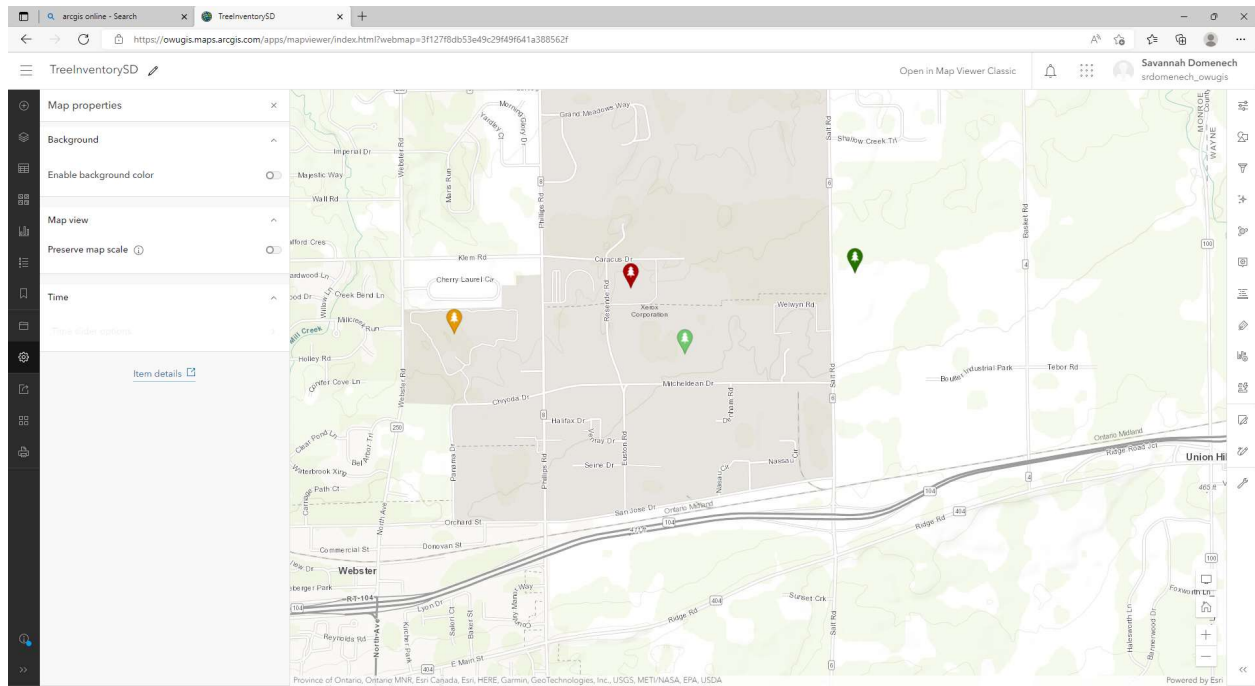


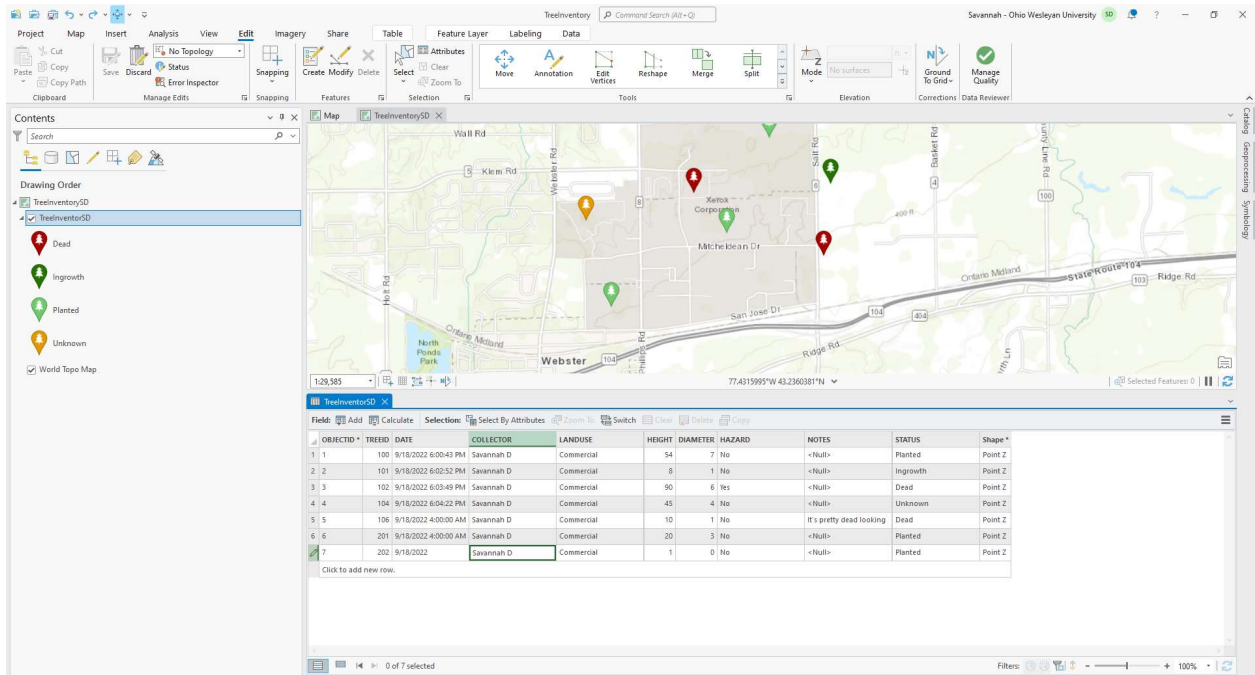
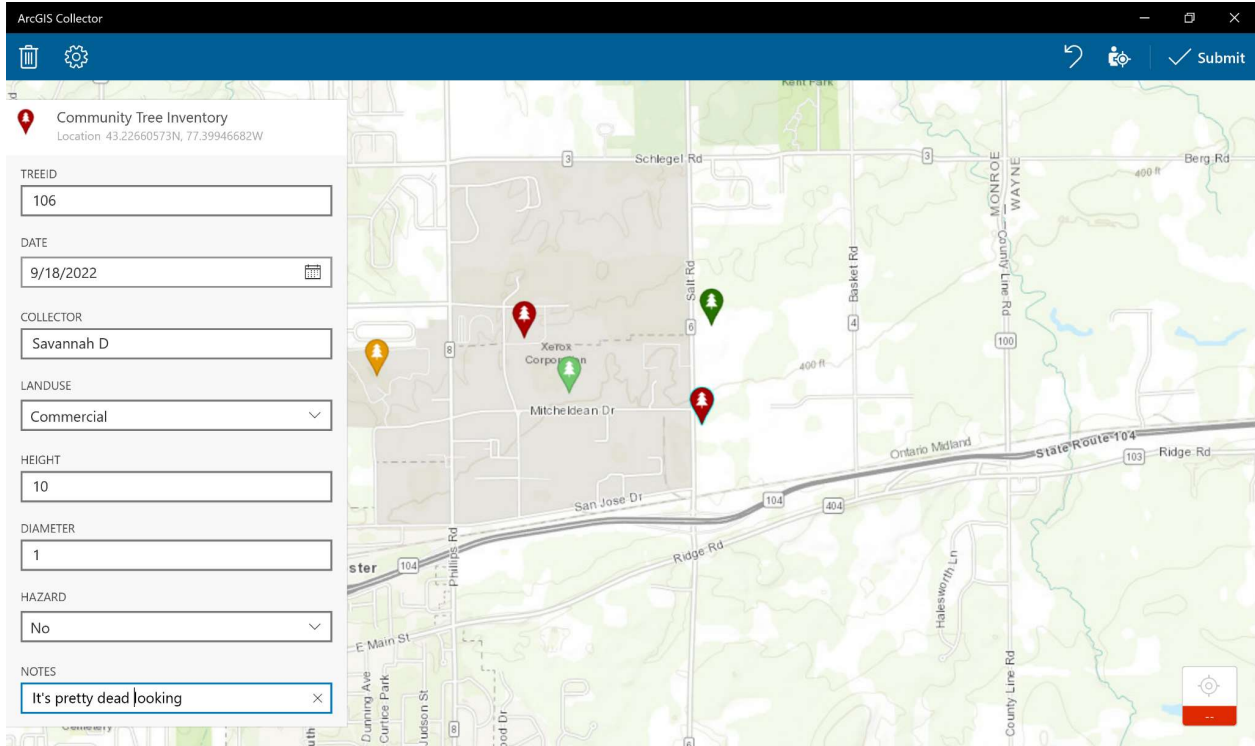
## Getting to Know ArcGIS Chapter 6

