THE GEOGRAPHY OF VOTER POWER IN THE U.S. ELECTORAL COLLEGE FROM 1900-2012

by

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LIST OF ABBREVIATIONS

CSA	Confederate States of America
EC	Electoral College
GIS	Geographic Information Systems
GW	George Washington University
INDVP	Individual Voter Power
IRV	Instant Runoff Voting
MAUP	Modifiable Areal Unit Problem
NPV	National Popular Vote
SVP	State Voter Power

ABSTRACT

The Electoral College (EC) has occasioned controversy at several points in its history, most recently in 2000 when George W. Bush was elected without winning the popular vote. One principal historical and contemporary argument in favor of the EC is that it performs a balancing function to lift the power of rural and less populous states. Using Geographic Information Systems (GIS) and the measure of voter power as formulated by Banzhaf (1968), this study puts this argument to an empirical test. It finds that the EC has not functioned to balance the electoral power of voters in urban and populous states with those in rural and less populous states throughout the 20th Century and into the 21st Century. Counterintuitively, by late in the 20th Century it actually enhances the electoral power of the largest and most heavily urbanized states. One partial exception to this finding is that the EC did significantly enhance the power of voters in the South in the decades before the Great Migration took place and civil rights legislation ensured equal voting rights. Analyses in this study uncover the voting rules within the EC that are behind these variations in voter power. The analyses and findings in this study leave a foundation for further study at the county scale that may aid in validating the results here.

CHAPTER ONE: INTRODUCTION

The Electoral College has been controversial since it was born of a compromise at the Constitutional Convention of 1787 (Bowman 2011). In 2000, George W. Bush was elected President without winning the popular vote; in 2004, while winning the popular vote, he would *not* have been elected, if a few counties in Ohio had gone Democratic. Outcomes such as these in the national elections periodically rekindle debates over the legitimacy of the Electoral College, which ultimately decides the outcome of presidential elections in the United States. Although there are many historical and contemporary arguments for and against the Electoral College, a principal argument is rooted in geography. Advocates argue that without it urbanized and populous states would overwhelm the influence of rural and less populous states in the national elections. This study uses the measure of voter power to focus on how the Electoral College has or has not balanced the power of voters in urban versus rural and populous versus less populous states across a dynamic part of its history, from the start of the 20th Century up until the election of 2012.

1.1 The Importance of the Electoral College

As the 21st Century opens, the United States is the third most populous nation on Earth and the fourth largest in terms of land area. It also possesses both the world's largest military (Stockholm International Peace Research Institute 2014) and the world's largest economy (World Bank 2014). Militarily, politically, technologically, and culturally the United States exerts enormous influence. It is crucial that the people's choice be reflected in the outcome of the national election.

There have been four instances throughout the history of the United States in which the popular vote has been usurped by the calculus of the Electoral College. In the election of 1824, John Adams received 38,149 fewer votes than his opponent Andrew Jackson. This happened twice more in the 19th Century. In 1876, Rutherford B. Hayes received 254,235 fewer votes than Samuel J. Tilden, and in 1888 Benjamin Harrison received 90,596 fewer votes than Grover Cleveland in 1888. The final instance

occurred at the start of the 21st Century. In the 2000 election 450,520 more voters cast their ballots for Al Gore than did for George W. Bush (Office of the Federal Register n.d.). In these four elections the Electoral College awarded the presidency of the United States to John Adams, Rutherford B. Hayes, Benjamin Harrison, and George W. Bush though each received fewer votes from the citizens of the United States than their opponent did.

The historical significance of events in foreign policy that followed George W. Bush's election in 2000 underscore the importance of the national elections in the United States and cannot be understated: the attacks of September 11th, 2001 on New York City and Washington, D.C.; the signing into law of The Patriot Act (Department of Justice n.d.); the invasions and occupations of Afghanistan and Iraq; the detentions and abuses at the military prisons in both Guantanamo Bay, Cuba and Abu Ghraib, Iraq (White and Mintz 2004); and the expansion of the extraordinary rendition program in which individuals suspected of terrorism are abducted and transferred for interrogation to countries suspected of torture (American Civil Liberties Union 2005), a practice that continued long after President George W. Bush left office (Savage 2009).

1.2 Controversy and Debate around the Electoral College

The Electoral College has undergone various changes since its inception in 1787 and with nearly seven hundred amendment proposals no other aspect of the Constitution has been the subject of as much controversy and debate (Slonim 1986). At first electors were not obliged to vote according to the results of the popular vote in their respective states and, though not required by law, it was originally expected that electors would remain politically independent in order to objectively debate and elect the President and Vice President.

George Washington was elected unanimously in the first two elections with the Electoral College working as the Founding Fathers envisioned (Gregg 2011). The advent of political parties, which were not in existence at the time of the Constitutional Convention, soon subverted this though as parties

found ways to put electors in place who would reliably vote along partisan lines (Bowman 2011). They did just this in 1800 and a tie of electoral votes resulted. As specified in the Constitution, the House of Representatives took up the matter, and after thirty-six rounds of voting a President was selected. The 12th Amendment was added which put safeguards in place that Congress hoped would stave off a repeat of this outcome (Cornell University Law School n.d.).

Though not required by law, as the years went by electors began casting their votes according to the results of the popular vote in their states and by 1836 South Carolina was the only state to not follow this convention, coming on board only after the American Civil War (Bowman 2011). Interestingly, even by 2012 during the contest between Barack Obama and Mitt Romney only twenty-seven states legally required their electors to vote for a specific candidate (Office of the Federal Register n.d.). And though it has only rarely happened, the electors in the other twenty-four states are free to vote for whomever they choose or to abstain.

The other major change occurred in 1961 when the 23rd Amendment gave the residents of the District of Columbia, which is not a state, three electoral votes (Bowman 2011). There was renewed controversy after the election of 2000 with calls for reform becoming louder. Reform proposals are varied and include the elimination of the Electoral College altogether in favor of a direct nationwide popular vote, instant runoff voting (IRV), and proportional voting. In IRV if no candidate receives at least 50 percent of voters' first choice on the ballot, the candidate in last place drops out and the results are recalculated with this process repeated until a candidate gets to 50% or more (McKenna 2008). Proportional voting requires that each state's electoral votes be cast relative to the results of the popular vote within their respective states (Bowman 2011). As all previous attempts at reform of the U.S. Constitution have been defeated, a movement termed the National Popular Vote (NPV) has come about that leaves the Electoral College in place but circumvents it. Under the NPV, each state pledges to

cast their electoral votes not according to the results of the popular election within their borders but according to the results of the popular vote nationwide (National Popular Vote n.d.).

In the past, it was common to employ indirect and/or weighted elections such as the Electoral College to appoint executives. However, the United States is one of only a handful of democracies in the modern era still using this system (Shelley 2002).

1.3 Research Questions

From the very beginning of our nation's founding in 1787 the issue of representation was paramount. The smaller, less populous states favored measures in which all of the states, irrespective of population, would have the same number of representatives or votes. The larger, more populous states favored weighted measures in which the number of representatives or votes increased with population. The Electoral College is a compromise between these two groups that attempts to ensure that voters from the more populous states will not overwhelm those from the less populous states, while at the same time not grossly over-representing the voter power of citizens of less powerful states.

The goal of this proposed study is to examine voter power, a measure of an individual vote's influence in the outcome of a weighted election, state by state under the Electoral College in the United States from William McKinley's election victory in 1900 as America continued its transition from a rural, agrarian society to an urbanized, industrial one through to Barack Obama's re-election in 2012. In doing so, the study tests the empirical underpinnings of the argument that the Electoral College protects less populous or rural states. The main research questions are:

- Has the Electoral College kept the voter power of citizens in more populous and urbanized states from overwhelming that of the less populous and rural states?
- How has this balance changed as the political landscape of the country has changed over more than one century?

- Are there states that wield more or less voter power than others in particular elections and what may be behind these disparities?
- How does voter power of voters in particular states in elections across the study period compare with the expected voter power of citizens in these states under a “one person, one vote” scheme?

To answer these questions, the study engages in an extensive data analysis and creates maps using GIS software. The study includes two main empirical tests. First, there is a factual historical analysis of voter power relative to the rurality of the states (i.e., where rurality indicates the degree of the rural versus the urban characteristics summed at the state level). Second, there is a counterfactual historical analysis of voter power in the individual states under the one person, one vote standard.

The study finds that the Electoral College has never performed the anticipated balancing function and that there is no relationship between rurality and voter power. It also finds that there is no relationship between rurality and whether or not a given state's voters have more or less power in the Electoral College than they would have had under a hypothetical national popular election according to the voter power measure for both types of elections. Counterintuitively, towards the end of the 20th Century and the start of the 21st Century, the Electoral College actually enhances the voter power of voters in large states.

CHAPTER TWO: RELATED WORK

The Electoral College was crafted at the Constitutional Convention in the late 18th Century as a compromise between the large (more populous) and small (less populous) states. The debate over this aspect of the Constitution of the United States has continued into contemporary times. Some argue that it is a fair way of electing Presidents and should remain as the founding fathers of the nation envisioned it (Gregg 2011), some say it needs to be reformed (McKenna 2008), and still others call for its elimination (National Popular Vote n.d.). Political scientists, mathematicians, and other researchers have devised a measure of voter power, which gives a means of assessing whether or not the Electoral College really is a balancing factor in the national elections. Though this measure has its critics, it is highly useful for historical analysis of the large time scale employed in this study. This chapter addresses criticisms of voter power measures and explains how these measures can be employed to test the voter power of voters in different states in actual election cycles. This use of the voter power measure builds on the existing body of work picking up where other researchers have left off.

2.1 Debate That Formed the Electoral College

As the Constitution of the United States was crafted at the Constitutional Convention in 1787 a point of contention from the beginning which disrupted the Convention nearly to a point of impasse concerned large (more populous) states, small (less populous) states, and the issue of representation. As the Convention progressed, one of the debates that ensued related to representation and the way in which the President and Vice President should be chosen with a principal concern being that through sheer numbers of votes, voters in populous states could overwhelm any choice the less populous states would make (Slonim 1986).

