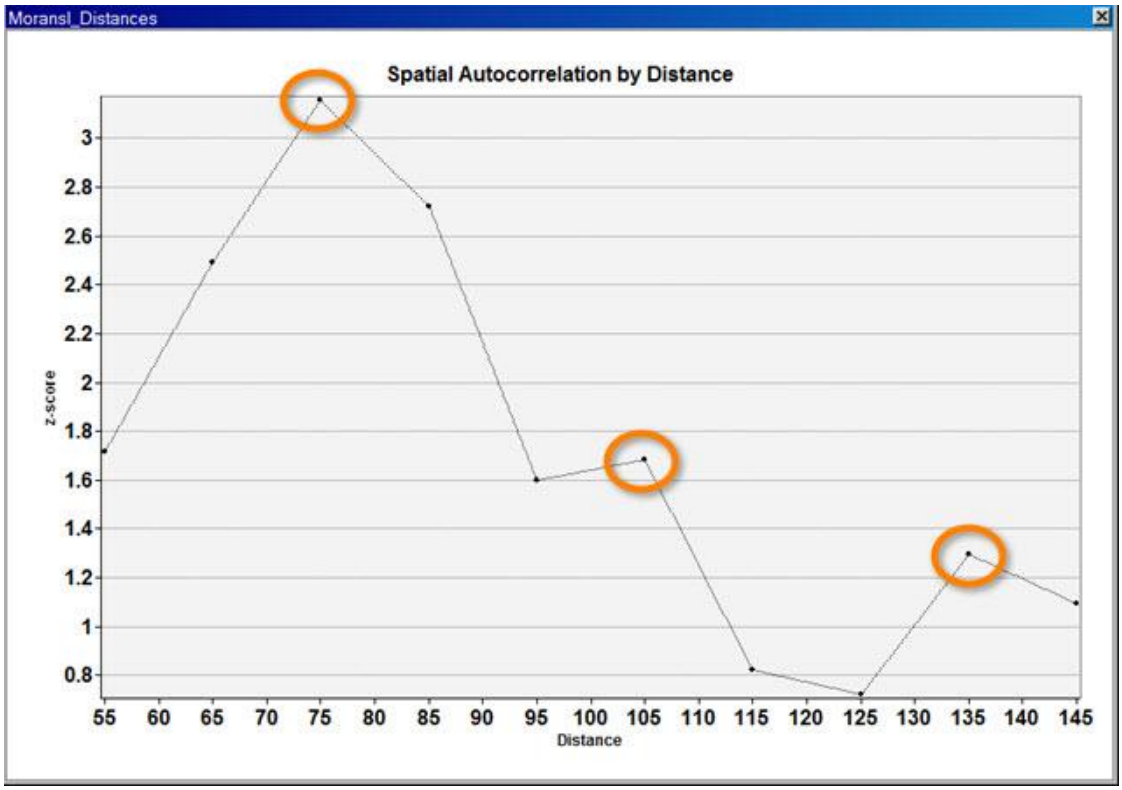
Summary

Measures spatial autocorrelation at incremental distances and creates a graph of those distances and their corresponding z-scores. The graph can be used to choose an appropriate scale of analysis (distance band) to use for further analysis, for instance in a Hot Spot Analysis (Getis-Ord Gi*). Peaks in the output graph indicate distances at where clustering is most pronounced. When more than one peak is present, clustering is pronounced at each of those distances. Select the distance that best corresponds to the scale of analysis you are interested in; often this is the first peak encountered.

Learn more about how Incremental Spatial Autocorrelation works

Learn more about how Spatial Autocorrelation (Global Moran's I) works

Illustration



Usage

- The Input Field should contain a variety of values. The math for this statistic requires some variation in the variable being analyzed; it cannot solve if all input values are 1, for example. If you want to use this tool to analyze the spatial pattern of incident data, consider aggregating your incident data.

- Calculations based on either Euclidean or Manhattan distance require projected data to accurately measure distances.

- For line and polygon features, feature centroids are used in distance computations. For multipoints, polylines, or polygons with multiple parts, the centroid is computed using the weighted mean center of all feature parts. The weighting for point features is 1, for line features is length, and for polygon features is area.

- Map layers can be used to define the Input Feature Class. When using a layer with a selection, only the selected features are included in the analysis.

- For polygon features, you will almost *always* want to choose **Row** for the Standardization parameter. Row Standardization mitigates bias when the number of neighbors each feature has is a function of the aggregation scheme or sampling process, rather than reflecting the actual spatial distribution of the variable you are analyzing.

- If no Beginning Distance is set, the default distance is the distance at which each feature in the dataset has at least one neighbor.

- If no Increment Distance is set, the default distance is ¼ of the extent of the data divided by the number of increments. For example, if the data has an extent of 10,000 meters and the number of increments is 10, the increment distance would be (10,000 * 0.25) / 10 = 250 meters.

- The output graph will only be created if there is an Output Table location specified.