

Evelyn VanderVelde

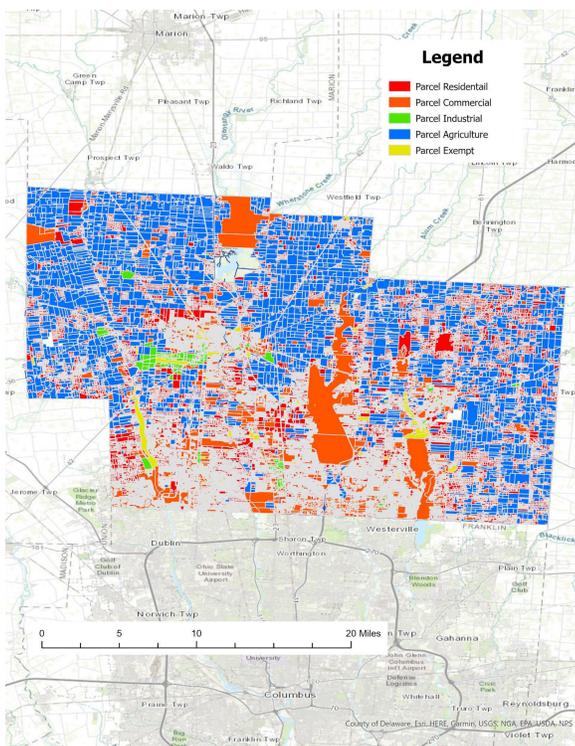
Final Exam

Geography 191

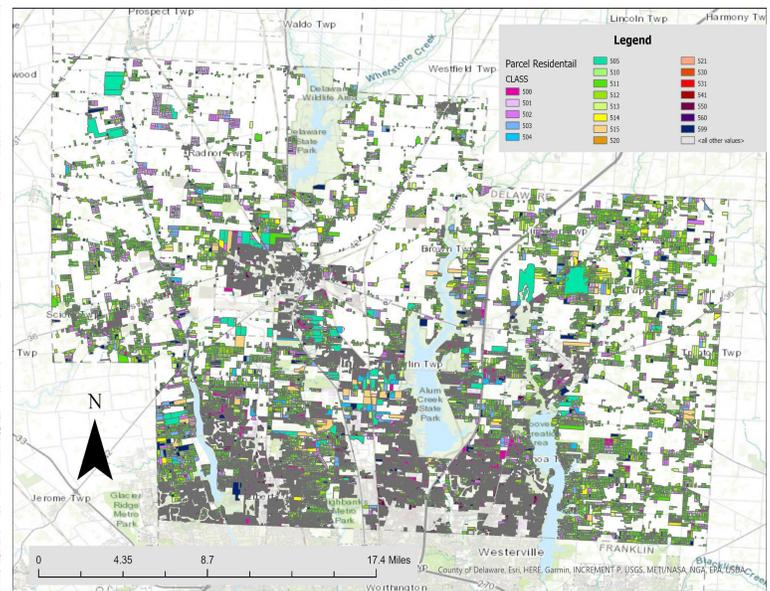
Dr. John Krygier

1. Selecting and Classifying Land uses: Create a map that shows the 6 different major categories of land uses (agricultural, mineral, commercial, residential, exempt). These land use codes are in the Parcels data (the class column). Select one of the categories, and create a second map showing all the sub-classifications in that category. Refer to the *Delaware County Land Use Codes* (below) for category and subcategory information. Symbolize each category with an appropriate color. Add appropriate additional data (such as road centerlines) for reference and make your map look decent. (approx. 1 page description + 2 maps)

5 RESIDENTIAL	
0	vacant land
1	one-family dwelling
2	two-family dwelling
3	three-family dwelling
4	house trailer (real)
5	condominium unit
0	platted lot
1	unplatted 0-09.99 acs
2	unplatted 10-19.99 acs
3	unplatted 20-29.99 acs
4	unplatted 30-39.99 acs
5	unplatted 40 +
99	other res structures



