Visualizing Gerrymandering: North Carolina

By Jordan McClain, Tufts University, GIS 101   5/4/2020

What is gerrymandering?

Gerrymandering is the manipulation of an electoral district's boundaries in order to favor a particular party or group.
In gerrymandering, two key tactics exist: **packing** and **cracking**.
The former involves concentrating the opposing party or group's voting power in order to decrease voting power in other districts.
The latter involves spreading the opposing party or group's voting power across multiple districts.
Here, we will first examine examples in North Carolina as a whole followed by an analysis of NC District 12.

Federal law stipulates only three requirements for federal congressional districts within states:
1.) They have equally apportioned population
2.) A single district must be contiguous
3.) A district must be compact   The compactness requirement has never been strictly defined by courts or legally defined by Congress, hence the existence of gerrymandering.
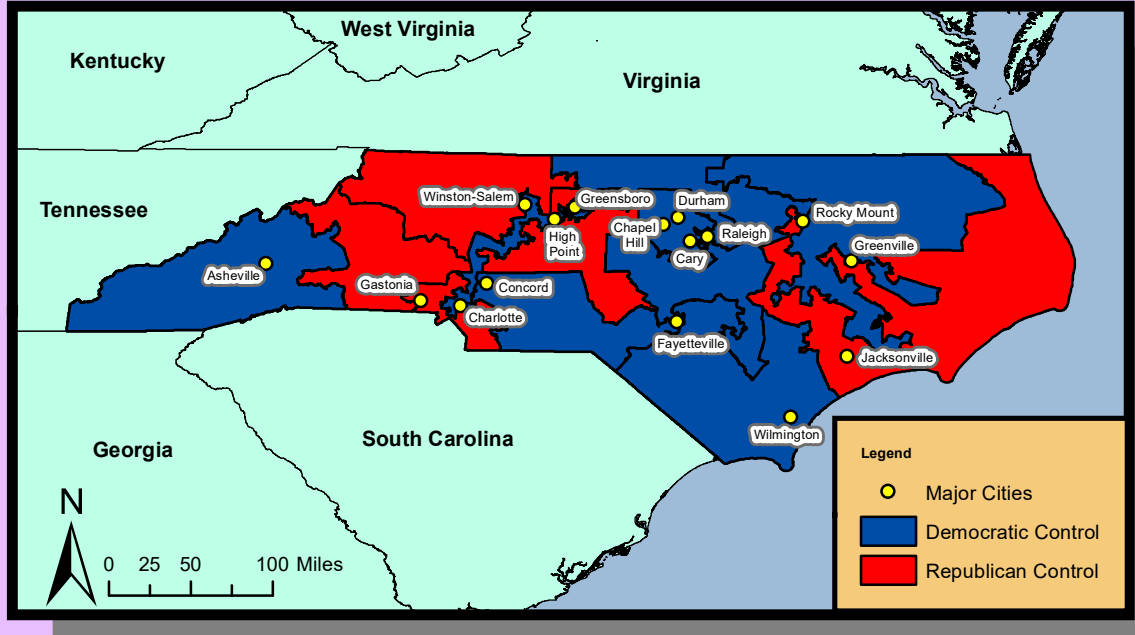
Why North Carolina?

North Carolina is a particularly good case study for visualizing gerrymandering due to both cracking and packing being clearly evident in numerous iterations of its districts. Further, North Carolina exhibits both a racial and class based gerrymander, both of which will be examined.

Additionally, its racial gerrymander in NC-12 is one of the most stark in the country; it was the topic of a Supreme Court case (Shaw v. Reno in 1993) and numerous federal court cases since, having been declared illegal in 2017.

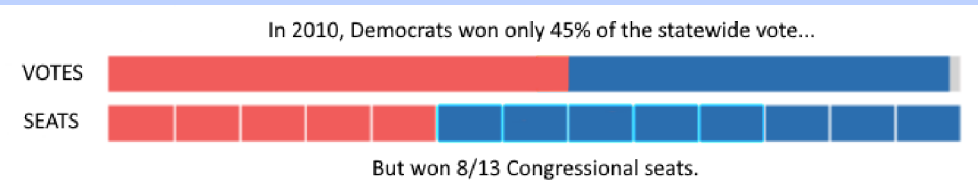## An Evolution of North Carolina's Congressional Districts

