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UCLA GEOG XL 181A
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Unit 9 - Moran's I Local Spatial Autocorrelation Analysis for POTUS Elections 2012-2016

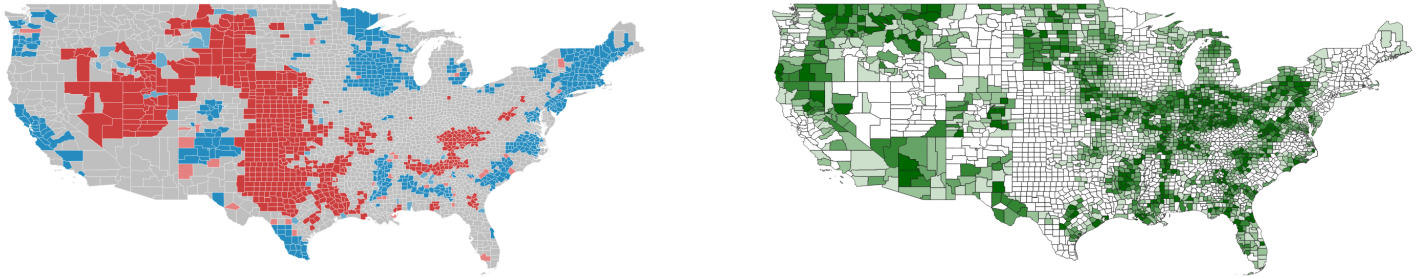
My exploration of the 2012 and 2016 United States Presidential Elections using GeoDa centered its analysis on the percentage of the vote share in support of the Democratic party for each county. The spatial weights matrix used first order queen contiguity, meaning all of the county's immediate neighbors in all directions qualified as a neighbor to be averaged for spatial lag calculations.

When Moran's I LISA operations were executed, the figures strongly indicated spatial clustering in several places in the United States (Moran's I values of 0.620 and 0.606 for 2012 and 2016, respectively). The maps in the appendix following show the locations of these clusters. As is the common consensus in national media, the coasts as well as border Texas represent a significant portion of their respective states' Democratic vote shares. The Rust Belt too, running through the South, houses significant clusters of Democratic voters. A large cluster of Democratic support was visible in the upper Midwest in 2012 as well, but has dissipated in the 2016 election map. All of these clusters, visible in blue in the appendix, contrast the relatively stable red supercluster of low Democratic support, or greater Republican support, in the middle of the country in the plains and in Texas. The text on the appendices provides some insight into how these cluster maps correspond to their mapped data, or the Moran's I scatter plots.

The following Directional LISA Analysis allows greater extrapolation of the change over time, that could otherwise only be seen comparing the maps and plots. The origin standardized scatter plot shows significant losses in support for the Democratic party between the 2012 and 2016 elections. While support increased in California, Arizona, Utah, metropolitan Texas and the Rust Belt, it is dwarfed by the clustered rescindment of support in the midwest. In my exploration and creation of these maps and plots, GeoDa's capabilities allowed me to thoroughly understand the spatial dimension of this change over time.

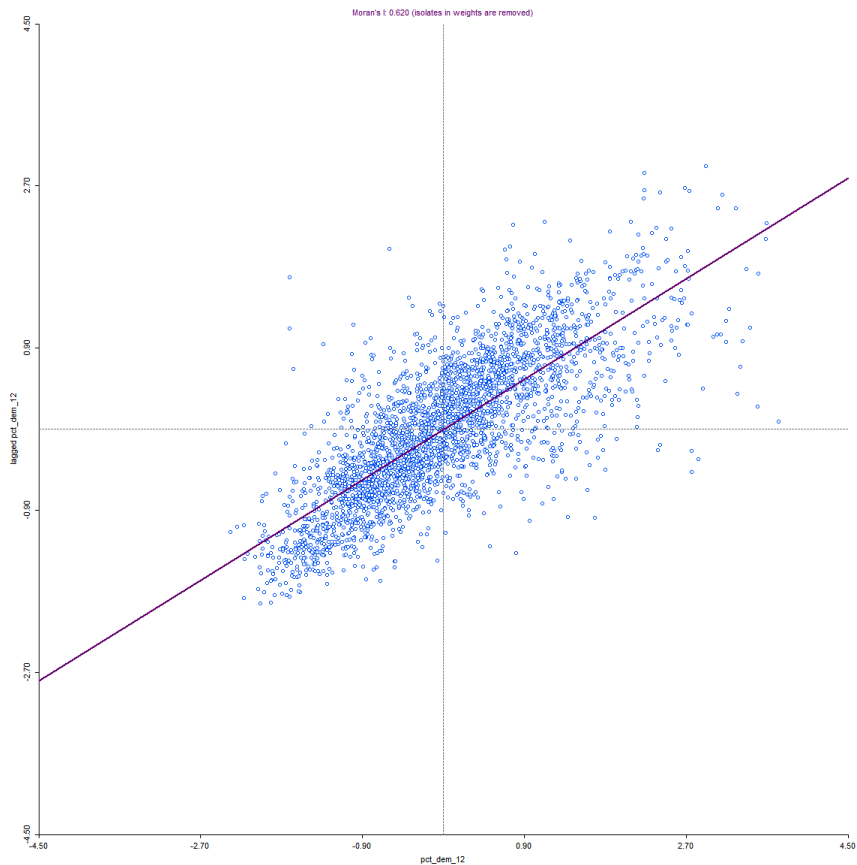
The left's dominance in urban America, particularly the coasts, is understandable to me as a traveler and resident of California. However, the politically dynamic midwest is somewhat of an enigma to me. I have never visited, but I can only assume based on what I know of its cultural pace and labor history that many voters feel virtually indifferent to the two parties, neither of whom have offered tangential aid for economic or structural decline. It would make sense for such a partyless people to change sides so suddenly, though I am unsure what changes in local Midwestern governments or policies could have sent so many Democratic voters to the GOP.