Residential Parcels of Delaware County, Ohio



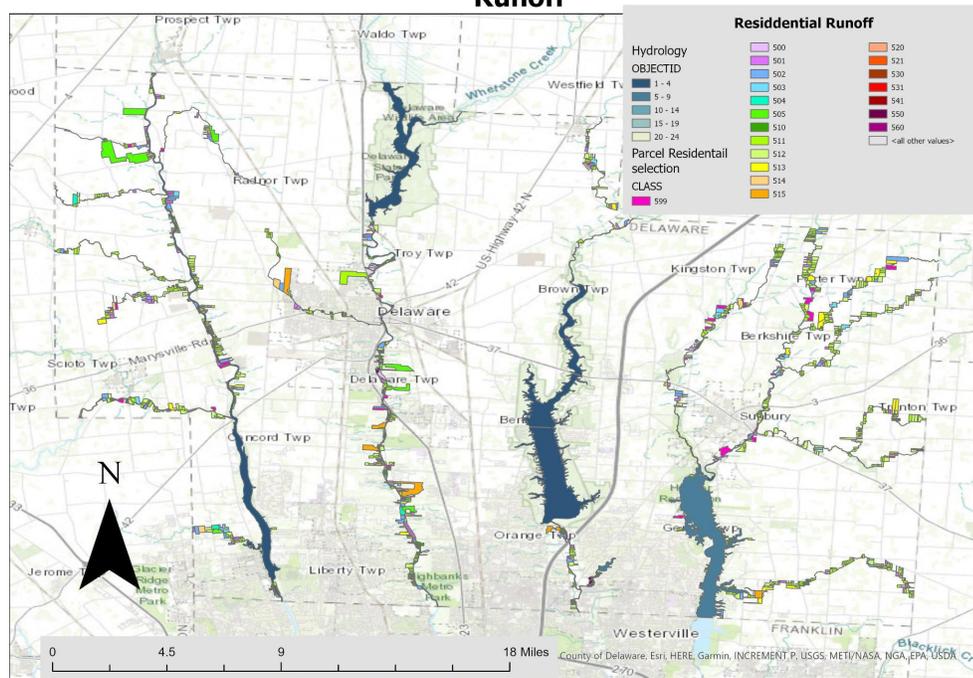
To create the parcel maps above, I used the files from the Delaware County GIS webpage for the parcel, hydrology, and street centerlines shapefiles. Once downloaded the files had to be unzipped and added to my GIS map. For creating my Parcel map of all the land uses selecting by attribute and creating a new layer for each land use designation, this was agriculture, mineral, commercial, residential, and exempt. The mineral layer was not created as originally there were difficulties finding a way to properly create it and for it to accurately show the data, my frustration was halted when I realized there were no parcels for the mineral layer.

Once these layers were created I turned off every other layer besides my newly created ones. I created a map layout for these new layers and added a legend, scale, and northern arrow to the map.

For my second map, I used the Residential layer I created and went to the symbology and changed the symbology from single symbol to unique values. From there I was allowed to add Class to the field. But the classes were not shown, so I added all 20 class codes to the symbology and was able to color code the different uses for the residential land. The codes were not able to be changed to their use names from the numbers so I added the key to the class codes above the map. For the map layout that is above, I followed the same steps from my previous map but I added a title in addition to the northern arrow, scale and legend. Some issues that I found in my layout for the residential map was that the borders on the areas in the map were these bold gray lines and it covered up a lot of the areas. I could not figure out how to get rid of these lines as they only appeared on the layout.

3. **What's Inside?** Review ch. 5 from Mitchell ("Finding What's Inside") and pay particular attention to the section "Three Ways of Finding What's Inside" on pages 145-148. Describe a scenario where this kind of analysis would help solve a particular problem, then perform that analysis using actual Delaware data layers. More creative and sophisticated analyses will be rewarded. Please model what you do after the examples in "Three Ways of Finding What's Inside." (approx. 1 page description + map).