Out of this debate came a proposal known as the Virginia Plan, which would have a popularly elected legislature from each state, with a number of representatives in proportion to each state's population, appoint the executives through a majority vote (Slonim 1986). A second proposal, known as

the New Jersey Plan, also proposed that a popularly elected legislature from each state appoint the executives through a majority vote with the difference being that each state was to have one representative with one vote each (Slonim 1986). The small states came out against the Virginia Plan as they feared that through sheer numbers they would be overwhelmed by the large states. As each state irrespective of size would have the same number of votes, the large states came out against the New Jersey Plan as they feared that the smaller states would exert undue influence. Neither proposal was adopted as many at the Convention felt that under either of these arrangements partisanship would be the order of the day, with the President and Vice President catering to those within these bodies with the power to elect them (Bowman 2011).

A third proposal, which was also rejected, was a direct, national popular vote to appoint the President and Vice President. Communication in the late 18th Century was difficult. So much so that a candidate well known in one part of the country would be virtually unknown elsewhere. It was felt that in a national popular vote, states would vote only for "native sons" from within their borders friendly to their own issues and familiar to their populace. Representatives from the smaller states feared that in a direct, popular vote their smaller populations would be overwhelmed by voters from the more populous states, their candidates would never be heard, and their issues never addressed (Slonim 1986).

This debate was representative of an issue that overshadowed the entire convention: the smaller states fear that the populous states would overwhelm their interests and the populous states fear that the smaller states would exert undue influence through voting measures where each state had the same number of votes, as in the Senate (Slonim 1986).

The issue went to committee on August 31, 1787 and a proposal was crafted in which each state would appoint a number of individuals equivalent to that state's Senators and Representatives in Congress who were to each cast two votes for president, with the requirement that one be from outside that elector's own state (Leip 2008). The votes would then be tallied and the candidate with the most

votes elected President and the runner up Vice President. These individuals were known as electors and the proposal, though not so termed at the time, was the compromise that became the Electoral College (Bowman 2011).

2.2 Contemporary Debate Surrounding the Electoral College

In the contemporary debate over the legitimacy of the Electoral College, *both* those on the side of reform and those on the side of maintaining the Electoral College posit that it increases the influence that less populous states have on the national election. However, those on the side of keeping the Electoral College say that it is a balancing influence while those for its elimination or reform say that it increases the power of a voter from the less populous states' influence in the national election to such a level that it violates an underlying conception of political equality, "one person, one vote" (FindLaw 2013).

Gary L. Gregg writing in support of the Electoral College in *The American Conservative*, a magazine founded in 2002 by conservative luminaries Pat Buchanan, Scott McConnell, and Taki Theodoracopulos, states that a simplification of the electoral process in the national election in the United States to a popular vote would "render small states irrelevant, and enthrone urban areas as undisputed kingmakers" (Gregg 2011, 34). He continues saying that the path to the presidency would become "one where smaller states and rural areas could be ignored with impunity" and that "an aspirant might be able to win the presidency by campaigning only in major metropolitan areas" (Gregg 2011, 35). Charles D. Snelling, himself a Republican Party activist and one-time Elector, also wrote in support of the Electoral College in the November 18, 2000 edition of *The Morning Call*, a paper from the eastern part of Pennsylvania, stating that the Electoral College keeps densely populated areas from dominating elections in the United States (Snelling 2000). As Gregg does in *The American Conservative* Snelling addresses the elimination of the Electoral College in favor of a popular vote. He asks: "Why

would small states, who benefit from this arrangement to this day, want to do this?" (Snelling 2000, A37).

Neal Peirce and Lawrence Longley criticized the Electoral College for the two electoral votes that each state receives corresponding to the two Senators representing each state regardless of size. Known as the "Federalism bonus" they claim this distorts the popular vote to the point that voters are unequally represented in the national election due to the disproportionate influence the bonus gives to small states (Longley and Peirce 1981). Randall Adkins and Kent Kirwan, writing neither in support of nor against the Electoral College, observe that in the 2000 presidential election in California, 551,112 residents are represented by each of the state's fifty-four electors, while in Wyoming three electors represent only 151,196 people each (Adkins and Kirwan 2002).

2.3 Voter Power

One way of quantifying a voter's influence is through measures of voter power. Measurements of voter power are all "based on the…proposition that the purpose of any voting system is to allow each voting member some chance, however small, to affect the decisions that must be made" (Banzhaf 1968). At its most basic level, voter power is defined as the likelihood that a single voter or group of voters, known as a coalition, can sway the results and make up the deciding vote or votes in an election (Gelman and Tuerlinckx 2002). However, not all voting systems are created equal. Each is influenced by the way in which the votes within them are weighted and aggregated into a single outcome (Gelman and Tuerlinckx 2002). In the example of the national elections in the United States, an individual's vote is weighted through the electoral votes allocated to the state he or she lives in. And there are actually two aggregates and outcomes. The popular vote is aggregated by state boundaries and each state's electoral votes by the United States itself. Voter power must be calculated with this in mind: an individual's vote must be decisive in the state in which he or she lives and their state's electoral votes must be decisive within the Electoral College (Gelman, Katz, and Tuerlinckx 2002).

Voter power measures began to be explored by mathematicians and social scientists near the middle of the 20th Century and were subsequently quoted in various legal settings (Banzhaf 1968). The early, major players were Lionel Penrose and his 1946 *The Elementary Statistics of Majority Voting* and Lloyd Shapley and Martin Shubik's *A Method for Evaluating the Distribution of Power in a Committee System* published in 1954. The seminal study is John Banzhaf's 1965 article, *Weighted Voting Doesn't Work: A Mathematical Analysis* (Gelman, Katz, and Tuerlinckx 2002). Penrose, known mainly for his work in genetics but also a notable mathematician, wrote that the mathematics involved around the counting of votes had been little studied and noted in his article that he hoped his work would encourage further exploration of the subject (Penrose 1946).

Lloyd Shapley and Martin Shubik, in their article *A Method for Evaluating the Distribution of Power in a Committee System*, discuss their thoughts on how voting is affected as structural changes are made within legislative bodies and committees saying that "the effect of a revision usually cannot be gauged in advance except in the roughest terms" and that "it can easily happen that the mathematical structure of a voting system conceals a bias in power distribution unsuspected and unintended by the authors of the revision" (Shapley and Shubik 1954, 787). In this article, they offer initial ideas in calculating voter power before structural changes are made in voting coalitions, such as legislatures, so that the fairest means of representation are produced. Similar to the Penrose article, Shapley and Shubik produced what they considered to be an initial offering and hoped to encourage others to explore the topic further.

The theorist most often associated with the measure of voter power is John F. Banzhaf III. A professor of law at George Washington University (GW) in Washington, D.C., Banzhaf began his career in the practice of public interest law and now teaches it in the course "Legal Activism" at GW (The George Washington University n.d.). His initial review of weighted voting in 1965, *Weighted Voting Doesn't*

Work: A Mathematical Analysis, looks at two real world examples of weighted voting and why he believes weighted voting systems cannot fairly represent the individuals voting within them.

The first example came from the New Jersey Senate in which a resolution was passed to implement a weighted voting plan. Similar to the Electoral College, the plan allocated a number of votes to each of its twenty-one members in proportion to the population of the county that each represented. The plan was never implemented because it was found to not be in compliance with New Jersey state law (Banzhaf 1965). Banzhaf (1965) calculated the voter power of each representative had the plan been implemented by analyzing the two million combinations of legislative votes possible in the New Jersey Senate. He found that the representative of the most populous county, Essex with nineteen votes, could cast the deciding vote over 477,000 times while those from the least populous, Sussex and Cape May with one vote each, only a little over 22,000 times (Banzhaf 1965).

A second example of Banzhaf analysis comes from an actual voting system at the Nassau County, New York Board of Supervisors. The representatives of the most populous municipalities in Nassau County receive thirty-one votes each while those from the least populous receive two each. Mathematical analysis of voter power similar to that done in New Jersey reveals that when the Nassau County Board of Supervisors meets the only representatives with the power to effect the outcomes of voting within that body are those from the county's three most populous municipalities, and thereby the largest number of votes. If any two of the three work in coalition, they are able to pass or defeat any measure and there is nothing the representatives of the other municipalities are able to do about it (Banzhaf 1965). According to the results of these analyses, the smaller counties in New Jersey would have been, and the smaller municipalities in Nassau County are, essentially disenfranchised.

Banzhaf's second article on voter power, 1968's *One Man, 3.312 Votes: A Mathematical Analysis of the Electoral College* relates directly to this study. In the mid-1960's, the Congress of the United States was considering replacing the Electoral College with one of two alternatives. The first was a

proportional voting scheme in which each state's electoral votes would be divided in proportion to the statewide popular vote. The second was a district plan in which the winner of the popular vote in each congressional district would be awarded that district's electoral vote (Banzhaf 1968). Banzhaf finds through the mathematical analysis of voter power that neither of these alternatives nor the Electoral College in its present form produces balanced voting.

Banzhaf's calculation of voter power is a multi-stage process. This process looks first at the number of possible voting combinations in which an individual, by changing his or her vote, can affect the outcome of their state's popular vote and thereby which candidate receives their state's electoral votes (Bahnzaf 1968). Next it considers the number of possible voting combinations in which a state, by changing how it casts its electoral votes, can affect the outcome of the national election. It is this formula that is used throughout this study to calculate voter power at the state level.

2.4 Opposing Arguments on the Applicability of Voter Power Measures

The main thrust of the argument that critics of voter power take is that the measures' assumption of random voting is false (Albert 2003). Geoffrey Garrett and George Tsebelis argue that voter power measures "reduce actors' preferences and institutional rules of the game to mere probability distributions" and ignore the facts that voters are strategic and that ideological groups vote alike (Garrett and Tsebelis 1999, 305).

