Abundant evidence indicates that the ethnoracial composition of the United States is in flux. Minority populations are growing rapidly, fueled not only by immigrant flows from Latin America and Asia but also by natural increase, youthful age structures, and other dynamics. As a result, the nations' demographic profile will soon look very different, with non-whites expected to exceed whites in number before mid-century (U.S. Census Bureau 2012). This changing racial-ethnic mix is likely to influence many aspects of life, from the economy to social trust among neighbors (Lichter 2013; Putnam 2007; Smith & Edmonston 1997). While the jury remains out concerning the overall effects of diversity, there can be no doubt about the direction of the diversity trend in the decades to come.

However, diversification of the nation as a whole is only part of the story. The growth and spatial redistribution of panethnic minority groups has led to significant variation in both the magnitude and structure of diversity at the local level. Hispanics in particular have established footholds in 'new destinations' that are frequently distant from traditional immigrant gateways (Lichter & Johnson 2009; Frey 2006). These recent shifts, coupled with the persistence of minority geographic clustering, have created an uneven diversity landscape across the U.S. Some parts of the country are experiencing a dramatic rise in ethnoracial diversity, while in others the ascendance of one group to numerical majority status has produced a diversity decline.

To capture these changes, our investigation focuses on counties as appropriately local units of analysis. Counties often approximate housing and labor markets and they constitute meaningful governmental jurisdictions in many states. They have the further benefit of being spatially continuous: unlike metropolitan or micropolitan areas or census-defined places, which do not provide exhaustive territorial coverage of the nation, every county in the continental U.S. borders at least one other county.[1] Existing studies that document diversity trends in areas or places typically ignore the spatial contexts within which such units are embedded (see, e.g., Allen & Turner 1989; Lee et al. 2012, 2014). By utilizing counties as cases, we can employ spatial analytic methods to answer an overarching question: whether ethnoracial diversity is spreading throughout the national settlement system in a proximity-dependent fashion.

We pose this question against the backdrop of two theoretical perspectives popular in residential segregation and attainment research. According to the spatial assimilation model, increasing socioeconomic success and (for immigrants) acculturation should allow minority group members to seek out better-quality housing and communities (Alba & Logan 1991; South et al. 2008). Although the empirical focus of the assimilation model has been on integration and dispersion across neighborhoods, its logic is relevant to the residential options available to groups at higher geographic scales. Presumably one concomitant of minority upward mobility would be the diffusion of diversity from historically diverse counties to more homogeneous ones nearby. However, the ethnic stratification model suggests that the diffusion process might be hindered by discrimination, self-segregative tendencies, or other factors that concentrate Hispanics and Asians—and higher levels of diversity—in relatively few locations.

Our paper draws upon decennial census data to address three major aims regarding the spread of ethnoracial diversity. First, we summarize broad spatial patterns of diversity from 1980 through 2010 for all 3,109 counties in the continental United States. Diversity magnitude is measured with the entropy index (symbolized by E), which reflects how evenly a county's population is spread across five panethnic groups: Hispanics and non-Hispanic whites, blacks, Asians, and

[1] Two notable exceptions are Nantucket County in Massachusetts and San Juan County in Washington, both of which are islands unconnected to any other county.

others. As we have calculated it, *E* ranges in value from 0 (perfect homogeneity; all residents belong to the same group) to 100 (each group includes one-fifth of all residents) (see White 1986). In short, the greater the number of equal-sized groups a county possesses, the more diverse it will be. We map *E* scores by census year to reveal the evolving spatial pattern of diversity across counties. Comparison of the maps helps identify differences in the magnitude of diversity from one time point to the next.

Note, however, that *E* does not say anything about the racial-ethnic structure of diversity (the specific groups present) at the county level. For example, a hypothetical county with equal shares of whites, blacks and Hispanics would receive the same *E* score as a county where the population is evenly split among Asians, Hispanics and Native Americans. To shed light on the structure of diversity, we employ a 'majority-rule' typology that classifies counties into majority white, black, Hispanic, or Asian types depending on which group captures more than 50% of the population. White-majority counties are further divided into dominant (90%+ white) and shared (51-89% white) subtypes. Finally, in no-majority counties three or four ethnoracial groups are present but none achieves more than a plurality. The typology enables us to identify the groups (or combinations of groups) that make up the most and least diverse counties.

