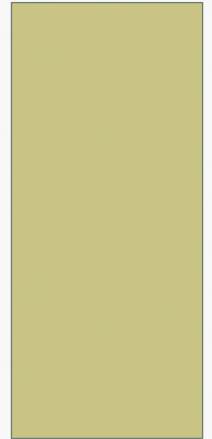


SPATIAL INEQUALITY IN THE UNITED STATES, 1970-2010



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MOTIVATION & QUESTION

- Income inequality across U.S. households has risen over the past four decades, according to the Census Bureau's Current Population Survey:
 - In 2010, the average real income of the top 20% of households was \$170,000 compared to \$11,000 for the bottom 20% - a ratio of 15.5 to 1.
 - At its low in 1974, this ratio was 10.25 to 1 (\$114,000 for the top also compared to \$11,000 for the bottom quintile).
- It is less clear, however, how regional disparities – spatial inequality – have evolved over this period.

METHODOLOGY

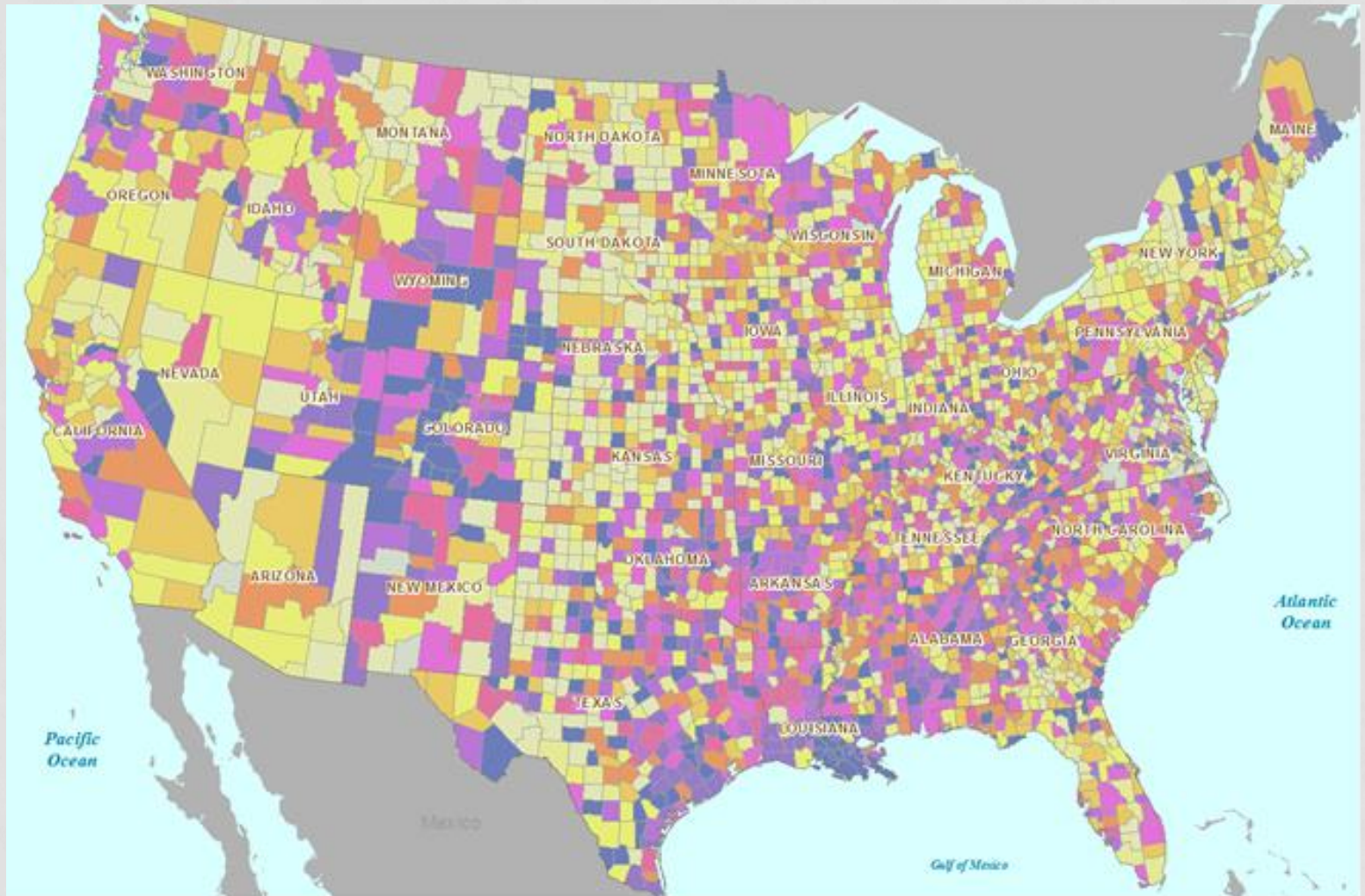
- I illustrate shifting spatial inequality from 1970 to 2010 using county real per-capita personal income data from the Bureau of Economic Analysis.
- I calculate and map the following statistics:
 - Cumulative % Δ in Real Income by County and Decade
 - Gini Coefficients by State (across Counties) by Decade
 - Average Annual County Real Income Growth (1969-2011)
 - Average Annual State Real Income Growth (1969-2011)
 - Average State Gini Coefficients (across Counties)

