  
Teacher**













# WHO IS A GISP?

A GISP...

... is Certified Geographic Information Systems (GIS) Professional endorsed by the GIS Certification Institute through a peer-reviewed evaluation.

...has met the minimum standards for educational achievement, professional experience, in a manner in which he or she contributes back to the profession, and practices in an ethical manner.

...must adhere to the highest standards of ethical behavior.

...participates in continuing education to educate him or herself while advancing in their profession.

...has had their professional background scrutinized and reviewed by an independent third party organization.

...can come from anywhere in the world. Currently, active GISPs reside in all 50 states and over 57 foreign countries.

...is a Professional.



# GIS Certification Institute



Put your career on

- Ongoing training
- Experience
- Contribution to the profession

- Measure of professional achievement
- Is written and reviewed by a qualified professional
- Offered by the GIS Certification Institute

- Obligation to the profession
- Duty to the public
- Feasibility of the project
- Spreading the word
- Obligation to the profession











# 2023 NC GIS Poster Session



**2023 NCGIS**  
North Carolina Geographic Information Systems Conference



Vote for your favorite posters!



Winners will be announced later in the conference and receive cash prizes!





North Carolina  
Digital Elevation Model  
10' Grid Cells Hillshade  
1:1,045,440

Author - Madison County GIS Administrator  
Special thanks to: Mike Wilson - APSU GIS  
Instructor, Bob Howard, Max Kirshling, and Abbie  
Hester - my wife.

How it is done:

1. Find the data you desire in a raster format. For this model I used a .tif file.
2. Install QGIS if you have not already done so because a plugin you will need to create a .obj file can not be accomplished in ArcGIS.
3. Once you have QGIS installed, install the plugin DEMtoOBJ. This will be able to convert your raster data into an .obj format to use in your 3D carving or 3D printing software.
4. Launch your plugin DEMtoOBJ and set your parameters for your model, choose your base, set your extent, width, height, scale, vertical exaggeration, model height, and the model base height.

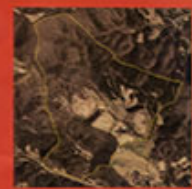


5. After you have your created .obj import that into your model creation software for this model I used Carved Modeler. I have printed plastic models as well and use Cura in those applications.



## Using GIS for creating wood topographic models

This is first model is a property that is going to be a retreat and was created with cherry and using LIDAR data.



This next model is an area of the county with the jail and health department using walnut and LIDAR data as well.

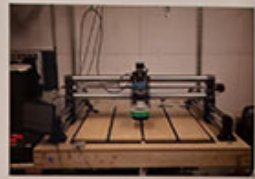


The QR code will take you to a short timeslapse video of the carve for the model.



What did I use?

The machine I used to create this model was the Onefinity Woodworker X-50 and a Makita router. This machine has cutting area of 32" by 32" and can carve up to 5.25" thick.



How long did it take?

This model was cut with two different bits, a 1/4" compression bit for the rough in cut which took 38 minutes. The finishing bit was a 1/16" tapered ball nose bit and was 2 hours and 43 minutes.

Results:

Overall, the scale for this model is too large for the parameters for my working area. The highest point in North Carolina being Mt. Mitchell rising to 6,684 feet only rises 19 of an inch at this scale from the coast and is hard to visualize. If you run your hand over the model, you can feel the mountains in western North Carolina. The grain of the red oak also provide a level of difficulty when trying to visualize.

The other models:

The other two smaller models were produced using LIDAR data and being oriented at a much smaller scale provide much more detail.





2023

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North Carolina Geographic Information Systems Conference



**G. Herbert Stout Award**  
**For Innovative Use of GIS by Local Government**





# 2023 NCGIS

North Carolina Geographic Information Systems Conference



## **G. Herbert Stout Award For Innovative Student Papers**





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## Undergraduate Winners

Helen	Arnold	UNC Wilmington
Madison	Eaton	Elon University
Caroline	Fehlman	Appalachian State University
Sarah	Followill	UNC Chapel Hill
Ross	Jensen	Fayetteville State University
Andrea	Saravitz	North Carolina State University
Neylan	Visnius	Warren Wilson College
Cambria	White	North Carolina Central University