### Notes:

- ArcGIS allows electronic collaboration mapping (this can be used in crowdsourcing)
- The data type determines what kind of data the field can store

### Exercise Screenshots:





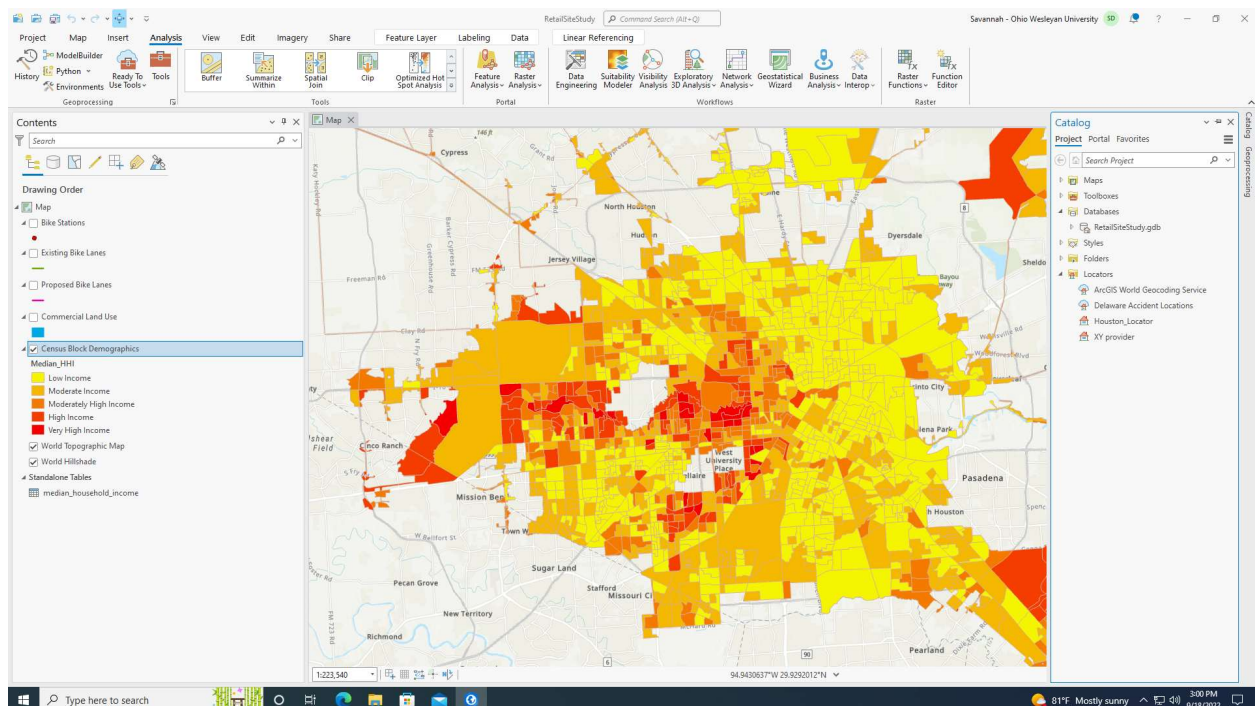
## Getting to Know ArcGIS Chapter 7

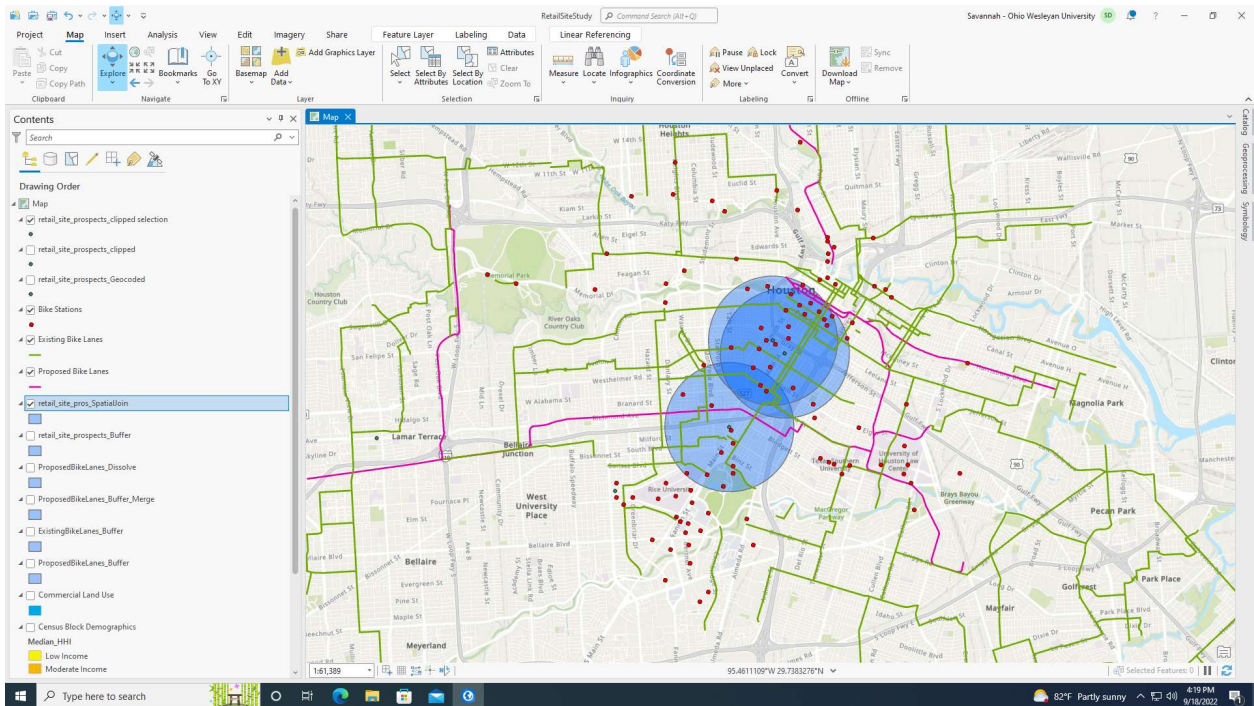
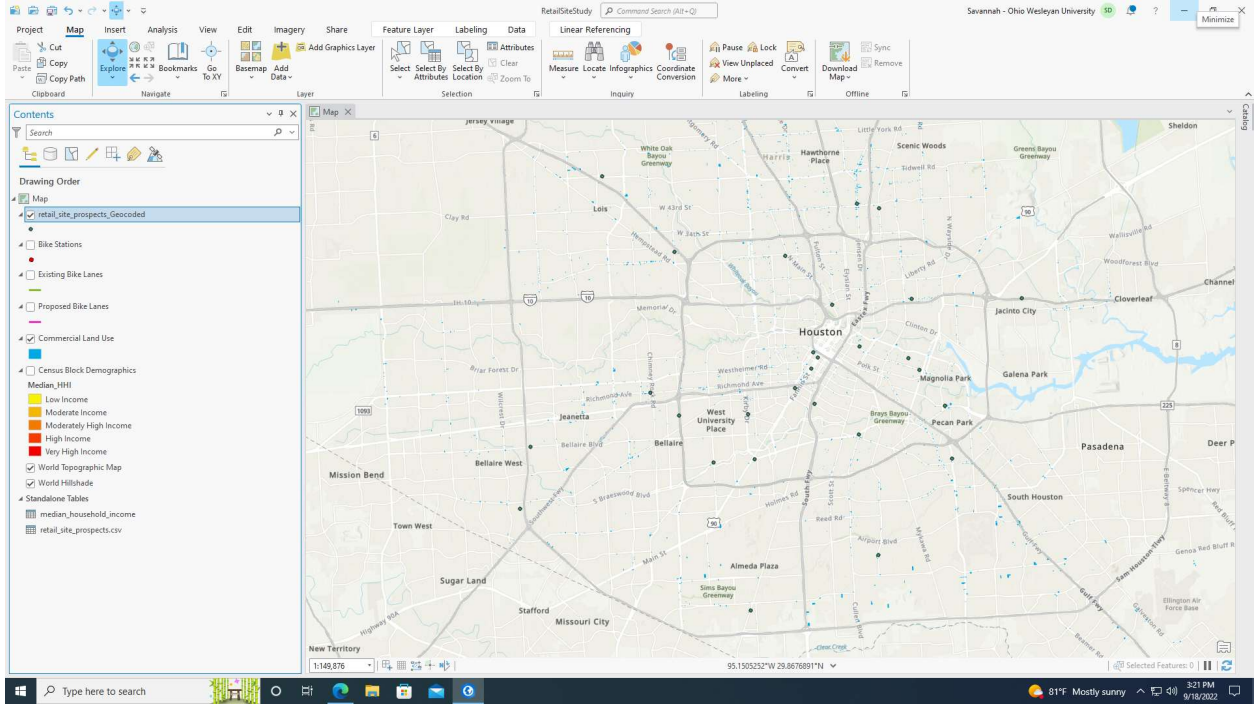
### Notes:

