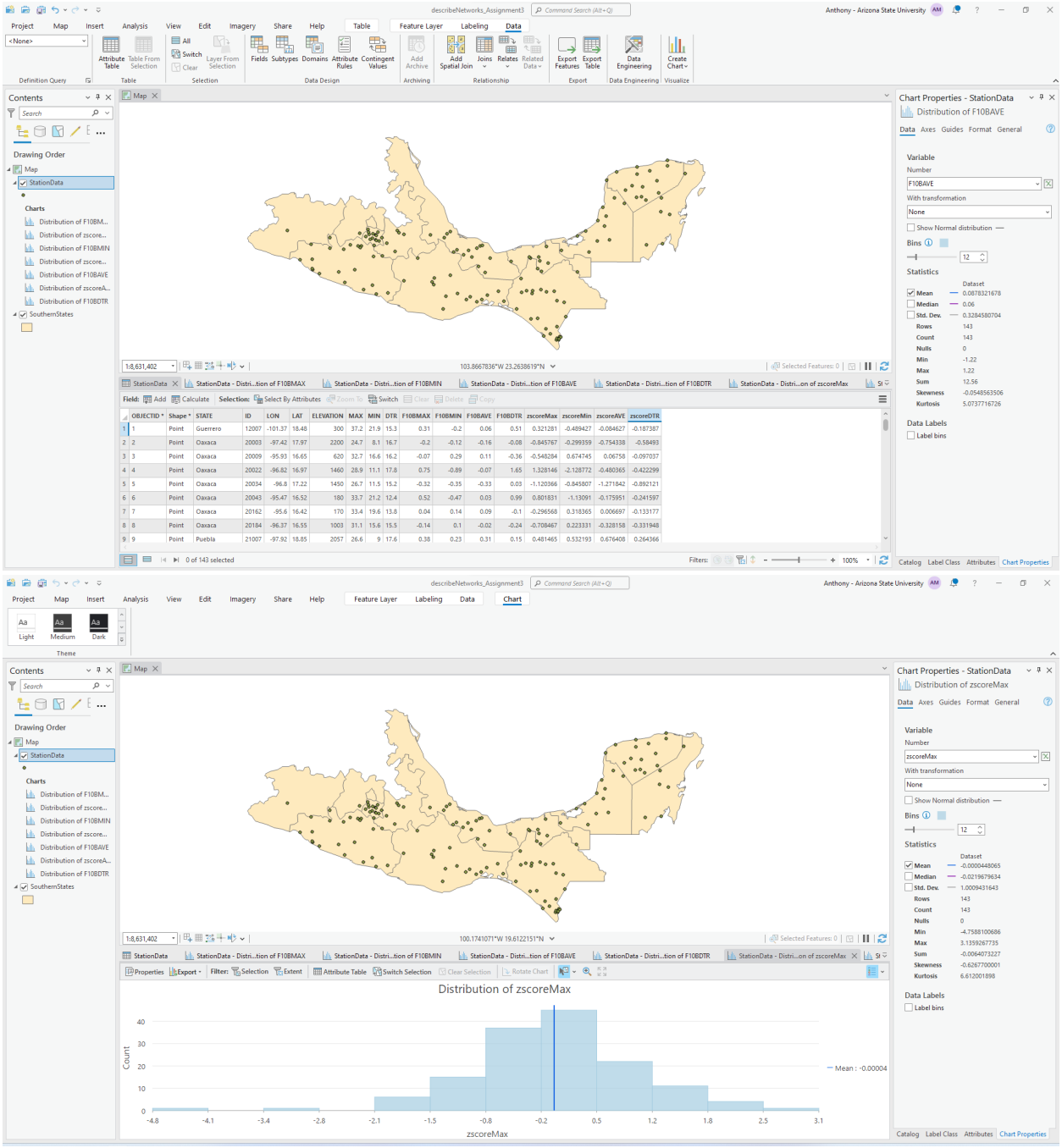
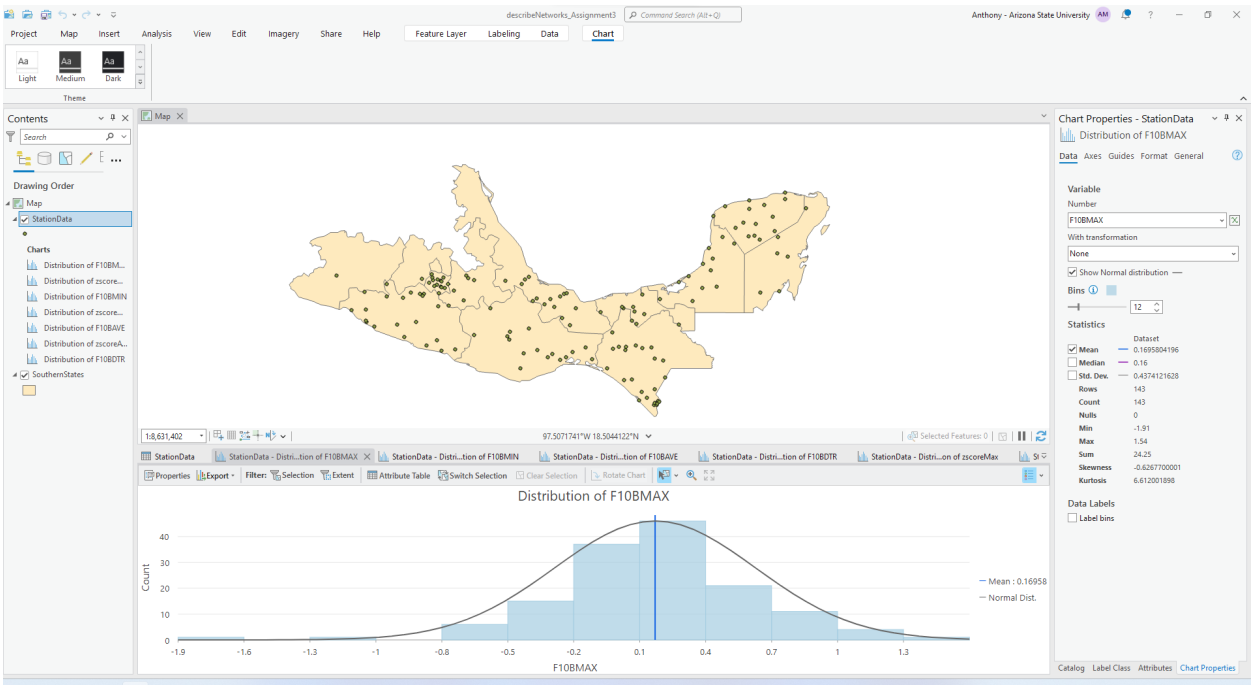