RESULTS & CONTRIBUTION

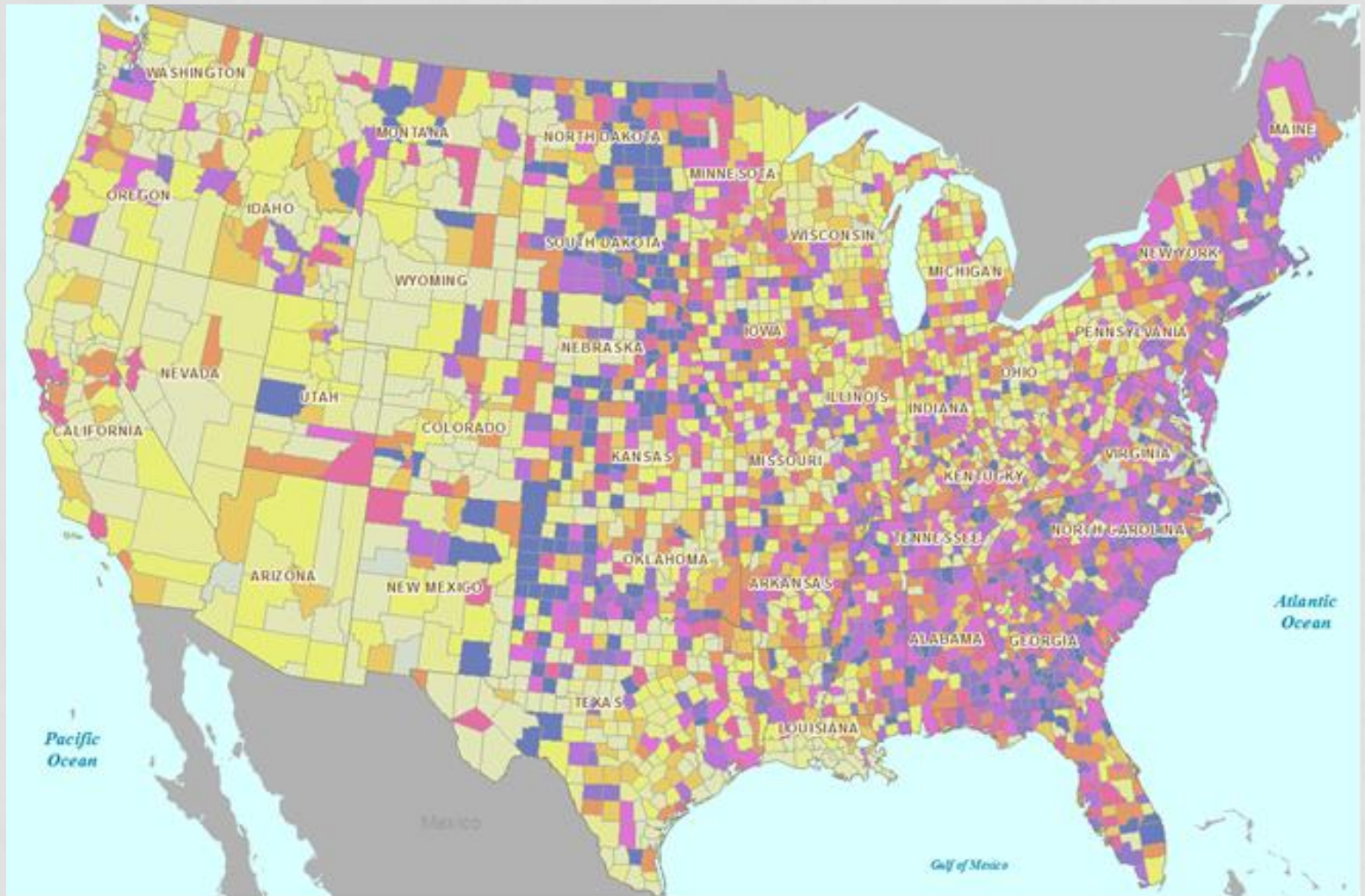
- There is substantial variation over decades in the pace of income growth for U.S. counties.
- On average within states, counties became increasingly unequal from 1970 to 1980, 1990, and 2000; but, inequality levels declined by 2010.
- The highest income growth centered in the south and mountain west.
- Overall, inequality is associated with income growth but the sign of this relationship changes by decade.

avg state gini all years	0.093
avg growth rate all years	1.95
correlation gini and avgrate	0.125
avg real inc 1970	15,974
avg real inc 1980	20,411
avg real inc 1990	25,613
avg real inc 2000	32,777
avg real inc 2010	35,560

