

Getting to Know ArcGIS Pro Chapters 6-10

Chapter 6: Collaborative Mapping

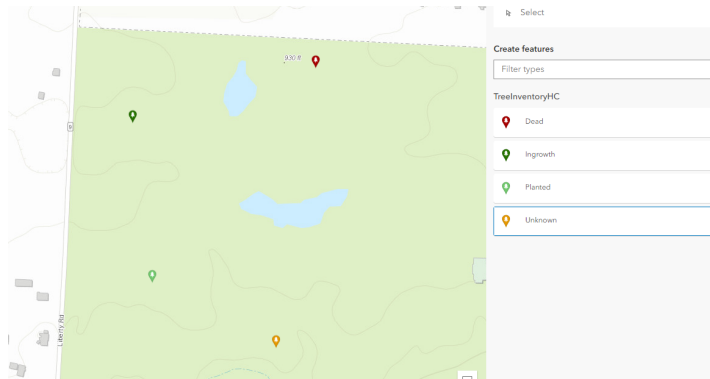
Collaborative mapping = a form of social mapping. Users can collect data to create maps in different ways.

Exercise 6A: Prepare a database for data collection

Was able to easily set up the domain for TreeInventory.gdb. I then changed the icon for “dead”, “ingrowth”, “planted”, and “unknown” under the layer Trees. This layer was then published.

Exercise 6B: Prepare a map for data collection

Created a map on ArcGIS Online using the Tree Inventory feature layer. This map can be used as the basis of collecting tree data in the field.



Exercise 6C: Collect data using ArcGIS Collector

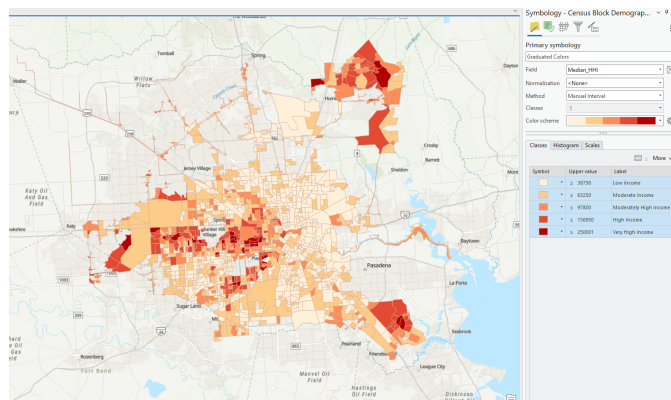
I was able to use the app “Field Maps” on my phone and entered a tree location that was visible on ArcGIS Pro.

Chapter 7: Geoenabling Your Project

Features can be created from information that describes or names a location using geocoding. To geocode an address, you need an address table, reference data, and an address locator.

Exercise 7A: Prepare project data

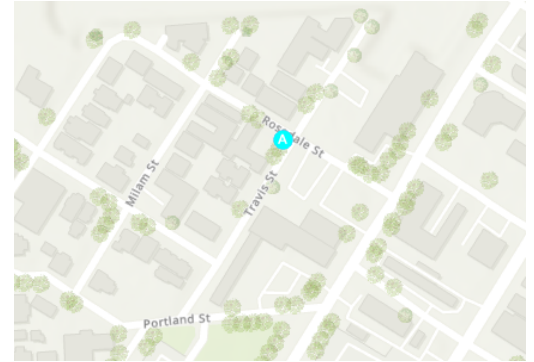
Household income data provided by the US Census Bureau was viewed using the RetailSiteStudy Folder. The “Census Block Demographics” was joined with “median_household_income”.



Symbolize using graduated colors was done to make the changes in the image seen on the left.

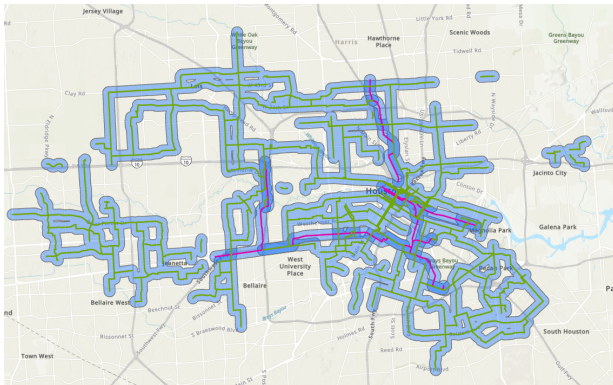
Exercise 7B: Geocode location data

First, an address locator was created, as it defines which reference data will be used to search for addresses, which elements of the reference data will be searched against, and what format the address data will use. I successfully created Houston_Locator.loc under the RetailSiteStudy folder. After doing this, I geocoded the list of prospective retail sites then rematched the addresses to ensure the geocoded addresses were correct. I did run into an issue when it came time to click the “Tied” tab in the Rematch Addresses pane as it disappeared on me when I matched the “4900 Travis St” address. Because of it, I could not finish 7B and had to move on.