One of the rules of the game that Garrett and Tsebelis claim voter power indices ignore is that some policy proposals are selected partly on the basis that the outcome of votes on them are guaranteed (Garrett and Tsebelis 1999). Powers (2009) makes a similar argument. Though a proponent of the Banzhaf measure, Powers advocated for a modification of the measure to account for partisanship and the fact that in the United States within the Electoral College some states typically vote for a certain candidate, or party for that matter, irrespective of the candidate (Powers 2009).

Andrew Gelman, Jonathan Katz, and Joseph Bafumi offer an additional argument that the measures are *a priori* measures relying only on the mathematical rules of a voting system and not on past or anticipated future patterns of voting within the system (Gelman, Katz, and Bafumi 2004). Their criticism and those of others, though interesting observations of realities in the political realm, are acknowledged and refuted by proponents of voter power measures principally by reminding critics that neither voting systems nor calculations of voter power were intended to account for the idiosyncrasies of human behavior and electoral politics. Indeed, in a study like this one with a historical length that spans more than a century, the anticipated ideological patterns shift significantly. This would make adding nuance to the measure of voter power on the basis of such patterns tricky to say the least.

In regard to voting systems themselves, strong advocates of electoral democracy put individual equality ahead of federalism, arguing that any country's constitution should create voter power as equal as possible amongst all of its citizens (Felsenthal and Machover 2003). Thus, calculations of voter power should not be crafted solely to ascribe principles of fairness in present ideological arrangements, but instead help to prescribe how best equality should be put into practice for the long term (Felsenthal and Machover 2003). They also acknowledge the *a priori* aspect of measures of voter power and that they *must* ignore the individual characteristics of voters along with the candidates and bills that are being contested in the election in question (Felsenthal and Machover 2003).

As mathematical formulae have difficulty accounting for intangibles that do not readily translate into statistics, Banzhaf himself admits that calculations of voter power do "not reflect the actual ability of any given voter to affect the outcome of a particular election" (Banzhaf 1968, 810). These intangibles include elements as complex as the influence that political parties have on specific regions and individual voter's feelings and political leanings to those as simple as voter intimidation, weather, or election result forecasting (Banzhaf 1968). What calculations of voter power do represent however, are

an average of a voter's effectiveness in an election by exposing the inequalities that may be present in a voting system due to the rules governing it (Banzhaf 1968).

2.5 Political Geography, Geographic Information Systems, and Voter Power

Disciplines such as political science, mathematics, and statistics are well represented in the discussion and debate on voter power and the Electoral College. However, political geography and geographic information science and technology are under-utilized in discussions of voter power and the Electoral College.

Much of political geography's contemporary contributions to the discussion of the Electoral College relate to examinations of campaign spending or the distribution of voting for candidates and parties. Typical of these is a series of articles written for the journal *Political Geography* after the 2000 presidential election. This series maps the popular vote by county and the electoral votes in that election by state to see where each candidate garnered the most support (Archer 2002). Fred Shelley writing in the same series gives a brief history of the Electoral College along with his thoughts on how its vote aggregation directed campaign spending leading up to the 2000 election, observing that both the Republican and Democratic campaign teams kept their candidates and money in states not known to reliably vote for one party or the other. He notes that both Bush and Gore both made at least six campaign stops in Florida but spent no time in New York, a safely Democratic state, or Texas which votes reliably Republican (Shelley 2002).

In addition to observations of voting and campaign spending, political geographers will often discuss the future of the Electoral College in terms of the effects of reform proposals as well as the changing electorate in the United States. In a counterfactual analysis, Ron Johnston, David Rossiter, and Charles Pattie examined the 2000 and 2004 presidential elections in the United States to determine if reform of the Electoral College would have changed the outcomes. The format they looked at, actually used in Maine and Nebraska, gives one-fifth of a state's electoral votes to the winner of the popular vote

within the state and the remainder to the candidate who wins in each of the state's Congressional districts in favor of the "winner take all" format used in most states which awards all of that state's electoral votes to the winner of the popular vote within the state (Johnston, Rossiter, and Pattie 2006). In a discussion of the changing electorate, Burmila (2009) uses projections of the 2010 and 2020 censuses along with historic voting behavior, finding that the Republican Party can expect gains in electoral votes due to the changing demographics within the electorate through both immigration as well as migration within the country.

Warf examines the effect that the Electoral College has on voting in the national election, embracing the concept of voter power. While at Florida State University he and Cynthia Waddell contributed to the 2002 series of articles in *Political Geography* mentioned above. Their article examines the 2000 election focusing on the state of Florida and the way in which the Electoral College enables small groups of voters to affect the outcome of the national election (Warf and Waddell 2002). The authors, though focusing on one state in one election, employ John Banzhaf's voter power measure detailed in his 1968 article *One man, 3.312 votes: A mathematical analysis of the electoral college* to compare the influence that voters in Florida had in the election with voters in the rest of the nation as a whole (Warf and Waddell 2002).

Warf (2009) gives a brief overview of the Electoral College, covers some of the debate around it, defines voter power as it functions within the Electoral College, and introduces his own calculation of voter power. Warf (2009) presents a high level cartographic overview of presidential elections from 1960 to 2004 along with a brief but detailed look at the 2000 and 2004 election cycles. He also introduces methods from various researchers on determining the voter power of individuals based on those individual's demographic characteristics.

CHAPTER THREE: METHODOLOGY

The main goal of this study is to determine whether or not weighted voting as historically practiced in the U.S. Electoral College balances voting between the populous and less populous states and to describe what areas (if any) have held higher or lower than expected voter power in U.S. Presidential elections. To accomplish this requires a multi-stage process that is driven by calculations of voter power. Although there are many methods of calculating voter power (described in Chapter 2 above), this study uses the Banzhaf voter power measure with a small modification so that the measure reflects actual voter turnout. The analyses begin by calculating individual voter power within the Electoral College starting with the 1900 election throughout the 20th Century and into the 21st Century, ending with the 2012 election. Using statistical analysis and GIS software, voter power within each time period for each state is compared to the percentages of each state's population classified as rural by the United States Census Bureau, the percentages of each state's population determined by the United States Census Bureau to be engaged in agricultural labor, and each state's total population.

3.1 Measuring Voter Power

Voting in the national election in the United States is a multi-stage process. In the first stage, individuals vote within their respective states and in the second stage, the states vote within the Electoral College. Banzhaf's calculation of voter power is a multi-stage process as well, combining the two probabilities to determine the probability of a voter changing the outcome of the national election. Individual Voter Power (INDVP), the number of possible voting combinations in which an individual by changing his or her vote can affect the outcome of their state's popular vote and thereby which candidate receives their state's electoral votes, determines the first probability (Banzhaf 1968). The second probability, State Voter Power (SVP), is determined by considering the number of possible voting combinations in which that voter's state, by changing how it casts its electoral votes, can affect the outcome of the national election. The final calculation multiplies these two probabilities to determine

Voter Power (VP), the probability of a voter changing the outcome of the national election in the United States, with the following formula:

$$\text{VP} = INDVP * SVP \quad (1)$$

To calculate INDVP, the first probability, Banzhaf used combinatorial analysis through an expression that implements Stirling's Approximation, used in calculating the factorials of large numbers (Banzhaf 1968). As it is derived from voting within a one person, one vote majority system the voting power of a voter is the probability that their vote is the one that tips the election to one candidate or measure being voted on (Miller 2013). The laws of statistics tell us that this first probability can be closely approximated though the expression:

$$\text{INDVP} = \sqrt{2/\pi n} \quad (2)$$

where n is the number of individuals voting within the election, indicating that, voter power, the probability of a vote changing the outcome of the election, is not inversely proportional to the number of voters, but to the square root of the number of voters (Miller 2013). It is this formula that is used throughout this study to calculate INDVP, the first probability value needed to calculate Banzhaf voter power. It is also this formula that is used in the counterfactual assessment of voter power in this paper that looks at an individual's voter power in a national popular vote in place of voting within the Electoral College.

Banzhaf's original assessment of voter power uses each state's population in calculating an individual's voter power within his or her state. This study attempts to improve on this by using instead the total number of *actual* votes in each election. Votes that are thrown out and not counted or eligible voters who fail to turn out are not factored into this number. Although each state's electoral votes are calculated based on its population not every resident in every state votes in the national election. Those in the population that do not vote should not be factored into calculations of voter power as their numbers will tend to dilute the results. In a very simple example that demonstrates this, consider a

measure being voted on by a group of ten individuals in a simple one vote per person, majority rules voting scheme. If all ten participate the measure will pass with a majority of six. The above formula tells us that each voter's power is 0.252310. However, if two out of the ten abstain, then the majority needed for the measure to pass decreases to five while the participating voters' power increases to 0.282090.

To calculate SVP, the second probability, Banzhaf (1968) was assisted by researchers at The Rand Corporation using some of the most powerful computers available at the time to implement the Monte Carlo technique. The Monte Carlo technique is a method of computing the probability of a certain event, in this case a state's electoral votes changing the result of the national election, occurring in large data sets in which possible outcomes are sampled some number of times and occurrences of the certain event counted. The true probability of the event occurring is then determined by dividing the number of times the certain event is counted by the number of samples taken. For accurate results, all of the possible events need to be tested for and a large number of samples need to be taken (The University of North Carolina 2003).

Similar to Banzhaf (1968), this study receives assistance in calculating SVP and also takes advantage of a powerful computer. Not one at The Rand Corporation but via a calculator available online hosted at The University of Warwick which allows for calculation of Banzhaf voting power that members within voting bodies implementing weighted voting possess (The University of Warwick n.d.). In the context of the Electoral College, members are the states themselves. The calculator is able to count all possible voting outcomes equally and derives each of the member's Banzhaf voter power by dividing the number of times each member is the swing vote, the vote that tips the election to one measure, or political party in this case. The calculator then divides that number by the number of possible outcomes among the other members (The University of Warwick n.d.).