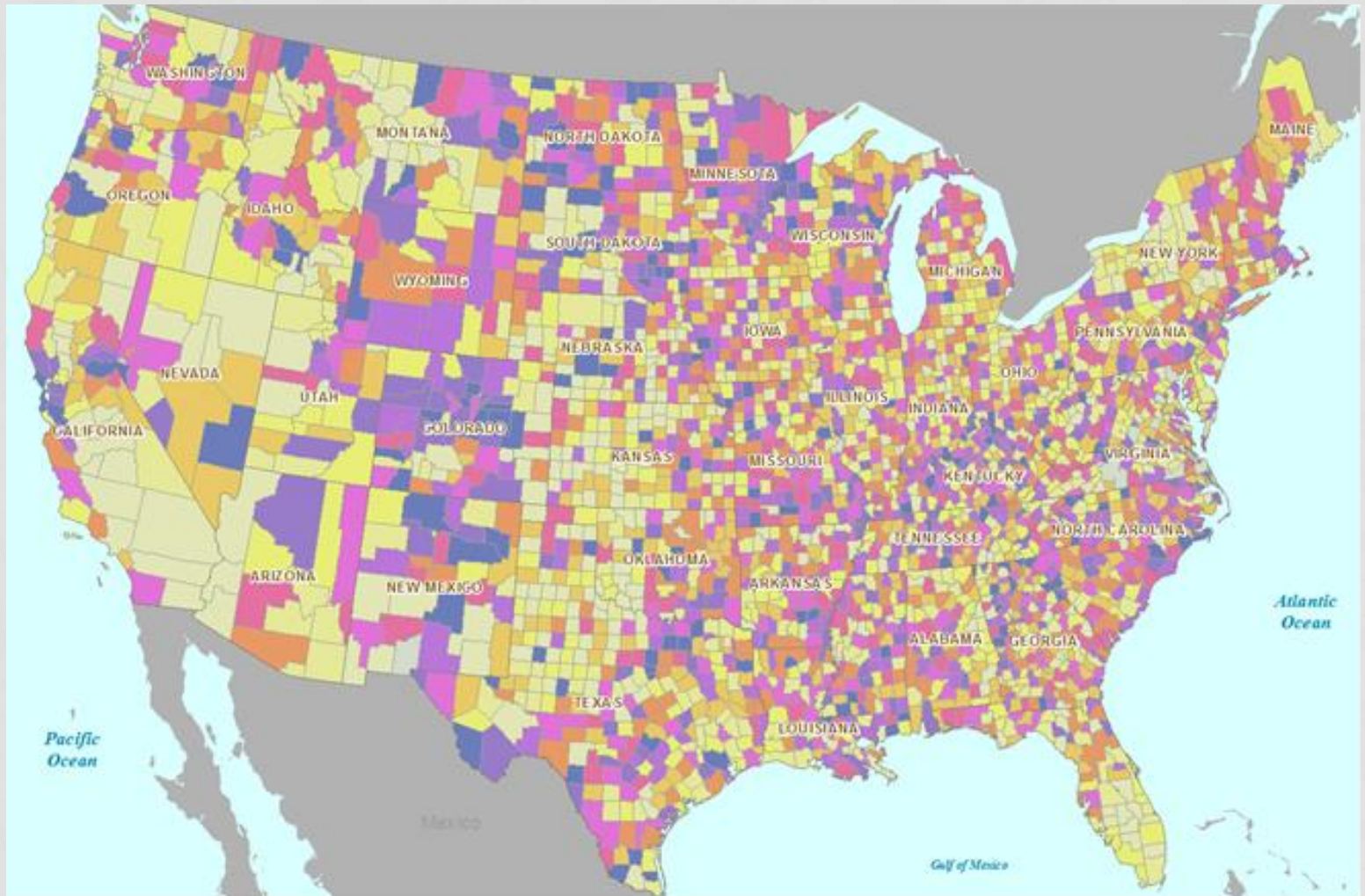
I.1 CUMULATIVE % Δ REAL PERSONAL INCOME BY COUNTY, 1970-1980



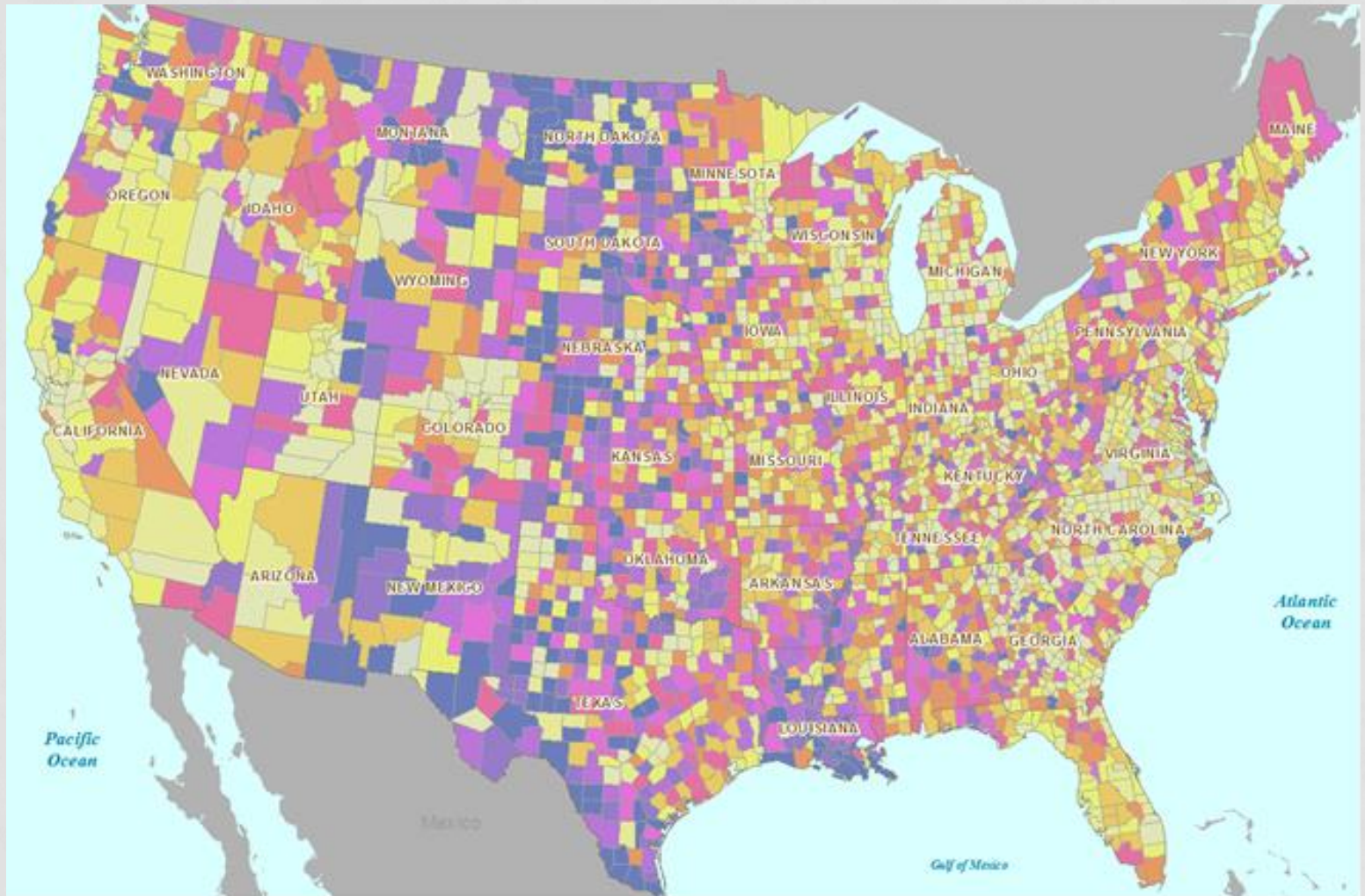
I.2 CUMULATIVE % Δ REAL PERSONAL INCOME BY COUNTY, 1980-1990