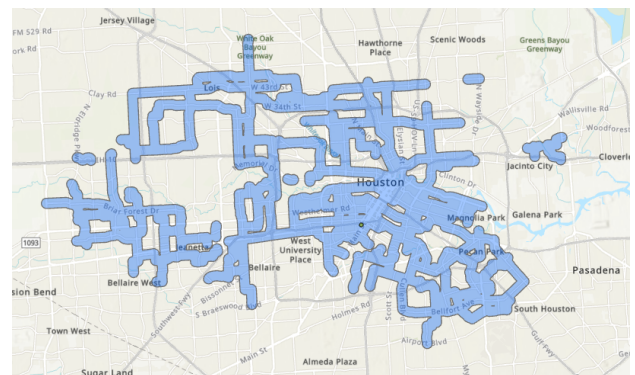


Exercise 7C: Use geoprocessing tools to analyze vector data

First, buffers, or polygons that are created around a feature at specified distances, were created around existing bike lanes.



merge and
dissolved
Features
+Clipped



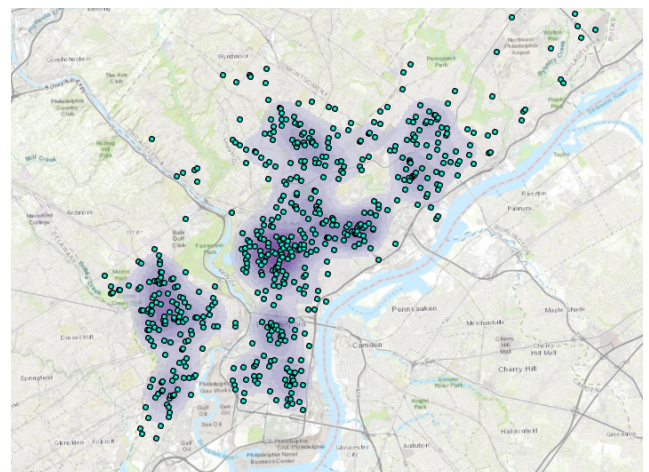
I noticed that my attribute table in the end only had one retail site, this is because I was unable to complete 7B. Because of this, it impacted the rest of the exercise, but I followed everything and understood what would have happened had I had all of the sites.

Chapter 8: Analyzing Spatial and Temporal Patterns

This chapter will be focusing on analyzing crime incidents by creating a kernel density map, performing a hot spot analysis, exploring the results in #D, and animating the data.

Exercise 8A: Create a kernel density map

I selected the attributes to create a layer for robberies in January. After doing that, I created a kernel density:



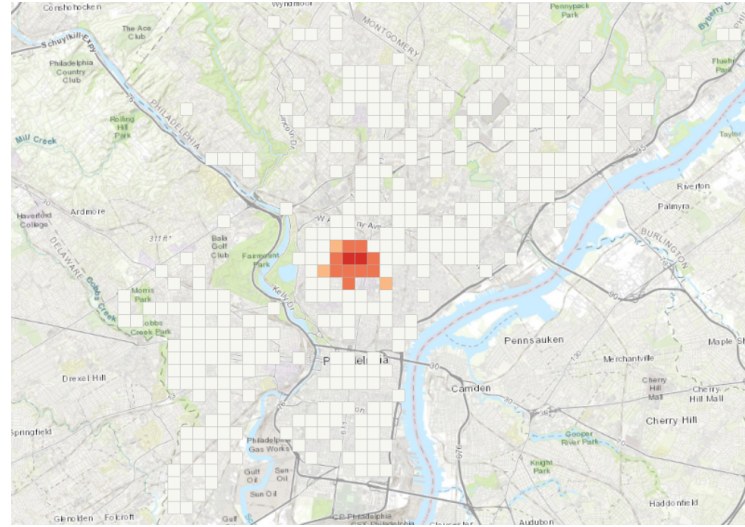
Exercise 8B: Perform a hot spot analysis

First, the optimized hot spot analysis tool was used on the robbery layer. I ran the hot spot analysis tool to get an analysis that looks very different than the one in the book:

I had help from Kyrgier to try and fix it, but no luck. We think it might be some sort of bug or something.

