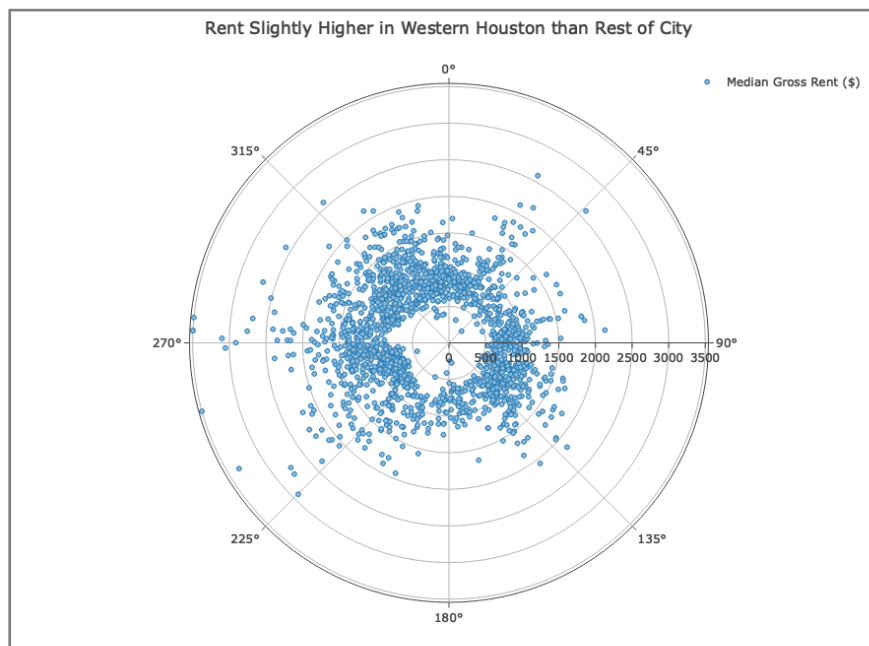
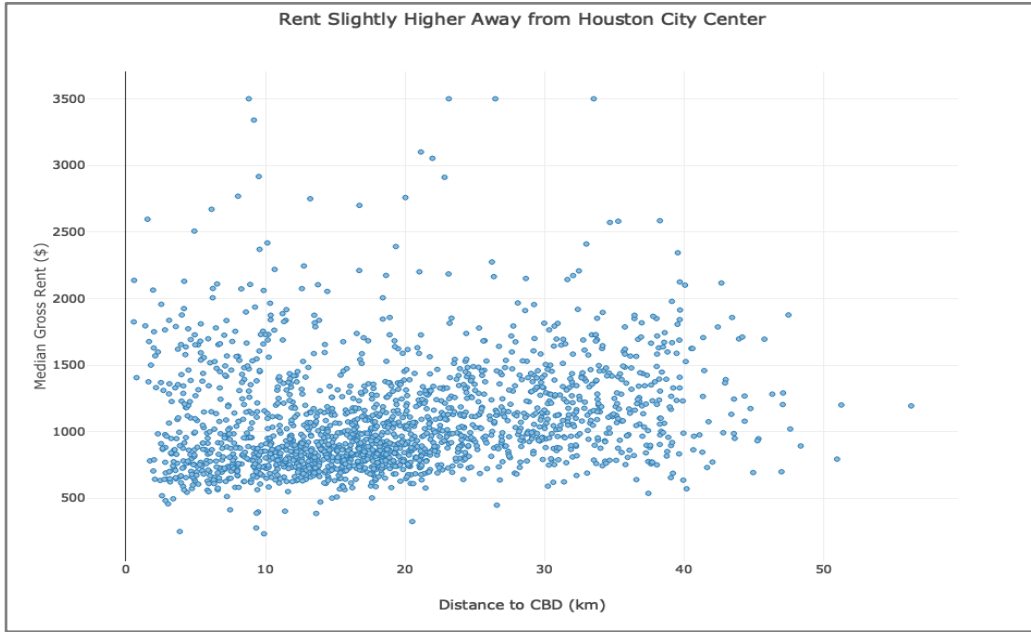


