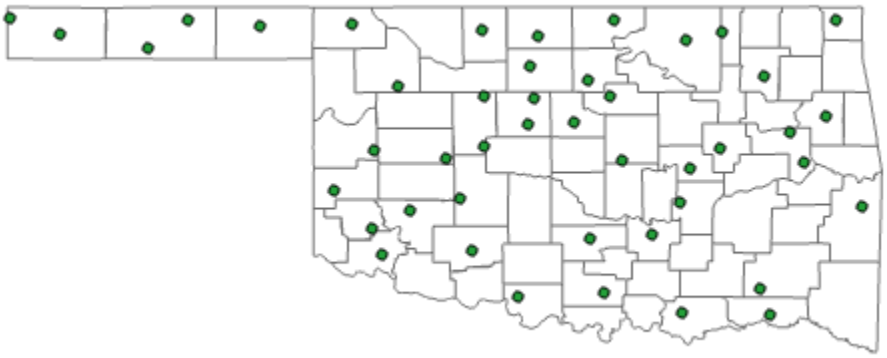
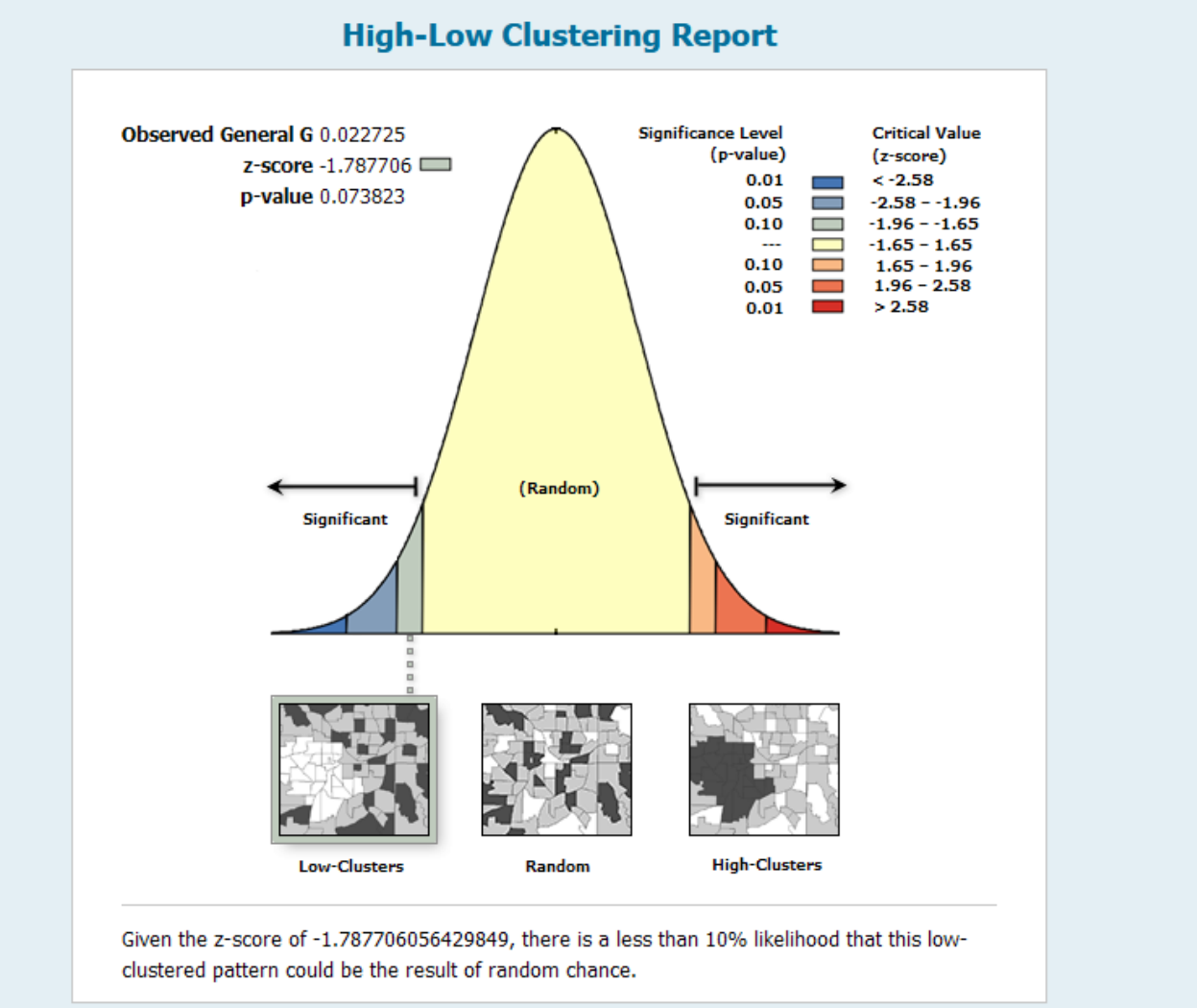
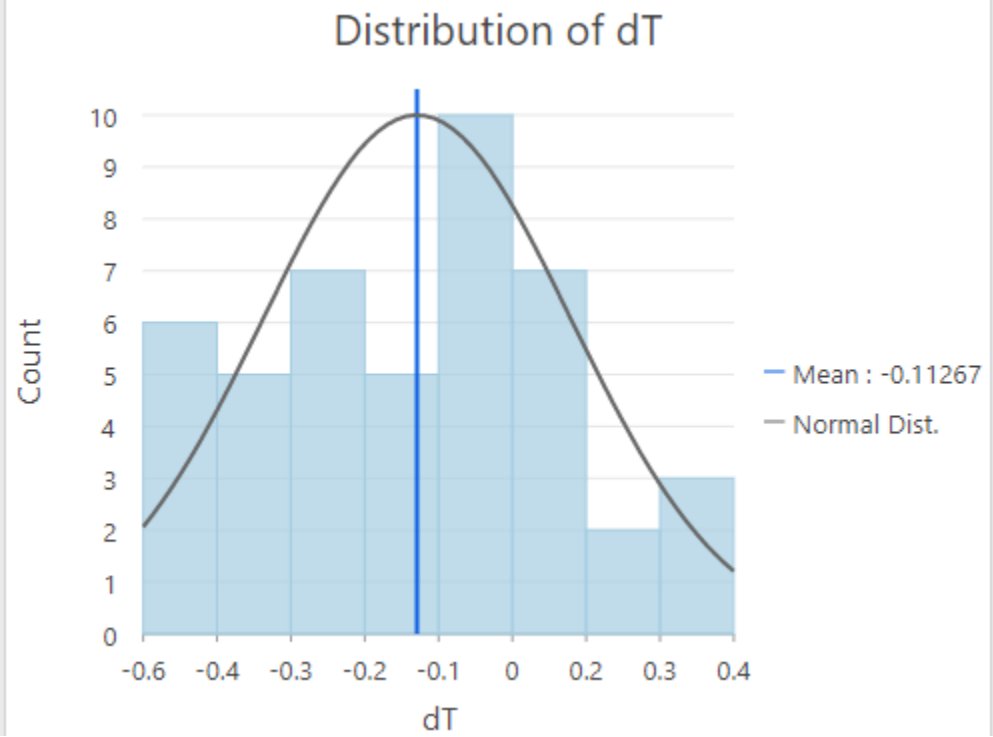
Using the USA geodatabase, I have imported the data and created a basemap of oklahoma with appropriate projections. The data consists of temperature change measurements across Oklahoma. I want to analyze if the sample locations are appropriate.