- Geocoding is creating features from information that describes or names a location
- To geocode addresses you need an address table, reference data (such as a streets layer), and an address locator (a file that contains the reference data and various geocoding rules and settings)
- Address locators are created in the Geoprocessing pane
- The Clip tool extracts features using other features
- Location query is selecting features by calculating spatial relationships between different layers

### Exercise Notes and Screenshots:

- The Locate pane is located in the Map tab
- ArcPro has backups so if you didn't save and it crashes not everything is lost and then the send error report will probably crash next





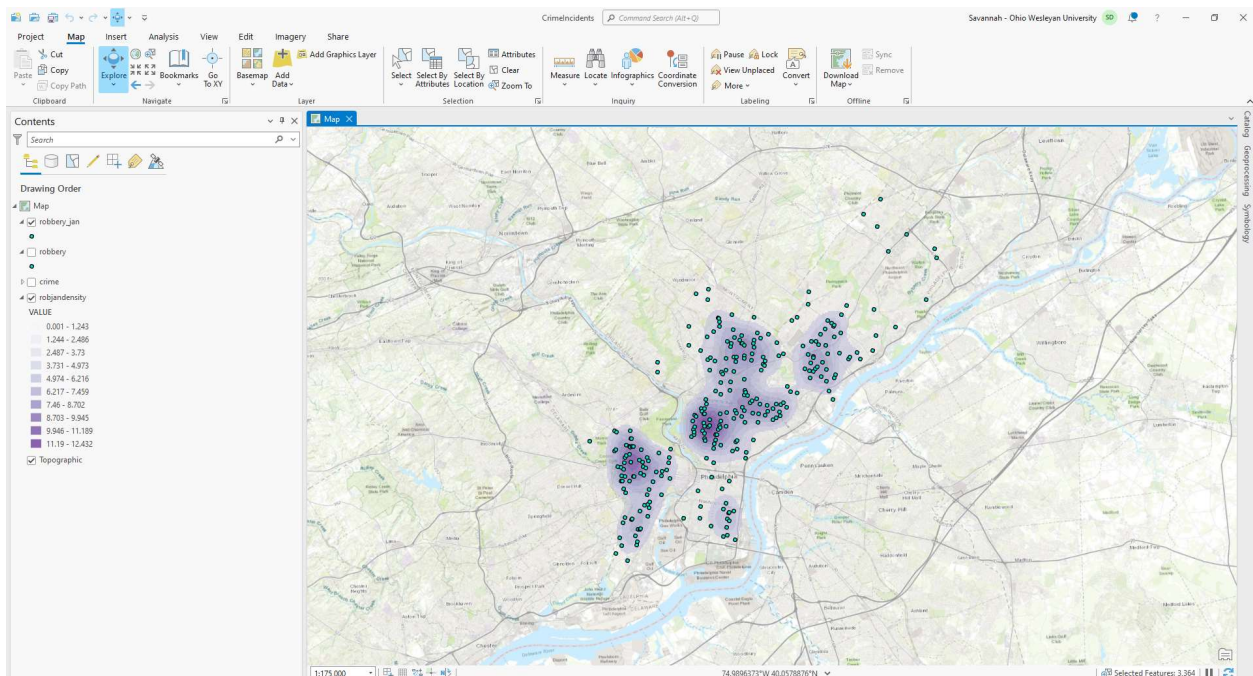
## Getting to Know ArcGIS Chapter 8

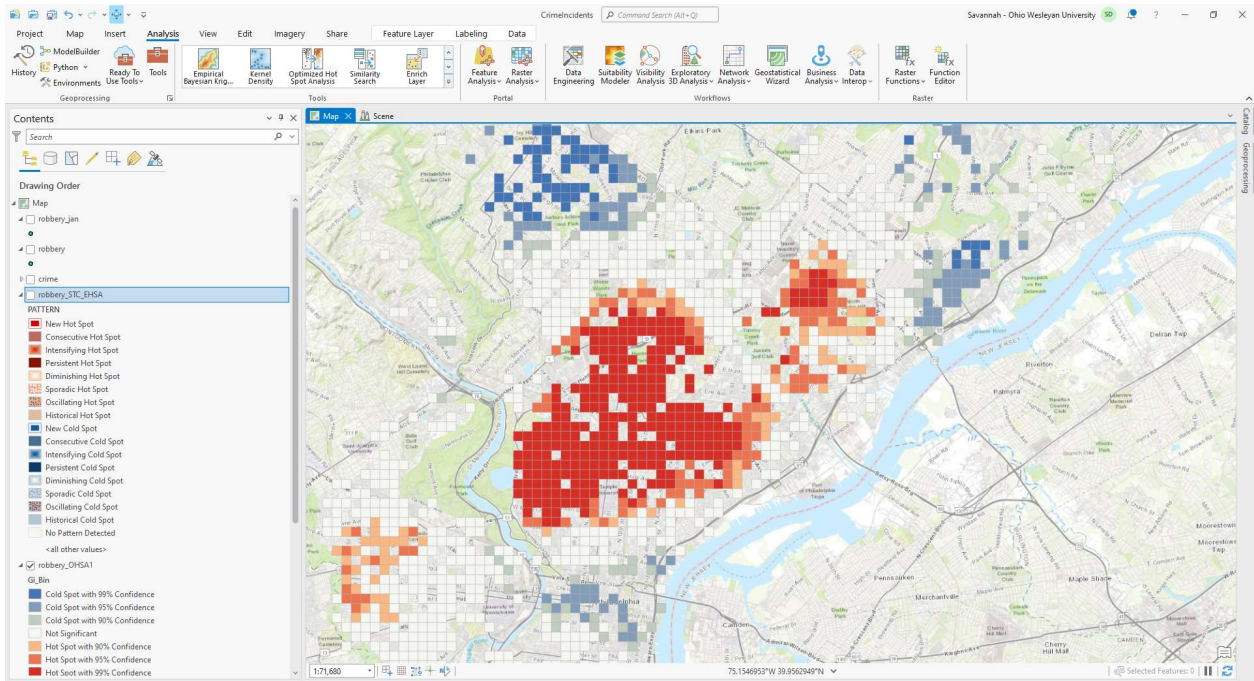
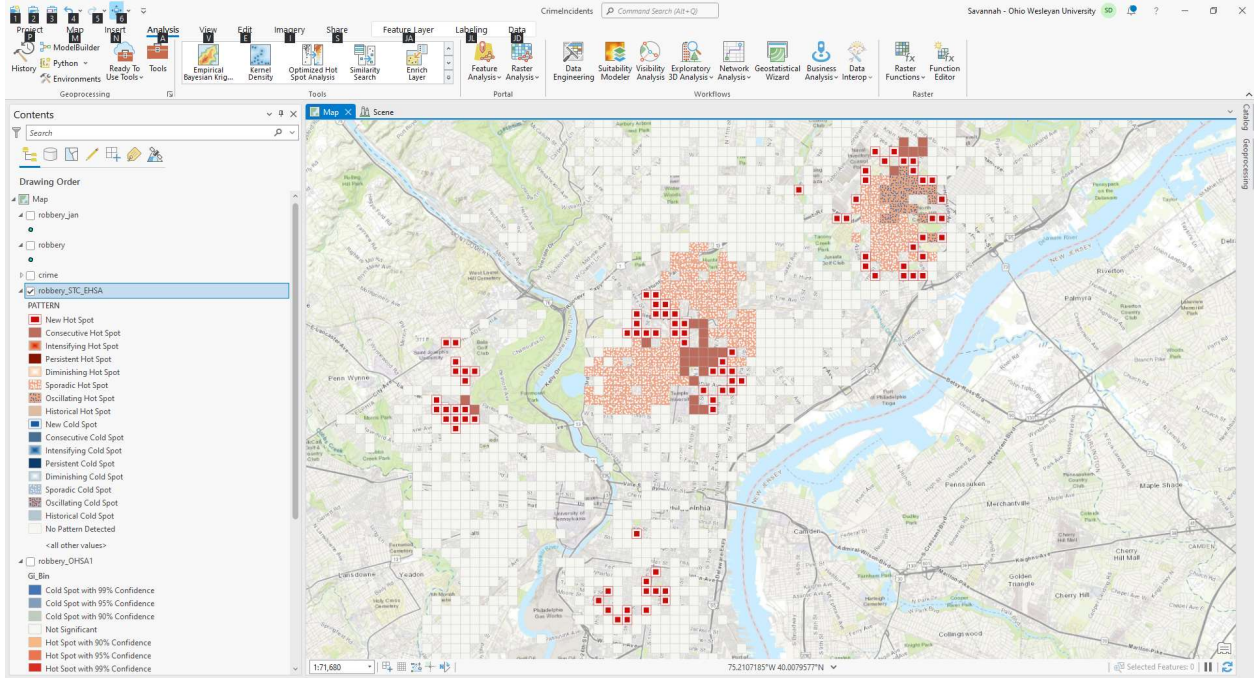
### Notes and Comments:

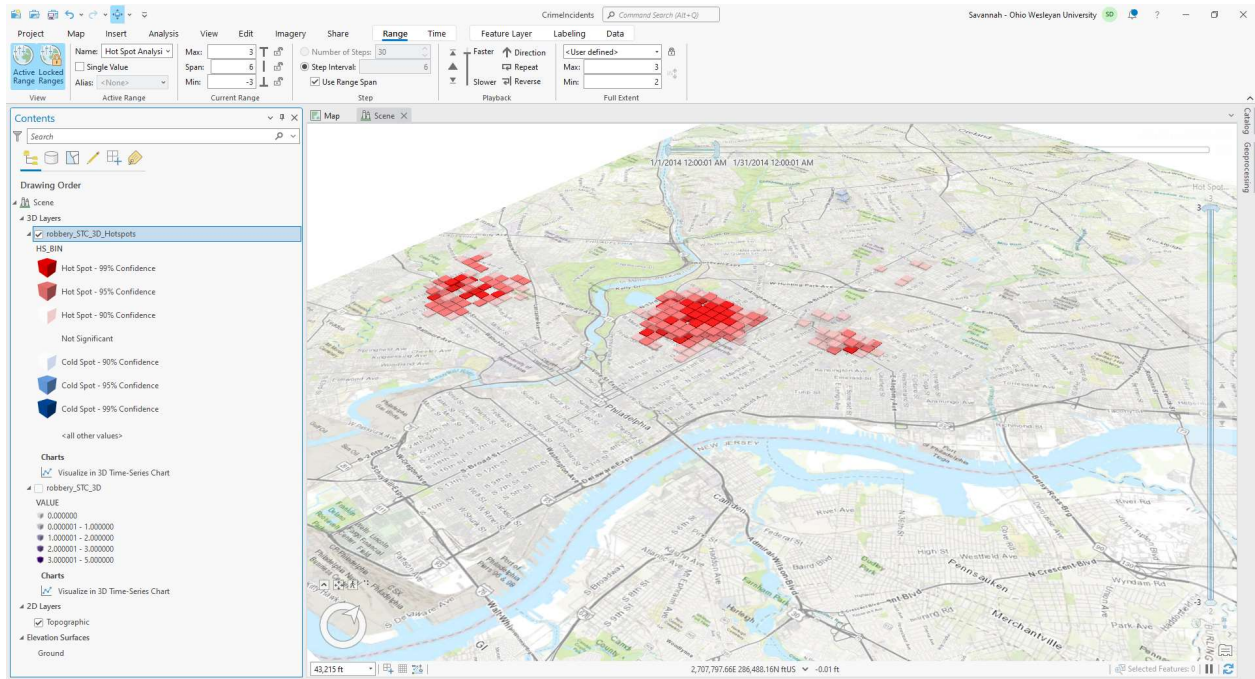
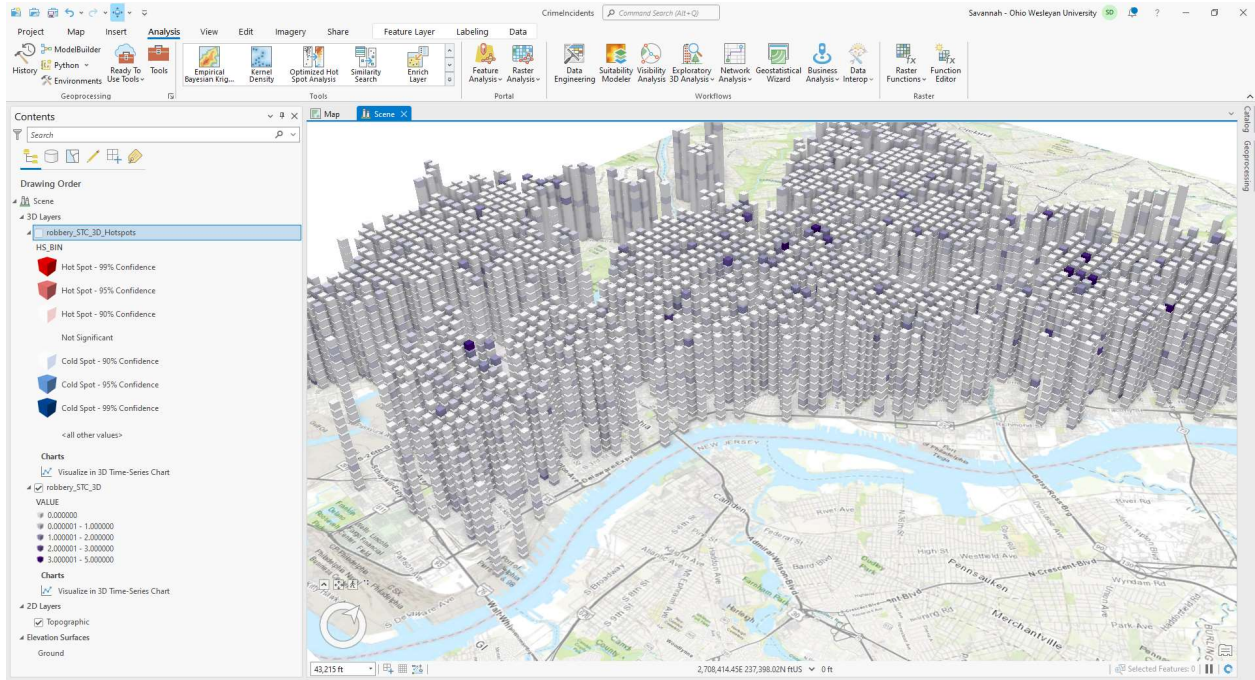
- Temporal data is data that has a time attribute
- Kernel density calculates the density of features in an area around those features
- A space time cube summarizes a set of certain features into a data structure by aggregating them into a space-time bin
- This was definitely a fancy (both operations and final product) chapter

### Exercise Notes and Screenshots:

- My optimized hot spot analysis does not look like the book and the attribute fields aren't the same (the book says GiZScore Fixed 3987 but mine says GiZScore Fixed 7449). As a result, my maps look different from the book for the rest of the chapter