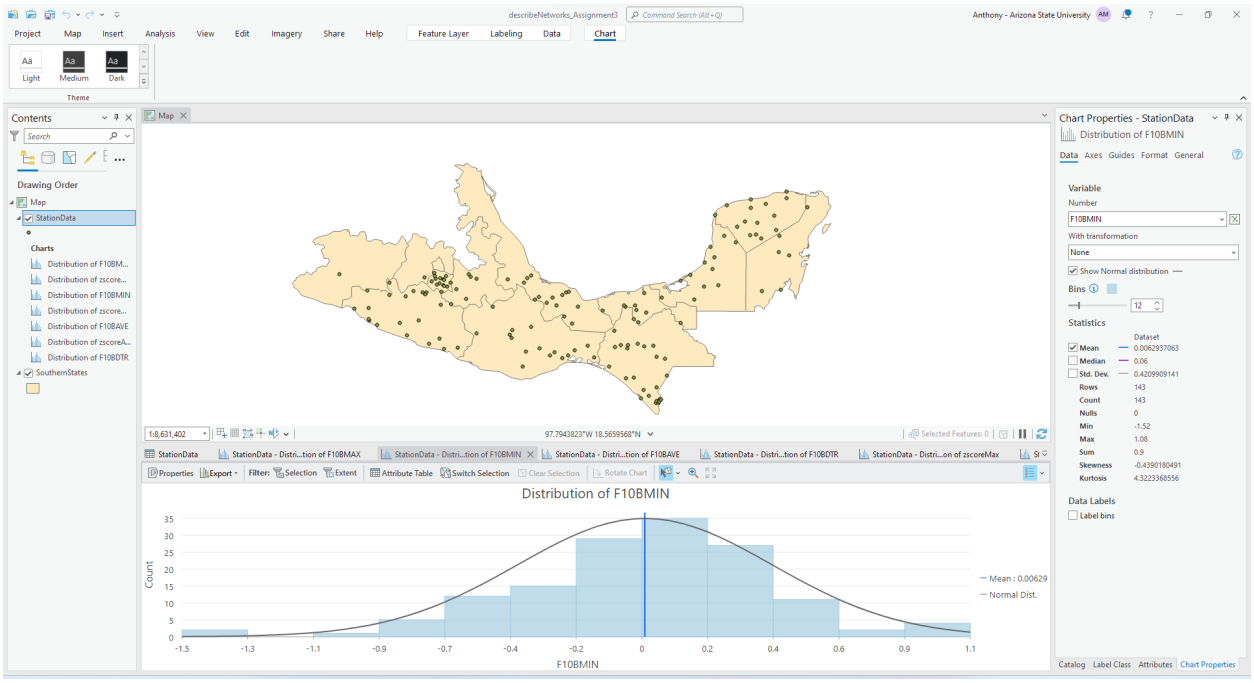