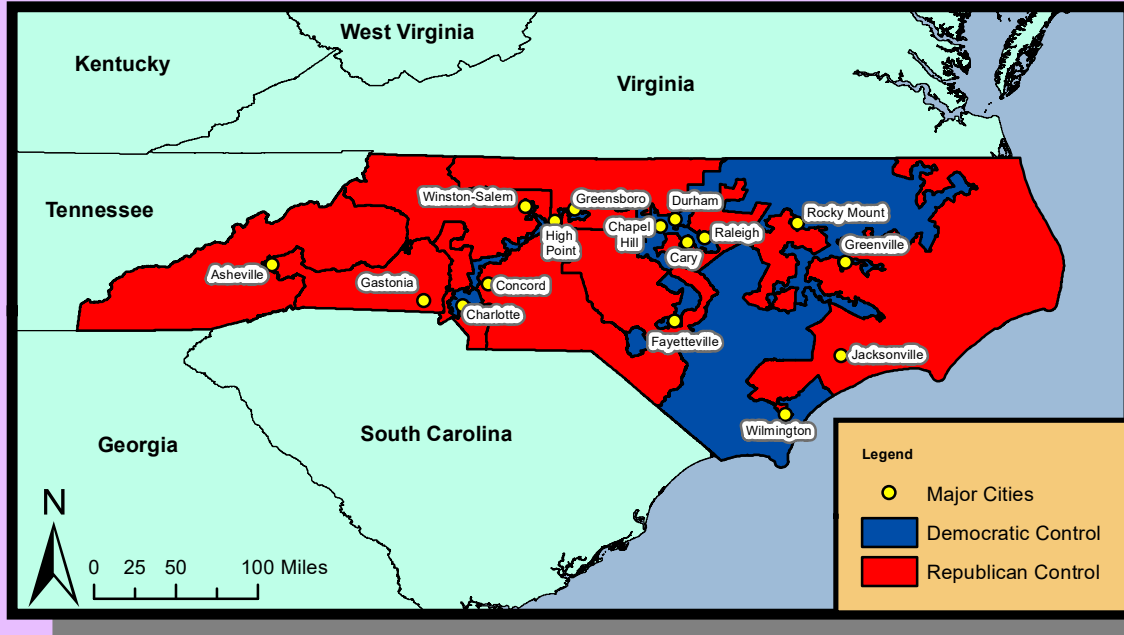### North Carolina 2010 Congressional Districts

Drawn by a Democratic state house, the above map represents North Carolina's congressional districts from 2003-2010. It is evident that cracking is a popular strategy. Numerous urban cities - largely Democratic - are split in half. Fayetteville notably shares its western half with Concord and its eastern half with Wilmington; both are nearly 100 miles away.

Largely Democratic sections of cities are halved and then packed into largely rural, Republican areas - this ensures a Democratic victory.

The result of this map:

In 2010, Democrats won only 45% of the statewide vote...
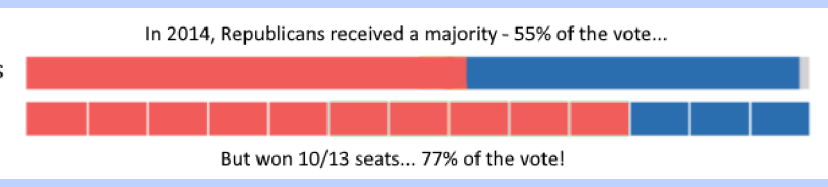But won 8/13 Congressional seats.