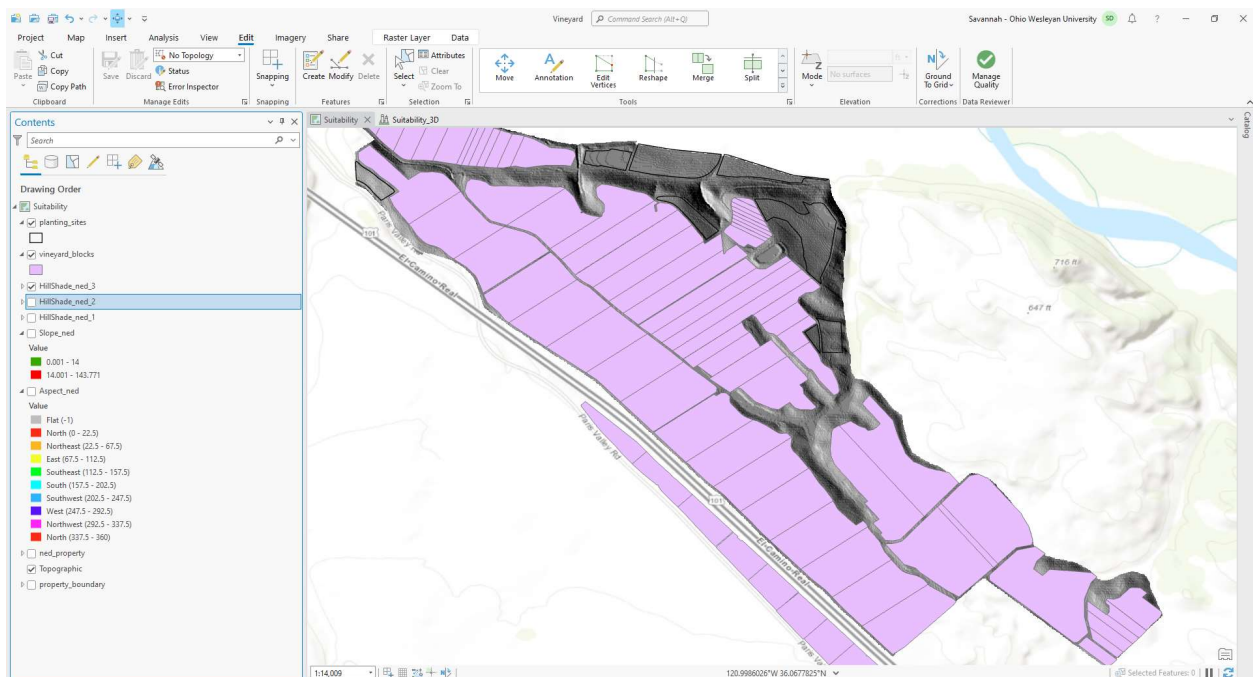
## Getting to Know ArcGIS Chapter 9

### Notes:

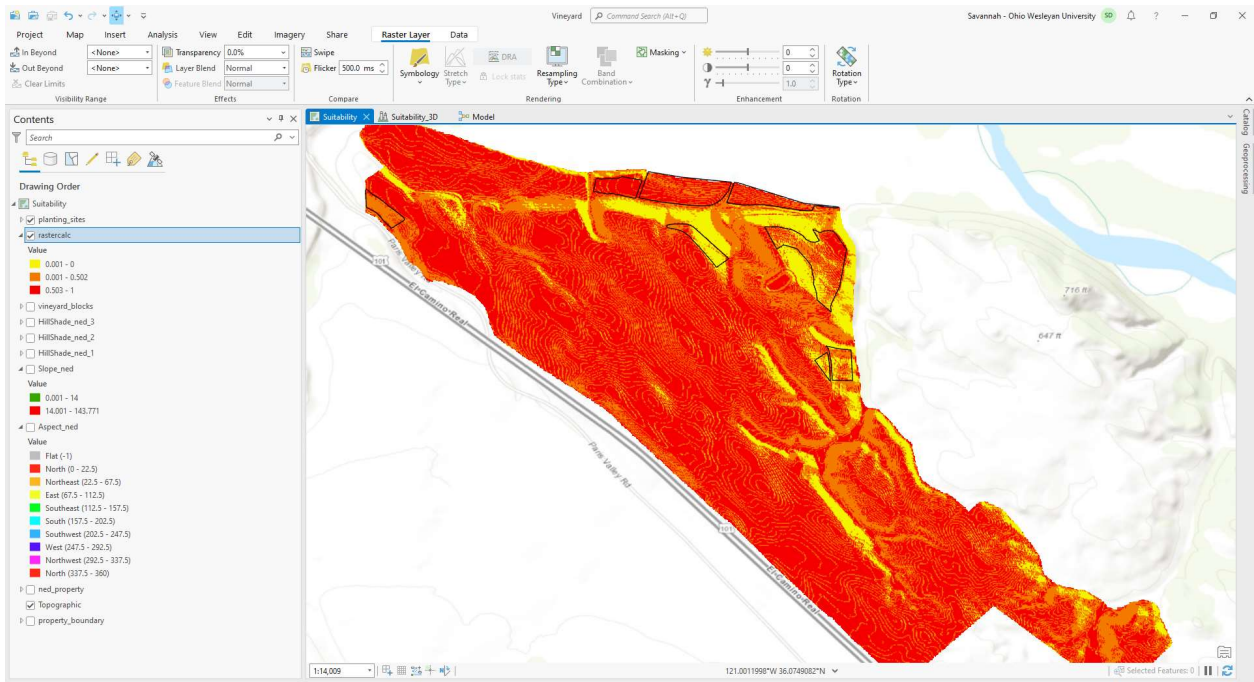
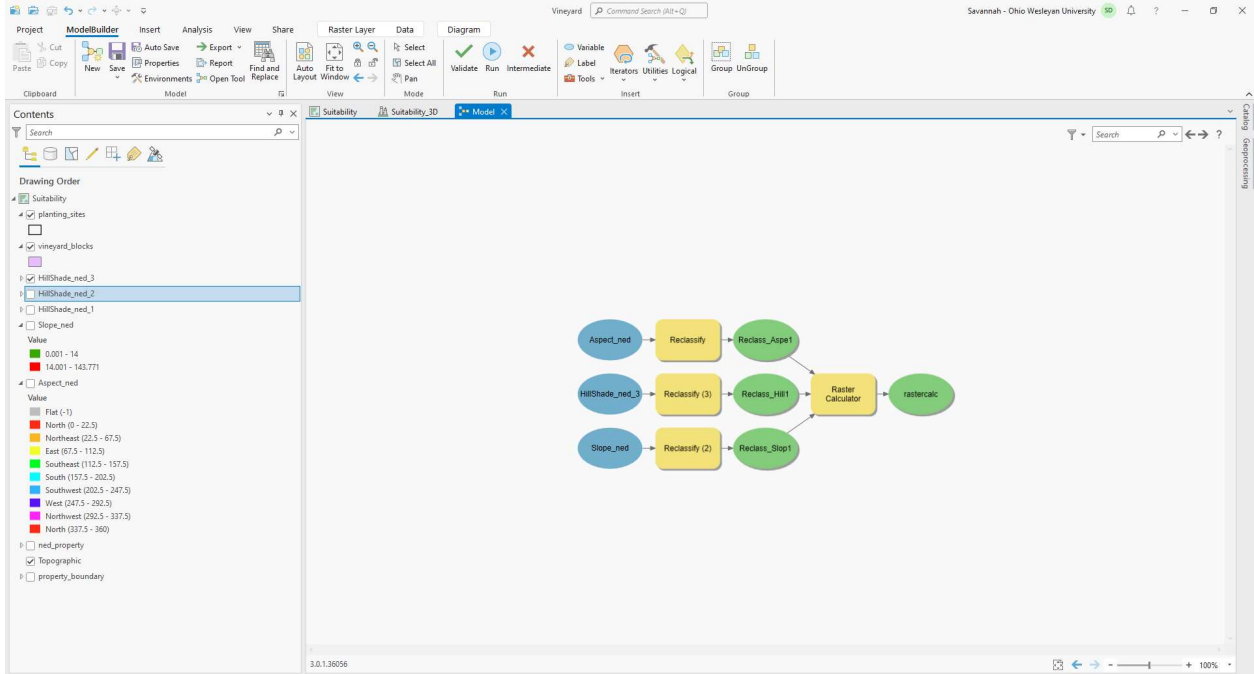
- Map algebra is a language that combines GIS layers (and is therefore fundamental to raster analysis)
- “NoData” cells are ignored in raster calculations
- Masks are a means of identifying areas to be included in a geoprocessing operation
- Aspect is ground surface relief
- Hillshade depicts shadows to model the effect of the sun (or other light source) over the terrain
- Azimuth is the direction of the sun (where in the sky it is) and attitude tells you how high