Environmental Justice Visual Essay

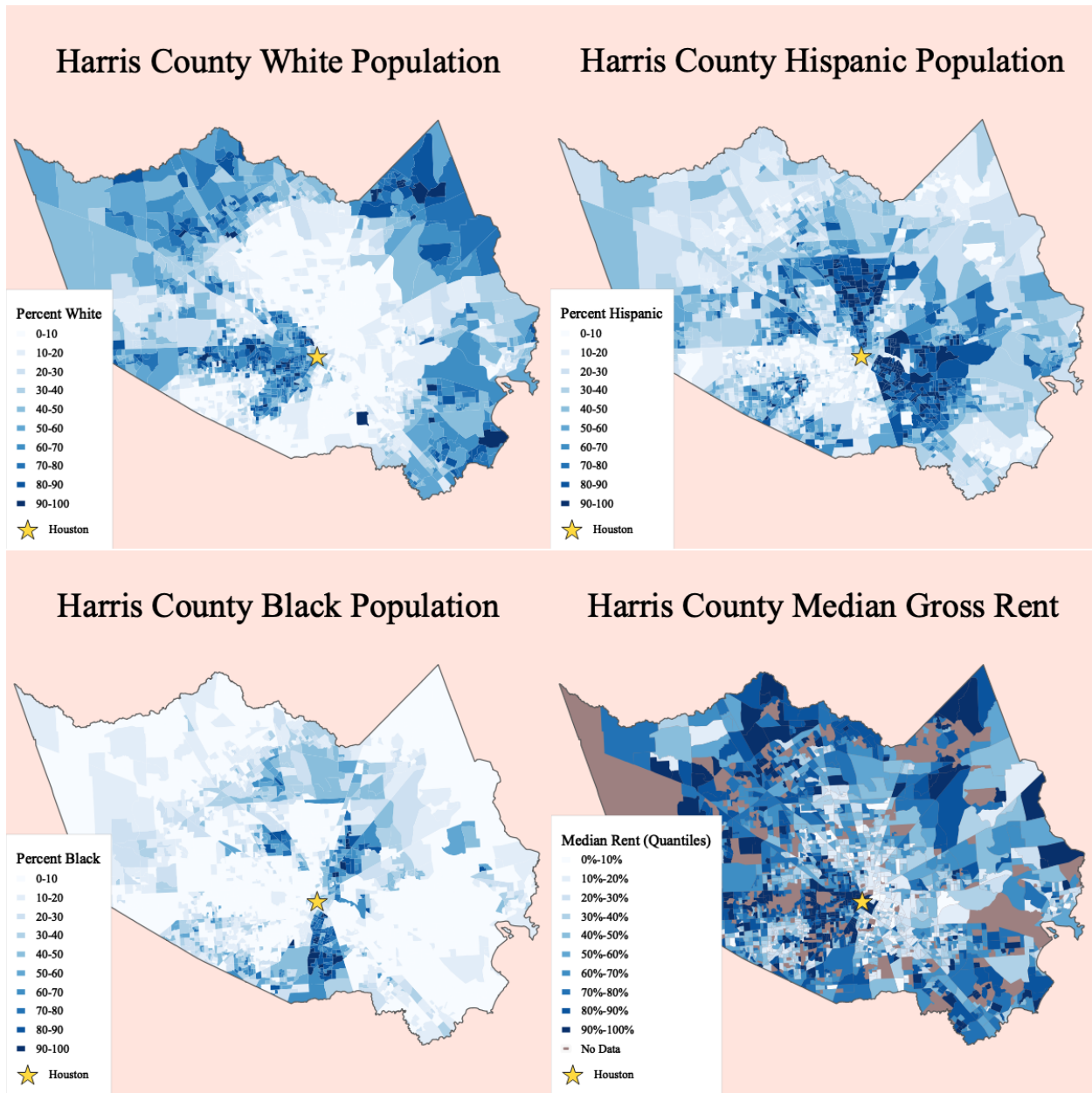
Jackson Mumper

Professor Holler

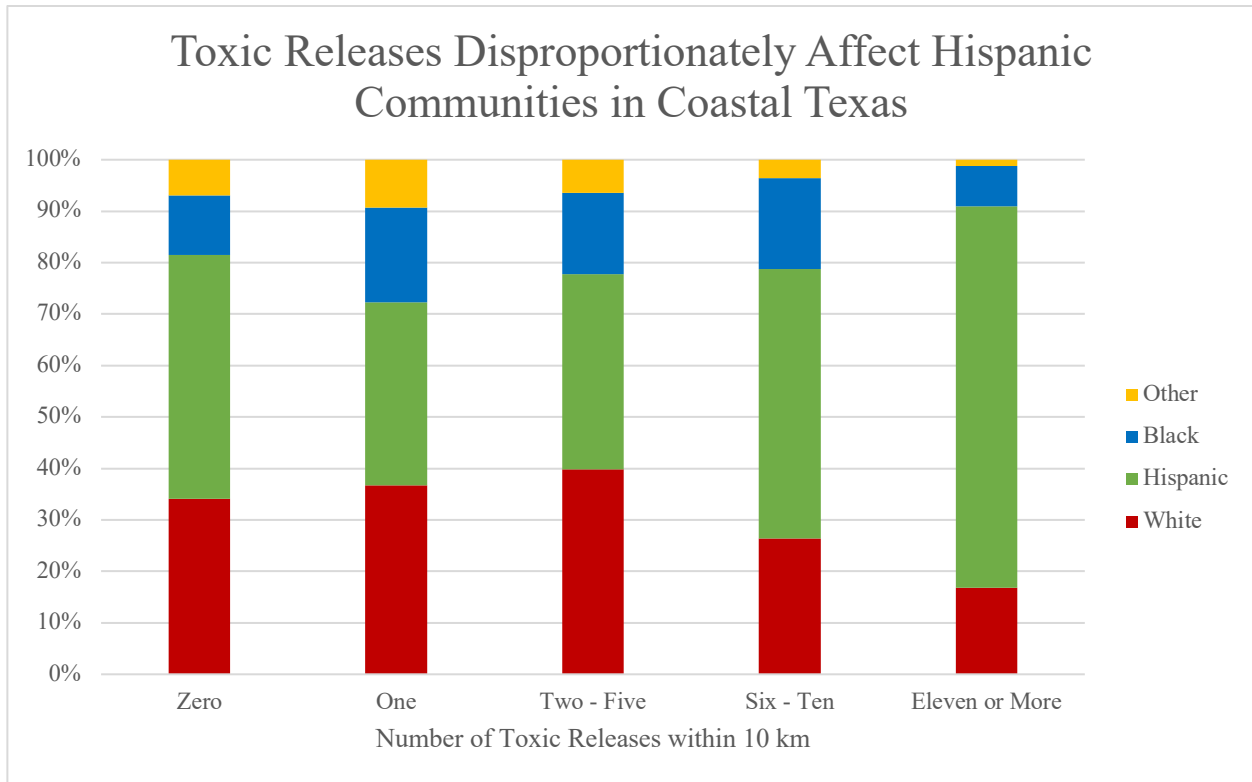
Human Geography with GIS



Different neighborhoods in Harris County, Texas have different housing costs depending on their distance and direction from downtown Houston. Neighborhoods farther from the central business district are generally more expensive than those that are closer, fitting the concentric ring model proposed by Burgess. Rents are also higher in western Houston, evidencing Hoyt’s sector model. The variability in both of these graphs, however, shows that neither one can alone explain the variability in housing costs and that they must be understood together.

