Another Brick in the Blue Wall:

A Closer Look at Michigan in the 2016 Presidential Election
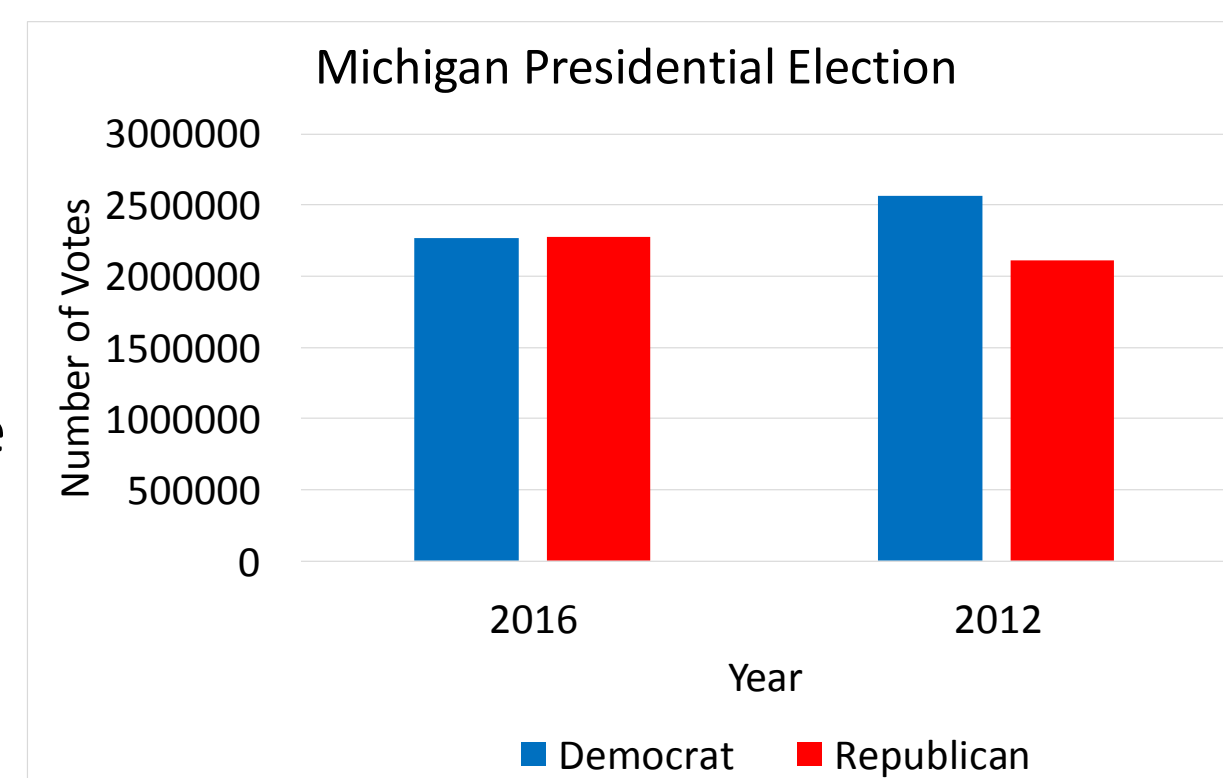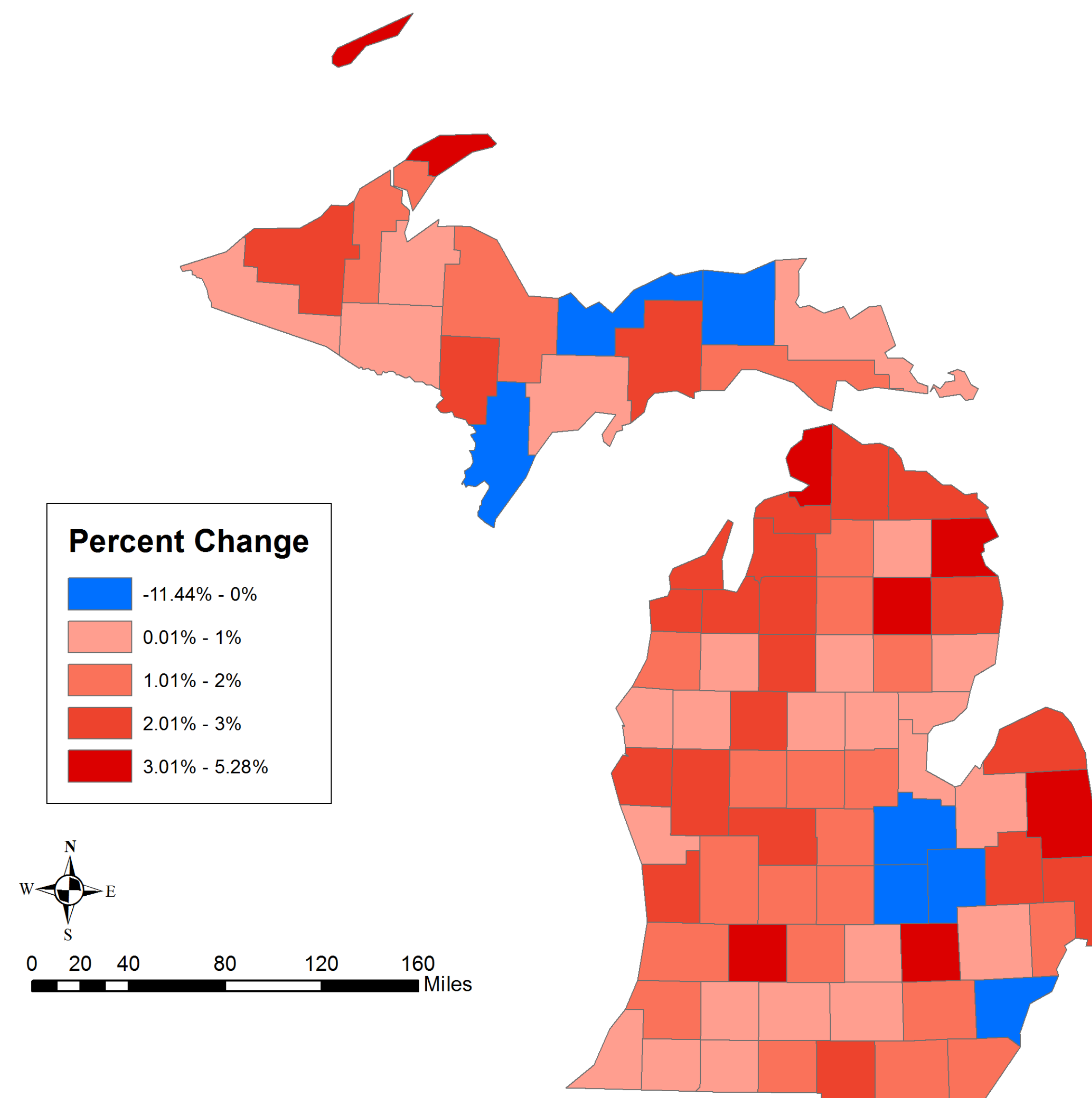
Tufts UNIVERSITY