Our second aim is to uncover any spatial patterning in the growth (or, in some cases, decline) of diversity. Decade-by-decade changes in *E* are mapped to understand which counties are experiencing the greatest increases and decreases in diversity. We also construct transition matrices using the majority-rule typology to detect shifts in the distribution of counties from one type of racial-ethnic structure to another (e.g., from white-shared to no-majority) between t_1 and t_2.

While the first two aims are descriptive, our third considers how ethnoracial diversity spreads throughout space. For this aim, we attempt to determine whether diversity moves from a focal high-diversity county to adjacent counties following a contagious pattern of diffusion, or whether it emerges 'out of the blue' in new locations that previously had been rather homogeneous, representing a hierarchical diffusion process. A contagious pattern of diversity diffusion would imply that minority group members are able to utilize their improved standing to move to nearby locations in search of better economic or residential opportunities, as predicted by spatial assimilation. On the other hand, if diversity emerges in a more disconnected manner across counties, we might infer that discriminatory practices, locational preferences, a local economic change attracting minority workers, or some other force are hindering uniform diversity growth, as predicted by the ethnic stratification model.

To better understand how diversity spreads, we turn to a local measure of spatial autocorrelation, the LISA statistic (Anselin 1995). In our case, LISA accounts for each county's magnitude of diversity as well as the average diversity of adjacent or neighboring counties. This statistic allows us to identify clusters of counties that have significantly higher or lower levels of diversity. It is also useful for distinguishing patterns of spatial diffusion as counties change their LISA cluster over time.

The preliminary stage of our analysis demonstrates that ethnoracial diversity (*E*) has increased from 44.5 in 1980 to 67.6 in 2010 for the nation as a whole. Moreover, different regions begin and end the period at different diversity magnitudes. For example, despite significant gains since 1980, diversity in the Midwest as of 2010 (49.5) is still lower than in the West three decades earlier (1980 *E* = 55.1).

In Figure 1, we narrow the focus to counties and our first aim. The figure visually differentiates among counties with 1980 *E* scores of 20 or less, between 20 and 60, and 60 and above. While only 30 counties fall in the top category, moderate to high diversity can be observed throughout the South and Southwest. By contrast, the Midwest and Northeast contain large numbers of fairly homogeneous counties ($E < 20$), with notable exceptions in the New York and Chicago metro areas. As Figure 2 shows, the pattern is similar 30 years later but higher levels of diversity are more widespread. Indeed, only about 3% of all counties exhibit an overall decrease in diversity between 1980 and 2010, while nearly three-fifths experience a gain in *E* of 10 points or more. In the completed paper, we will examine how these changes in diversity magnitude align with shifts in racial-ethnic structure.

Relevant to the second aim, Figure 3 shows that the rate at which *E* scores have increased varies greatly. In the figure we divide the 1980-to-2010 changes in *E* into quartiles and also identify the handful of counties where diversity decreases over the three decades. Even though many parts of the Midwest and Northeast remain at relatively low levels of diversity, counties in these regions have undergone some of the fastest diversity growth. Florida and portions of the Pacific Northwest have also been affected by rapidly increasing diversity. On the other hand, counties sharing a border with Mexico—particularly those in Texas—have seen overall decreases in ethnoracial diversity, a trend that reflects Hispanic majorities on the rise. The completed analysis will explore how the racial-ethnic structures of counties in each quartile have changed and which combinations of group-specific population gains and losses are responsible.

Although we omit detailed LISA cluster results for the sake of brevity, they indicate a high degree of spatial autocorrelation at all time points (1980 and 2010 Moran's *I* of .77 and .70, respectively). To address our third aim, we use the clusters to document diversity transitions consistent with hierarchical or contagious diffusion (Table 1). Following Tita and Cohen (2004), we detect 33 counties experiencing hierarchical growth in diversity based on their shift from a Low-Low (focal county-surrounding counties) cluster in 1980 to a High-Low cluster in 2010. These counties are found mainly in the Midwest. Contagious diffusion is most apparent in the 11 counties that transition from Low-High clusters to High-High clusters.

