

Assignment 6: STATSGO Soil Coverage

Part 1: Join and relate

I downloaded the files from UNM learn connected the folders to my ArcMap. I added the nm_polygon layer from assignment6.gdb and I changed the central meridian value to -106 which straightened the map. Then change the symbology to something meaningful.

I extracted the Pecos headwaters us the ArcToobox and then I used clip to set the boundaries of the STATSGO to the watershed of interest. Then, I added the comp, layer and mapunit tables from the downloaded files (assignment6.gdb). I join and relate the map unit table with the attribute table of PecosHWSoil using MUID. I analyze the data end I could answer the following questions:

- 1. Describe the NM963 soil in terms of its properties in the Mapunit and Component Tables. It has a descripted name of "Regnier-Latom-Rock Outcrop"
- 2. How many components does it have? There are eight components
- 3. and 4. What are their names and what percentage of the map unit does each component comprise?
 - Regnier (36%)
 - Latom (32%)
 - Rock Outcrop (18%)
 - Los Tanos (12%)
 - Gallen (2%)

5. What is the predominant surface slope where this soil unit is found?

<u>Seqnum</u>	Comp name	<u>Slopel</u>	<u>Slopeh</u>	Predominant Surface Slope
1	Regnier	3	15	15
2	Latom	1	15	15
3	Rock Outcrop	0	99	99
4	Los Tanos	0	5	5
5	Regnier	15	35	35
6	Latom	15	40	40
7	Regnier	30	80	80
8	Gallen	5	35	35

6. What is the dominant soil texture?

<u>Compname</u>	Dominant Soil Texture
Regnier	Clay Loam
Latom	Fine Sandy Loam
Rock Outcrop	Unweathered Bedrock
Los Tanos	Fine Sandy Loam
Regnier	Clay Loam
Latom	Gravely Fine Sandy Loam
Regnier	Gravelly Sandy Clay Loam
Gallen	Gravelly Silty Loam

7. What percentage of the soil is in hydrologic soil groups A, B, C, D?



%Soils in Hydraulic groups

8. Do these soil properties make sense considering where this soil is located?

Yes, these are headwaters so I would expect to find coarse bedrock formations and sandy bottoms at some points as well as steeper slopes.

9. For mapunit NM963, how many layers does each component have?

There are eight components.

Component number	Total Depth	Average Depth
1	22	5.94
2	20	5.4
3	60	10.8
4	28	3.36
5	22	1.54
6	20	1
7	22	0.44
8	60	1.2

10. What is the total soil depth (inches) for each layer and the average depth (inches) for the map unit?

11. What is the total water holding capacity (inches of water) over the full soil depth for each component?

Component Number	AWCL	AWCH	LAYDEPL	LAYDEPH	Water Holding Capacity	Total WHC
1	0.18	0.2	0	9	1.71	
1	0.14	0.16	9	18	1.35	3.06
1	0	0	18	22	0	
2	0.1	0.15	0	8	1	1
2	0	0	8	20	0	I
3	0	0	0	60	0	0
4	0.12	0.14	0	6	0.78	
4	0.13	0.15	6	24	2.52	3.3
4	0	0	24	28	0	
5	0.18	0.2	0	9	1.71	
5	0.14	0.16	9	18	1.35	3.06
5	0	0	18	22	0	
6	0.1	0.15	0	8	1	1
6	0	0	8	20	0	I
7	0.11	0.13	0	9	1.08	
7	0.14	0.16	9	18	1.35	2.43
7	0	0	18	22	0	
8	0.09	0.11	0	4	0.4	
8	0.06	0.08	4	15	0.77	2 5 2
8	0.05	0.07	15	25	0.6	3.52
8	0.04	0.06	25	60	1.75	

12. What is the average water holding capacity (inches of water) for soils in this map unit?

Component number	Total Water Holding Capacity	Average Water Holding Capacity
1	3.06	0.83
2	1	0.27
3	0	0
4	3.3	0.40
5	3.06	0.21
6	1	0.05
7	2.43	0.05
8	3.52	0.07



Figure 1. Final Product form Part 1

Part 2: Land use

I visited the EDAC website and downloaded the coverage files suggested in the instructions. I inputted to ArcMap, merged them and clipped the to the Pecos Head Water. Figure 2 represents the final product



Figure 2. Final Product form Part 2

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