Introduction

One of the most surprising things about the 2016 US presidential election was Republican candidate Donald Trump's successful flip of Michigan from a reliably blue state to a red one. Michigan had been categorized as part of the "blue wall," a collection of states that have traditionally voted democrat—Michigan has voted Democrat every election since 1988. This flip is especially surprising, as Barack Obama carried the state in 2012 by a 9.5% margin. This project then examines the differences in the 2016 presidential election results compared to the 2012 presidential election. Using spatial statistics, this project will map the differences in voter turnout across the state. The objective is to determine where specifically voter turnout changed. Once this has been established, this project attempts to determine why voter turnout changed in these places based on demographics and recent history.

Methodology

Change in voter turnout from the 2012 to 2016 elections was calculated based on data collected from the Michigan Secretary of State and mapped at the county level. Once the counties with the biggest changes in voter turnout were found, two hypotheses were tested to determine the cause. The first was that Donald Trump's success came from a galvanized white, rural, working class population. This hypothesis was tested using raster calculator to score which counties fit this description best. Based on data obtained from the United States Census Bureau, this score was calculated based on a weighted total of percentage increase in Republican, percentage decrease in Democrat, county classification (rural, mostly rural, urban based on Census definition), and median income. The second hypothesis was that counties that experienced significant declines in voter turnout have high black populations and traditionally vote democrat. This hypothesis was tested by calculating the mean center and one standard deviation of all democrat votes in Michigan. One standard deviation contains 67% of all democrat votes. These were both mapped for comparison against density of black populations and absolute change in democrat votes.

Michigan Presidential Election

Change in Voter Turnout

Percent Change
- -11.44% - 0%
- 0.01% - 1%
- 1.01% - 2%
- 2.01% - 3%
- 3.01% - 5.28%

	2016	2012
Total Votes	4,874,619	4,780,701
Population	9,742,955	9,555,234
Voter Turnout	50.03%	50.03%

Results

Each hypothesis proved to be true, though only to certain extents. Based on the raster calculator, 68 counties (82% of Michigan) scored higher than 3 and 33 (40%) scored higher than 4, suggesting that geographically most of Michigan fit the description of white, rural, working class voters shifting from democrat to republican. However, these counties only voted 48% republican, and the 2,774,703 votes in these counties only account for 56% of the total vote count in 2016. If this hypothesis were entirely true, we would surely see a much higher percentage of republican votes. On the other hand, the counties with high black populations and highest absolute decreases in vote totals fell within the standard deviation. These declines were mostly small though. Both Genesee and Wayne counties—together they make up more than a fifth of Michigan's total population—experienced 0.4% and 1.07% declines in voter turnout, respectively. These declines total in 40,440 less votes in 2016 than in 2012. However, there was a decrease of 102,629 democrat votes in these two counties alone. But counties with high black populations are not the sole culprit in lower democrat turnout. Only five counties actually experienced an increase in democrat votes, and interestingly enough total voter turnout remained unchanged from 2012 to 2016

Conclusion

So what caused voter turnout to change? The results suggest that a combination of both hypotheses caused the decline. But given their murky nature, it is highly likely that something else is at play. Within the 68 counties mentioned above, third party votes totaled 172,666, 69% of total third party votes across the state. Further analysis then could examine the role that third parties played in white, rural, working class communities. Unfortunately, this analysis was limited by the extent of the data. The smallest spatial unit available for election data was at the county level, preventing more specific analysis around certain communities. In addition, the election data had no demographic breakdowns, so any assumptions made about demographic voting trends were based on average demographic trends at the county level from Census data. Due to the nature of the election data, limited conclusions can be made about demographic shifts.

Cartographer: Douglas Burt
Class: GIS 101 Fall 2016
Coordinate System: State Plane Michigan Central
Projection: Lambert Conformal Conical
Data Sources: United States Census Bureau and Michigan Secretary of State

Vote Density

Number of Votes
- 1465 - 35000
- 35001 - 100000
- 100001 - 200000
- 200001 - 425000
- 425001 - 788459

Percentage Dem. Turnout

Percent Change
- -37% - -30%
- -29% - -20%
- -19% - -15%
- -14% - 0%
- 0.01% - 6.3%

Hypothesis 1 Score

Score
- 1.0 - 2.0
- 2.1 - 3.0
- 3.1 - 4.0
- 4.1 - 5.0

Density of Black Americans

Percentage
- ● Democrat Votes Mean Center
- ▢ Democrat Votes St.Dev.
- 0% - 0.5%
- 0.51% - 2.5%
- 2.51% - 4%
- 4.01% - 9%
- 9.01% - 61.51%

Change in Democrat Votes

Change in Number of Votes
- ● Democrat Votes Mean Center
- ▢ Democrat Votes St.Dev.
- -76402 - -20000
- -19999 - -10000
- -9999 - -2000
- -1999 - 0
- 1 - 7593