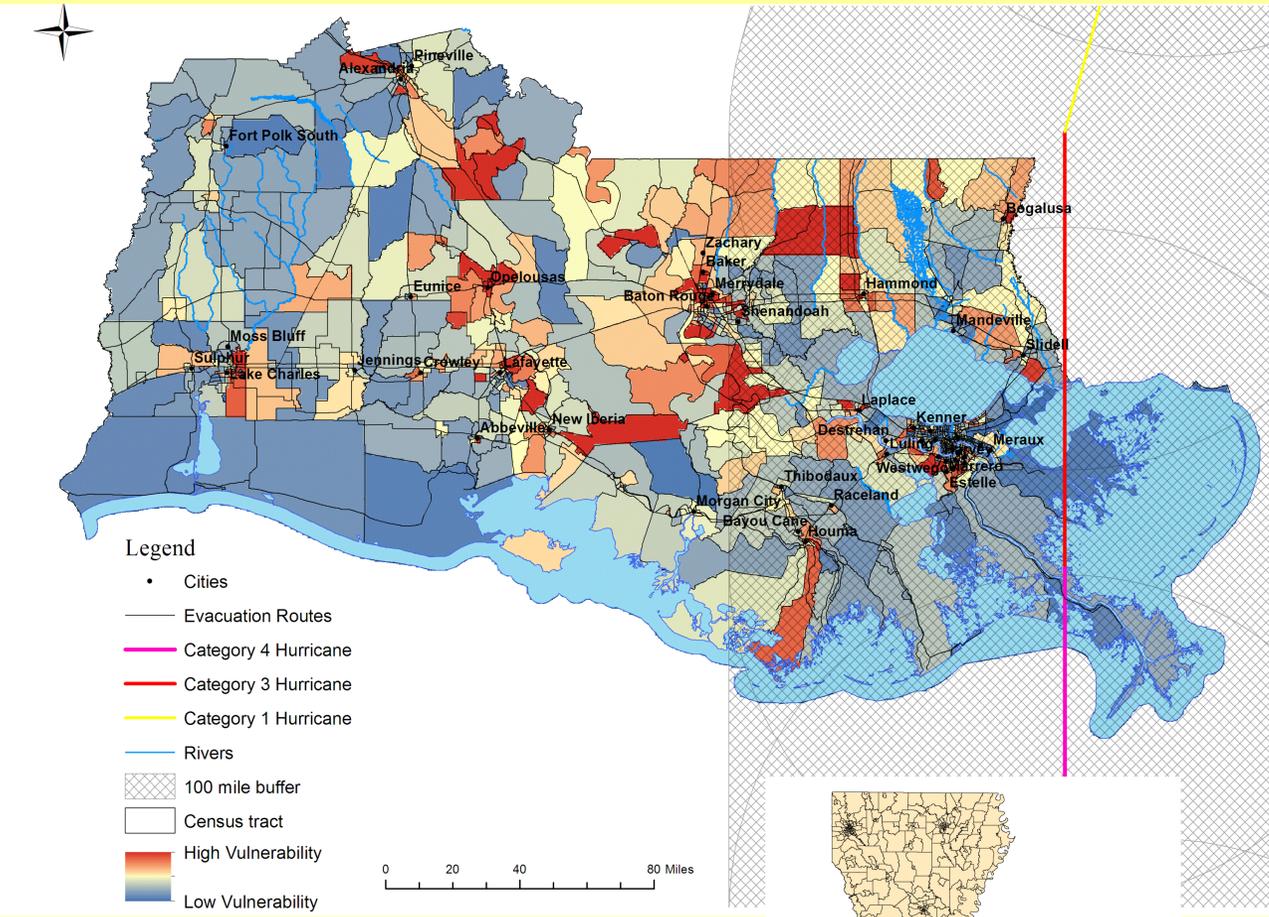


The Next Katrina: Who is the Most Vulnerable in Coastal Louisiana?



Project Results

The main vulnerability map shows the relationship between the five variables that were selected from the American Community Survey 5-year estimates. The map is overlaid with the 2005 Hurricane Katrina Tract along with a 100 mile buffer to show the population who would be the most vulnerable within the five year estimates. All five variables represent a characteristic of someone who is inherently more vulnerable compared to the total population. The variables are population below the poverty line, unemployment, African American and Hispanic population, less than \$10,000 annual income and households receiving Food Stamps.