Mathematics tells us that the probability of two independent events occurring together can be determined by multiplying the independent probability of each event (The University of North Carolina 2003). VP then, as the probability that an individual's vote is decisive in the national election, is calculated with formula (1) above and is the product of INDVP, the probability that an individual's vote is decisive within his or her state's popular election, and SVP, the probability that the state that individual resides in is decisive in voting within the Electoral College. This product is the Banzhaf voter power of an individual voter in the national election in the United States voting within the Electoral College and is the number that is used as the basis for all analyses within this study.

In Banzhaf's calculation of voter power he combines a voter's effectiveness within his or her state with the effectiveness of that voter's state within the Electoral College to determine a voter's power in voting in the national presidential elections. Using the first calculation from his voter power measure to measures a voter's effectiveness in the simple majority, one person one vote system in each voter's state, it is possible to measure voter power in a national popular vote. This study uses this calculation, but in a simple majority, one person one vote system in the nation as a whole, in a counterfactual analysis to examine how voter power when voting within the Electoral College compares with that in one of the most popular contemporary Electoral College reform proposals, a national popular vote.

3.2 Data Sources and Units of Analysis

Calculations of voter power in this paper are based on the past work of mathematicians and political scientists. Election data come from the private website the Atlas of U.S. Presidential Elections (Leip 2012). States are required to collect, tabulate, and report their own election results and these data are available through their various state election departments, election boards, and voting divisions. The Atlas of U.S. Presidential Elections, which is thoroughly referenced throughout, has collected these data sets making election results from the first presidential election held in 1789 to the

most recent in 2012 available for personal, public, and private use (Leip 2012). Outside of the number of electoral votes a state possesses, the only data necessary to calculate voter power within this paper include simply the number of votes for each political party. The Atlas of U.S. Presidential Elections provides these in tables throughout the time period examined within this paper. A data set typical of those available on the site can be seen below in Figure 1.

2008 Presidential General Election Data – Vermont

County	Population	Total REG	Bal Cast	Invalid	Total Vote	Margin	% Margin	Obama	McCain	Other	Obama	McCain	Other
Addison	36617	24731	19419	181	19238	7535	39.17%	68.62%	29.46%	1.92%	13202	5667	369
Bennington	36382	26414	19194	65	19129	6391	33.41%	65.47%	32.06%	2.47%	12524	6133	472
Caledonia	30470	20852	14841	113	14728	3428	23.28%	60.43%	37.15%	2.42%	8900	5472	356
Chittenden	152782	119517	83888	448	83440	37374	44.79%	71.44%	26.65%	1.91%	59611	22237	1592
Essex	6500	4399	3124	23	3101	449	14.48%	55.89%	41.41%	2.71%	1733	1284	84
Franklin	47949	30364	21665	205	21460	5326	24.82%	61.41%	36.59%	1.99%	13179	7853	428
Grand Isle	7729	5584	4290	21	4269	1204	28.20%	63.11%	34.90%	1.99%	2694	1490	85
Lamoille	24833	17644	12765	97	12668	5399	42.62%	70.37%	27.75%	1.89%	8914	3515	239
Orange	28917	20531	15329	150	15179	4752	31.31%	64.56%	33.25%	2.19%	9799	5047	333
Orleans	27189	18791	12877	106	12771	3516	27.53%	62.63%	35.10%	2.28%	7998	4482	291
Rutland	63331	44103	31881	264	31617	7771	24.58%	61.22%	36.64%	2.14%	19355	11584	678
Washington	58829	44207	32431	231	32200	13195	40.98%	69.33%	28.35%	2.32%	22324	9129	747
Windham	43176	33209	24206	125	24081	11588	48.12%	73.02%	24.90%	2.07%	17585	5997	499
Windsor	56566	44120	31391	226	31165	12360	39.66%	68.81%	29.15%	2.04%	21444	9084	637
Total	621270	454466	327301	2255	325046	120288	37.01%	67.46%	30.45%	2.10%	219262	98974	6810

Figure 1: Tabular Vermont national election result data from website Atlas of U.S. Presidential Elections

The United States Census Bureau began assessing urban versus rural populations for the entire nation beginning in 1900. At the start of the 20th Century, a transition from a rural to an urban nation was already underway with the shift from an agrarian to an industrial society that started in the 19th Century (Morris 1996). The Census Bureau, for instance, assessed 20% of the population of Florida as urban in 1900 while in 2010 over 91% of its citizens were classified as urban dwellers (United States Census Bureau 2013). As a thorough and reliable assessment of America's population, it is the Census Bureau's determination of who is an urban dweller and who is a rural dweller that is used in this paper for analyses of voter power.

The criteria the Census Bureau uses to make this determination have changed over the years. Beginning with the 1900 census, an individual was determined to be an urban dweller if they lived

within an incorporated place, such as a town or city, with a population of more than 2,500. It was realized though, that this definition left out many densely populated areas for the simple reason that they were not incorporated. In an attempt to overcome this, prior to 1950 certain areas, especially minor civil divisions, were classified as "urban under special rules" with their residents then falling into the urban dweller classification (United States Census Bureau 2013).

Despite the "urban under special rules" classification, many densely built up areas were still being excluded from the urban category. As a result, starting with the census of 1950 the bureau began defining urban as any place with 2,500 or more residents, whether they were incorporated or not (United States Census Bureau 2013). Places, as defined by the Census Bureau, are densely populated areas including those with their own government, known as incorporated places; those without their own government, referred to as census designated places; and consolidated cities which are municipal governments that have merged the county and city or cities within that county into one jurisdiction (United States Census Bureau 2013). The definition of a rural dweller has remained the same throughout the history of the bureau's assessment and is simply someone who does not live in an area designated as urban.

While the Census Bureau's assessment of urban and rural populations is a convenient number for analysis of large numbers of voters, the historical shift in the criteria behind this classification clouds it as a straightforward measure of rurality. The Census Bureau also makes available additional demographic measures including number of persons employed in agricultural labor. A majority of agricultural labor and the industries the Census Bureau places under that classification typically take place within rural areas. Thus, in order to further validate the assessment of voter power and rural population, this study also makes use of the occupational data as a measure of rurality.

Unfortunately, as with the measure of rural places, the occupational measure is also somewhat clouded by historical changes in the census classification. Throughout the study period, the Census

Bureau has collected counts of agricultural laborers, but it has not always classified agricultural labor or reported its findings in the same way. For example, in the 1900, 1910, and 1920 censuses, the Census Bureau reported on employed persons ten years and older. However, once child labor laws began to be enacted from 1930 forward, the census reported on adult employed persons only. In addition, there are certain industries that are not always included under the classification of agricultural pursuits and are broken out separately. In order to standardize across all of the years, this study modifies the census definition of agricultural labor to include a consistent set of census occupational categories related to rural places.

The United States Census is a decennial survey reported at the beginning of each decade. To accommodate for elections that take place during off census years this study uses a strategy of linear interpolation which bases rural population, agricultural labor, and total population counts on differences between the censuses preceding and following a given election. For example, to calculate these demographics for the 1904 election year, the counts for each from the 1900 census were subtracted from the counts for each from the census that took place in 1910. To correspond to the 1904 election year these numbers were then divided by four and added to the numbers from the 1900 census counts. A total of twenty-two of the twenty-nine elections in this study fall on off census years and the process was repeated for each of these election cycles.

The 2012 election presents a particularly interesting dilemma as there is no 2020 census data at the time of the writing of this paper. To interpolate the demographic data for 2012, the 2000 census numbers were subtracted from the 2010 counts, which were then divided by ten to get the yearly increase from the start of the decade until the end. These numbers were then multiplied by two and added to the numbers reported in the 2010 census.

3.3 Statistical Analyses of the Rural, Agricultural, and Total Population Map Series

In order to look for relationships that may be present in the data, a series of statistical analyses were performed. ArcGIS was used to create simple scatterplots and the analysis software SPSS Statistics was used to run Pearson's chi-square test for independence (chi-square test) and Pearson's product-moment correlation coefficient (Pearson's correlation) on each election cycle from 1900 to 2012. Chi-square tests for independence reveal whether or not two phenomena are related and if further statistical exploration should be undertaken (Laerd Statistics 2013a), Pearson's correlation measures the strength and direction of the relationship between two variables (Laerd Statistics 2013b).

Both SPSS tests in this study output P-values which report the probability of the results occurring in the data set being tested, if the null hypothesis is true. A P-value of .05 or less indicates that there is a significant relationship and that one can be 95% certain that the relationship is not due to chance (Laerd Statistics 2013b.). For accurate chi-square test results, data sets that include frequencies of less than five must use the Fisher's exact test, which this study implements. Typically used on data sets with small sample sizes, Fisher's exact tests produce exact measures of P-values and not approximations as other chi-square tests do.

In addition to P-values, Pearson's correlations output a value known as the Pearson correlation value that indicates the strength of the relationship. The closer this value is to -1 or 1 the stronger the relationship. A Pearson correlation value represented by a positive value indicates a positive relationship in which the dependent variable goes up as the explanatory variable does the same. The opposite is true as well in a positive relationship with the dependent variable decreasing as the explanatory variable decreases. A negative Pearson correlation value indicates that as the explanatory variable increases in value the dependent variable will also decrease. Or as the explanatory variable goes down in value the dependent variable will go up.

3.4 Ordinal Classification

ArcGIS was used to create the data sets consumed by SPSS for the chi-square and Pearson's correlation tests in this study. Voter power, the percentages of each state's population classified as rural by the United States Census Bureau, the percentages of each state's population determined by the United States Census Bureau to be engaged in agricultural labor, and each state's total population were all ranked into five classes. Classes with the highest values were given a value of one, classes with the group of second highest values a two, and so on down to the group with the lowest values. The results of these rankings were then used to run chi-square tests for independence and Pearson's product-moment correlation coefficient comparing voter power with each population variable separately.