We will begin with quantifying spatial patterns.

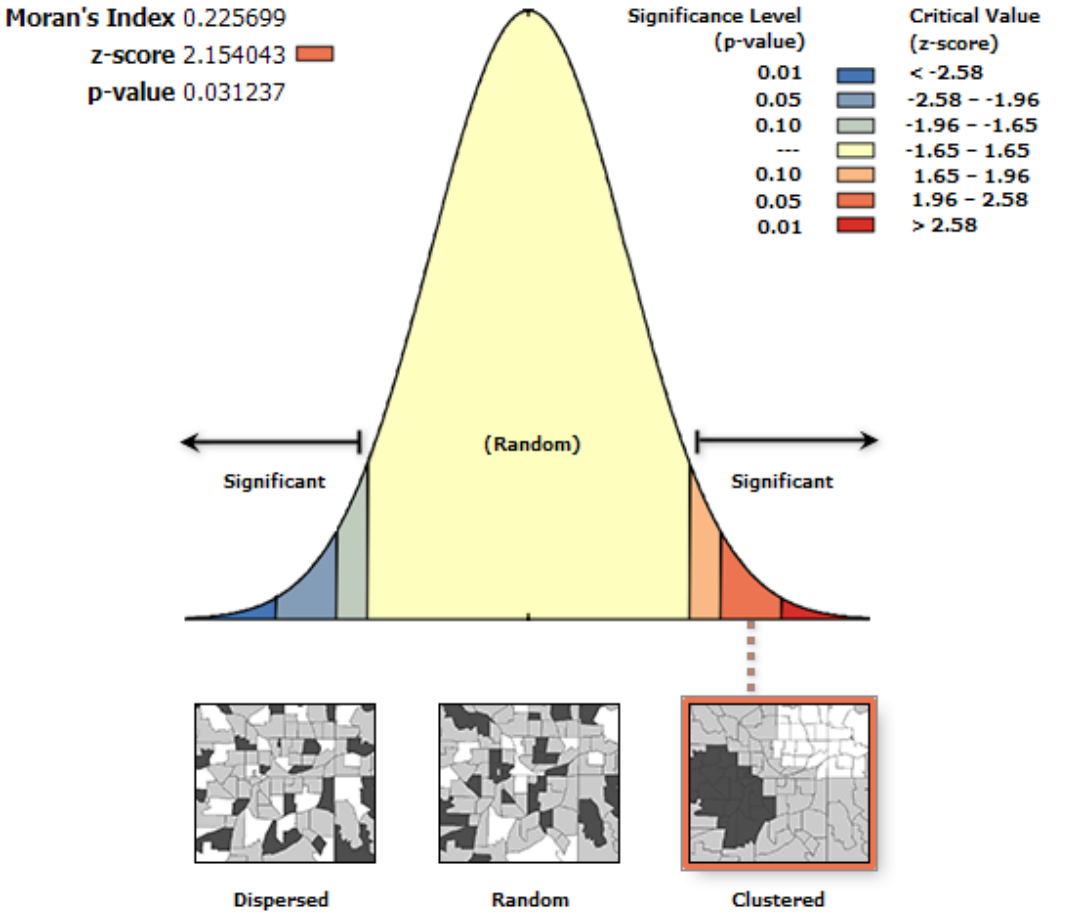


The results show with a 90% confidence that lower values are more clustered than higher values. This is confirmed by creating a histogram of dT and seeing that there is a higher frequency of negative values.