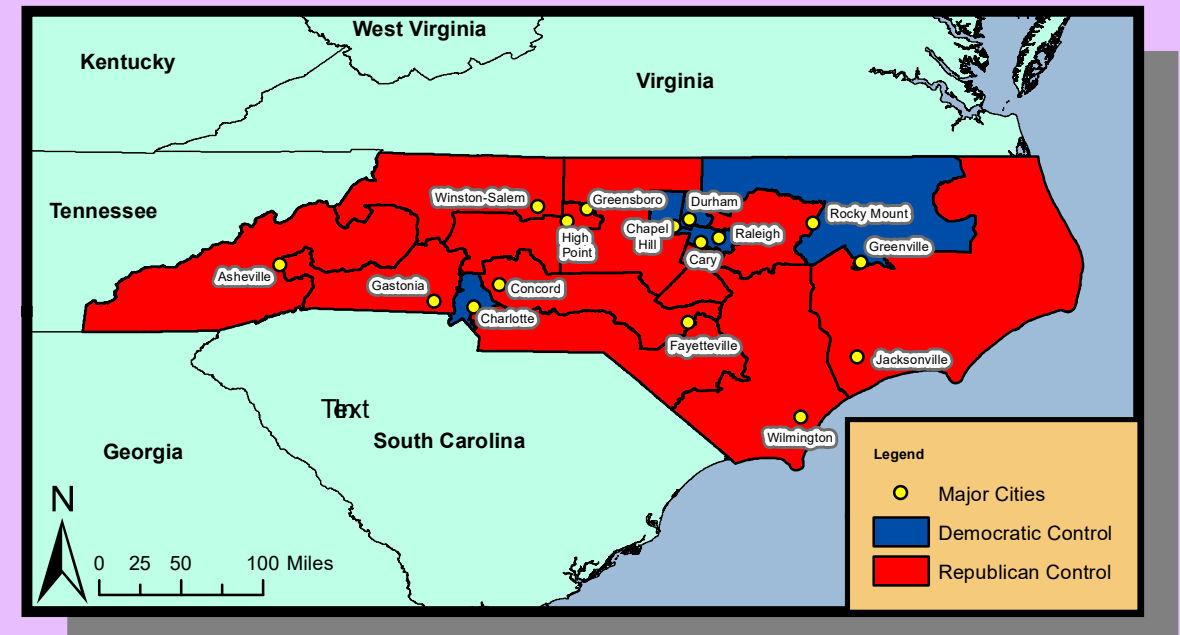### North Carolina 2014 Congressional Districts

In 2012, Republicans took back the NC State House and subsequently the House of Representatives. This map was used from 2013 - 2017 and is notorious for its lack of compactness.

The district encompassing Charlotte, High Point, and Winston-Salem, cracks three black, poor cities and packs its voters into one district. This has the effect of turning what could be two or even three competitive districts into one surefire win for Democrats and three surefire wins for Republicans.

This time, the results:

In 2014, Republicans received a majority - 55% of the vote...
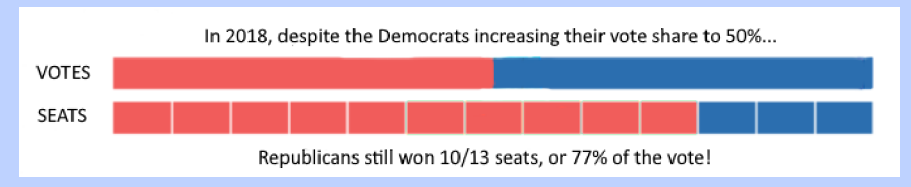But won 10/13 seats... 77% of the vote!

North Carolina 2018 Congressional Districts

In 2017, a federal judge declared that the district from 2013 - 2017 was unconstitutional and must be redrawn without race being a mitigating factor.
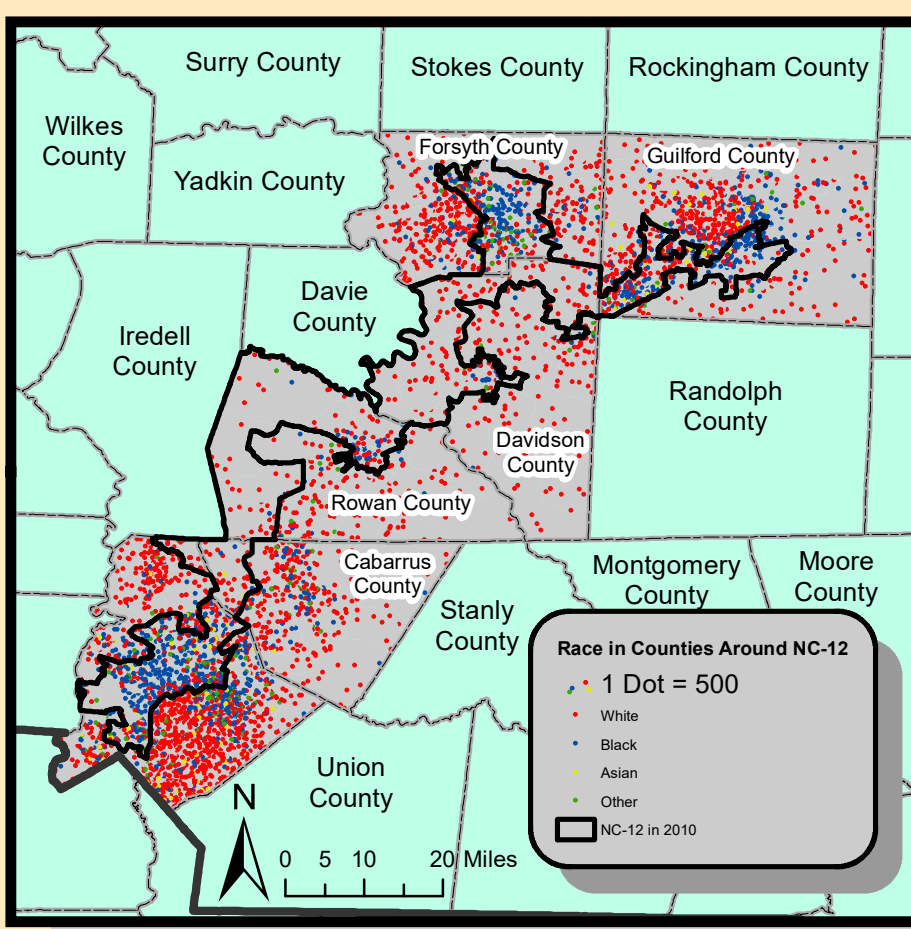
While the districts are clearly more compact, notably, Asheville is cracked in half and still packed with Gastonia. Fayetteville is cracked and forced to share half of its city's district with Concord and south Charlotte, respectively. Greensboro remains cracked as do Rocky Mount and Greenville, sharing a packed district with faraway Durham. Meanwhile, nearby Chapel Hill and Raleigh-Cary are packed into a single district.