While ArcGIS presents multiple classification methods including Jenks (natural breaks), equal interval, and quantiles, after examining the data and actually running it through each classification method, it was determined that of these three options the quantiles classification was the most appropriate method of grouping each variable in this study for the statistical analyses in SPSS.

Key to this study is visualizing the changing electorate and the measures of voter power it possesses across the 20th Century and into the 21st through various map series. For consistency, the same classification method used in the statistical analyses is also used in symbolizing the data in these map series. Quintiles (i.e., quantiles separated into five ordinal classes) was chosen because it allows for representation of a state's rank both within and across election cycles. The variables of rural population, agricultural labor, and total population change dramatically in absolute values across the time period this study covers. To be meaningful, the statistics used in this study must capture the relative position of the states to one another in any given election cycle and across the historical sweep.

The Jenks (natural breaks) classification groups data into classes with the most similar values so that the differences between the classes are the greatest (Environmental Systems Research Institute 2014a). When Jenks was used to classify the data sets in this study though, it was seen that a majority

of the values fell into three or four classes with only one or two values falling into the classes at the high or low ends of the distribution. Not only do groupings such as these skew the results of any statistical analyses done in SPSS, they may also mislead viewers of any maps basing their symbology on it. Important to this study is to fairly visualize voter power and its effects on voting within the Electoral College across the entire time period this study examines. The ranges of values can be so specific between data sets when classifying with Jenks that it is often difficult to compare maps based on these different data sets symbolized with Jenks.

Equal interval takes the entire range of attribute values and divides them into groupings with equal ranges (Environmental Systems Research Institute 2014a) while quantiles breaks data into classes with the same number of features or observations in each (Environmental Systems Research Institute 2014a). Both produced fairly similar groupings of data avoiding the clumping seen when using Jenks. It was seen though, that by partitioning the data into ordinal classes consisting of more equal numbers quantiles better display the data sets evenly over the long time period this study covers. This allows for the visualization of the historical map series of each population variable and voter power so important to this study. It is worth noting that the data in this study were tested with all three of the classification schemes above and the central conclusions about key relationships between variables did not change.

3.5 Geographic Information Systems, Cartography, and Map Symbology

Unlike earlier studies, this study features a deep historical engagement with political geography by considering how the urban or rural character of various states may be associated with voter power in the Electoral College**.** Producing a factual and a counterfactual analysis of voting in the national presidential elections in the United States, this study builds on past work by examining elections throughout an expansive period of time. It takes as its basis Banzhaf's metric of voter power: the theoretical ability of an individual to affect who is elected President and Vice President every four years in the United States.

Key to this is GIS and its ability to organize and facilitate the visualization of data in order to tell a story through a series of maps. This carefully crafted series of maps reveals change and stability across elections cycles when it might otherwise be hidden in individual elections.

This study maps voter power and three population variables over a period of more than a century, covering a total of twenty-nine election cycles. Three map sets are produced that are viewable as a historical series. These allow the viewer to watch not only the electorate change as well as the cultural and historical contexts in which each election takes place but also the migration of voter power from state to state and region to region by simply flipping quickly through each map series. The software package ArcGIS was key to this study due to its ability to quickly produce and reproduce complex map layouts. Ultimately, the historical map series is put to use in the creation of complex maps displaying up to six inset maps in one clear graphic. These maps illustrate both the historical narrative and counterfactual analysis by focusing on the key transitional points in the political and cultural climate over the course of the study period.

GIS contributes to the study by allowing for efficient placement on clear maps of complex measures of the historic ability of a voter to effect the national elections in the United States (voter power) in relation to the changing electorate and nation in which these elections take place. These maps bring these historical facts into a contentious political debate that is ongoing even in contemporary times. In fact, both those in favor of and opposed to reform of the Electoral College argue with assumptions in direct opposition to the findings reported and visualized here. The data necessary for these historical findings can be pulled from graphs and charts, but GIS and its ability to clearly translate the facts and figures contained within them is a key element of this work and ultimately key to communicating the facts to those engaged in this debate.

In order to not distort the story visually, it is also important to adhere to sound principles of cartography and in the selection of map symbology. This study needs to be able display multiple data

sets measured and reported at the fairly small cartographic scale of U.S. state boundaries (Montello 2001). These include voter power calculations as well as the three population variables this study looks at in relation to voter power.

Often times mapping related to political topics and issues employ choropleth maps for their ability to display varying quantities of data, and this study does so as well. Choropleth maps typically employ a single color scheme to represent the distribution of values, where the best practice is to use darker shades to represent higher values with decreasing shades representing lower and lower values (Harvard University Graduate School of Design n.d.). In mapping throughout this study, all three population variables are shown using choropleth symbology.

To visualize the comparison of the population variables with voter power, for the purposes of this study another data set measured at the scale of U.S. states, it was decided to use proportional symbols, a technique in which the size of each symbol increases with the values, overlain on the population variable choropleth maps (Environmental Systems Research Institute 2014b). This allows for the clear viewing of both data sets simultaneously. Cartographers symbolizing data sets with proportional symbols run the risk that viewers of the map will have difficulty distinguishing differences between values, particularly if there are many values (Environmental Systems Research Institute 2014b). This study avoids this through the careful selection of the classification scheme of quantiles and five classes, making it intuitive for the map reader to discern the range of values within the voter power data sets.

Aggregated data fall victim to two traps: the modifiable areal unit problem (MAUP) and ecological fallacies (Harvard University Graduate School of Design n.d.). The two are closely related in that the means by which the data is aggregated will embellish certain aspects of the data while other aspects are minimized (i.e., the MAUP), while the impressions taken by viewers of maps based on the aggregated data may cause misleading generalizations across spatial scales (i.e., ecological fallacies)

(GISC 2013). In this study, these issues may arise in terms of the visualization of rurality, which is aggregated at the level of the individual states and should not be seen as depicting conditions at other scales. Nevertheless, the relevant analytical point with regards to the argument about Electoral College explored here is conditions aggregated at the level of the each state in the U.S.

CHAPTER FOUR: RESULTS

The overarching story this study's analysis tells is consistent throughout the 20th Century: rural states do not have greater than expected voter power in spite of their slightly higher (proportional) representation in the Electoral College. However, prior to the enactment and enforcement of voting rights laws, voters in the Southern (ex-confederate) rural states enjoyed much greater voter power than would otherwise be expected. Also, by the end of the study period, extensive urbanization gives populous states greater voter power than less populous states in spite of their slightly lower (proportional) representation in the Electoral College. In fact, quite counterintuitively, the data show that by the end of the 20th Century voters in the most populous states enjoy more power than they would under a one person, one vote scheme. The counterfactual analysis is key to revealing these changes in the voter power of citizens in various states. This is true whether the degree of a state's rurality is measured either as determined by the United States Census Bureau or as the percent of a state's population employed in agricultural pursuits.

Analyses in this study do reveal a relationship between voter power and voter turnout in each state. The following section looks at each of these in the 1900 election cycle when: percentages of population classified by the United States Census Bureau as rural in the United States were highest in the time period covered by this study; percentages of population determined by the Census Bureau to be engaged in agricultural labor were highest; and total population counts in the decennial censuses taken by the Census Bureau were lowest. For comparison and in an effort to contrast contemporary with historic elections, the 2012 election cycle is examined: when the percentage of the population in the United States classified as rural was it its lowest in the time period covered by the study; the percentages of population engaged in agricultural labor were lowest; and total population the highest. This section next focuses on voter power in the Southern United States throughout the 20th Century and how it was influenced by Jim Crow laws, the Great Migration, and the Civil Rights Movement in the

United States. The discussion focuses on the election cycles directly after the turn of the decade following the decennial census when electoral votes are reallocated. It wraps up with a counterfactual examination of voter power within a national popular vote in comparison with that of voting within the Electoral College again within the historical context of Jim Crow, the Great Migration, and the Civil Rights Movement.

4.1 Statistical Analyses of the Rural, Agricultural, and Population Map Series Results

The results of the chi-square tests reveal inconsistent relationships between all three population variables and the voter power individuals from each state possess. Over the course of the twenty-nine election cycles in this study, the relationship between voter power/percentage of population engaged in agricultural labor and voter power/percentage of population classed as rural is significant only sporadically and infrequently. Total population though, was significant in every election cycle such that the null hypothesis can be rejected and that there is a relationship, between it and voter power. As population is the determinant of the number of electoral votes each state receives, voter power and total population are not independent variables and as such, this result is expected and not significant. These inconsistent relationships undermine the assertion that the Electoral College balances voting between urbanized, populous states and the rural, less populous states. The results of the chi-square analyses can be seen below in Table 1 (values highlighted in green are P-values low enough to indicate a relationship).

Table 1: SPSS output of the Pearson's chi-square tests for independence

Election Cycle	Agricultural Labor / Voter Power P-value	Rural Population / Voter Power P-value	Total Population / Voter Power P-value
1900	0.381	0.006	0.001
1904	0.023	0.030	0.001
1908	0.043	0.567	0.002
1912	0.280	0.590	< .0005
1916	0.009	0.840	0.005
1920	0.393	0.248	0.001

1924	0.756	0.230	0.001
1928	0.532	0.125	< .0005
1932	0.415	0.117	< .0005
1936	0.288	0.126	< .0005
1940	0.124	0.293	< .0005
1944	0.746	0.661	0.002
1948	0.844	0.014	< .0005
1952	0.518	0.483	< .0005
1956	0.901	0.441	< .0005
1960	0.419	0.170	< .0005
1964	0.327	0.288	< .0005
1968	0.019	0.501	< .0005
1972	0.004	0.743	< .0005
1976	0.085	0.506	< .0005
1980	0.056	0.560	< .0005
1984	0.145	0.411	< .0005
1988	0.016	0.316	< .0005
1992	0.027	0.963	< .0005
1996	0.047	0.153	< .0005
2000	0.069	0.266	< .0005
2004	0.009	0.132	< .0005
2008	0.125	0.145	< .0005
2012	0.349	0.013	< .0005

It is also possible to compare data for all elections covered in this study simultaneously. Similar to the chi-square tests, the Pearson correlations produced inconsistent findings when comparing all of the agricultural labor, census rural population, and state population variables to voter power values across all of the election cycles in the study. Seen below in Table 2 is test output from the Pearson correlation tests and again, output from variables which reported P-values low enough to indicate a relationship are highlighted in green. Total population in election cycles towards the end of the 20th Century were the only data sets with Pearson correlation values that indicated relationships of any strength. But again, as population at the decennial census is the determinant of the number of electoral

votes each state receives, it is not independent of voter power and as such, the Pearson's product results are not surprising. The agricultural labor and rural population variables do begin to show a relationship to voter power during this same time period. Although weak, this relationship is negative and was strengthening during the time period in which total population was seeing a strengthening positive relationship to voter power.

