

1. Chapter 6

- a. In this chapter, we practiced geodatabases and domains. We did this by first setting up domains, creating feature classes and fields, and publishing and sharing them on ArcOnline.
- b. This chapter was relatively straightforward for me, and I didn't have much difficulty in any parts of the chapter. Putting the random data in for the trees was a little tedious, but hey, the real world is full of tedious work, so practice is always necessary.
- c. Reminders for definitions—
 - i. Geodatabase - the main format for editing and managing data
 - ii. Feature class - a collection of features with the same type of geometry.
 - iii. Domain - the definition or rules of a field in your dataset

2. Chapter 7

- a. In this chapter, we learned mostly about geocoding, which includes creating, manipulating, and analyzing address tables, reference data, and address locators.
- b. This chapter was a little harder to deal with than the last one, but nothing horrible happened. Again, as it was in my earlier posts, attention to detail was my main issue. An example of this was my accidental save of an address locator to the geodatabase instead of its own folder. Do not do this—please double check your work when the book gives a warning and do not just assume that it's going to save in the right place or format.
 - i. Address locator - a dataset that contains information about address attributes.
 - ii. Geocoding - the process of creating map features from addresses, place names, and similar information
 - iii. Merging - combines multiple layers
 - iv. Dissolving - aggregates multiple features into one
 - v. Location queries - when using the select by location tool to select features by calculating spatial relationships between different layers.

3. Chapter 8

- a. This chapter introduces time as a factor in mapping. Additionally, it touches on raster data instead of just vector data. This includes analyzing temporal data, selecting by attributes, using different types of layers (like the kernel density layer or hot spot analysis) and then animating the map.
- b. This chapter had a few issues that came up. The first was that I was unable to make the Space-Time Cube with the robbery layer. Upon searching for an answer why (and troubleshooting on google), I apparently had certain attributes selected, so I only had to clear that, and then it worked. Later on, I had another issue in which I had been running too many programs (I do not remember the exact message), but while stopping certain ones, I was able to run the hotspot tool once more. The issue for this one only applied to the 3D map—the 2D map had no issues running anything.

- i. Space-Time Cube - a way to show how phenomena change over time.
 - ii. Coordinate systems - defines the position of features in a map
 - iii. Hot spot analysis - mapping by cluster of data
 - iv. Kernel density - calculates the density of features in a dataset
- 4. Chapter 9
 - a. This chapter is all about analysis of spatial data. At first, we converted features - line to polygon features— then merged the raster layers, then derived different surfaces, and finally recombined criteria rasters.
 - i. MapAlgebra - a language that combines GIS layers
 - ii.
- 5. Chapter 10
 - a. In this chapter, we practice creating and running queries and continue to practice symbology through different layers and styles.
 - i. I don't really have much to say about this chapter. It wasn't too long or too difficult, but it was a little tedious. A lot of button pushing. _('v')_/

Photos from the five chapters -

Delaware Data

Delaware Data Inventory

1. Zip Code - This layer contains Delaware county zip codes in the form of polygons (vector data).
2. Recorded document - This layer is a series of points that mark where important documents are located that are not a part of an active subdivision plat. These include documents such as subdivisions, annexations, centerline surveys, etc.
3. School district - It is a series of polygons representing the school districts of Delaware county. These districts are Buckeye Valley, Delaware City schools, Olentangy, and Big Walnut.
4. Map sheet - This layer contains every map sheet for Delaware county. A map sheet is a single map in a series of maps.
5. Farm Lot - This maps out all of the boundaries of farm lots in Delaware county. It includes ten attribute tables that give information on the township and locational IDs.
6. Township - This gives the boundaries of each township located within Delaware county. It consists of 19 township boundaries.
7. Street centerline - This depicts paved roads in Delaware county, and is created by two separate road data sets. The first is data taken from existing and adding address locations, while the second is topographically correct road systems that are mostly used for emergency response.

8. Annexation - this layer represents all of Delaware's annexations from its founding to modern time. It has 13 attributes attached to it, including boundary and city information, record dates, and acreage
9. Condo - This has all of the condominiums in Delaware county. It represents these condominiums in polygon data.
10. Subdivision - This represents all of the subdivisions and condominium units in Delaware county. It has eleven attributes attached to the table that include subdivision names, pages, and plats.
11. Survey - This layer is made of points that represent separate land surveys taken between 2004 and modern time. It also includes 12 attributes that cover details about each plot of land.
12. Dedicated ROW - This layer maps out the right of way status of all roads in Delaware County. It is created through line data.
13. Tax district - This layer describes the tax districts in Delaware county. It uses a polygon to enclose the borders of each district.
14. GPS - This layer identifies the location of each GPS monument that was built between 1991 and 1997, and it represents each location as a point.
15. Original township - This layer represents where the original townships in Delaware were located and what their boundaries were. There are 18 township boundaries.
16. Imagery 2019 - This layer is aerial imagery of Delaware county taken in 2019. It is a raster layer of mapping.
17. Hydrology - This layer represents significant waterways in Delaware county. The data was gathered via LIDAR, and it has five attributes attached to the data.
18. Precinct - this layer represents voting districts of Delaware county. It's made from polygon data with each polygon representing a single voting district.
19. Parcel - This layer identifies and identifies boundaries of parcels of land in Delaware. The data also has 51 attributes attached to the data, including data such as the number of rooms in the house, tax district, owners, addresses, etc.
20. PLSS - This layer shows the boundaries of public lands survey system polygons. These polygons serve to divide land for sale and settling.
21. MSAG - Master Street Address Guide. This layer presents the 28 different political jurisdictions, such as townships, villages, and cities, that are in Delaware county. It uses polygons to represent the boundaries of each district.
22. Address Point - This marks the address of each building located in Delaware county. It is meant to be used by emergency services to locate the closest address of a situation. There are 59 attributes attached to the layer.
23. Municipality - this layer represents municipalities in Delaware county. The municipalities are represented using polygon data.
24. Building outline - This layer has the location and outline of all buildings in Delaware county. It had three attributes attached to it.
25. Delaware county contours - This layer contains the elevation of Delaware county. It is in the form of a geodatabase.
26. Delaware county E911 Data - this layer is the spatially accurate representation of all certified addresses in Delaware county.

