

The background is a grayscale aerial map showing a grid of land parcels, roads, and water bodies. Overlaid on this map are several circular icons: a gray location pin, a green circle, a yellow circle with a globe, a teal circle, a red circle with a person silhouette, a light green circle, and a gray circle. A large dark blue circle is centered on the map, containing the text for the webinar.

Nov. 17, 2021

Research & Application  
Webinar:

# Getting Started with GIS



# GIS Day at UNCG

GIS Day is an opportunity to share the work we do with Geographic Information Systems (GIS) and encourage others to explore how they can use them in their own work.

Virtual Panel and Q&A: GIS at UNCG, Nov. 17th, 3 - 4:15PM

Register at [go.uncg.edu/gisday](https://go.uncg.edu/gisday)

Geocaching Challenge, Nov. 15th - 21st

Register at [go.uncg.edu/gisday](https://go.uncg.edu/gisday) or view on [geocaching.com/geocache/GC9JD7W](https://geocaching.com/geocache/GC9JD7W)\*

\*Coming soon!



1

What is GIS?



GIS is...

## Geographic Information Systems

Computer systems used to map, analyze, and explore geospatial data.

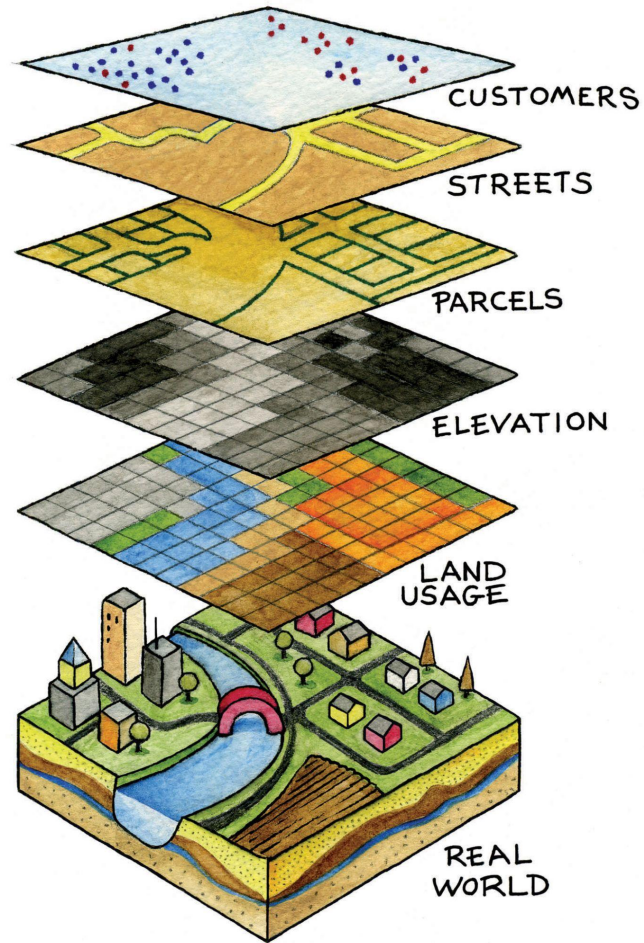
## Geographic Information Science

The study of geographic information concepts, including the use of geographic information systems.