The 2018 results:

In 2018, despite the Democrats increasing their vote share to 50%...
Republicans still won 10/13 seats, or 77% of the vote!

Racial Distribution in NC-12 from 2010 - 2018

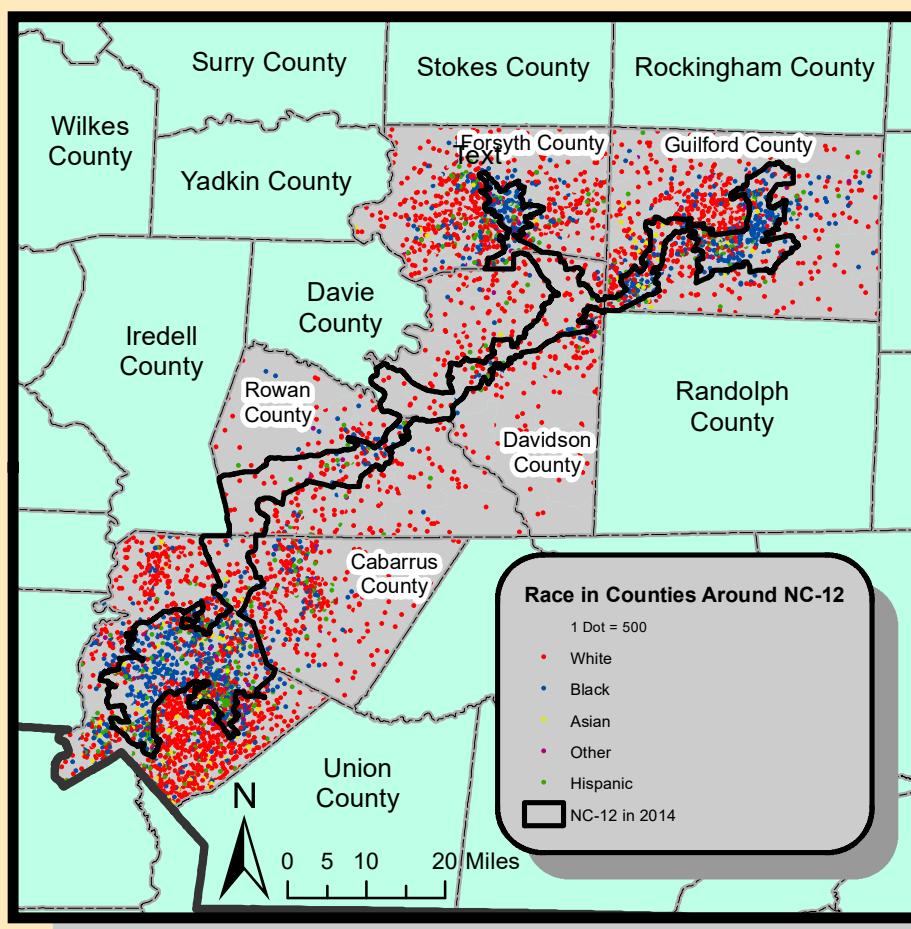### Racial Distribution of NC-12 and Surrounding Counties in 2010

To examine whether or not NC-12 was racially gerrymandered in 2010, I created one shapefile of counties NC-12 passes through. Using this study area, I created a dot density map to display the population by race. Then, by creating a transparent boundary of NC-12, it was immediately apparent that blacks constituted a large, unrepresentative portion of the district and that it was intentionally drawn this way.