Then I had to create a space-time cube. I could not create it because there were not enough “time intervals”.

I even redownloaded CrimIncidents.aprx to try and redo everything from the beginning to see if I messed up somewhere. However, it still created the same issue.



Exercise 8C: Explore the results in 3D

Could not continue because I could not generate a space-time cube.

Exercise 8D: Animate the data

^Same as above.

Chapter 9: Determining Suitability

A common GIS problem being solved in this chapter is determining which areas are most suitable for specific land-use purposes. This is done by taking advantage of the raster data model.

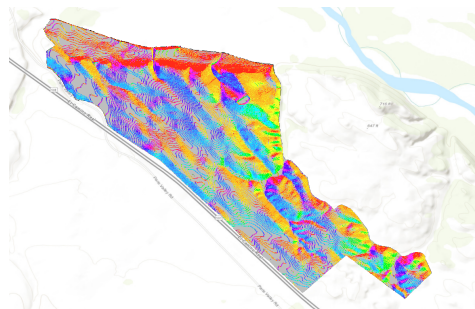
Exercise 9A: Prepare project data

First, the property boundary line feature was converted into a polygon. Then the elevation rasters were clipped to look like this: The rasters were then merged together.

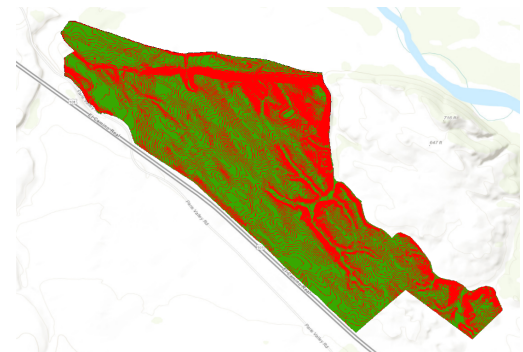


Exercise 9B: Derive new surfaces

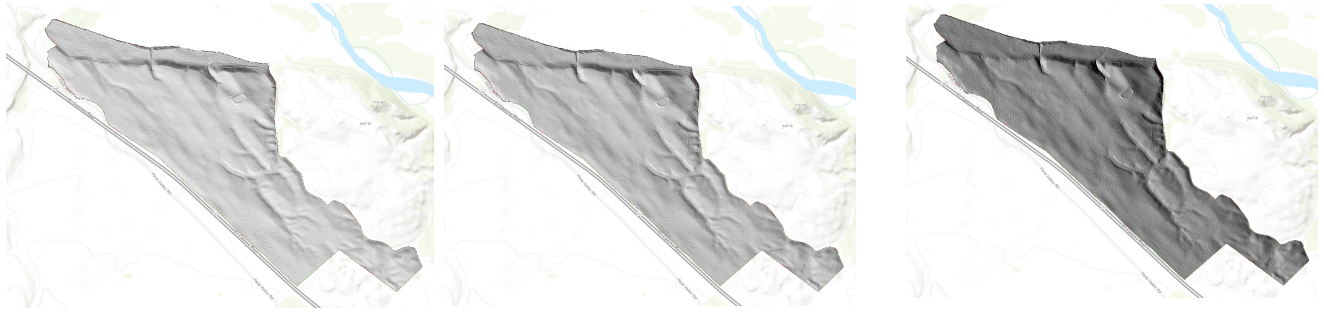
First, an aspect surface was derived from the ned_property layer:



A slope surface w/ 2 classes



Then, 3 hillshade surfaces were made:

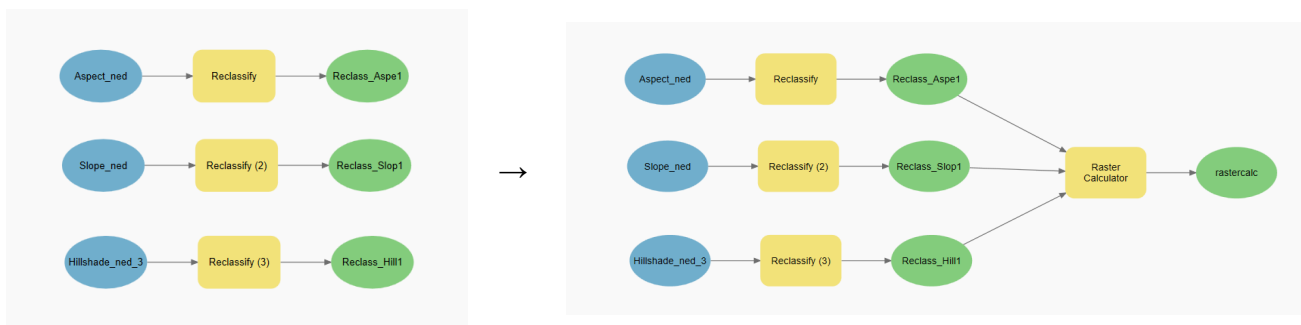


- Q1) No part of the property is in complete shadow at the first time.
- Q2) Three planting sites contain mostly low slope topology.
- Q3) Three noticeable planting sites with one having a small amount.
- Q4) No planting sites are in shadow at 2:00 pm in mid-September.
- Q5) The upper left planting site is the best planting site.

Exercise 9C: Create a weighted suitability model

First, I reclassified criteria rasters:

Then the criteria rasters were combined:



I then symbolized rastercalc using classified symbols, Natural Breaks method, and 3 classes.

Chapter 10: Presenting Your Project

For this chapter, a layout will be composed that consists of several maps of broadband internet availability for two counties in Utah.

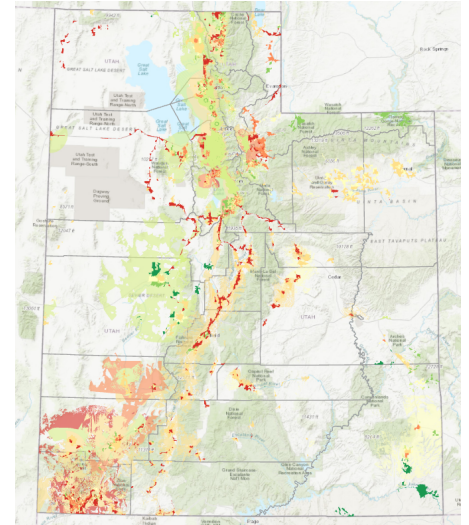
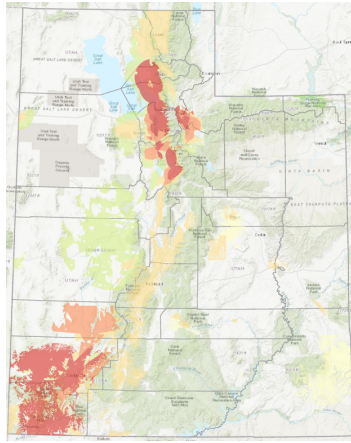
Exercise 10A: Apply detailed symbology

A definition query for values 70 and 71 were created.

- Q1) 43 areas are fixed wireless technology.

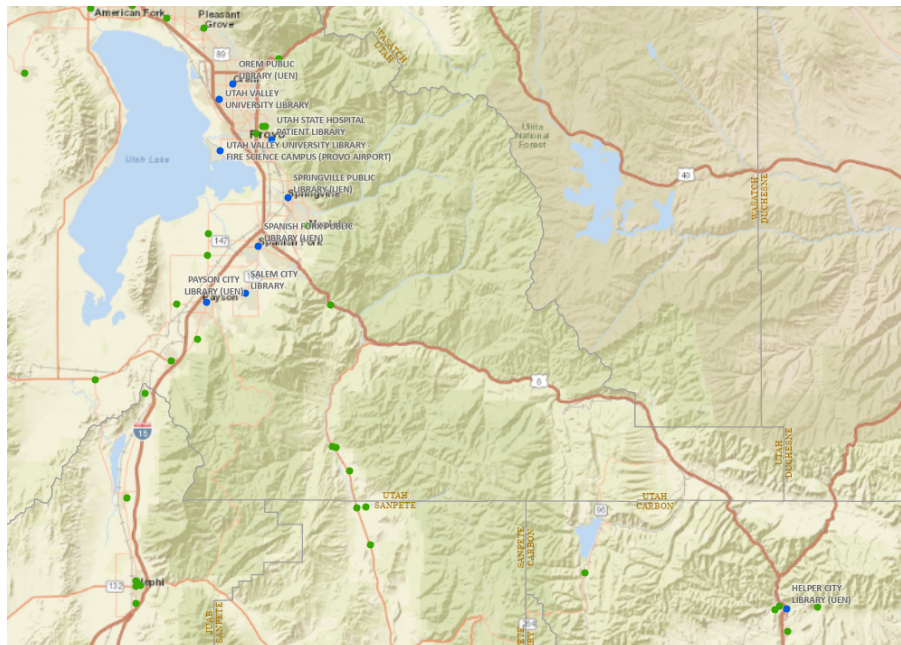
After the definition query isolated the fixed wireless technology areas, fine-tune symbology was applied to show the maximum advertised download speed available. The symbology was fine-tuned to look like this:

Then, a symbol layer drawing was applied.