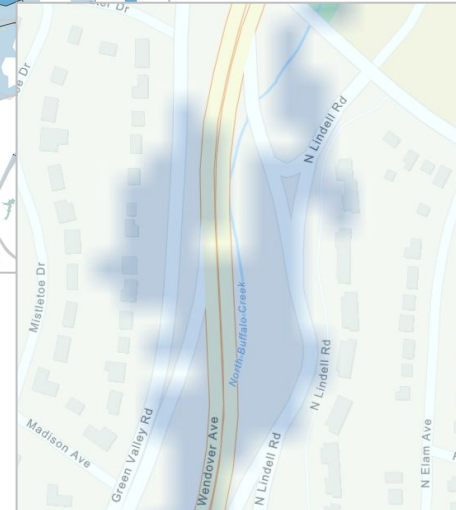
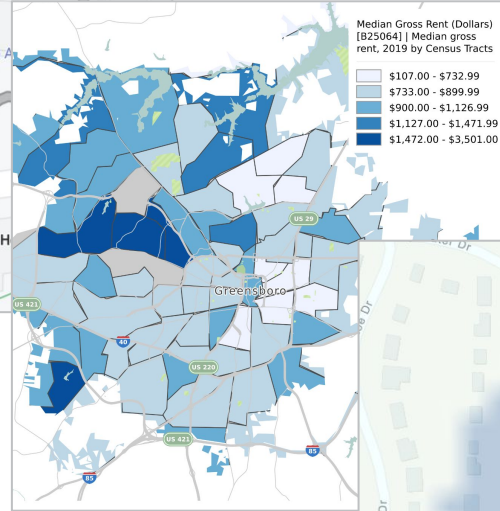
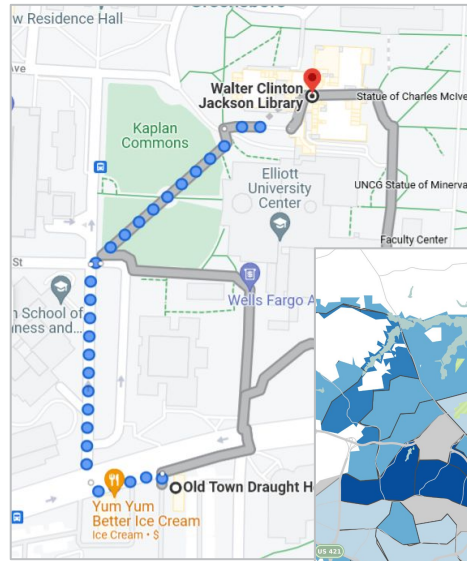


GIS is...

?



# GIS is...



Maps, top left to bottom right: Google Maps (2021). Jackson Library to Old Town Draught House. Road map. Accessed 16 Nov. 2021.; SimplyAnalytics (2021) Map with US Census Bureau American Community Survey 2019. Accessed 16 Nov. 2021.; EnviroAtlas (2021). Estimated floodplains 2016. Accessed 16 Nov. 2021.



Two questions for you...







# GIS is...

ArcGIS StoryMaps


Overview Explore Stories Resources Pricing [Launch ArcGIS StoryMaps](#)




**Preserving significant places of Black history**  
NYC Landmarks Preservation Commission  
Tour African American landmarks and historic districts in New York City.  
[Explore the story](#)







**The lines that shape our cities**  
Multiple authors  
Learn how present-day environmental inequalities connect to redlining policies of the 1930s.  
[Explore the story](#)



**The brush is a bow**  
Texas Folklife  
Enjoy the watercolor portraits and accompanying music from artist Howard Rains.  
[Browse the exhibit](#)



**Books Through Their Pages**  
Tulane University libraries  
The 'Books Through Their Pages' exhibit offers an introduction to historic and contemporary book structures. Take a virtual tour.  
[Explore the story](#)







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What tools are  
available?



# Library Databases

Access from the  
[Library A-Z  
Databases page](#)

Tools for discovering and comparing statistics and generating publication-ready maps of existing datasets.

## Simply Analytics

Discover and map demographic, consumer spending, psychographic and business data in the US.

## PolicyMap

Similar to Simply Analytics, but with more emphasis on city and urban planning, sociology, and other factors in policy.

## Social Explorer

Explore and compare US demographic data over time and place. Some international data.

## Data Planet

Statistical analysis and discovery tool for social science researchers with a mapping option.

A decorative graphic on the left side of the slide featuring a large dark blue circle with the text 'Easy Entry Tools' inside. Surrounding this central circle are several smaller circles in various colors: a yellow one at the top right, a red one at the bottom left, a grey one at the bottom, and a few smaller teal and light green ones at the top and left edges.

## Easy Entry Tools

Tools for exploring and practicing basic mapping and geospatial data concepts.

### [Datawrapper](#)

Free, no account needed, point-and-click tool for creating basic interactive maps for publications or presentations.

### [Google Earth Pro](#)

Create geospatial data and view satellite imagery and Google's places data. Free, but takes up a lot of space/processing power.

### [Google Maps](#)

Through the “My Maps” feature, create and share maps with Google's places data or your own, with some customization options.