2012 Presidential Election
Moran's I Local Spatial Autocorrelation Analysis
Percent Vote Share for Democratic Party

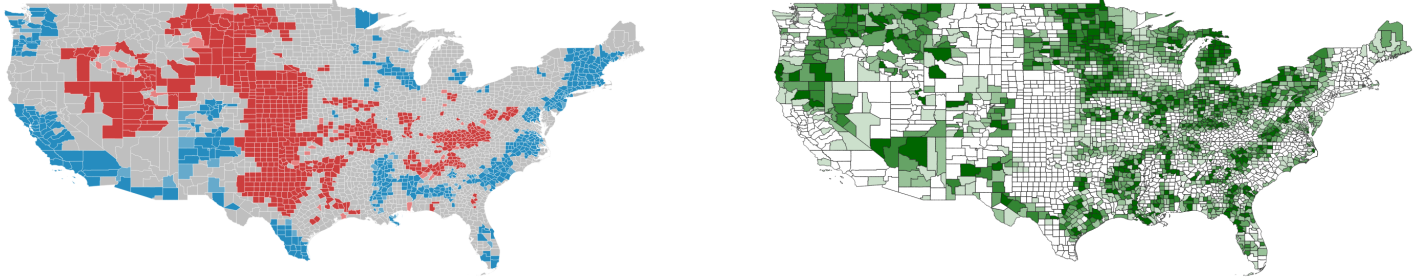


Left: Bright Blue represents 1st quadrant (high-high) clusters—strong Democratic support in county, and in neighbors (first order queen contiguity); Bright Red represents 3rd quadrant (low-low) clusters—strong Republican support in county, and in neighbors; Weaker Blue and Red represent 4th quadrant (high-low) and 2nd quadrant (low-high) values respectively—D voters with R voting neighbors, or vice versa

Right: Intensity of Green indicates significance of spatial correlation in county, regardless of party