Table 2: SPSS Pearson's product-moment correlation coefficient output

Election Cycle	Agricultural Labor / Voter Power Pearson Correlation	Agricultural Labor / Voter Power P-value	Rural Population / Voter Power Pearson Correlation	Rural Population / Voter Power P-value	Total Population / Voter Power Pearson Correlation	Total Population / Voter Power P-value
1900	0.257	0.088	0.123	0.421	0.604	< 0.0005
1904	0.317	0.034	0.152	0.319	0.667	< 0.0005
1908	0.287	0.054	0.148	0.326	0.681	< 0.0005
1912	0.226	0.122	0.112	0.450	0.694	< 0.0005
1916	0.198	0.176	0.083	0.575	0.631	< 0.0005
1920	0.185	0.208	0.133	0.369	0.635	< 0.0005
1924	0.146	0.323	0.030	0.841	0.641	< 0.0005
1928	0.217	0.139	0.061	0.681	0.632	< 0.0005
1932	0.089	0.547	(0.044)	0.766	0.734	< 0.0005
1936	0.110	0.459	0.017	0.910	0.718	< 0.0005
1940	0.195	0.184	0.039	0.793	0.714	< 0.0005
1944	0.083	0.581	(0.012)	0.937	0.656	< 0.0005
1948	0.056	0.707	0.015	0.918	0.715	< 0.0005
1952	(0.057)	0.702	(0.067)	0.651	0.770	< 0.0005
1956	(0.113)	0.443	(0.024)	0.872	0.774	< 0.0005
1960	(0.089)	0.538	0.050	0.733	0.693	< 0.0005
1964	(0.211)	0.137	(0.096)	0.503	0.704	< 0.0005
1968	(0.143)	0.315	(0.077)	0.591	0.692	< 0.0005
1972	(0.215)	0.130	(0.234)	0.099	0.797	< 0.0005
1976	(0.310)	0.027	(0.147)	0.304	0.757	< 0.0005
1980	(0.323)	0.021	(0.174)	0.222	0.812	< 0.0005
1984	(0.414)	0.003	(0.302)	0.031	0.867	< 0.0005
1988	(0.389)	0.005	(0.298)	0.034	0.869	< 0.0005

1992	(0.375)	0.007	(0.226)	0.110	0.842	< 0.0005
1996	(0.459)	0.001	(0.356)	0.010	0.854	< 0.0005
2000	(0.446)	0.001	(0.392)	0.004	0.844	< 0.0005
2004	(0.486)	< 0.0005	(0.457)	0.001	0.831	< 0.0005
2008	(0.346)	0.013	(0.400)	0.004	0.866	< 0.0005
2012	(0.344)	0.013	(0.422)	0.002	0.825	< 0.0005

Scatterplots for elections at key historical intervals also help to depict the SPSS results from above: no real relationship between rural population or percentage of the population engaged in agricultural labor in each state and the voter power of individuals from those states; a weak relationship between total population and voter power throughout the first half of the 20th Century and into the 1960's; and a strengthening relationship between total population and voter power from the early 1970's through the early 21st Century. Figures 2 and 3 below illustrate the relationships that are consistent between both rurality and agricultural labor and voter power that are consistent throughout the time period this study covers.

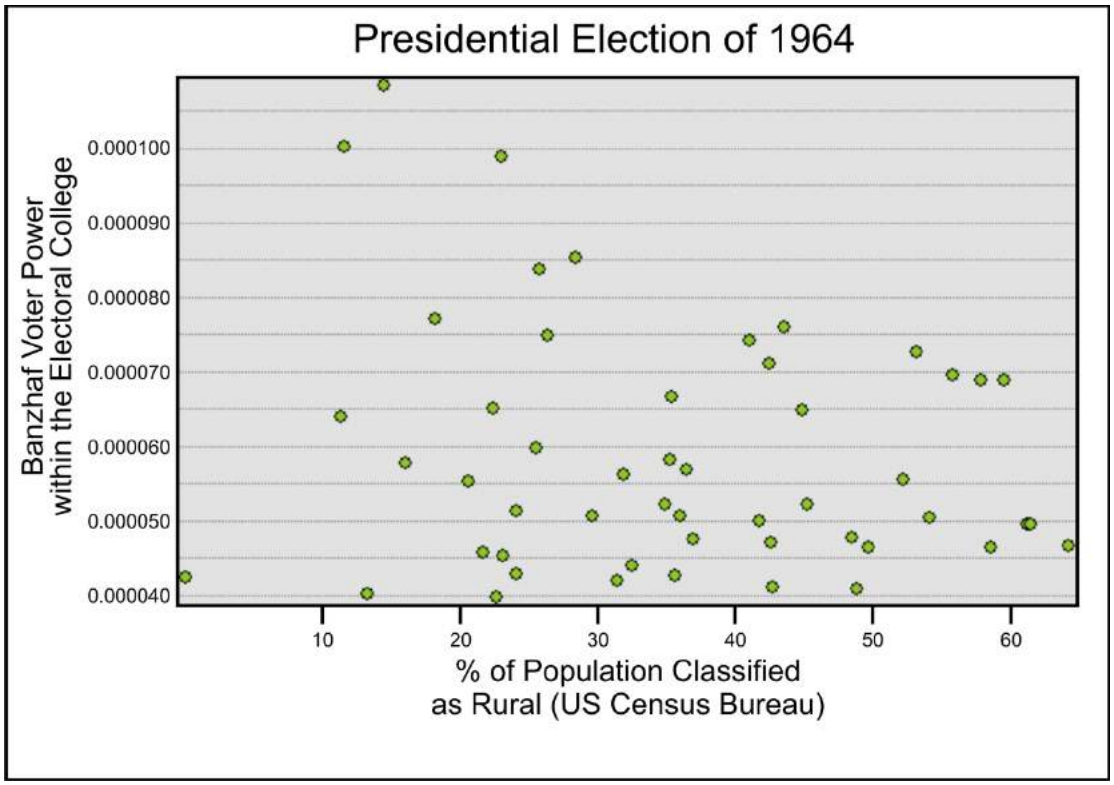

Figure 2: Typical scatterplot of voter power and percentage of each state's population classified as rural

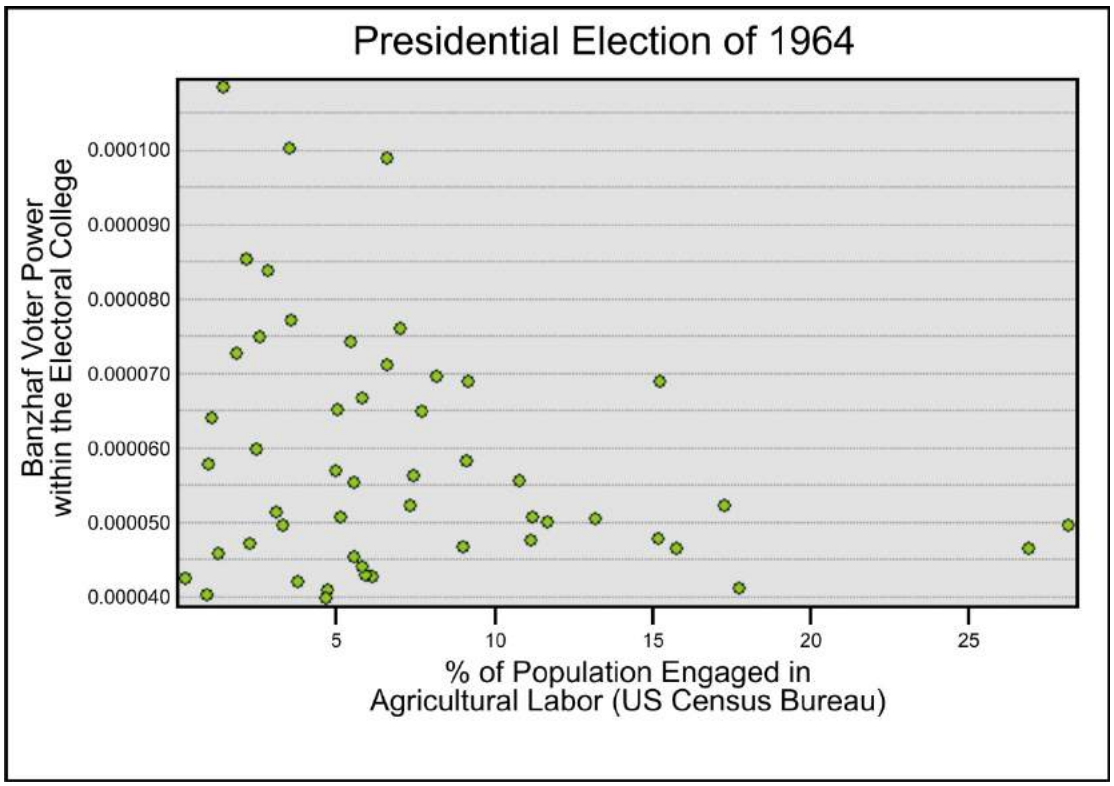

Figure 3: Typical scatterplot of voter power and percentage of each state's population engaged in agricultural labor

Figure 4 shows the relationship typical of each state's total population and voter power from the first election cycle of the 20th Century up until the 1960's. Figures 5 and 6 show the progressive strengthening of the relationship in the second half of the 20th Century and into the early part of the 21st Century. Scatterplots for each population variable from each election cycle in the study can be seen in Appendix A.

