

Lesson 5. Spatial Statistics in GeoDa (1)

Moran's I tests

The most commonly used indicator of global spatial autocorrelation. In GeoDa you can use global and local Moran's I tests. Global test illustrates spatial autocorrelation in a whole, but local test shows spatial differences.

Weights matrix creation

*The first step if you need to calculate spatial autocorrelation indices.
Work pipeline: open «Weights manager» on instrument panel → click on «Create» button → choose type of contiguity → select ID variable and X, Y - coordinate variables → click on «Create» button and save weights matrix file*

Adjacency visualization

*Use if you need to explore adjacency parameters.
Work pipeline: open «Weights manager» on instrument panel after weights matrix creation → click on «Connectivity graph», «Connectivity map» or «Neighbours' histogram» to analyze them.*

Global Moran's I tests

*Use if you need to evaluate the presence of statistical dependence for the entire set of points.
Work pipeline: choose «Global Moran's I test» (univariate or bivariate) on «Space» tab → select one or two variables of interest → explore Moran's scatter plot*

Local Moran's I tests

*Use if you need to evaluate the presence of statistical dependence for each point separately.
Work pipeline: choose «Local Moran's I test» (univariate or bivariate) on «Space» tab → select one or two variables of interest → select maps or scatter plot to open → explore maps and plot. (Significance map — to show how significant spatial statistics are, cluster map — to show statistically similar values*