Delaware County, Ohio: Residential Runoff



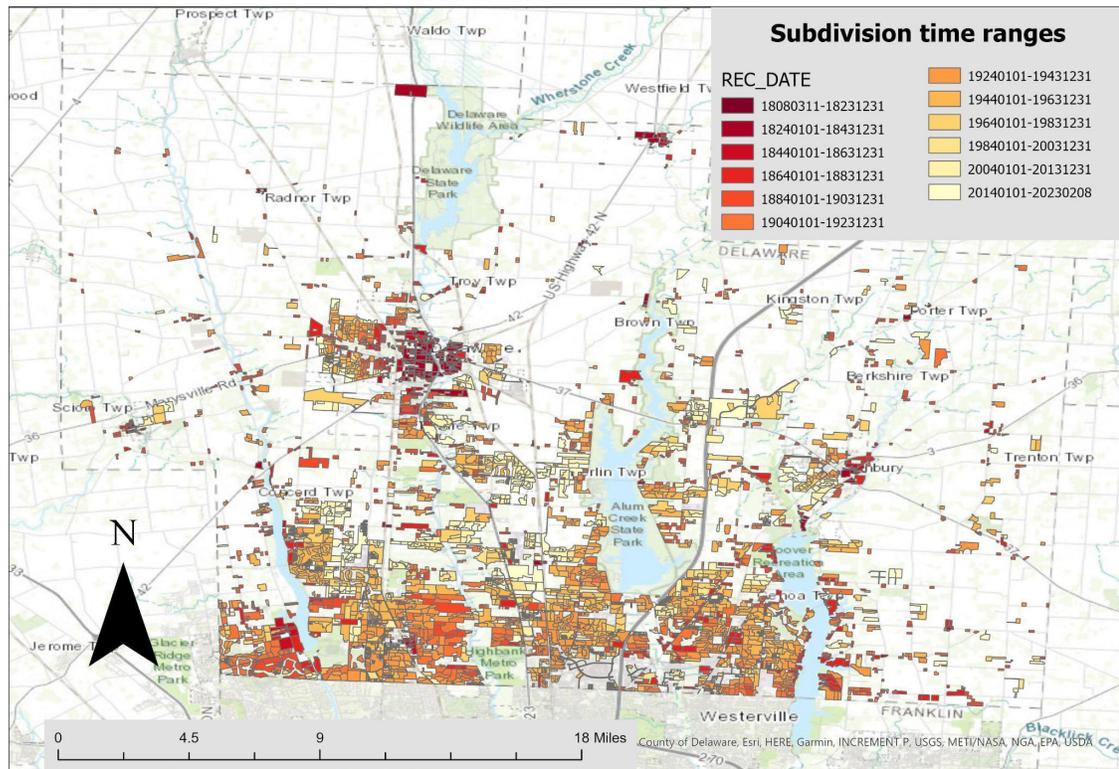
I wanted to find where the runoff from the residential areas intersected with the waterways of Delaware county as residential areas can contain lots of pollutants that aren't considered when compared to agricultural runoff. I used the residential parcel layer I created for the first part and the hydrology data that was imported from the Delaware County GIS website.

From there, I used the Select by Location in the map ribbon layer to create an intersection of the residential areas and the hydrology layer. For this I put the residential layer in the input features, made the relationship intersection and for the selecting features I added hydrology. I made the units meters and left everything else at the default and clicked ok. Creating a selection of everything that was touching the waterways that was categorized as residential. From there I made the selection a new layer and was able to see everything that touched the water without the other data that wasn't needed.

Then with my new map layer I created a layout just like my previous maps but this time I had two layers that needed to be in the legend. I had a northern arrow, a scale and a title for the map as well as the new legend that included the hydrology layer and the residential area. I could have made the residential areas that touch the waterways its own color to emphasize the areas that touch such as a bright red. I thought that having the class codes still distinguishable was important as you could see which types of residential areas were most likely to be around the waterways and what type of runoff you could determine might be produced.

5. Mapping Change: Review ch. 7 from Mitchell ("Mapping Change") and create a time-change map of subdivisions in Delaware Co. View the subdivision file (in Delaware Data) and look at the table: there is temporal information here: the date that the subdivision was established (in a peculiar format). Create a graduated color map of subdivisions based on this temporal data. Classify the data so it makes some sense (1850-1900, 1900-1930, etc.) and choose an appropriate color. (1 page description + 1 map)

Delaware County, Ohio: Subdivisions established over time



I downloaded the subdivision data that was needed and uploaded the shapefile to my map. The dates that the subdivision was established was in a column called Rec_data and the data was provided as year, month, day and smushed together into a single number. To show these numbers and how the subdivisions were established over time, the symbology needed to be changed. I made the symbology from single symbol to graduated colors and the field to the Rec_Date column from the data set. From there I noticed the range of established subdivisions ranged from 1808-2023, I decided to break the ranges into 12 classes and made the method manual intervals so i could chunk the time range by 20 year sections, (1808-1823, 1824-1843, 1844-1863, 1864-1883, 1884-1903, 1904-1923, 1924-1943, 1944-1963, 1964-1983, 1984-2003, 2004-2013, 2014-2023). The symbology shows that the darker

red an area the older it is and the lighter yellowish color the area is the newer the subdivision is.

Then, once I had figured out how to display how the subdivisions changed over time with graduated color with appropriate time ranges displayed, I created another layout of the map. I used the previously created layout and changed the layers selected to show the subdivisions established overtime and then changed the label on the legend. I kept the same scale and northern arrow but changed the map label to represent the contents of the map instead of the previous map. This was a relatively simple task but the only difficulties I had was I originally only put 11 classes and it was not enough for the 20 year intervals as it only got me to 2013. When I am in the natural interval method the GIS program does not let me add another class. So I had to go back to natural breaks to add another class which made all my intervals I made revert back to their original form and I had to add the intervals over again. It was a bit tedious for a step but it was the only set back!