

NS481/581 Luckiamute GIS Exercise.

Step 1. Insert your Luckiamute Data CD into the D:\ drive

Step 2. Find the saved ArcView project files on the following folder K:\NSSI\GISData\ArcView Projects

Step 3. Open the following projects, perform the following tasks, and answer the questions

Precipitation Project

-Add the "luckquad.shp" theme from your data CD to the view

-Clear the quad polygons, and make the theme active in the contents area

Questions: Identify the following

Lowest rainfall in the watershed:

Highest annual rainfall in the watershed:

Determine the rainfall gradient across the watershed: $\text{Grad} = (\text{highest} - \text{lowest}) / \text{horizontal distance}$ (answer in mm/km ... you'll have to do some unit conversions)

In which direction is the rainfall gradient oriented?

What quadrangle is associated with the highest rainfall?

What quadrangle is associated with the lowest rainfall?

Add the following shape files: bent_cont_100.shp and polk_cont_100.shp

What topographic features are associated with the highest rainfall?

What topographic features are associated with the lowest rainfall?

From which direction do weather systems track across the watershed?

Provide an explanation of the meteorological patterns that you observe in the Luckiamute watershed.

Surficial Geology Project

Step 1. Insert your Luckiamute Data CD into the D:\ drive

Step 2. Find the saved ArcView project files on the following folder K:\NSSI\GISData\ArcView Projects

Step 3. Open the following projects, perform the following tasks, and answer the questions

Surficial_geo.apr

Step 4. Add the luckquad.shp theme from your data CD (in the D:\drive)

Step 5. Find the Monmouth Quad and the Luckiamute River (southeast corner)

Answer the following questions:

Query the surficial geology map and determine the following:

What is the map unit designation and description of the surficial geology associated with the Luckiamute River and immediate surrounding area.

What is the description for surficial unit Qff2?

What is the description for surficial unit Tm?

Add the polk_cont_100.shp file to your view.

What types of topographic feature is unit Tm associated with along the Luckiamute drainage.

Would you be able to stick a shovel into unit Tm? or would you have to hit it with a hammer?

Remove the pol_cont_100.shp theme, zoom to the full extent of the project.