We also draw attention to counties transitioning from Non-Significant clusters in 1980 to High-High clusters in 2010 (Figure 4). Non-Significant clusters occur when the *E* score for the focal county relative to the spatially weighted average *E* of surrounding counties is in the middle of the standardized distribution of all clusters. Thus, the transition from a Non-Significant to a High-High cluster denotes a shift in diversity either within the focal county of the cluster or in the rest of the cluster (i.e., the set of neighboring counties) such that the spatially weighted average of diversity falls toward the high end of the distribution. Mapping these Non-Significant to High-High counties reveals that they frequently border a county in a stable High-High diversity cluster, suggesting the spread of diversity from counties with high *E* scores to nearby, less diverse ones. In the full paper, we plan to employ brief case studies to illustrate the kinds of counties undergoing transitions from one type of cluster to another.

While our analysis is still underway, the remainder of the work pertinent to the three major aims will be finished this semester and incorporated in a manuscript ready well in advance of the PAA meetings. No other research of which we are aware uses comparable diversity measures and spatial analytic techniques to investigate the spread of ethnoracial diversity throughout the United States over an extended time period. Thus, the completed manuscript has the potential to make a significant contribution to the demographic literature on diversity.

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Tables and Figures

Table 1: 1980 to 2010 LISA Cluster Transition Matrix

		2010					
	LISA Cat.	High-High	High-Low	Not Sig.	Low-High	Low-Low	Total
1980	High-High	***613***	-	173	16	-	802
	High-Low	-	***17***	10	-	5	32
	Not Sig.	165	9	***1031***	15	113	1333
	Low-High	11	-	3	***8***	-	22
	Low-Low	-	33	202	-	***683***	918
	Total	789	59	1419	39	801	3107