A decorative graphic on the left side of the slide featuring a large dark blue circle containing the text 'Free Programming Tools'. Surrounding this central circle are several smaller circles in various colors: a yellow one at the top right, a red one at the bottom left, a grey one at the bottom center, and several small teal and light blue ones scattered around the top and left edges.

## Free Programming Tools

Download for free or access via [MyCloud](#) or app catalog

Free, open-source, code-based tools for data analysis and visualization, created for purposes other than GIS.

### [R \(command-line\)](#) and [RStudio \(IDE/GUI\)](#)

Programming language/software for statistical computing and graphics; packages like `sp`, `sf`, and `ggmap` extend functionality to include geospatial data.

### [Python](#)

Programming language that is similar to R, but less focused on statistics. Libraries and packages extend functionality to include geospatial data.

# ArcGIS

## Full GIS Suite

### ArcGIS Desktop

#### ArcMap<sup>1,3</sup>

Create & edit maps

#### ArcCatalog<sup>1,3</sup>

Manage & organize content

#### ArcGlobe<sup>1,3</sup>

Create & edit 3D maps with large global datasets

#### ArcScene<sup>3</sup>

Create & edit 3D maps with local datasets

#### ArcGIS Pro<sup>2,4</sup>

The newer desktop software. Has the same functionality as the four to the left combined, plus some extra online functionality and other features.

### ArcGIS Online<sup>2</sup>

### Story Maps<sup>2</sup>

#### ArcGIS StoryMaps

Create interactive story maps with flexible layout options and a single builder.

#### Classic Story Maps

The old version of StoryMaps with multiple builders by layout; you have to pick a layout first and can't switch between them as easily.

1. Use in [MyCloud](#)

2. Need an account

3. Download from app catalog as ArcGIS Desktop or contact James Nelson (GES)

4. Download from app catalog as ArcGIS Pro or contact James Nelson (GES)

A decorative graphic on the left side of the slide featuring a large dark blue circle with the text 'Free Alternatives' inside it. Surrounding this central circle are several smaller circles in various colors: a yellow one at the top right, a red one at the bottom left, a grey one at the bottom, and a few smaller teal and light green ones at the top and left edges.

## Free Alternatives

### QGIS instead of ArcGIS Pro/Desktop

Free, open source tool with most of the same features as ArcGIS Desktop. Plugins extend functionality. Anyone can contribute plugins.

### StoryMapJS instead of ArcGIS StoryMaps




Point-and-click tool for creating polished story maps with limited customization options (more customization possible with javascript). Integrates with Google Sheets.



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That's a lot.  
How do I get  
started?



- 
- 
- 
- 1) Collect your data.
  - 2) Identify what you would like to do with the data.
  - 3) Determine needs and wants for your project.
  - 4) Find a tool or multiple tools that fit your needs.
  - 5) “Learn the tool”

# ArcGIS

Do you need  
an account?

1) Would you like to share or publish your content for other UNCG ArcGIS users to use, or would you like to use their content?

No

Yes

2) Will you need any online features, like story maps or sharing live or interactive maps?

Yes

No

Contact Jo Klein and James Nelson (GES) to request an institutional account.

You do not need an account. Use ArcGIS Desktop

Create a free public account and try out ArcGIS Online or StoryMaps.  
3) Do you need more features?

Yes

No

You're all set!

Purchase an [ArcGIS for Personal Use or for Student Use license](#), or contact Jo Klein and James Nelson (GES) to request an institutional account.



## Learning Resources to Start With

### General GIS

[GIS Resource Guide](#) - the UNCG Resource Guide for GIS tools, tutorials, and other resources.

[GIS 101 from GIS Lounge](#) - a lot of great introductory and fun content.

[GIS Mapping: Types Of Interactive Maps & Applications](#)

### ArcGIS

[Esri Academy](#) - Esri's tutorials for all of its products. Select the "free" lessons!

[Learn ArcGIS](#) - Lessons for learning ArcGIS organized by experience (i.e. New User) or capability.

### Search online or in the [library catalog](#)!

Keywords to search for: "training manual," "tutorial," "workbook"



# Jo Klein (they/he)

GIS & Data Visualization Librarian

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Schedule an appointment with me:

[go.uncg.edu/joklein-appt](https://go.uncg.edu/joklein-appt)

Areas:

- Computer Science
- Geography, Environment, & Sustainability
- Informatics & Analytics