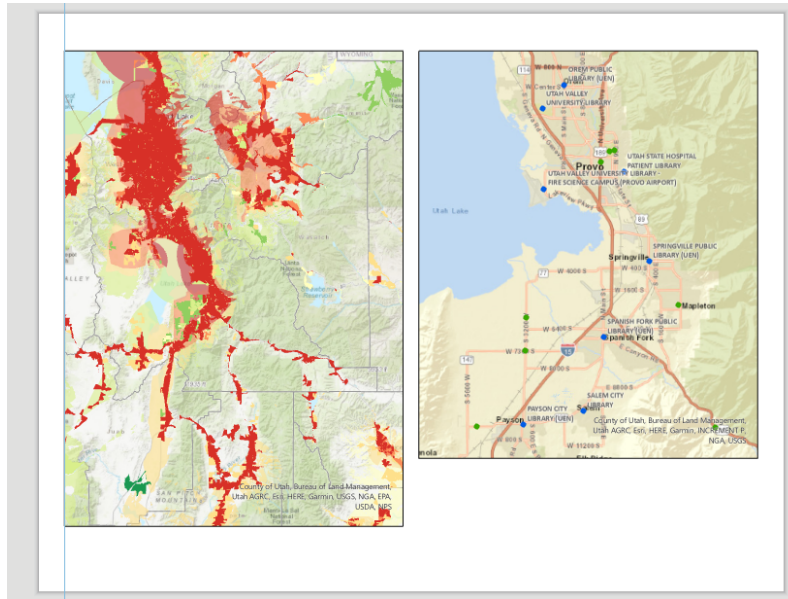
Exercise 10B: Label features

Using the Maplex Label Engine, there is access to a new set of label placement properties that allow you to control how labels are oriented, formatted, and placed on feature-dense areas, and how conflicts between labels can be resolved.

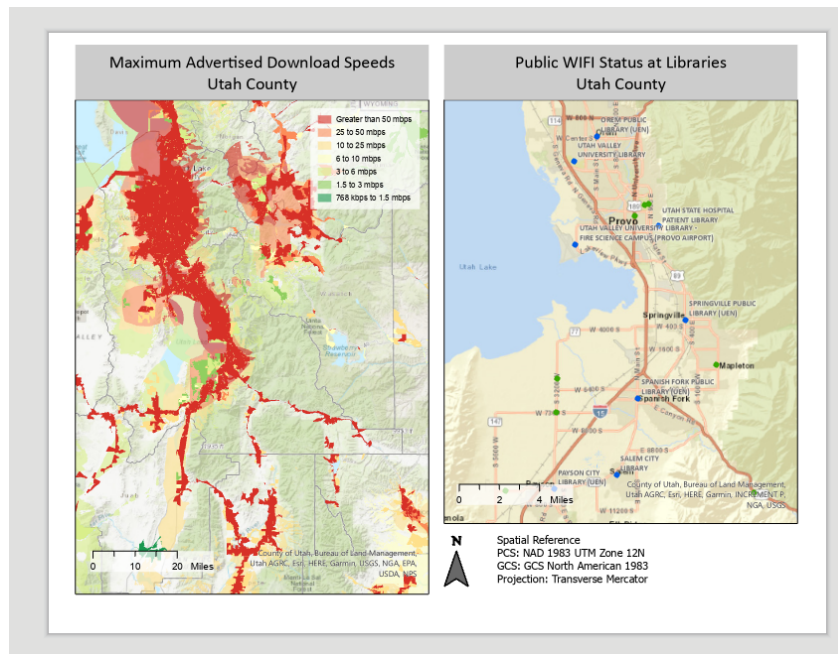


Exercise 10C: Create a page layout

Map frames will be inserted into the layout and added surrounding map elements to help with the readability of the map.



Legend elements were then inserted to create a complete page layout:



Exercise 10D: Share your project

Title Modified ▾

Utah Broadband Project Project Template 🔒 ☆ ... Feb 17, 2023