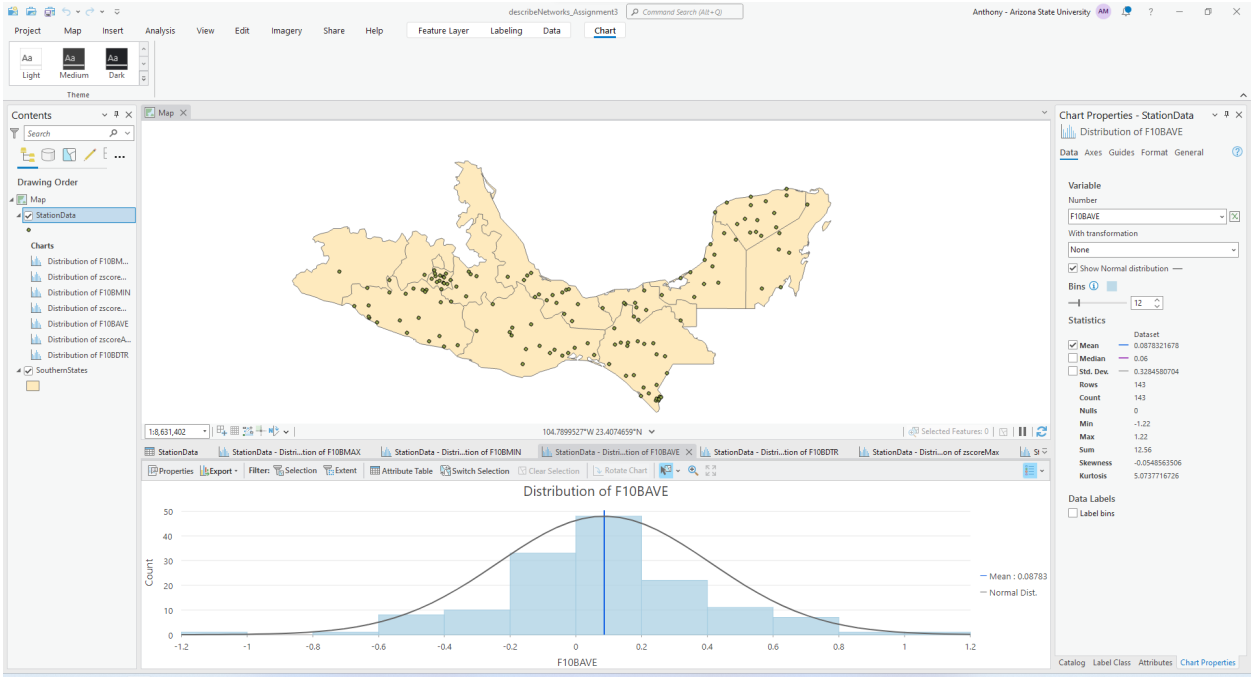
The notable things about this data, with z scores verified to adhere to normalizing each set of data analyzed:



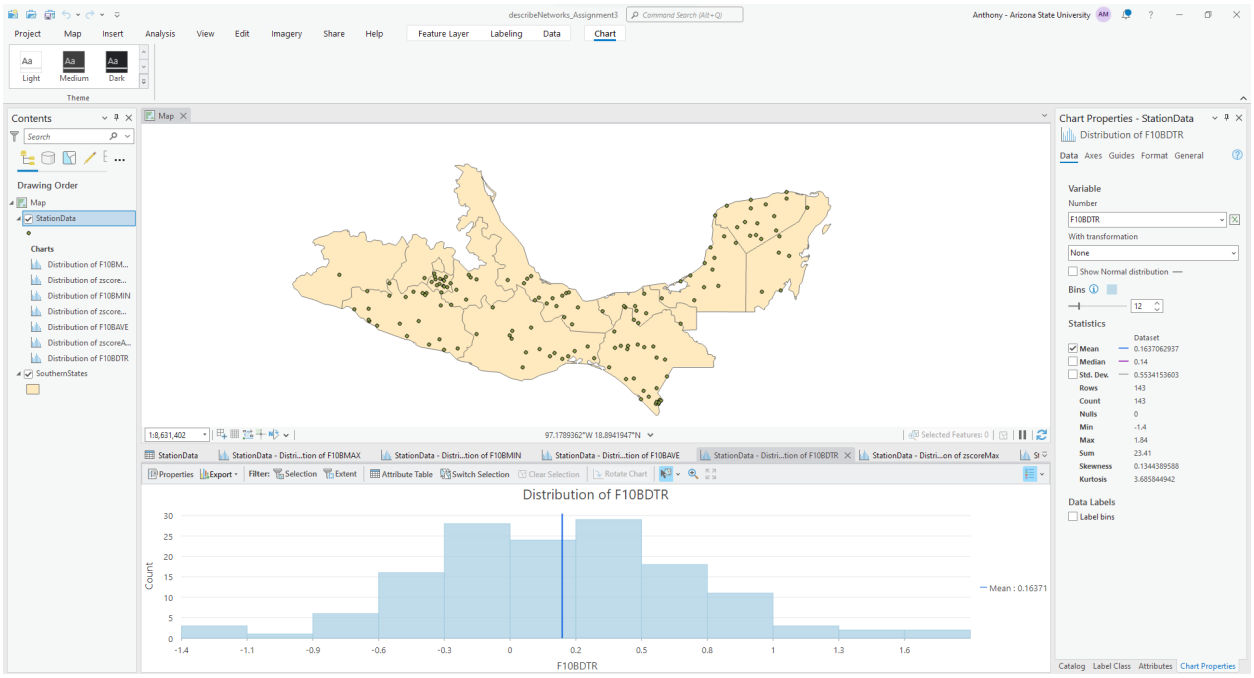
On average, every decade the temperature maximum increased by 0.17 degrees.