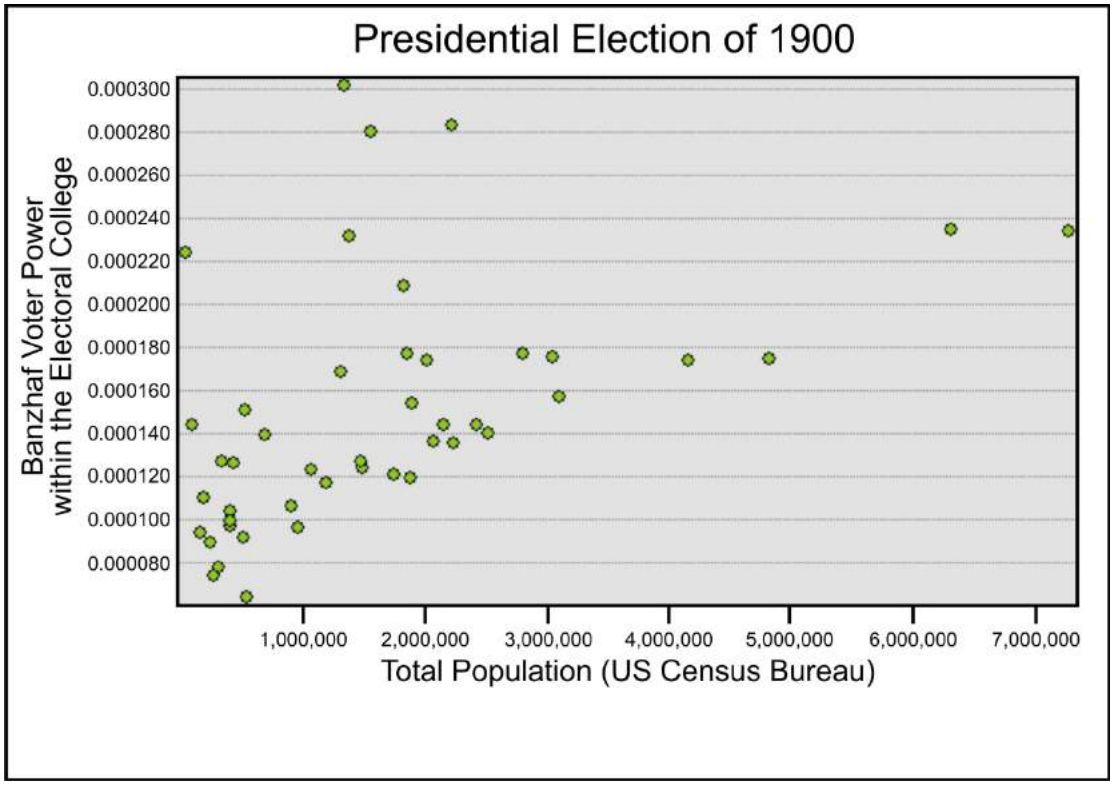

Figure 4: Scatterplot of voter power and total population during the election of 1900

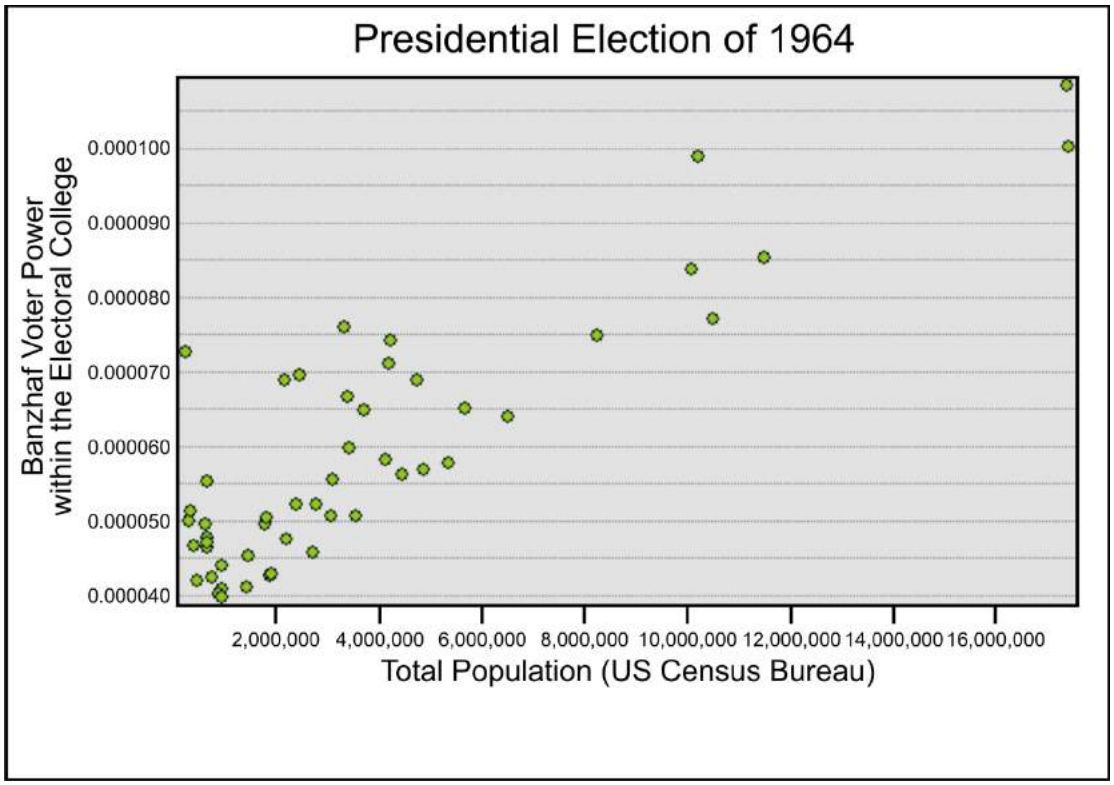

Figure 5: Scatterplot of voter power and total population during the election of 1964

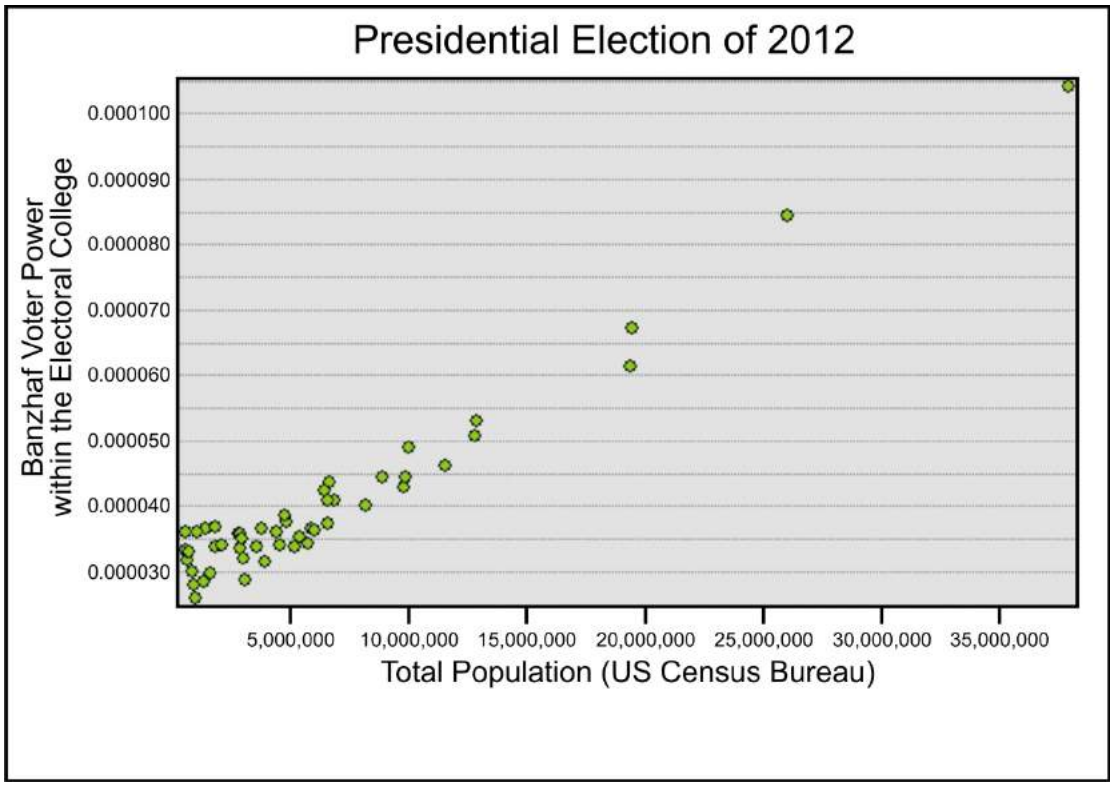

Figure 6: Scatterplot of voter power and total population during the election of 2012

4.2 The Rural Population Map Series

The rural population map series, all of which are available in Appendix B, shows the results of the voter power analyses overlain on each state's rural population for each election cycle this study examines: 1900 through 2012. Using the quantiles classification, the maps present the percentage of a state's population classified as rural by the United States Census Bureau divided into five classes. Voter power was also divided into five classes using quantiles classification as well. The maps symbolize the most rural states with a dark green fill while progressively less rural states use lighter and lighter shades of green down to the least rural which use white. The maps symbolize voter power using graduated symbols. The largest circles are seen on states with the highest measures of voter power for the election cycle shown on the map down to the smallest circles, which are seen on states with the lowest measures of voter power.