After merging the study area and district, I found that 50.4% of the district's population was white and 37.8% was black. The study area's population was 62% white and 27% black. This gap exceeds any natural error which would appear in politically unbiased, neutrally drawn districts.

This manipulation of boundaries succeeded in its goal of consistently electing a black representative, as Melvin Watt was re-elected for his 10th consecutive term in 2010 with 64% of the vote.

** Notable and significant is the lack of a Hispanic grouping. The census did not include this in their data and they were filed under "other." A large concentration of green dots in east Charlotte is a testament to the subsequent Hispanic representation there in the 2014/18 ACS.

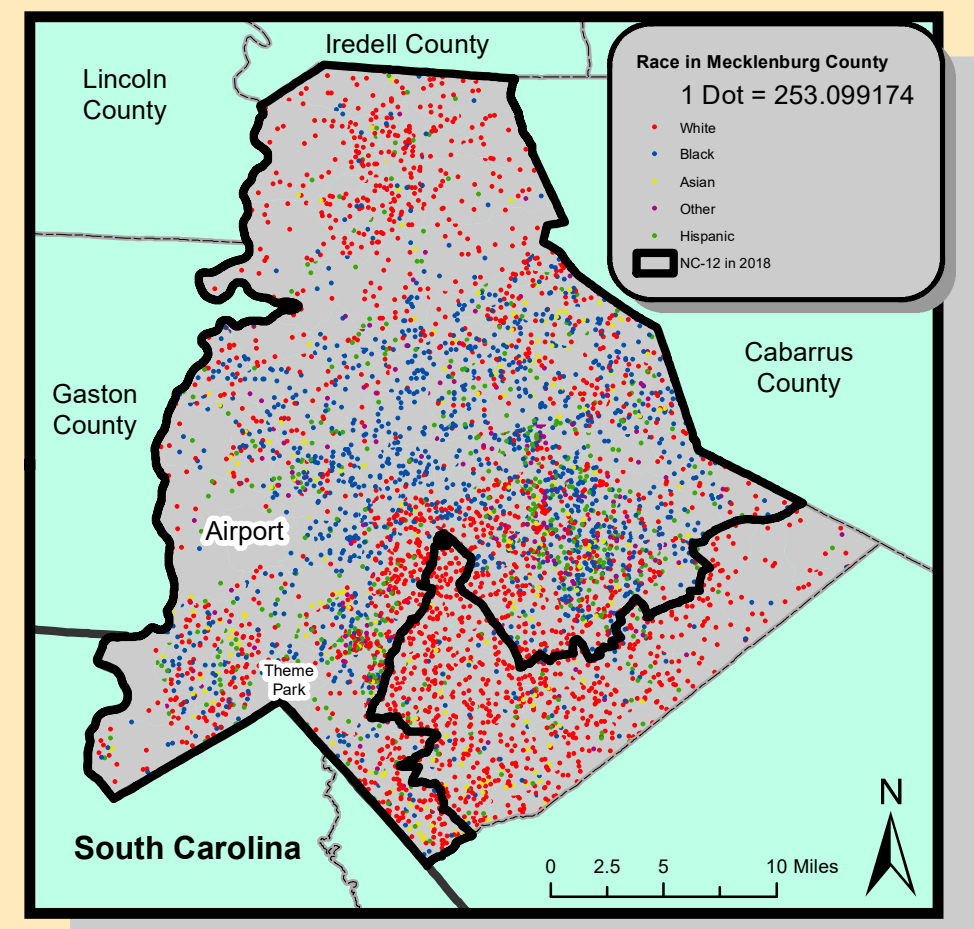### Racial Distribution of NC-12 and Surrounding Counties in 2014

For 2014, I repeated the same process as for 2010 - creating a dot density map to symbolize the racial demographics of the study area using the 2014 ACS. This time, the Republican gerrymander appeared more racially targeted. After intersecting the congressional district with the study area and examining its demographics, 48% of the district was white and 40.2% was black.