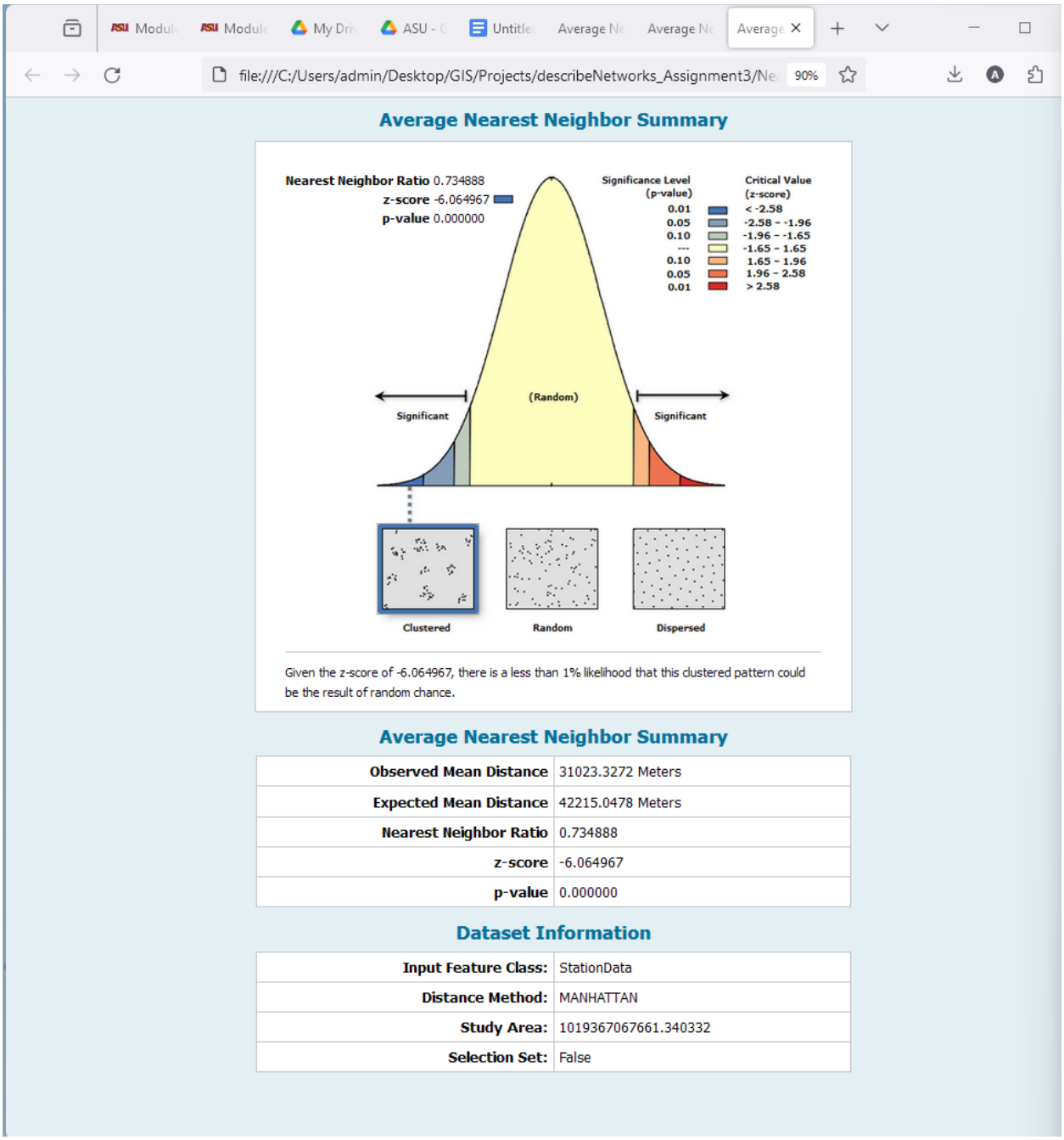
The average decade change in minimum temperature was negligible at an increase of 0.006 degrees.