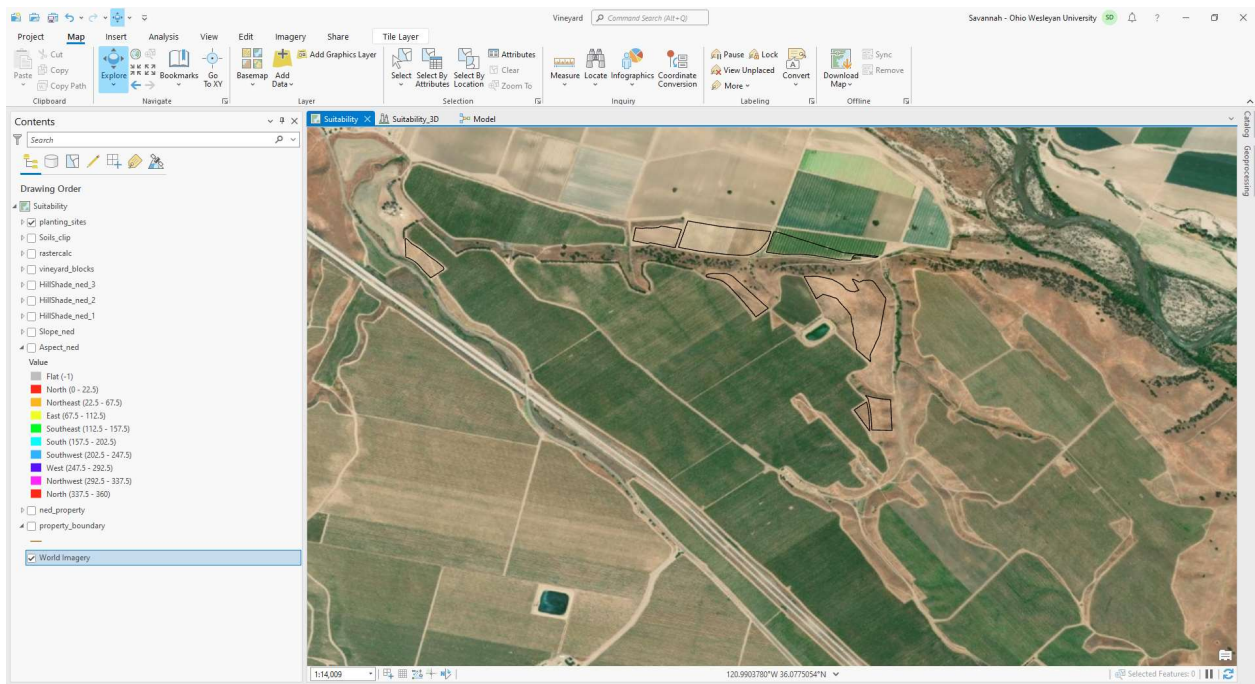
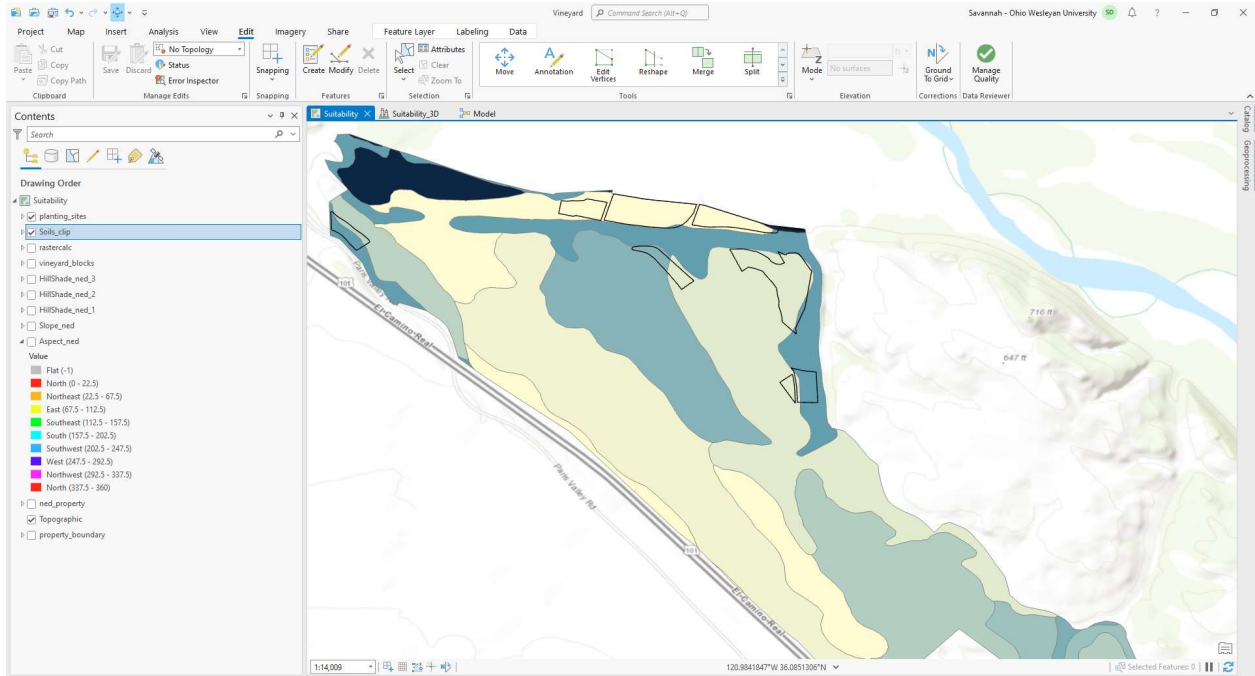
### Exercise Questions and Screenshots:

- (Derive a hillshade surface 3) No, the lowest cell value is 1, not 0
- (Visually compare analysis outputs 3) Four planting sites mostly contain low-slope topography
- (Visually compare analysis outputs 4) Three planting sites contain some land facing south, southeast, or southwest
- (Visually compare analysis outputs 5) Not really, most areas aren't getting a lot of light
- (Visually compare analysis outputs 7) Object 6 is the best site to plant a new vineyard and Object 1 is the second choice
- (Combine criteria rasters 15 part 1) Object 6 has a soil type of Greenfield fine sandy loam and Object 1 has a soil type of Rincon clay loam
- (Combine criteria rasters 15 part 2) Yes, Object 8 was planted