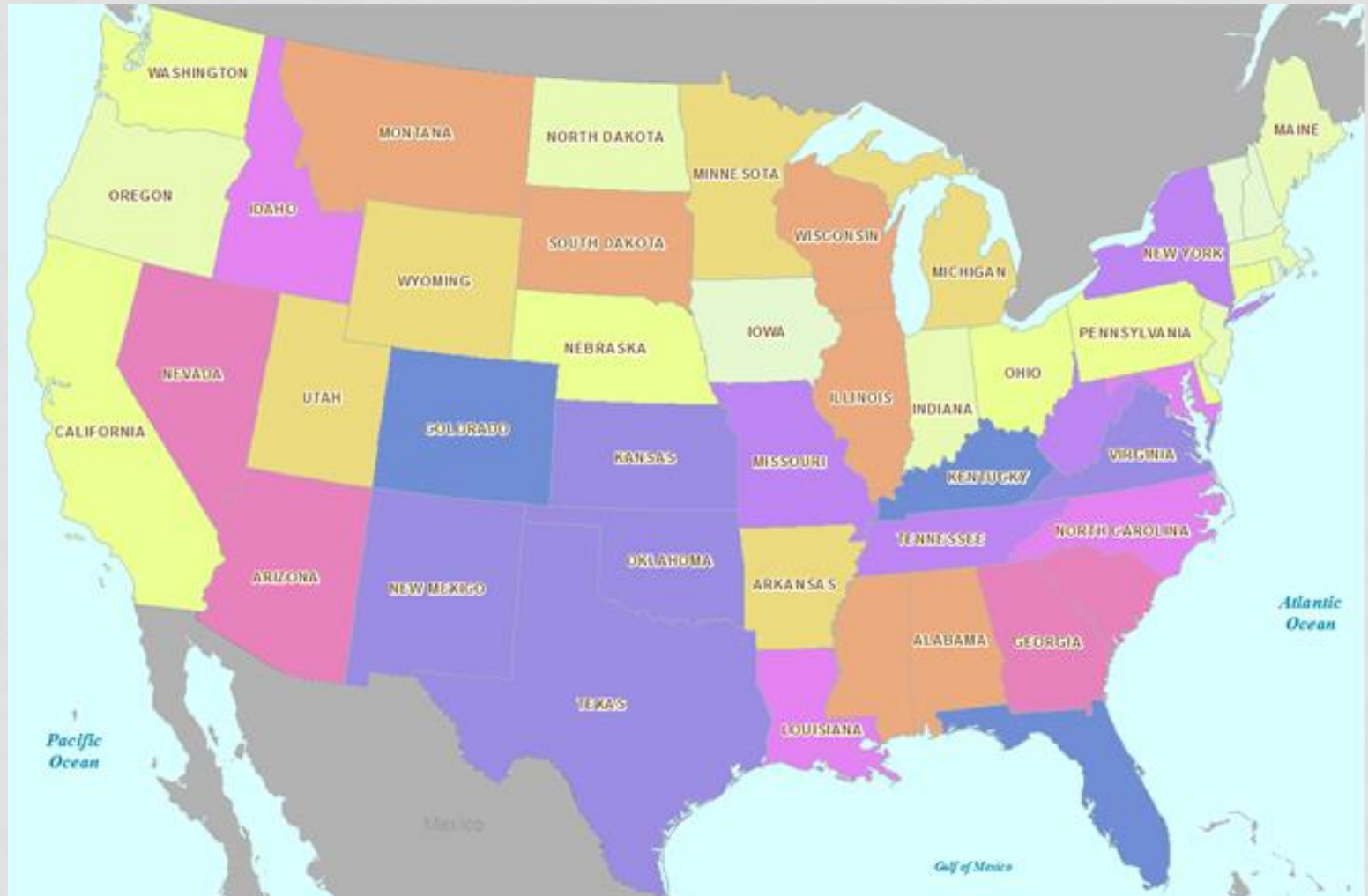
I.3 CUMULATIVE % Δ REAL PERSONAL INCOME BY COUNTY, 1990-2000