The average temperature increased by 0.09 degrees by decade.



The range of temperatures by decade increased 0.16 degrees.



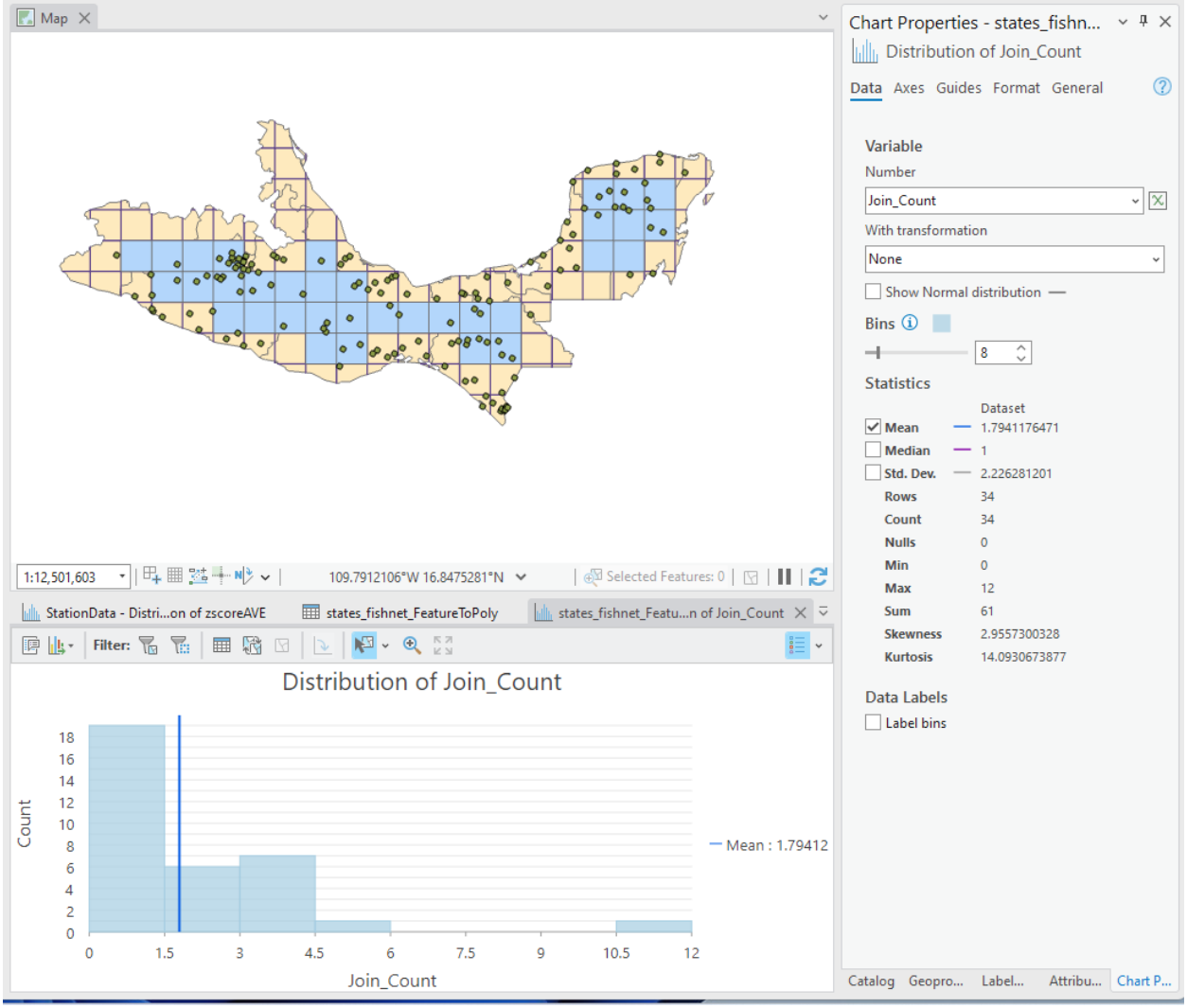
Average Nearest Neighbor Summary

Observed Mean Distance	31023.3272 Meters
Expected Mean Distance	42215.0478 Meters
Nearest Neighbor Ratio	0.734888
z-score	-6.064967
p-value	0.000000

Dataset Information

Input Feature Class:	StationData
Distance Method:	MANHATTAN
Study Area:	1019367067661.340332
Selection Set:	False

Doing an average nearest neighbor calculation found that the pattern is a clustered pattern, and these results are reasonable considering the map shows no stations in the Northwest and few in the East with quite a few visible clustered locations.



Edit View Insert Cell Help ArcGISPro

Run Code

In [2]:

```
# Script for calculating z statistic for quadrat analysis
from math import *
M = 61
Mean = 1.79
StdDev = 2.23
Var = StdDev**2
z = sqrt ((M - 1) / 2.0) * ((Var / Mean) - 1)
print ('z =', z)
if ( z < 1.96 and z > -1.96):
    print ('The network is randomly distributed')
if ( z > 1.96 ):
    print ('The network is clustered')
if ( z < -1.96 ):
    print ('The network is uniformly distributed')
```

```
z = 9.739363845157504
The network is clustered
```

Using a quadrat analysis, we can see that the dispersion of stations within quadrants that are fully within the map are also significantly clustered, further confirming the distribution pattern.