**GEOG 204 - Tutorial 8**

3D Visualization

In this tutorial we will explore 3D visualization. Although we have not gone over this subject during the course, it is helpful GIS functionality to be aware of. In this case we will use it to visualise TIN and Voronoid Diagrams, which are also referred to as Thiessen Polygons.

1. Open ArcGIS Pro.
   - On the Insert tab add New Global Scene
   - Add the temperature dataset and move it from the 2D layers group to the 3D layers group
   - Right Click >> Properties >> Elevation
   - Features are: At an absolute height
     - A field: ELEV

Layer Properties: temperature

General

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Features are   At an absolute height ▾

Additional feature elevation using

◯ Geometry z-values

◉ A field   ELEV ▾ ☒

Vertical Exaggeration   1.00 ⌃⌄

Cartographic offset   0.00 ⌃⌄

Vertical units   Meters ▾

- On the Map tab, select the Explore button to help you navigate around the scene. For example, if you hold down B, will enable the cursor such you can navigate around the scene in 3D
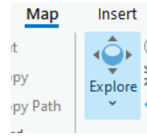

- Use the Navigator in the bottom left hand corner of the Scene to arrange your view to have a horizon scene as shown below. Yes, it is finicky to work with.
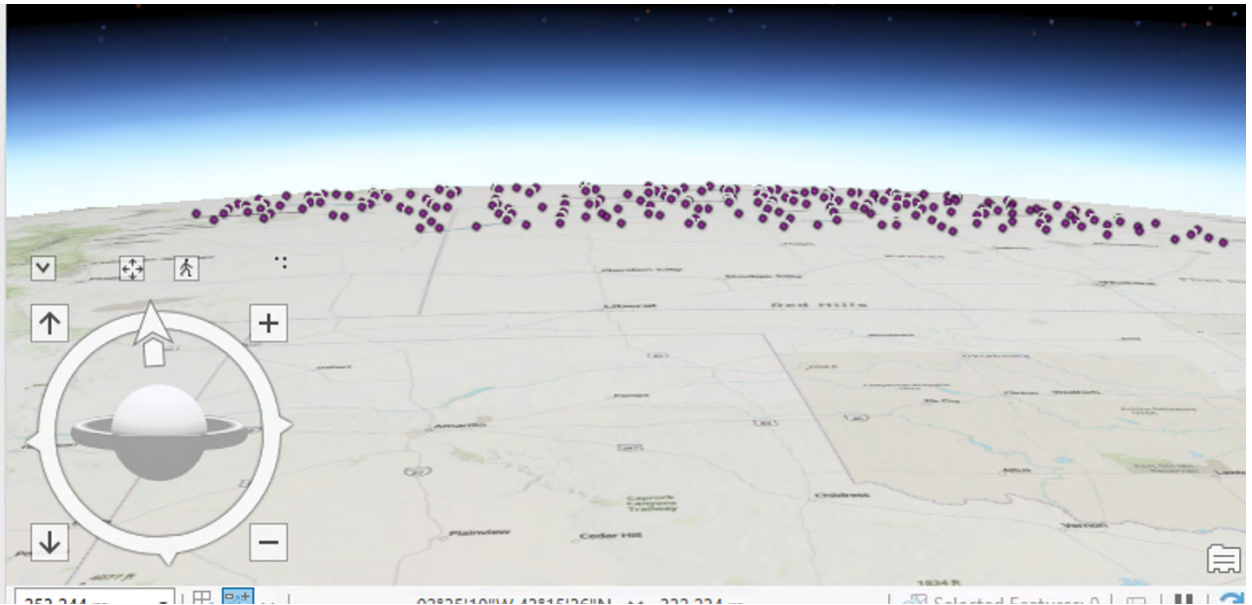