Hispanics made up 12.7%, slightly above the 10.4% representation within the study area. The difference between blacks and whites was startling - 63.5% of the study area was white and 27.1% was black.

This map resulted in an even greater landslide election for Watt's successor, Alma Adams, who won with a whopping 75.4% of the general election vote.

The key difference here, statistically, was trading white, rural, conservative voters in Rowan and Davison counties for the more liberal, urban Hispanic and black voters in southeast Charlotte, with the pathway to Forsyth and Guilford counties more strictly following the I-77 corridor where more minorities live. Evident is an increasingly concerted and concentrated effort to pack black voters from Forsyth, Guilford, and Mecklenburg counties into a single district, ultimately to the gain of Republicans.

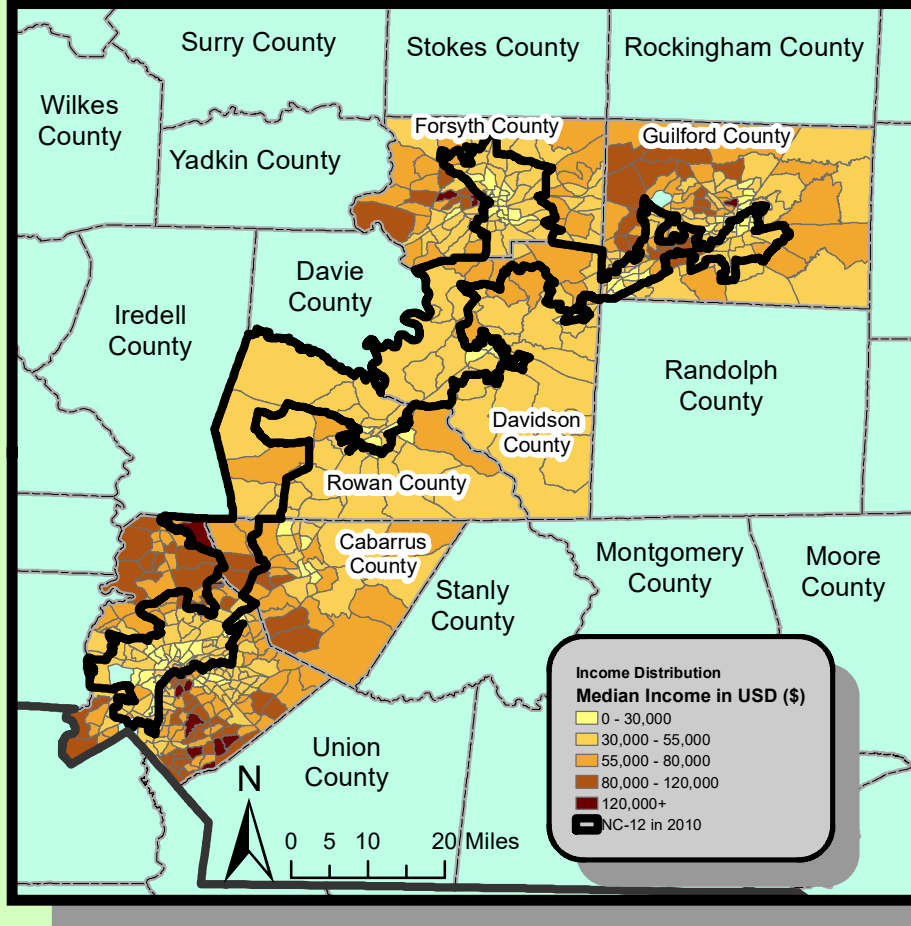### Racial Distribution of NC-12 and Mecklenburg County in 2018

For the final, more compact NC-12 district of 2018, it is still evident to the un-trained eye that a racial gerrymander is occurring. The white, wealthy, and dense core of south Charlotte remains within a separate district from the remainder of the city. However, the wealthy and largely white northern suburbs near Lake Norman are a new addition.

Using the same processes for examination, the congressional district still has a racial bias; albeit much less than in the previous two maps. 54.5% of Mecklenburg County was white; 49.4% of the congressional district was. 31.3% of the county was white whereas 35.8% of the district was.

Given that Republicans also drew this district, it is likely that the increasingly liberal nature of Charlotte makes relying as heavily on black voters no longer necessary. Further, the extensive packing strategy in Raleigh and Chapel Hill and the cracking strategy in its neighboring district are perhaps more easily exploitable and worthwhile to Republicans.

