1. **Describe your choices in making map 1**

For map 1, I choose the land variable for the Nebraska state county boundaries. The county boundaries are shown in light green color and the counties are filled with brown to light brown colors depending on the land data. I have not shown the legends on the Nebraska state map because this map is for the inset map and the legends do not make it legible.

This map focuses on the Lancaster County. Therefore, to get the Lancaster County data, the municipal data and county data were intersected using intersection function. After intersection, Lancaster map was created which includes the area, streams, and parks of the county. For the streams, I choose the line color blue because blue color shows the water body and choose the line type solid to make it more visible. I choose the parks symbol as square with green (olivedrab3) color.

Raster data, the DEM was used in the background of the vector data, and I make the transparency of the raster to (alpha 0.7), so that the features of the raster and vector could better visible.

The inset map which was created in the beginning was added to the Lancaster County map to show both the inset and county map.

1. **Describe your choices in making map 2. Include why you chose the problem and where you obtained your data. Finally, your map is a communication piece. What was the intent of your communication, and do you feel as though you achieved your goal?**

For map 2, I chose the region Gilgit Baltistan (GB), Pakistan. The map shows the rivers and district of GB, the rivers shown in blue color and the background map is the raster map with various colors for each district.

Through my map, I have shown the river flows in the GB region. Despite the river flows in the region, the residents at Upper Hunza face the problems of residential water shortage. Similarly, the Gilgit river which is the main water supplies in Gilgit is contaminated because of lack of sewage and waste treatment plants.

I obtained my data from USGS website, but it took a lot of time to get a proper source to obtain my data. I downloaded the raster data, processed it in QGIS first and then uploaded it, I searched for the shapefiles for Pakistan, and it was not easily available but yes, I achieved my goal because, at least I got the required data.

1. **What did you learn?**

First, I learnt how to get a raster data from a reliable source, especially for countries like Pakistan because data are not easily available. I learn how to process your DEM data in QGIS and R. The important thing I learn was how to create a map in R studio using vector and raster data and I will continue to learn more about it.