- You will notice that the elevations do not stand out much -- t is just the nature of the landscape – so will exaggerate them to see the differences better.
2. Right on the temperature layer
   - Properties >> Elevation >> Vertical exaggeration = 20
   -
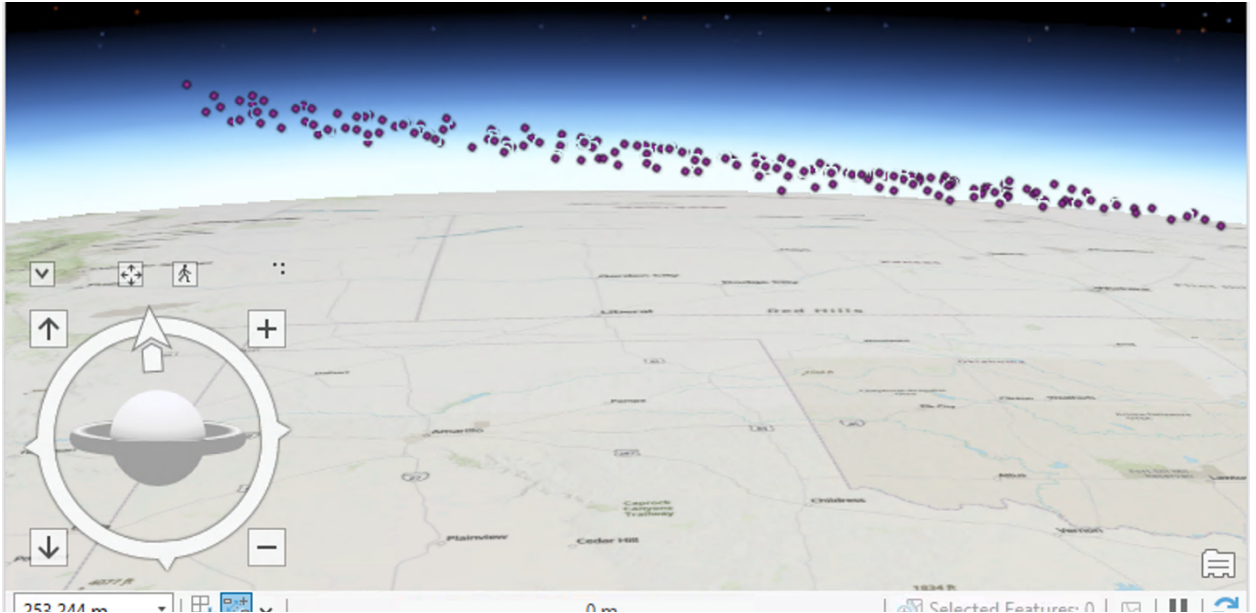
3. Now we are going to do some interpolation. You will recall TIN, DEM and Thiessen polygons in the lectures
   - In the Geoprocessing toolbox search for Create Thiessen Polygons. Make sure the Output Fields is set to All Fields
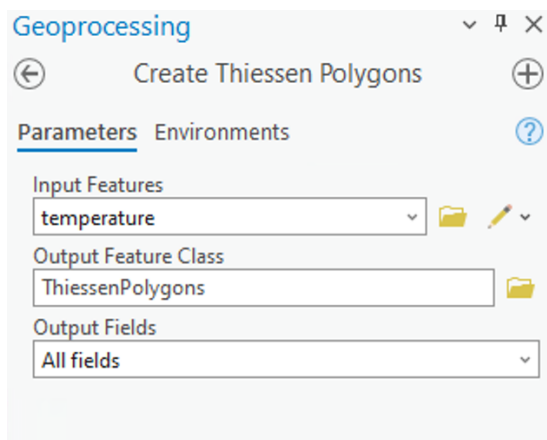
   - Drag the Thiessen polygons layer to the 3D layer group and set its height to be based on ELEV attribute with an exaggeration of 20. What do you notice about the Thiessen Polygons?
4. In the Geoprocessing Toolbox search for Create TIN (3D Analyst Tools)
   - Specify the name of the output file, Coordinate system select, temperature, Height field is ELEV
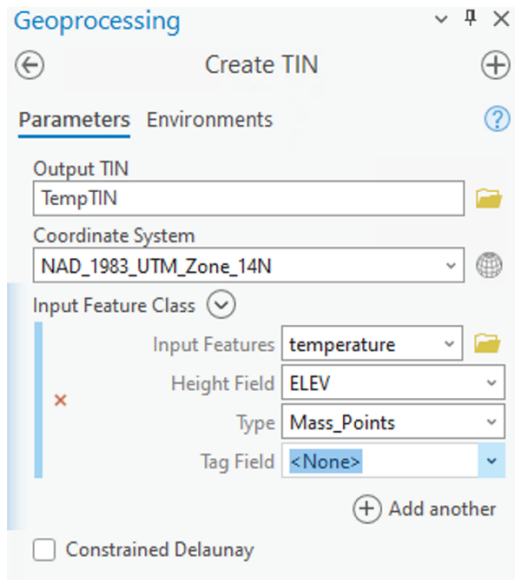
- Next use the TIN Edge (3D Analyst Tools) function to create TIN network. Edge type to be Data Area and the TIN layer created above as the Input TIN

5. Next open a new Scene Project and visualize the elevation data for the city of Prince George. Show me your work.