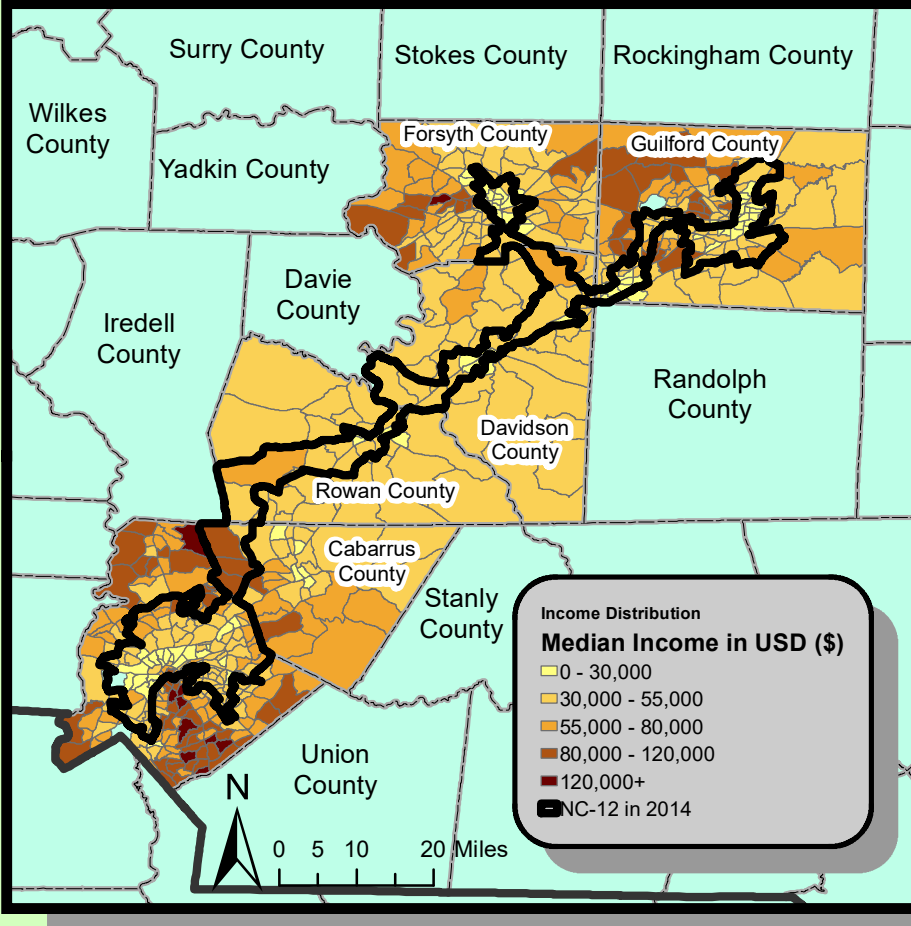## Distribution of Median Household Income from 2010 - 2018

2010 Income Distribution in NC-12 and Surrounding Counties

In addition to being racially gerrymandered, there is a massive disparity in wealth between the congressional district and study area. The median income of the district was $41,573 (or $47,863 in 2018 inflation-adjusted dollars) compared to $50,019 ($57,587 in 2018).

Whether this can be attributed to intentional avoidance of the poor or as a result of racial gerrymandering and racial inequality is debatable, however, the sheer difference in median household income and lack of inclusion is evident.