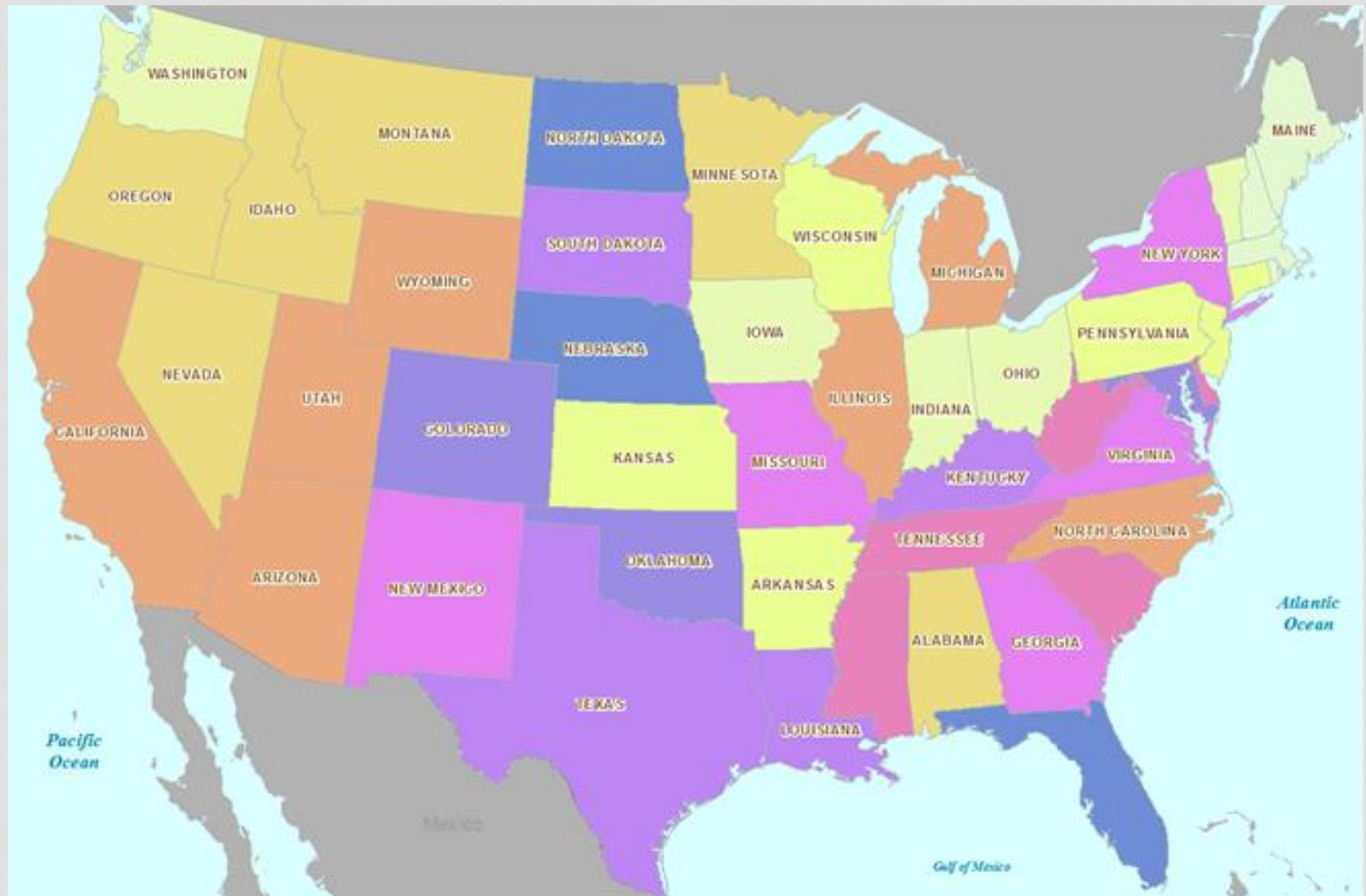
I.4 CUMULATIVE % Δ REAL PERSONAL INCOME BY COUNTY, 2000-2010