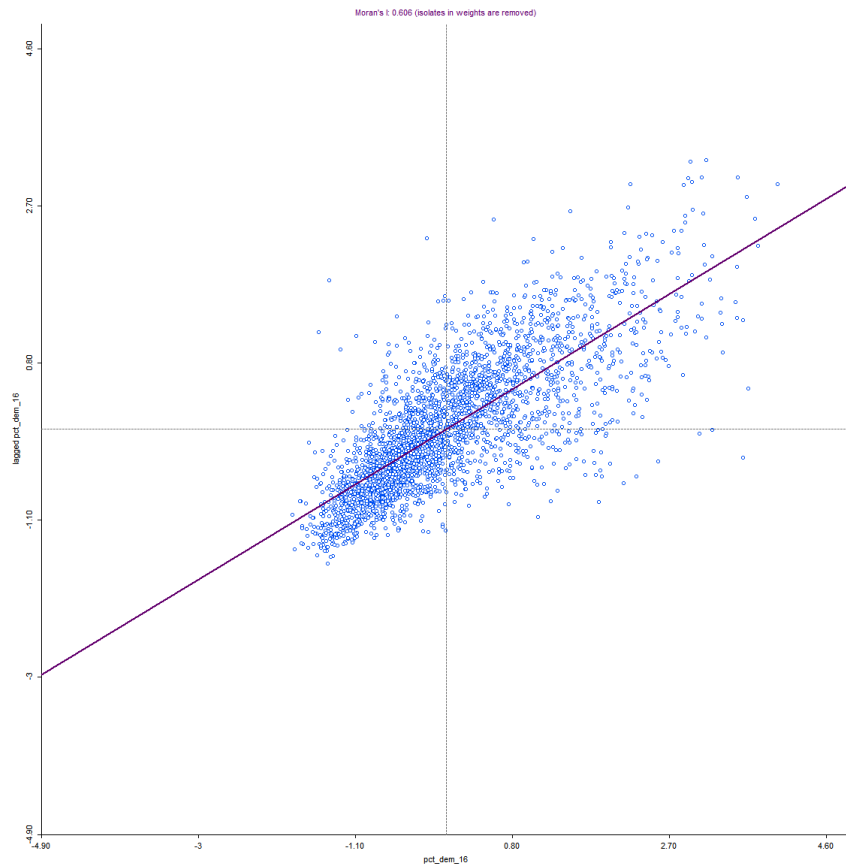


2016 Presidential Election
Moran's I Local Spatial Autocorrelation Analysis
Percent Vote Share for Democratic Party

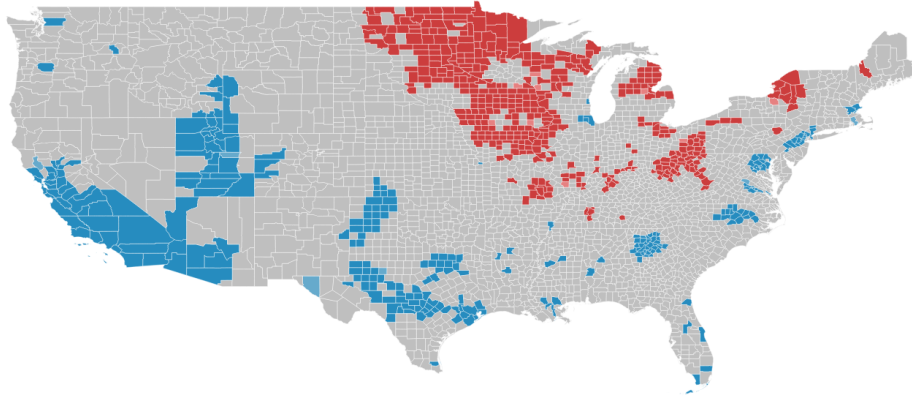


Left: Bright Blue represents 1st quadrant (high-high) clusters—strong Democratic support in county, and in neighbors (first order queen contiguity); Bright Red represents 3rd quadrant (low-low) clusters—strong Republican support in county, and in neighbors; Weaker Blue and Red represent 4th quadrant (high-low) and 2nd quadrant (low-high) values respectively—D voters with R voting neighbors, or vice versa

Right: Intensity of Green indicates significance of spatial correlation in county, regardless of party

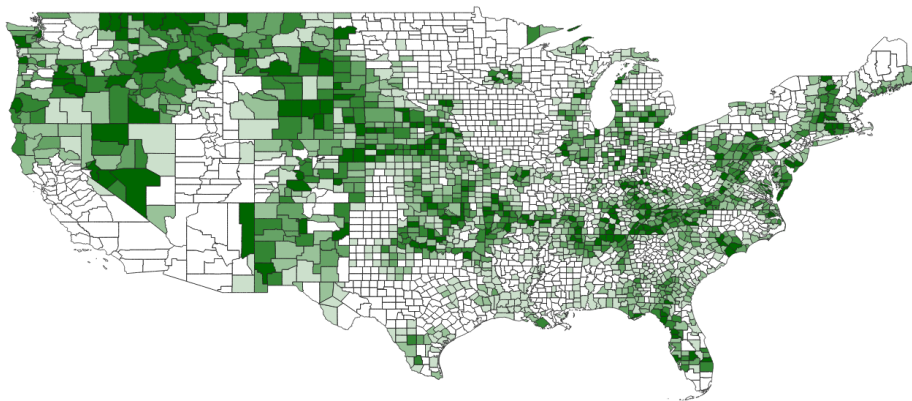


2012 and 2016 Presidential Election
DIRECTIONAL Local Spatial Autocorrelation Analysis
Percent Change in Vote Share for Democratic Party