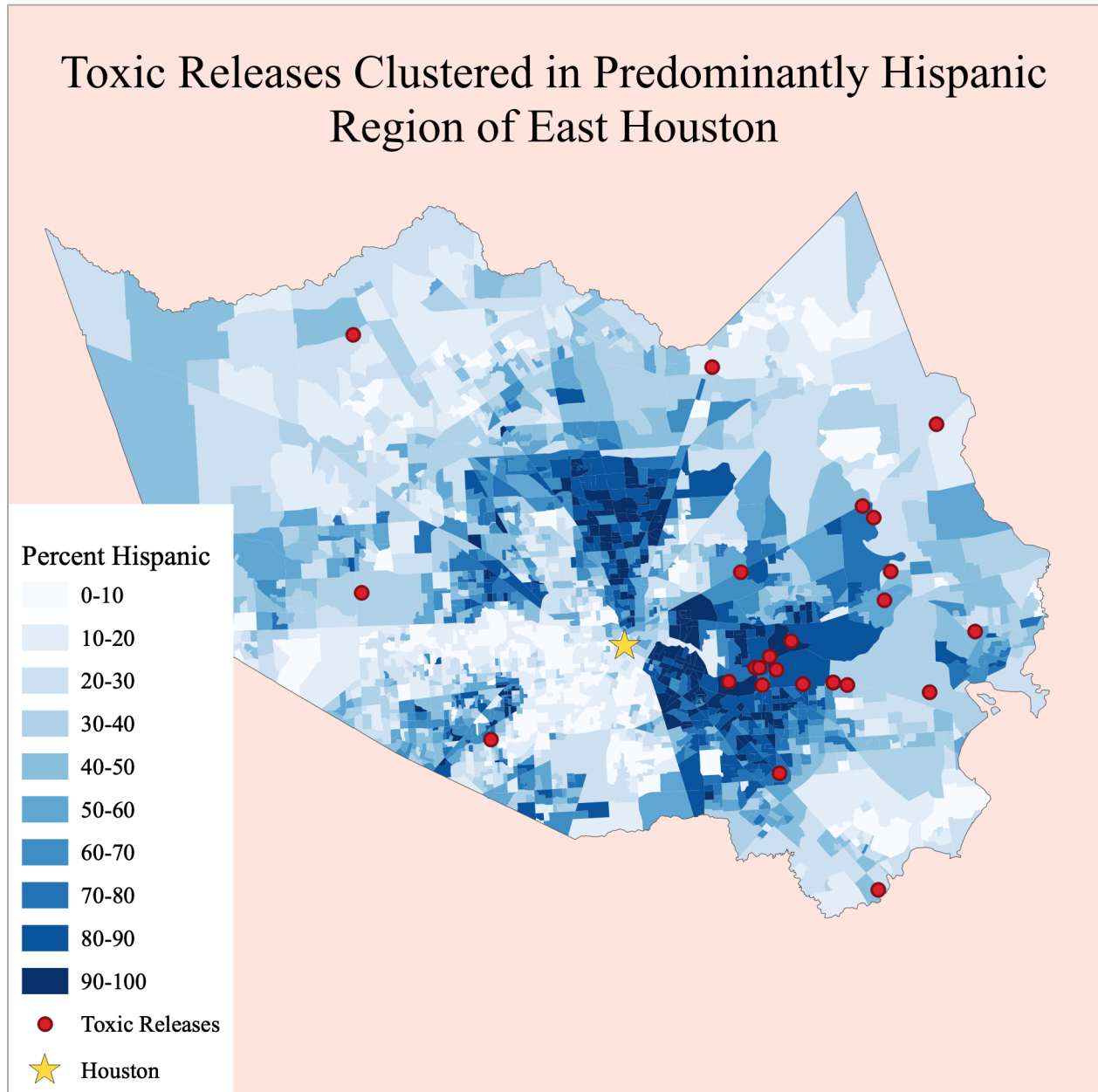


Visualizing neighborhood housing costs on a map confirms these two models and comparing rents with neighborhood demographics shows that the geographic variation in housing costs very closely resembles patterns of racial segregation. Near the city’s core there are clearly defined sectors of different racial groups, but the parts of the county far away from central Houston tend to be whiter and wealthier, regardless of direction. Harris County in this sense is a real-world example of how both the models of Burgess and Hoyt influence American cities.



These patterns of segregation and unequal distribution of capital result in unequal health and well-being outcomes for people of color in low-income neighborhoods. In the case of coastal Texas during Hurricane Harvey, the storm’s devastation caused many industrial sites to release toxic chemicals into the nearby landscape. These releases tended to happen in Hispanic neighborhoods, with nearly three-quarters of people living near eleven or more of these sites being Hispanic or Latinx.

\* Note that the relatively large Hispanic population that didn’t live near any toxic releases is misleading because coastal Texas as a region includes the largely Hispanic border cities of McAllen and Brownsville, which were outside the storm’s path.



This becomes even clearer when examining just Harris County, where all but a handful of toxic releases occurred in predominantly Latinx neighborhoods. This correlation illustrates a broader trend of environmental injustice wherein minority groups are disproportionately impacted by climate change and natural disasters. Environmental injustice has been documented in other American cities such as Los Angeles, where people of color are “more likely to be exposed to environmental hazards” (Wolch et al, 2013). As climate change continues to accelerate, it will be imperative to ensure its effects do not deepen America’s history of systemic oppression.

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