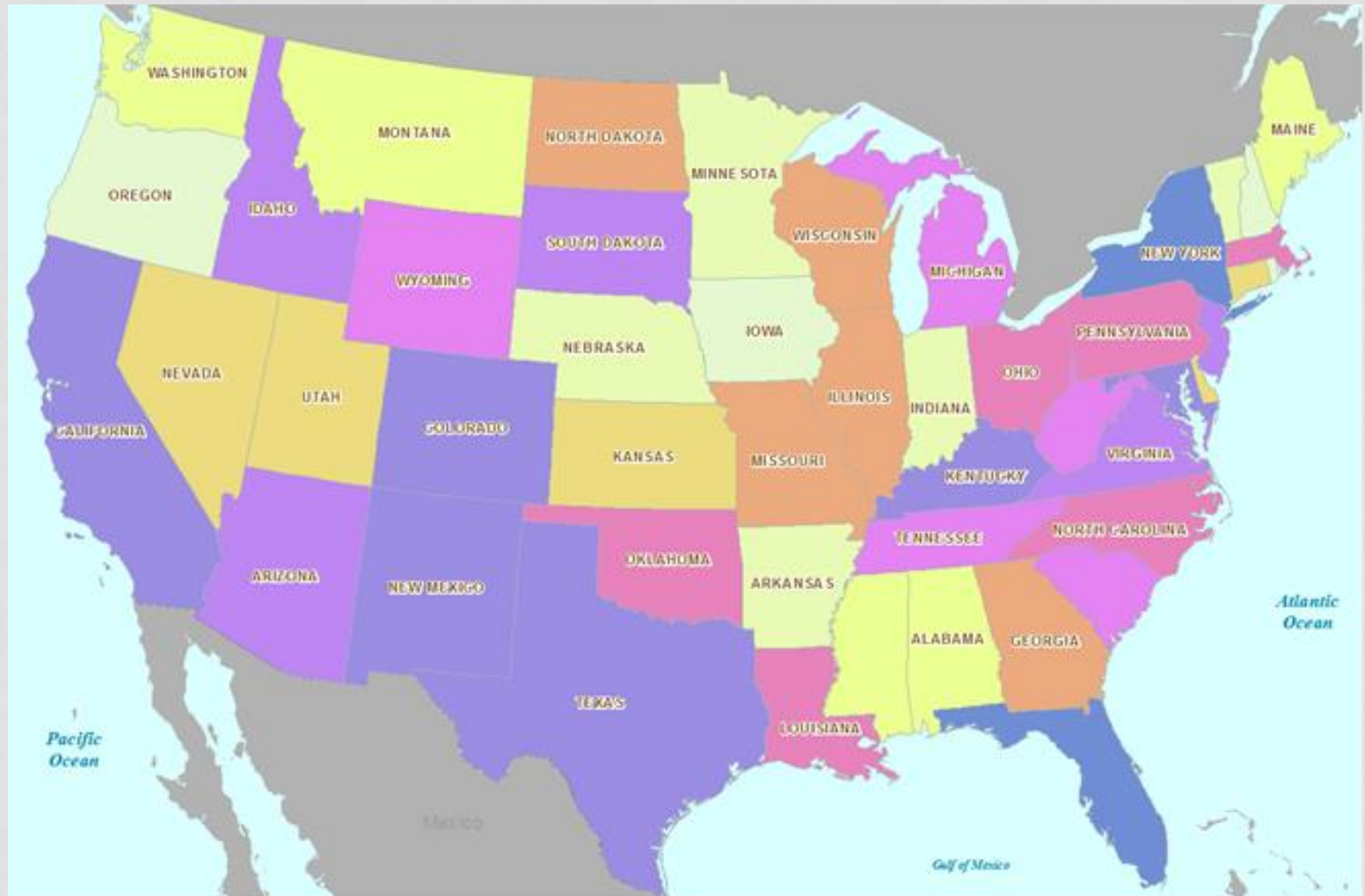
II.1 STATE GINI COEFFICIENTS (ACROSS COUNTIES), 1970 PERSONAL INCOME