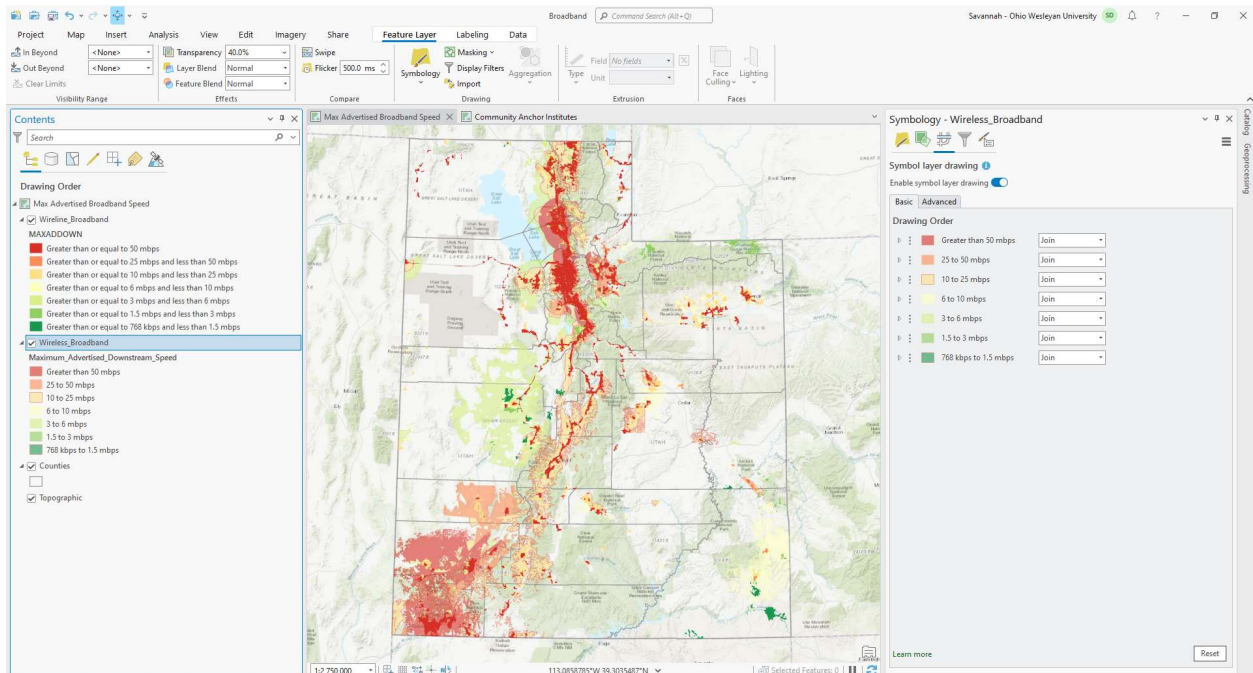
## Getting to Know ArcGIS Chapter 10

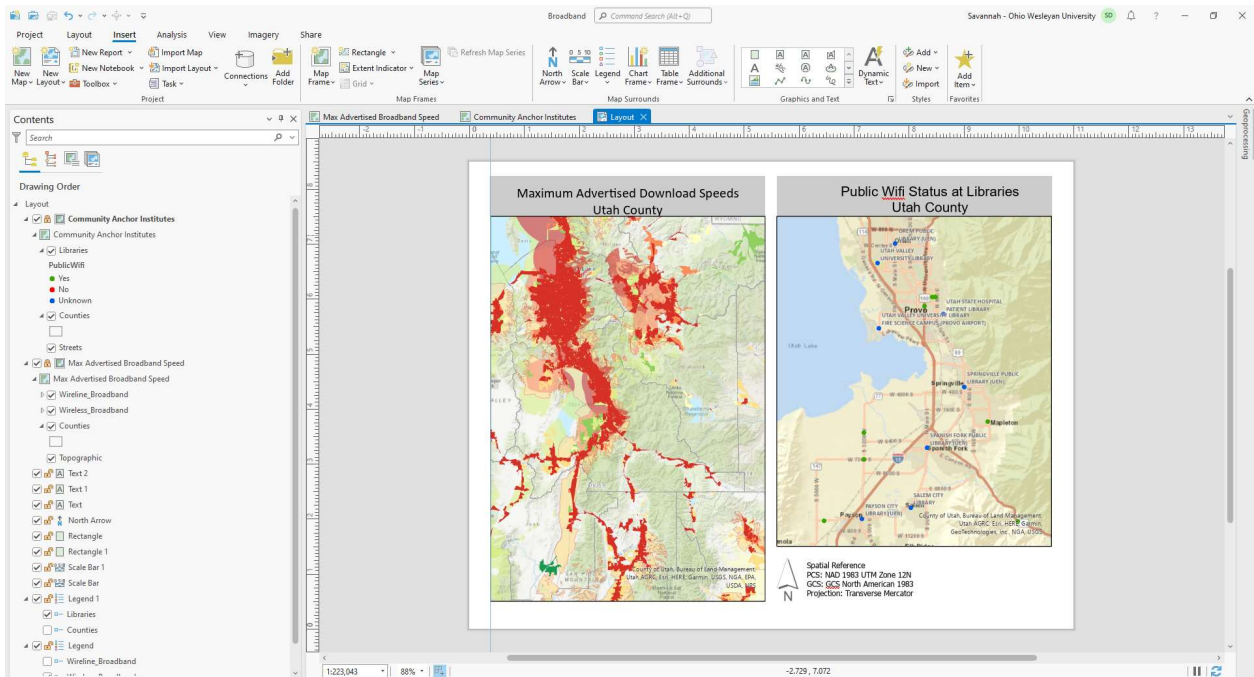
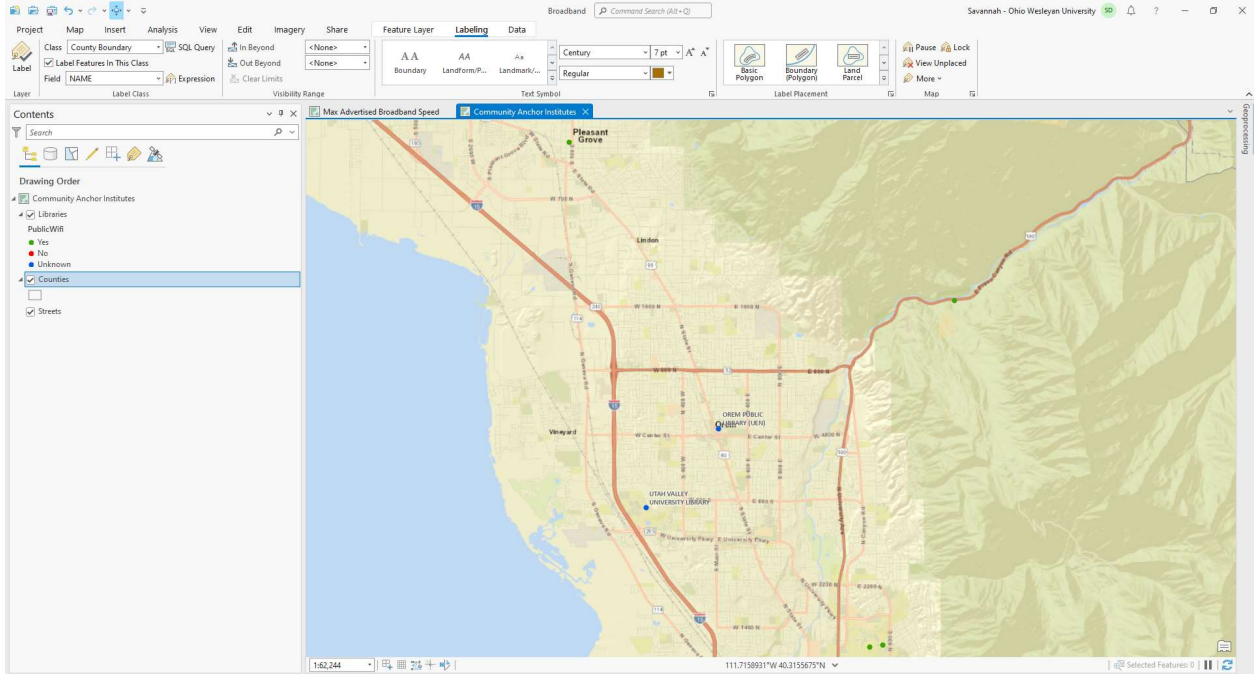
### Notes:

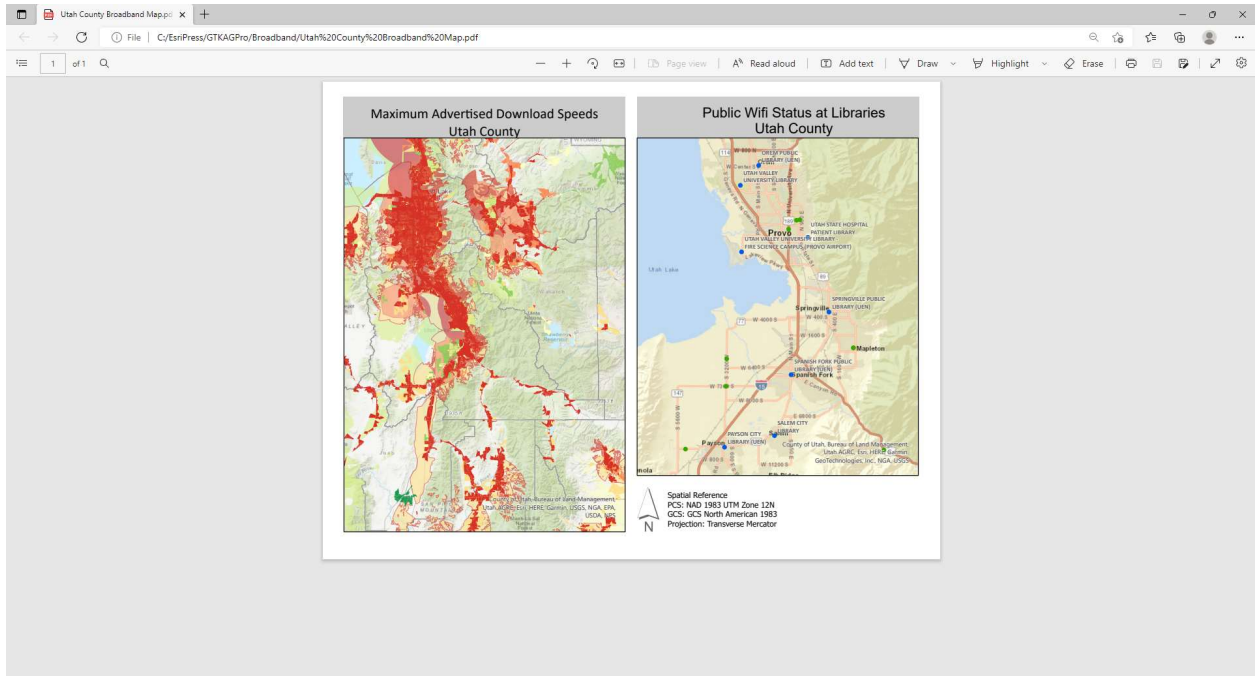
- The layout view is a collection of organized elements such as map, map labels, title, legend, scale bar, north arrow, captions, and additional graphics
- ArcPro automatically uses dynamic labeling, which uses predetermined labeling rules
- Label positions change depending on map scale
- The Maplex Label Engine allows you to control how labels are oriented, formatted, and placed in feature-dense areas
- Label classes are used to specify detailed aspects of how labels are positioned and symbolized

### Exercise Questions, Notes, and Screenshots:

- (Create a definition query 8) 43 areas have fixed wireless technology
- Adding the Max Advertised Broadband Speed map frame as default extent results in a very stretched globe. As a result, I used the aspect ratio map adder
- It wouldn't let me turn off the heading of the Broadband legend so I made it a font size of 1 to hide it
- I couldn't get the Public Wifi legend to be bigger (the element box only changed) and I couldn't figure out how to change the heading







## **Delaware Data Inventory**

Savannah's opinion: We should have done this next week instead of cramming it into this week. This week was very busy as it was and didn't need more things

\*Overall Note:\* While the attribute data might be updated regularly, the basemap is quite out of date and some things do not have the proper current name. Also, when I refer to the amount of attribute table fields I am excluding the ObjectID field.