## Graduate Winners

Elijah	Dalton	UNC Wilmington
Jeremy	Davis	North Carolina State University
Eliza	Merritt	Appalachian State University
Grey	Shipman	UNC Chapel Hill
Michael	Wallace	North Carolina Central University

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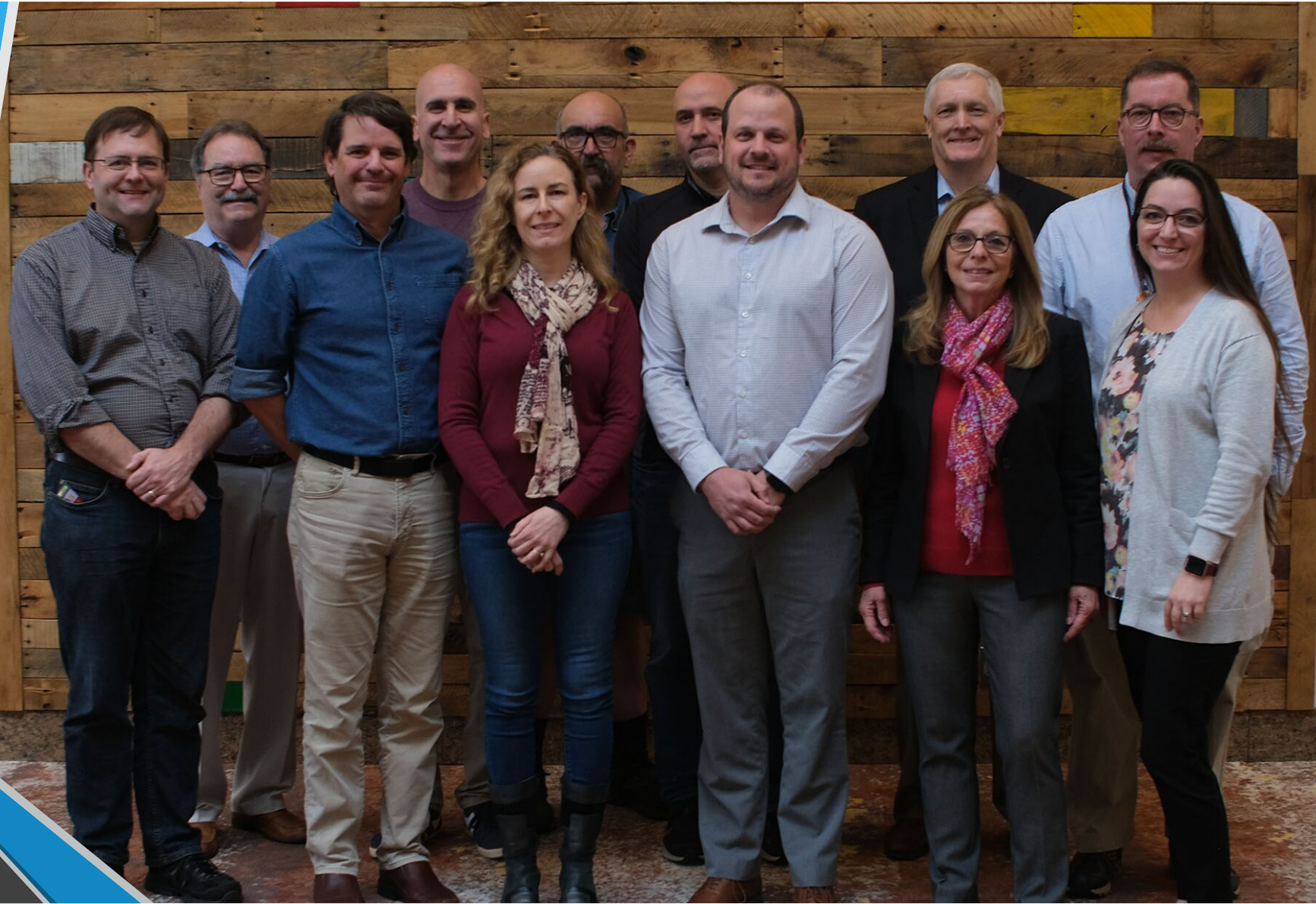














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*Looking Ahead to 2025*