Figure 1: 1980 *E* Scores by Categorical Division

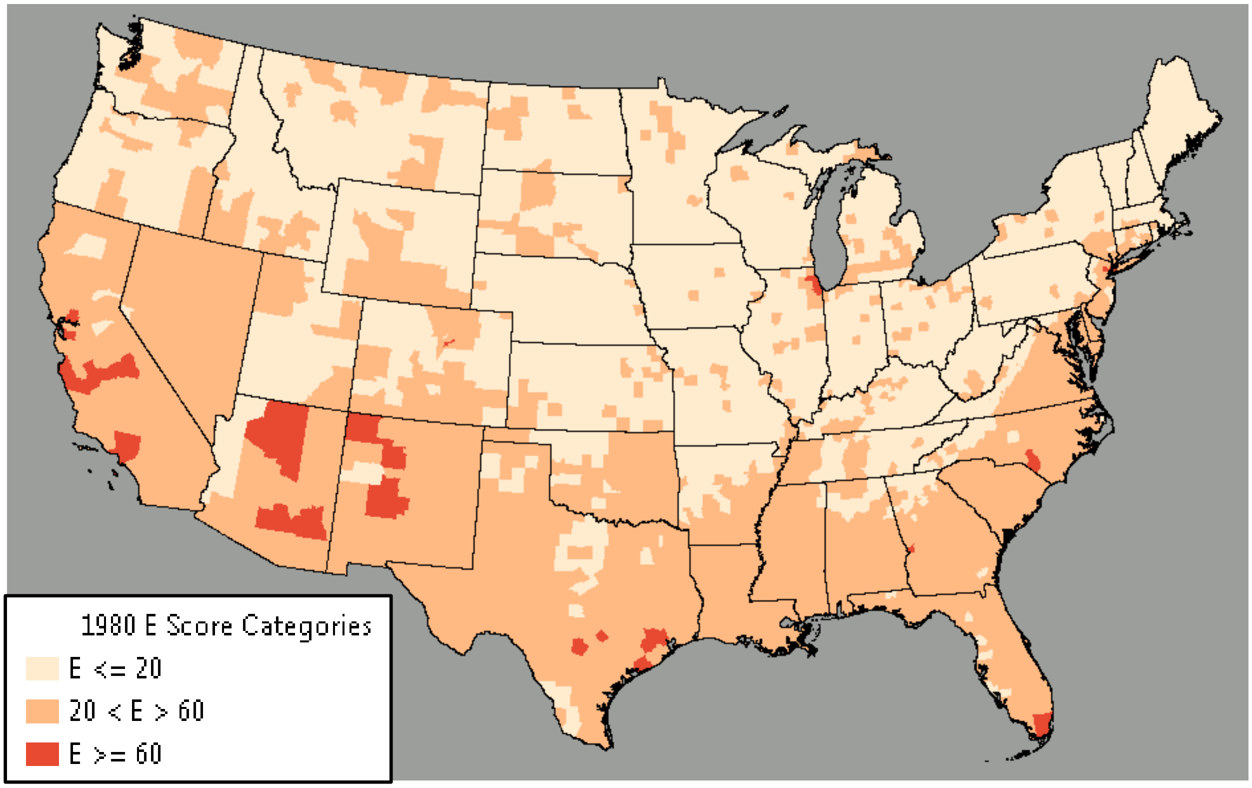

Figure 2: 2010 *E* Scores by Categorical Division