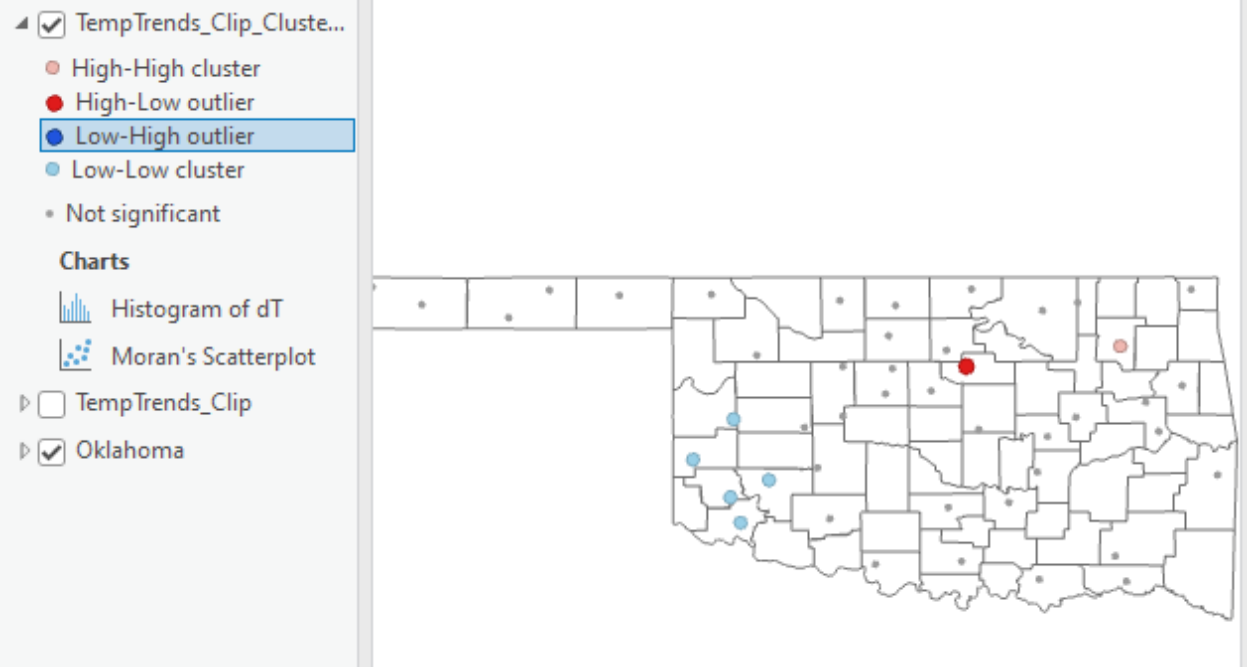
Next, we will perform spatial autocorrelation.

Spatial Autocorrelation Report

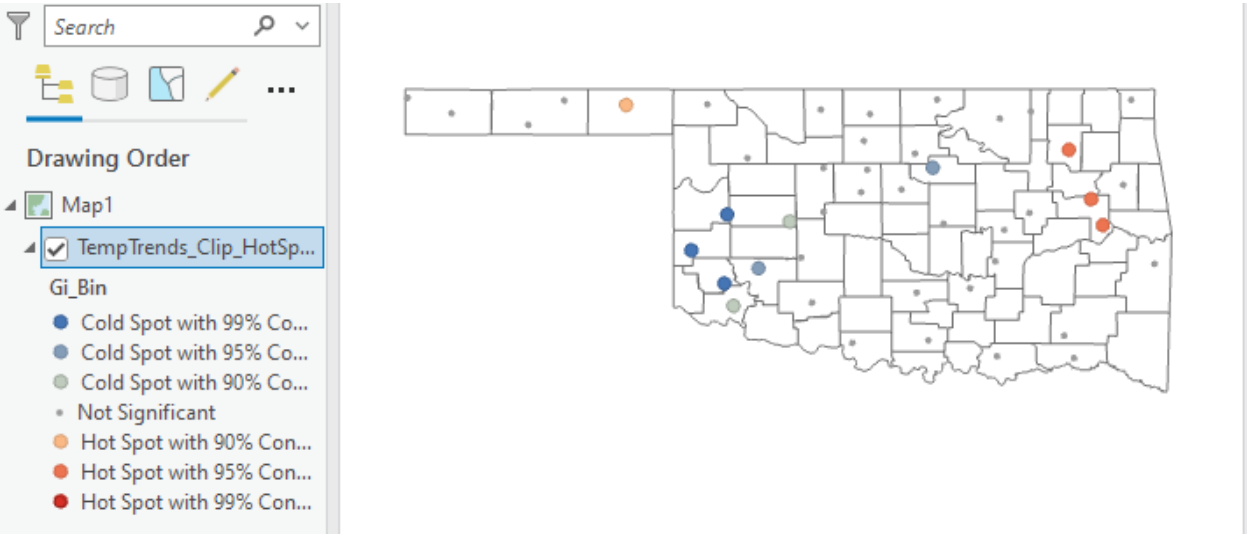


Given the z-score of 2.154043, there is a less than 5% likelihood that this clustered pattern could be the result of random chance.

The results indicate that the stations dT near each other tend to have similar values. These clustering should represent the higher clustering of lower values that will reveal itself when we analyze the map.



Finally, by performing a hot spot analysis we can identify the confidence levels that temperatures are higher or lower.



All of the data seems to suggest that there is more cooling in a smaller area and more warming in Northern and Eastern oklahoma.