Nov. 17, 2021
Research & Application Webinar:
Getting Started with GIS
Photo by USGS on Unsplash
Presentation template by SlidesCarnival

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

Geocaching Challenge, Nov. 15th - 21st

Register at go.uncg.edu/gisday or view on geocaching.com/geocache/GC9JD7W*

*Coming soon!

1

What is GIS?

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...

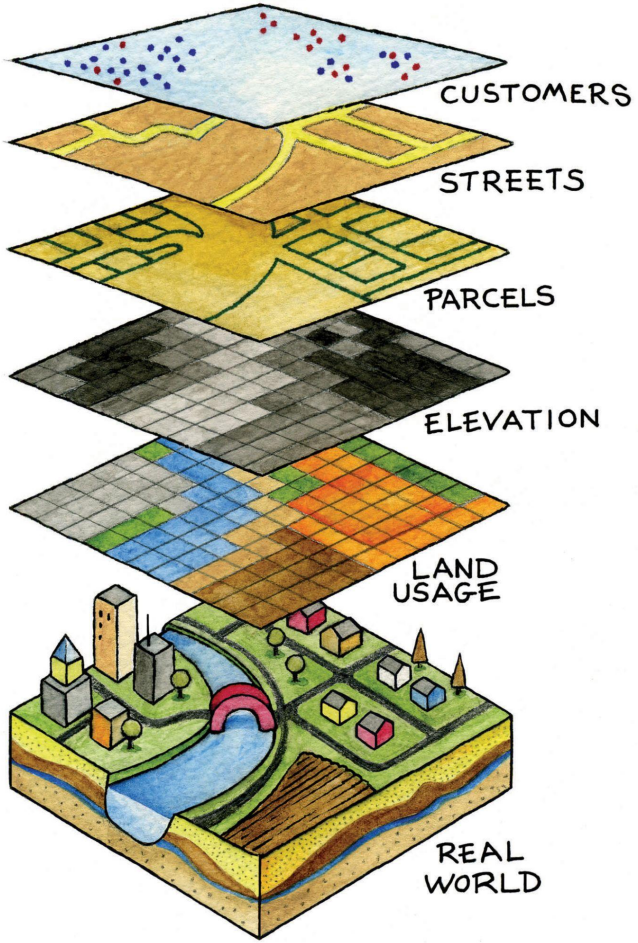
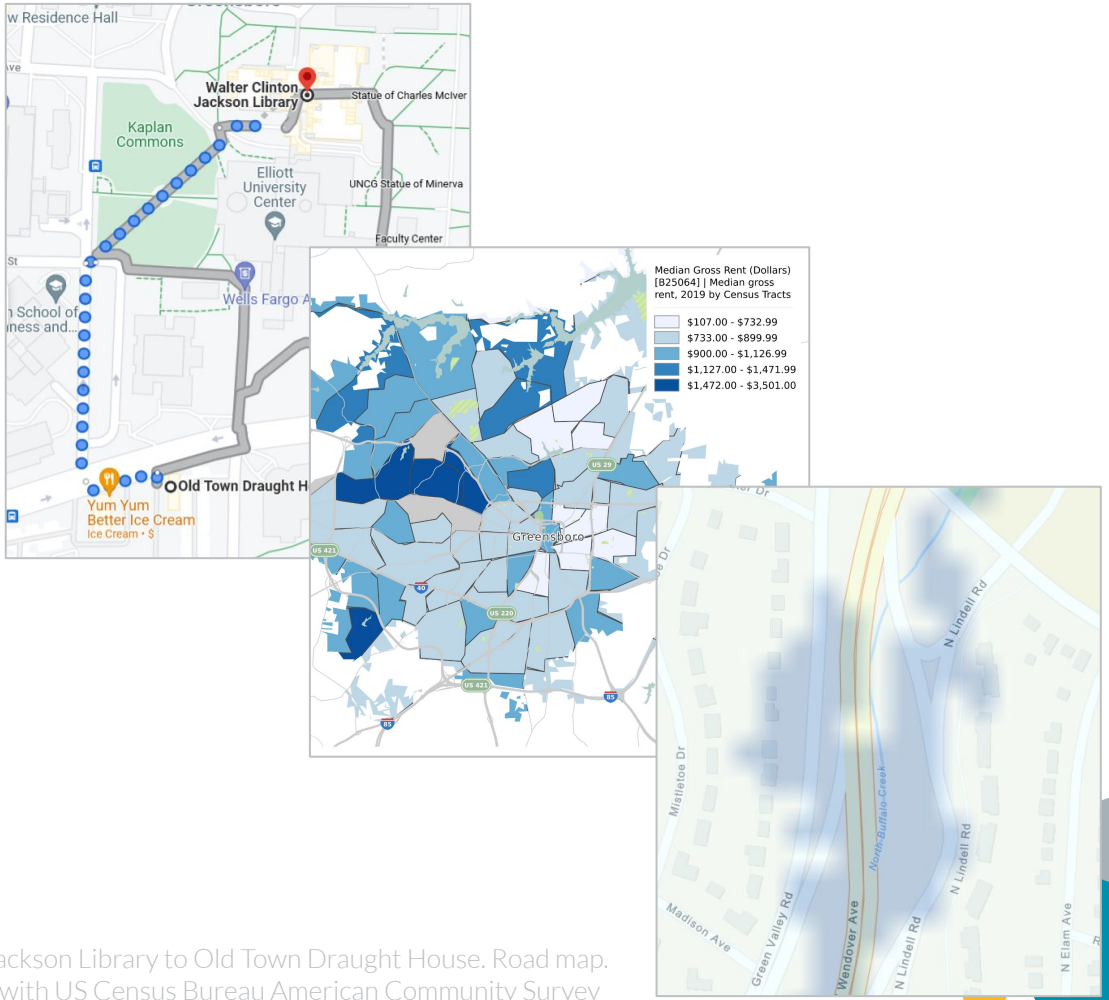