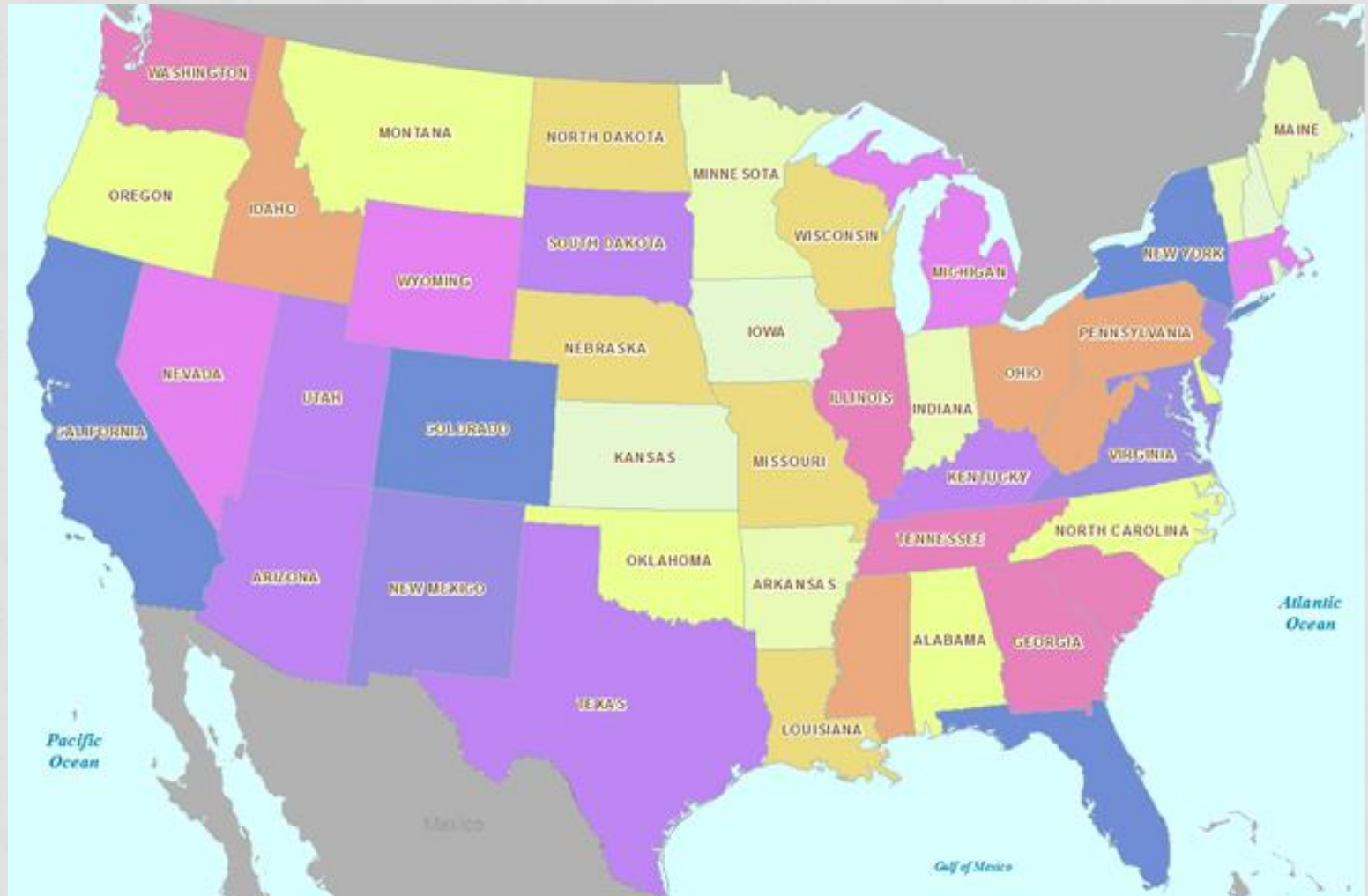
II.2 STATE GINI COEFFICIENTS (ACROSS COUNTIES), 1980 PERSONAL INCOME



II.3 STATE GINI COEFFICIENTS (ACROSS COUNTIES), 1990 PERSONAL INCOME



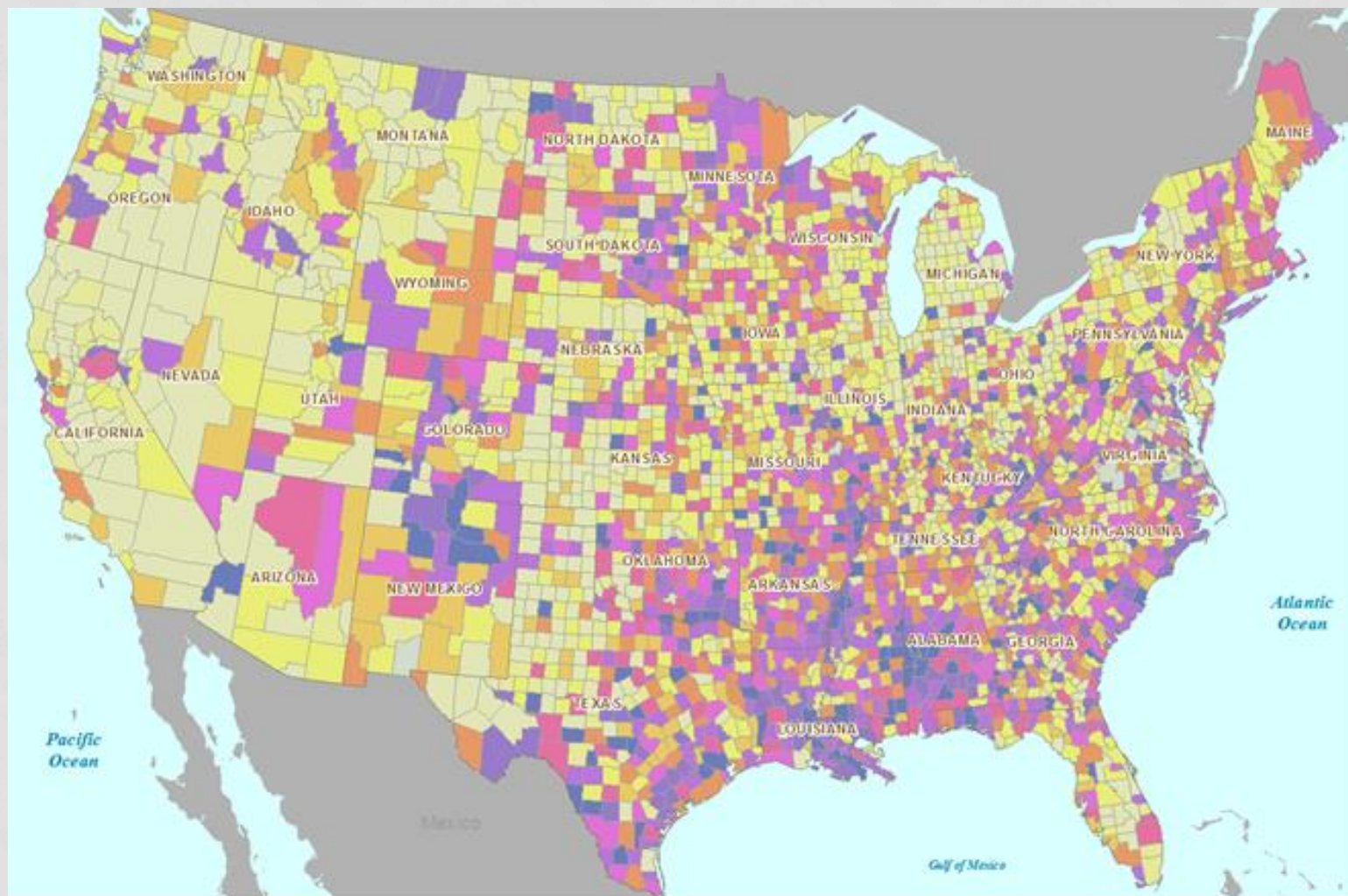
II.4 STATE GINI COEFFICIENTS (ACROSS COUNTIES), 2000 PERSONAL INCOME



II.5 STATE GINI COEFFICIENTS (ACROSS COUNTIES), 2010 PERSONAL INCOME



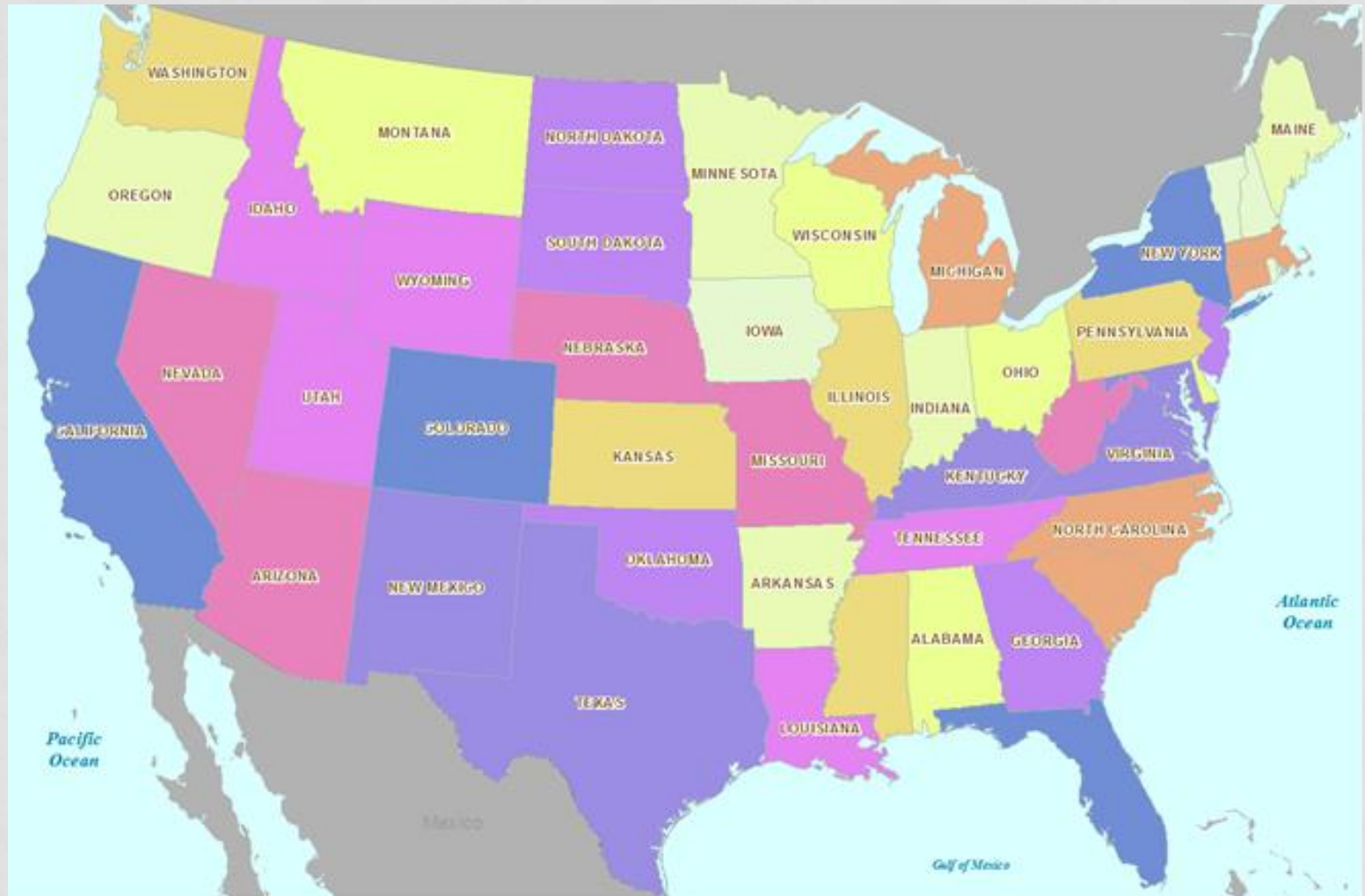
III.1 AVERAGE ANNUAL GROWTH RATE REAL PERSONAL INCOME, 1969-2011



III.2 AVERAGE ANNUAL GROWTH RATE REAL PERSONAL INCOME BY STATE



IV. AVERAGE STATE GINI COEFFICIENTS (ACROSS COUNTIES), 1970-2010



GROWTH AND EQUITY

- Income growth will augment inequality if it is centered in well-off areas; conversely, inequality may itself pose a barrier to growth.
- I find that, overall, growth is positively correlated with inequality; yet inequality at the beginning of the 1980s/2000s is negatively correlated with real income growth rates during those decades.

avg state gini 1970	0.087		
avg state gini 1980	0.091		
avg state gini 1990	0.093		
avg state gini 2000	0.101		
avg state gini 2010	0.092		
avg grwth rate 70s	2.50	corr gini1970 and avg70s	0.456084
avg grwth rate 80s	2.13	corr gini1980 and avg80s	-0.31995
avg grwth rate 90s	2.14	corr gini1990 and avg90s	0.055229
avg grwth rate 00s	1.00	corr gini2000 and avg00s	-0.12937

CONCLUSION

- Spatial inequality is an under-studied topic. I show changes in income across states and counties from 1969 to 2011 by comparing decennial growth rates and state Gini coefficients across counties.
- I indicate which regions have more-concentrated inter-county income distributions and consider the connection between growth and inequality.
- There appears to be a nonlinear relationship between inequality and economic growth, which may be driven by periods of financial crisis.