Address Point: It is a spatially correct layer representing all certified addresses in Delaware County. The points containing the attribute data (59 possible attributes) are at the center of each object which has a distinguishable address (e.g. building).

Annexation: It chronicles Delaware County's changing boundaries from 1853 to present. Changing boundaries come from annexations and conforming boundaries. The attribute table contains 13 fields. Its features are polygons.

Building Outline: It contains all the building outlines in Delaware County as of 2018. The attributes for the outlines are length and area. This layer was developed using Orthophotos. While the Address Point layer breaks down buildings by address, this layer treats a building (no matter how many occupants) as one feature (a polygon).

Condo: It contains attributes for all the condominiums in Delaware County (both business and residential). This layer uses polygons. Some of the polygons include numerous condominiums with the same features, as such this layer represents land dedicated to condominiums, not each individual condominium.

E911 Data: It is a feature service which derives its data from the Address Point layer and the Street Centerline layer. It contains the attributes of features from both. It is meant to help 911 services operate more successfully.

GPS: It identifies all GPS monuments in Delaware County as points. The GPS monuments were established between 1991 and 1997. The attribute table contains 12 fields. This map also has some data points outside of present-day Delaware County. A vast majority of GPS monuments come in pairs, as visually seen on the map.

Master Street Address Guide: It contains the boundaries for the 28 political jurisdictions (such as townships, cities, and villages) of Delaware County. It uses polygons to show the jurisdictions. The attribute fields for each jurisdiction contain the township and/or municipality name and the length and area of the polygon.

Municipality: It contains all the municipalities in Delaware County. Municipalities are shown as polygons with length and area attribute fields. It is similar to the Master Street Address Guide layer but without the township polygons.

Parcel: It represents all the cadastral parcel lines in Delaware County. It uses polygons to do this. Its attribute table has 51 fields which give information about the parcel, the building on it, who owns it, etc.

Precinct: It contains the voting precincts within Delaware County. Its attribute table contains 14 fields such as township name, voting place, and precinct number. It uses polygons to show precincts.

Recorded Document: It contains points which represent vacations, alleys, subdivisions, centerline surveys, surveys, annexations, and miscellaneous documents. This data comes from the Delaware County Recorder's Plat Book, Cabinet, Slide, and Instrument Records. The attribute table has 8 fields such as references to pdfs and the page numbers the information came from.

School District: It contains school districts in Delaware County. It breaks the county into polygons. The attribute table contains the lengths and areas for the polygons.

Street Centerline: It represents the center of roads within Delaware County using lines. It is both spatially and topologically accurate in displaying the road system for the county. Its attribute table has 56 fields.

Subdivision: It contains all the subdivisions in the county. It uses polygons to do this. The attribute table calls out the subdivision's name, if the subdivision is a condominium or not, and 9 other fields.

Survey: It represents where surveys of land have been done in Delaware County. It uses points to represent those locations. Each point has 12 possible fields, one of which is what the pdf containing the survey data for that particular location is called. One important note is that this map does not include older surveys found in Old Survey Volumes 1-11.

Tax District: It contains all the tax districts within Delaware County. The attribute table contains the district number, the tax index, and the description of the district along with each polygon's length and area. Its data is dissolved on the district number.

Zip Code: It contains the zip codes within Delaware County. It displays the zip code of each area through polygons. The attribute table contains each feature's (polygon's) area, length, zip code, and associated name.

Map Sheet: It contains all the map sheets of Delaware County. It shows what map sheet belongs to which area on a map! The attribute table, among other things, lists the map sheet number for each polygon area.

Farm Lot: It contains the farm lots as recorded by the US Military and Virginia Military Survey Districts. The entirety of Delaware County is covered in farm lot polygons which are mostly fairly rectangular or square. The attribute table contains 10 fields.

Township: It contains the 19 townships of Delaware County. It is different from the Master Street Address Guide layer as it does not highlight the municipalities that lie within the townships. It uses polygons, and its attribute fields are township name and the polygon's length and area.

Dedicated Right of Way: It puts a buffer-like polygon or line (depending on the road) around roads that are designated as right-of-way within Delaware County. Nearby groups of polygons and lines are grouped together under one ObjectID. The polygons are also quite sloppy in some places. The attribute table contains the polygon's or line's length and area.

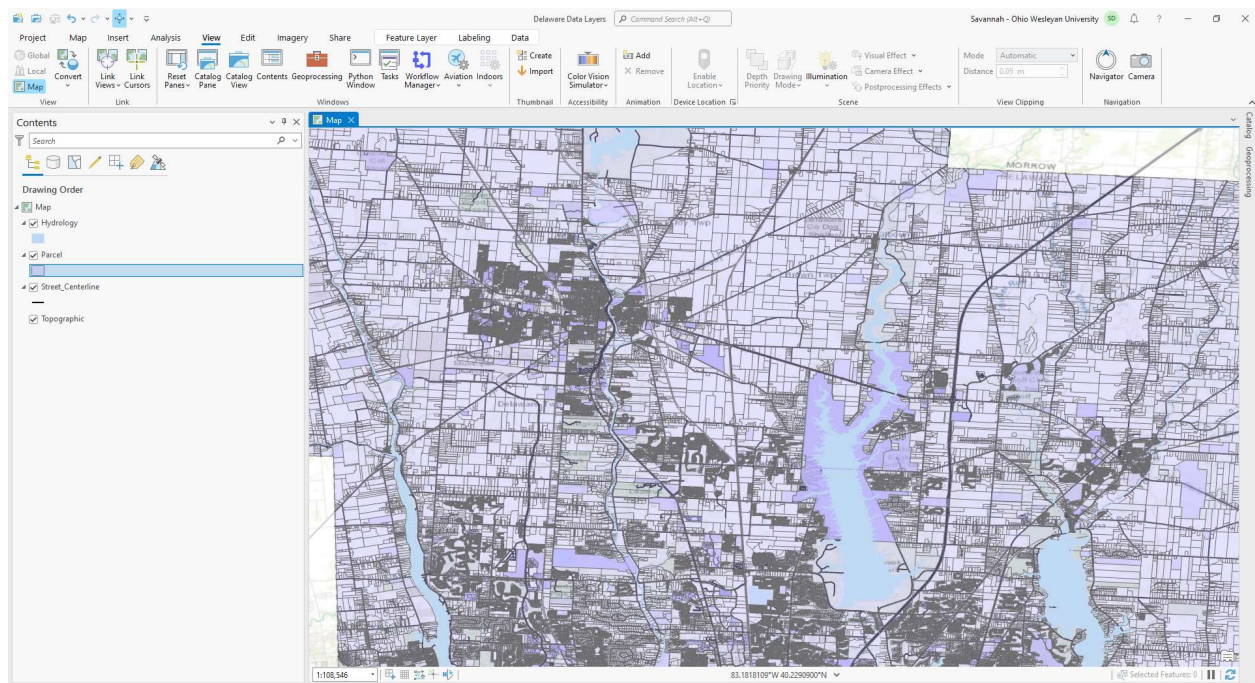
Original Township: It contains the original Delaware County township boundaries before changes to tax districts affected them. The attribute table contains 6 fields. Interestingly, this layer has more attributes than the current township map; it also has Township18ID, acreage, and square mileage.

Imagery 2019: It shows Delaware County from an aerial view with labels over the buildings of businesses and organizations. The imagery was taken in 2019. The reservoirs really stick out as they are black blobs with a hint of sea green (especially the Columbus Upground Reservoir).

Hydrology: It contains all the major waterways within Delaware County. Major waterways include streams, creeks, reservoirs, runs, and rivers. Features were enhanced using LIDAR in 2018. The attribute table has 5 fields and 24 objects.

Public Land Survey System: It contains all the Public Land Survey System (PLSS) polygons in both the US Military and the Virginia Military Survey Districts. It is very similar to the Farm Lot layer. The main difference is the Farm Lot layer shows how each PLSS polygon is broken down into more polygons. Its attribute table has 10 fields.

Screenshot showing Hydrology, Street Centerline, and Parcel layers:



Time spent: 9 hours 22 minutes (aka too long!)