Image from Essentials of Geographic Information Systems, 2012, Saylor Academy.

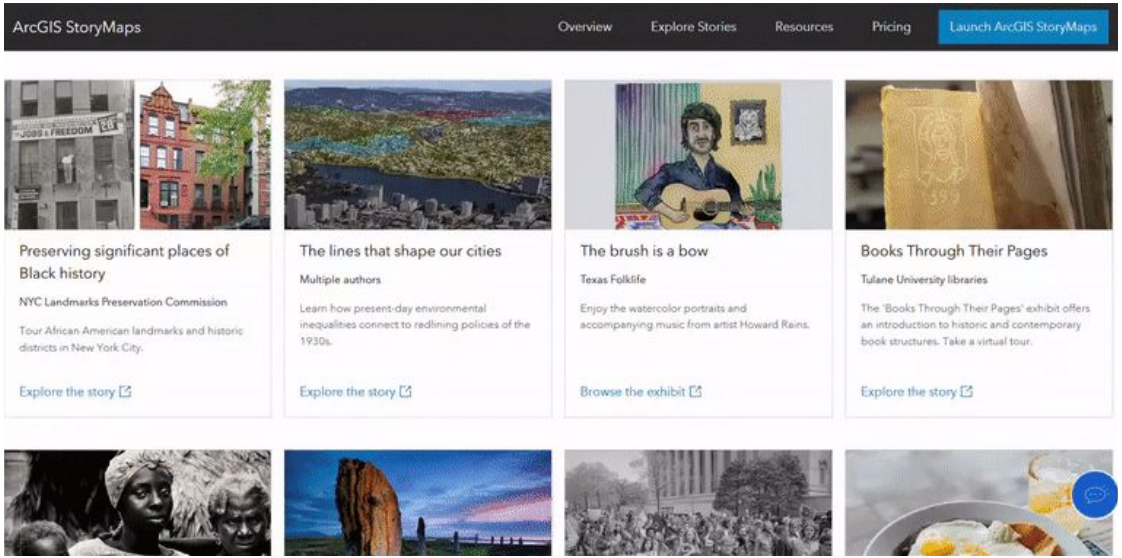
GIS is...



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...



GIF captured from ArcGIS StoryMaps: Arts and culture.

2

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.

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.

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[1,3]
Create & edit maps

ArcCatalog[1,3]
Manage & organize content

ArcGlobe[1,3]
Create & edit 3D maps with large global datasets

ArcScene[3]
Create & edit 3D maps with local datasets

ArcGIS Pro[2,4]
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[2]

Story Maps[2]

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)

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.

3

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

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

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

Yes

No

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

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

No

You're all set!

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

ejklein@uncg.edu

Schedule an appointment with me:
go.uncg.edu/joklein-appt

Areas:

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