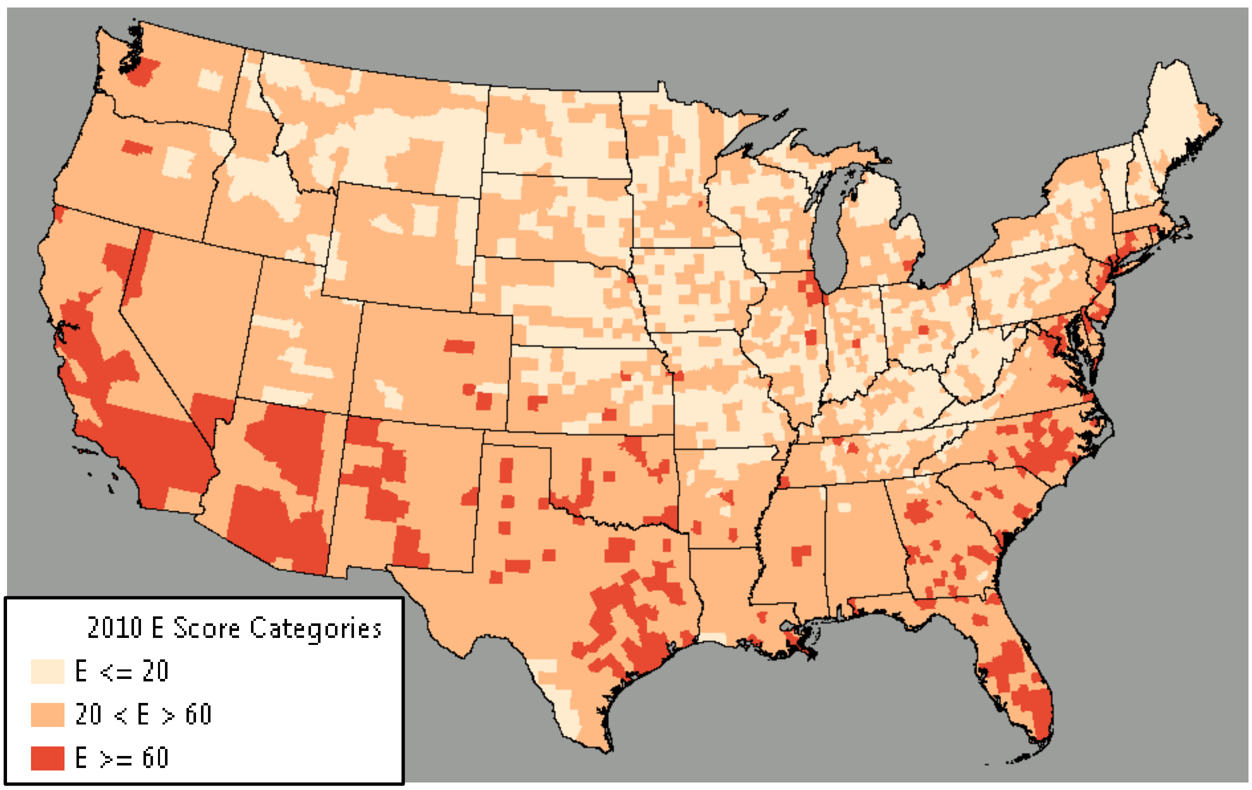

Figure 3: Change in *E* Score, 1980 – 2010

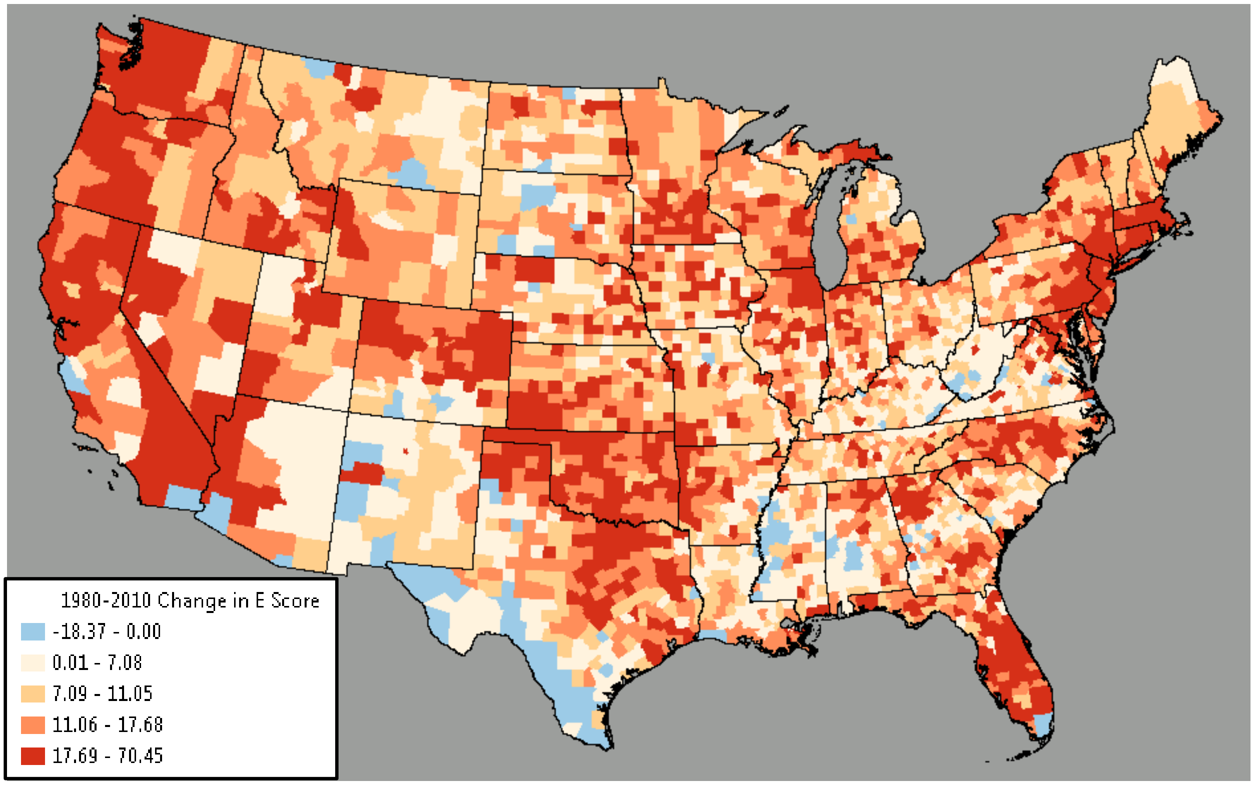

Figure 4: Selected LISA Cluster Transitions, 1980 - 2010