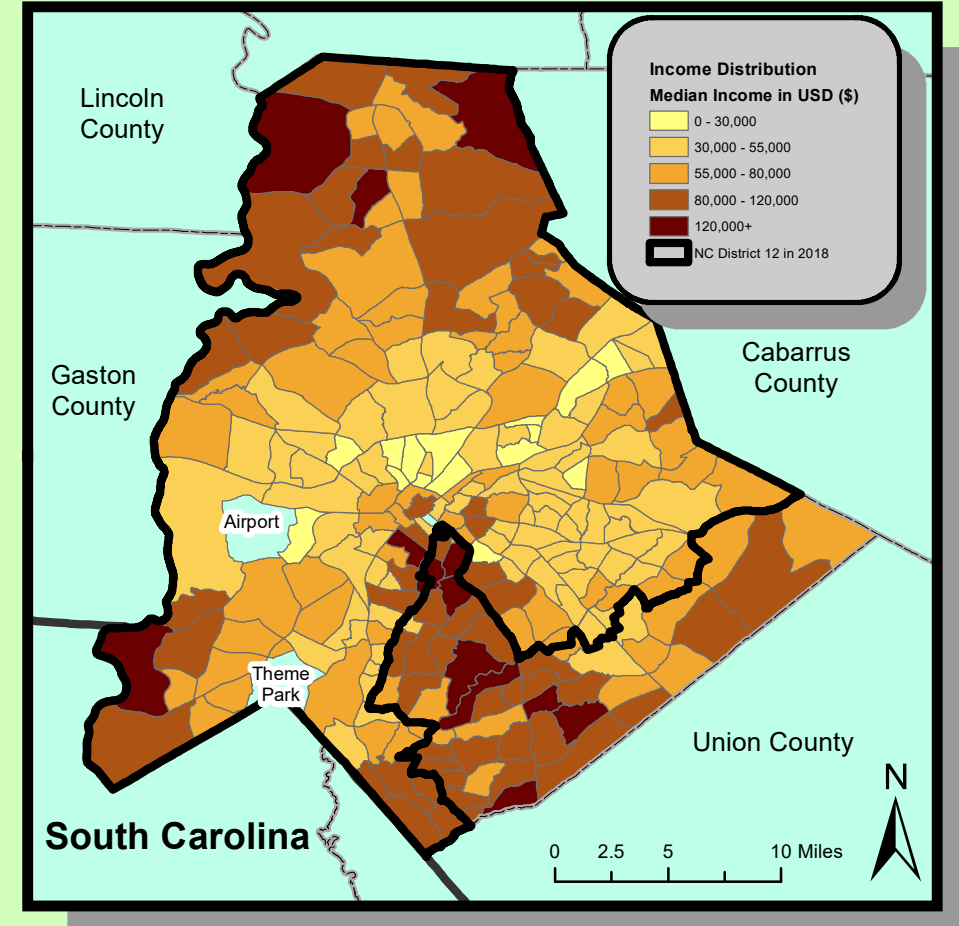### 2014 Income Distribution in NC-12 and Surrounding Counties

Just as the 2014 racial disparity in NC-12 grew from 2010, so did the gap in income compared to the study group. Median household income in NC-12 actually fell to $37,598.5 ($39,886, 2018 inflation-adjusted), a highly significant drop when accounting for inflation.

Meanwhile the study area had a much higher median income of $48,537.5 ($51,490 2018 inflation-adjusted).

While it is still arguable if this is a result of the racial gerrymander, there is evidence to support a targeted economic gerrymander; there is clear avoidance in including households above $80,000; only four census tracts within the 80-120k range exist in the district - only one entirely, with two of the three partial inclusions appearing to exist for sake of the use of the highway's convenience as a tether to Forsyth and Guilford counties.

2018 Income Distribution in NC-12 and Mecklenburg County

The 2018's new congressional district has a less significant racial gerrymander and this appears to also follow with income. The median household income in 2018 was $58,964 for NC-12, still below the median $65,181 for the entirety of the county but a reduction from the vast differences of 2014.

The forced and court-ordered mandate of Lake Norman's inclusion into NC-12 is largely responsible for this increase.

However, despite the decrease in racial and economic disparities between the district and its surroundings, Alma Adams still won the district in 2018 with a landslide 73.1% of the vote, hinting that the gerrymandering is likely becoming increasingly partisan-based rather than on race.

The Significance of Gerrymandering:
Given that we live in a representative republic, it is the intention and function of the government to represent the people's will. When the will of the voters is repressed and politicians have a 97% - 99% chance to be re-elected, consent of the governed becomes moot. Further, accountability to voters essentially becomes unimportant as do people's votes. By not giving a fair chance to every voter, confidence in the government is further eroded. Finally, people are set on an unequal playing field. When wealthier voters in south Charlotte have a competitive district and responsive representative but the rest of the city does not, people's needs in the rest of the city will not be addressed by Congress. Also, as numerous courts have ruled, it is a blatant and direct violation of the First Amendment and Equal Protection Clause of the Fourteenth Amendment. If gerrymandering is allowed to continue, it will destroy the core of American governmental function (it arguably is already), worsen inequality, and ultimately lead to tension between groups of people and the government as minorities lose representation.

All maps are in GCS 1984 and NAD 1983

Data Sources:
1.) American Community Survey 5-Year Estimates for 2010, 2014, and 2018
2.) US Census Bureau 2010 Decennial Survey for 2010 Race Data
3.) census.gov for TIGER/Line Shapefiles
4.) Tufts GIS server for numerous shapefiles
5.) Minneapolis Federal Reserve for calculating inflation