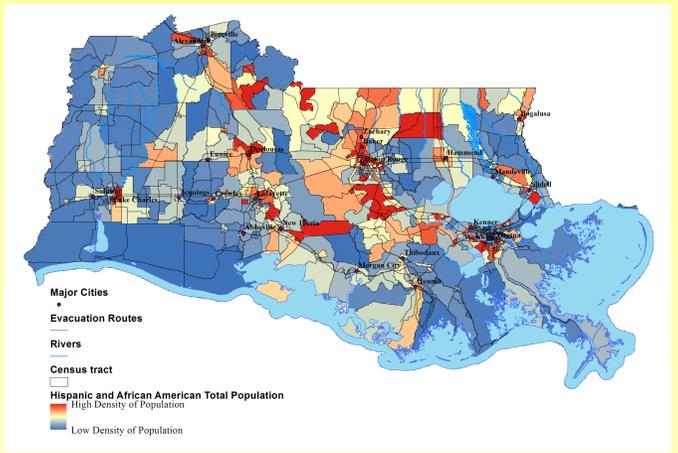
Methods and Techniques

To create this analysis, a combination of several GIS techniques had to be used to compare the variability of the five attributes within the total Louisiana coastal population.
 Raster conversion: Used census data to create a density or raster map of the five different attributes.
 Overlay analysis: Added together all rasters to make a scale of vulnerability then added Hurricane Katrina map to analyze relationship.
 Buffer zones: Used Hurricane Katrina tract to create a 100-mile buffer zone.

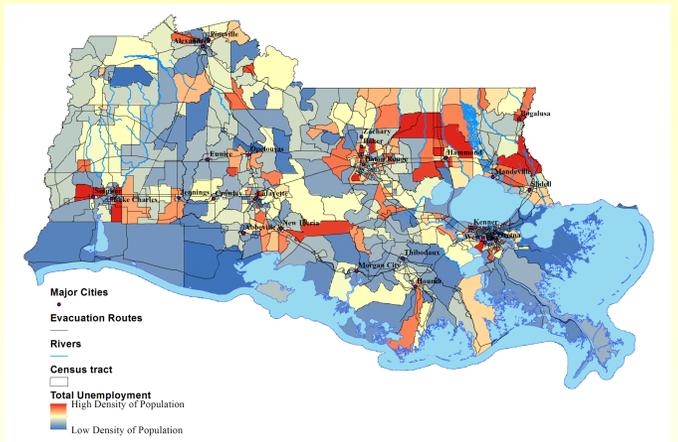
Conclusion

After Hurricane Katrina, the majority of the victims were located along the tract of the hurricane and in the urban and rural areas within several hundred miles of the tract. Based upon the vulnerability analysis shown, this would also be true if another Katrina were to hit the same area. However, the most exposed coastal areas seems to be less vulnerable due to the population attributes added into the scale. There may be some bias here due to overall population density or these individuals are more prepared and better equipped to handle storms of this magnitude. In conclusion, the vulnerability based upon unemployment, income, poverty status, race and Food Stamp participation demonstrated that St. Helena, Iberia, Jefferson, St. Tammany, East Baton Rouge, St. Landry and Ascension parishes had the highest degree of vulnerability from 2006-2010. All of these variables created a collection of thematic raster maps for the entire coast of Louisiana. Overall the parishes that displayed high density for one variable also had high densities for the other four variables. This suggests a correlation between the populations in these parishes and the five vulnerability variables.

Total Hispanic and African American Population

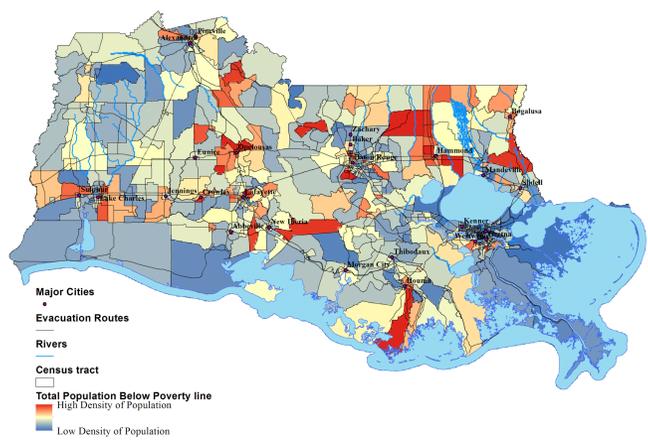


Total Population Unemployment

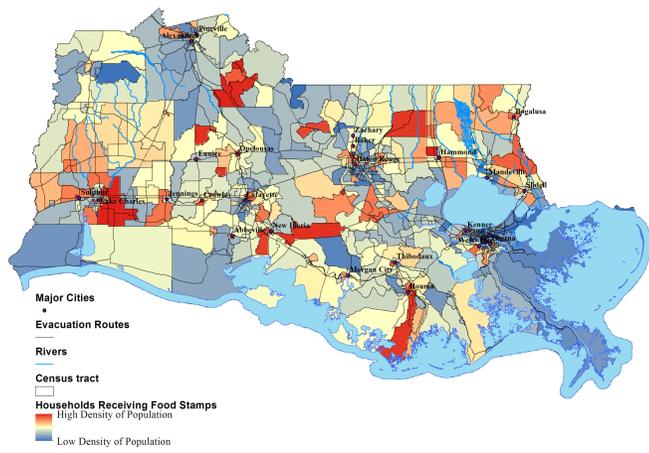


Data Sources: American Community Survey 2010 5-year estimates & 2010 Census Tracts, Louisiana Economic Development, Tufts GIS & ArcGIS Online.
 Coordinate System: GCS_WGS_1984
 Created by Katherine Wright

Total Population Below Poverty Line



Total Households Receiving Food Stamps



Total Population with Less than \$10,000 Annual Income