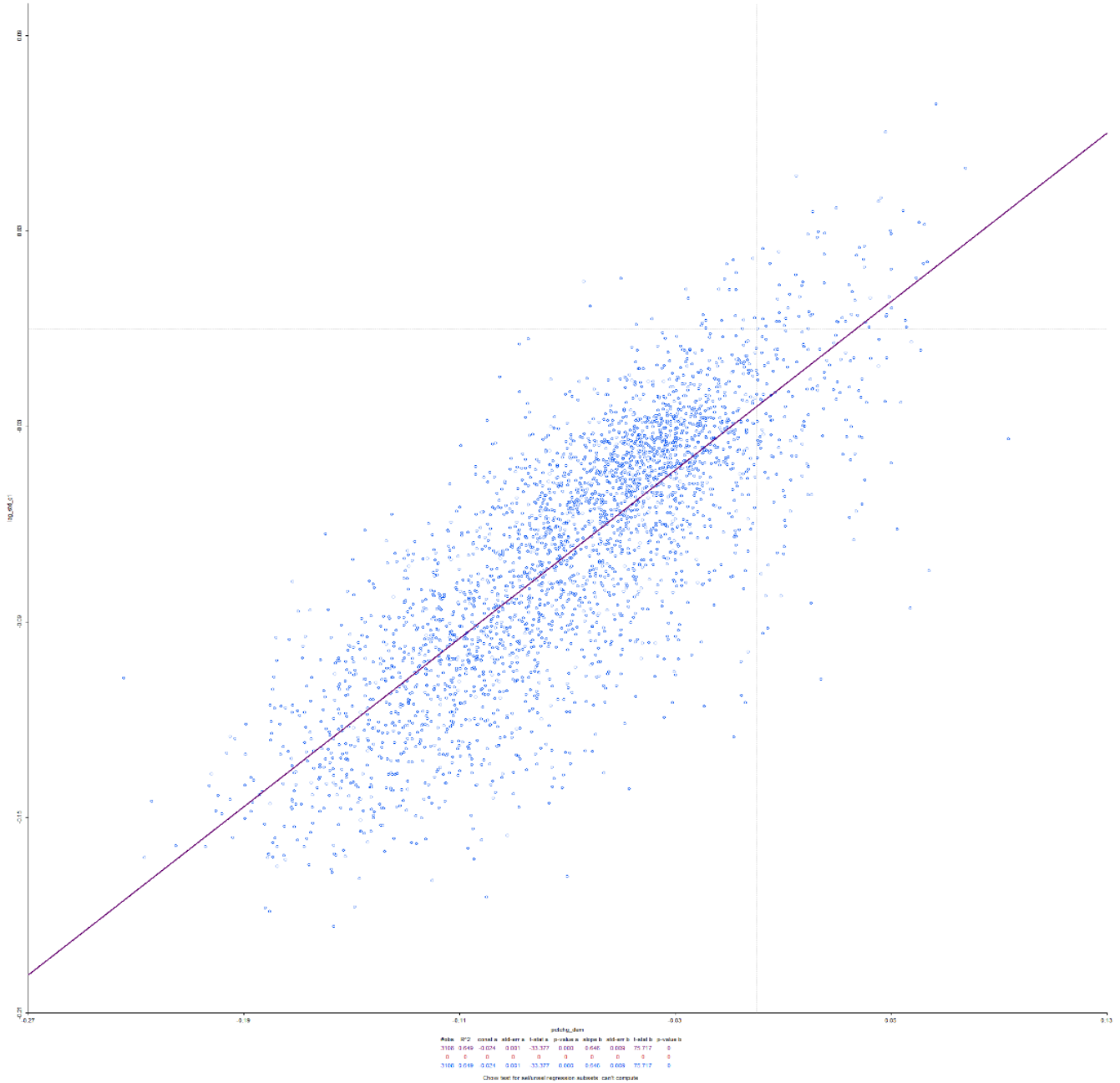


Above: Blue represents 1st quadrant clusters—increasing Democratic support in county, and in neighbors (first order queen contiguity); Bright Red represents 3rd quadrant clusters—decreasing Democratic support in county, and in neighbors; Weaker Blue and Red represent 4th quadrant and 2nd quadrant values respectively—increasing D support among R neighbors, or decreasing D support among D neighbors

Right: Intensity of Green indicates significance of spatial correlation in county, regardless of direction of change



2012 and 2016 Presidential Election
DIRECTIONAL Local Spatial Autocorrelation Analysis
Percent Change in Vote Share for Democratic Party - SCATTER PLOT



A point's distance from the origin, as well as its directionality in both dimensions, represents the corresponding county's change in voting support for the Democratic party; horizontal displacement indicates the change in support of the county, and vertical displacement indicates the change in its lagged support, or its neighbors' support (first order queen contiguity)