The rural map series reveals that voter power values vary widely among states from the most rural to the least. In the map that shows the election cycle of 1900, seen below in Figure 7, there are states such as South Carolina that fell into the group of most rural states but also had the highest measure of voter power in 1900 with 4.7 times that of Colorado, the state with the lowest measure of voter power. New York, one of only four states that fell into the category of least rural states in 1900, also fell into the highest voter power category during the election cycle of 1900 with a voter power 3.7 times that of Colorado.

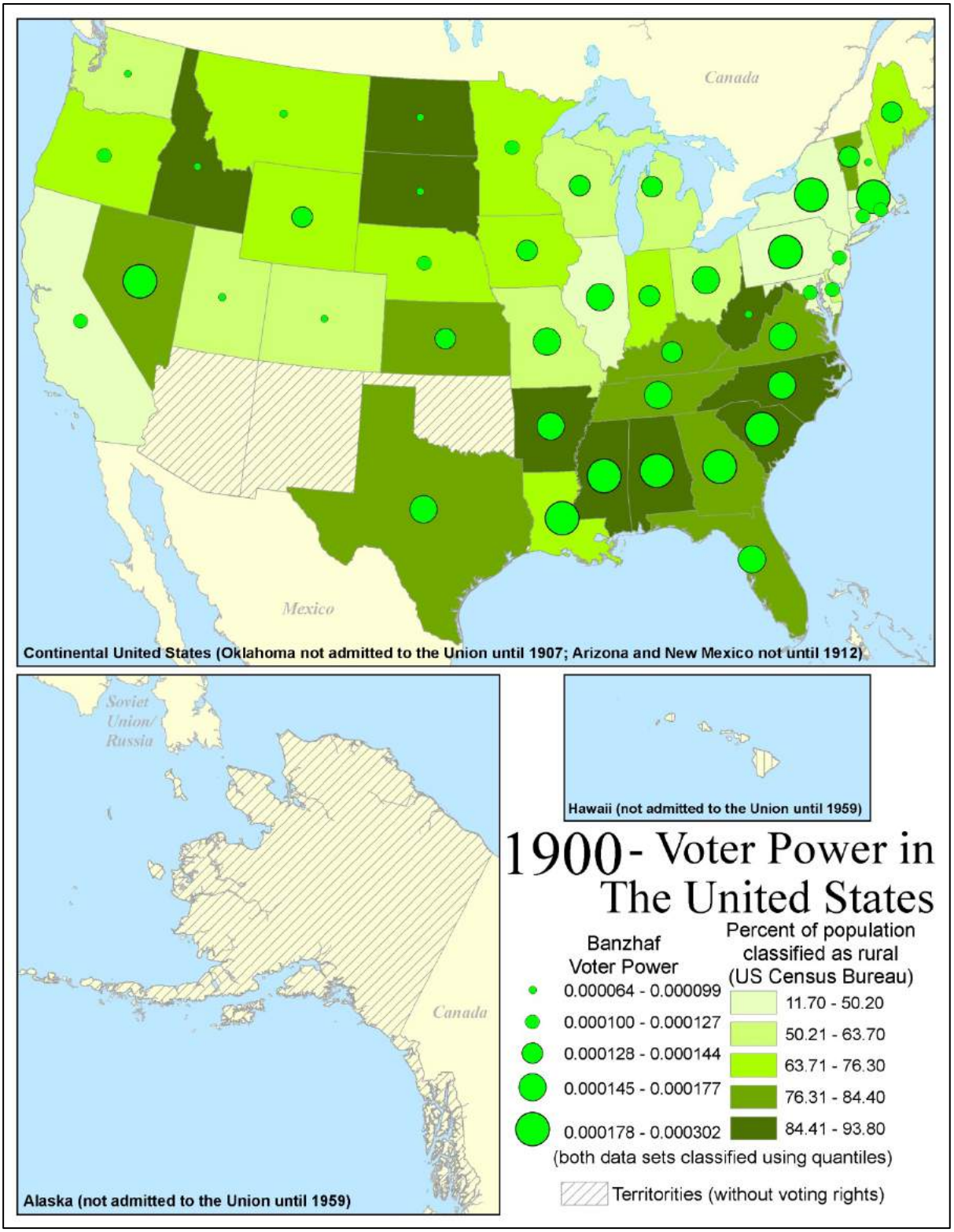

Figure 7: Map showing voter power during the election cycle of 1900 overlain on the percentage of each state's population classified by the United States Census Bureau as rural

Also observed in this map series are states like Florida and Nevada. Both of these states begin the 20th Century as very rural states with both falling into the category of most rural states with 80% and 83% of their respective populations classified as rural in 1900. By the 2012 election cycle, seen below in Figure 8, both fall into the least rural group of states but Florida's measure of voter power is 1.5 times that of Nevada's. In the 1900 election cycle the reverse is true. Nevada's voter power is 1.7 times that of Florida's though they are both rural states. This illustrates that urban and rural character seem to be little associated with power of a given states' voters in the Electoral College.

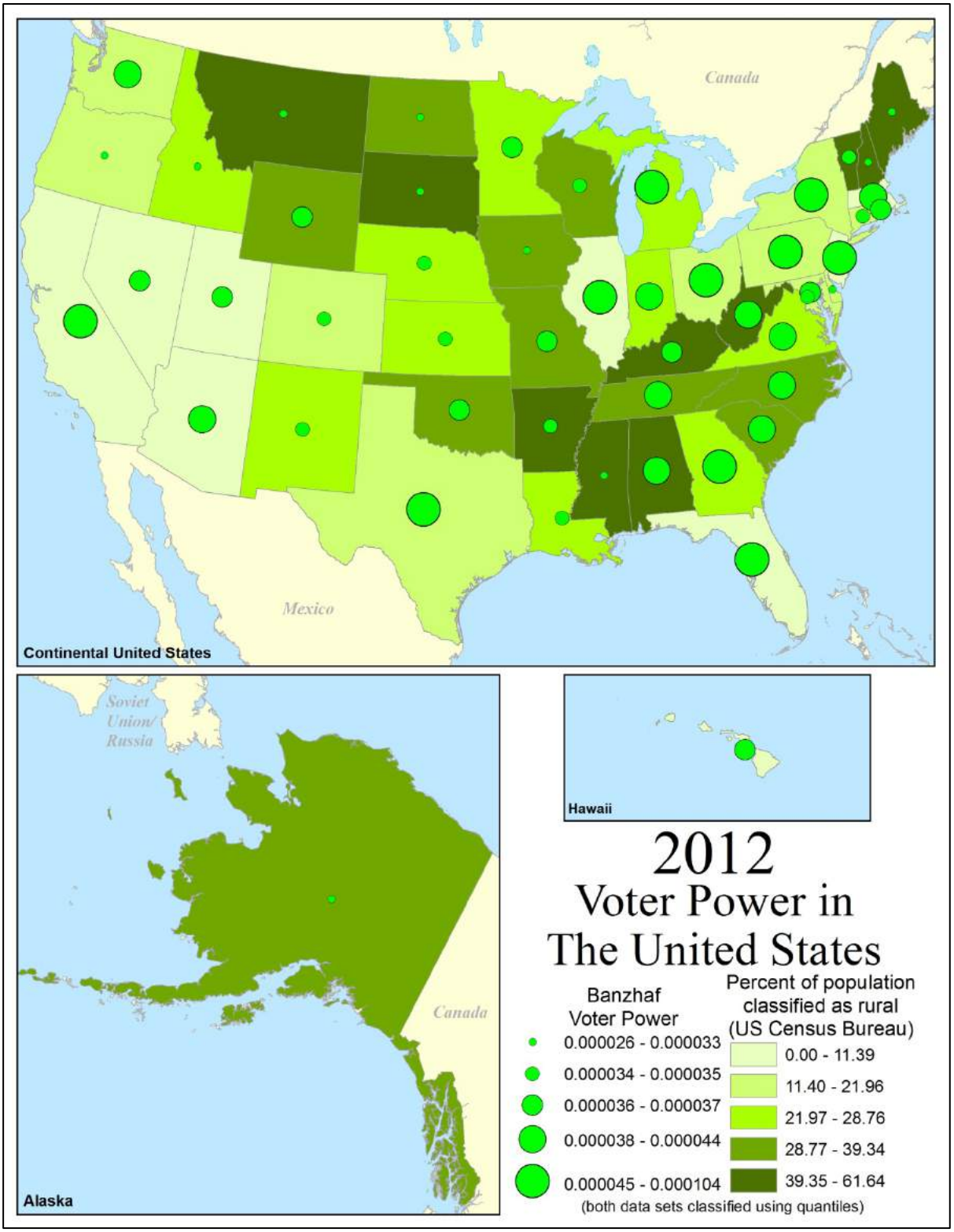

Figure 8: Map showing voter power during the election cycle of 2012 overlain on the percentage of each state's population classified by the United States Census Bureau as rural

4.3 The Agricultural Labor Population Map Series

The agricultural labor map series, all of which are available in Appendix C, shows the results of the voter power analyses overlain on each state's agricultural labor population for each election cycle this study examines: 1900 through 2012. Using quantiles classification, the maps present the percentage of each state's population classified as engaged in agricultural labor pursuits by the United States Census Bureau divided into five classes. Voter power was again divided into five classes using quantiles classification. The maps symbolize states with the highest percentages agricultural laborers with a dark brown fill while those with progressively lower numbers of agricultural workers use lighter and lighter shades of brown down to those with the fewest which use white. The maps symbolize voter power similarly to the rural series using graduated symbols with the largest circles seen on states with the highest measures of voter power down to the smallest circles on states with the lowest measures of voter power.

Though the percentage of workers engaged in agricultural labor dropped significantly from the election cycle in 1900 to the one in 2012, similar to the rural map series, voter power values vary widely among the states throughout the five classifications of percentages of agricultural laborers. It can be seen in Figure 9 below that South Carolina, with the highest measure of voter power in 1900, fell into the category of states with the highest percentages of agricultural laborers. North Dakota, which also fell into the category of states with the highest percentages of agricultural laborers, had a voter power 3.86 times lower than South Carolina's.

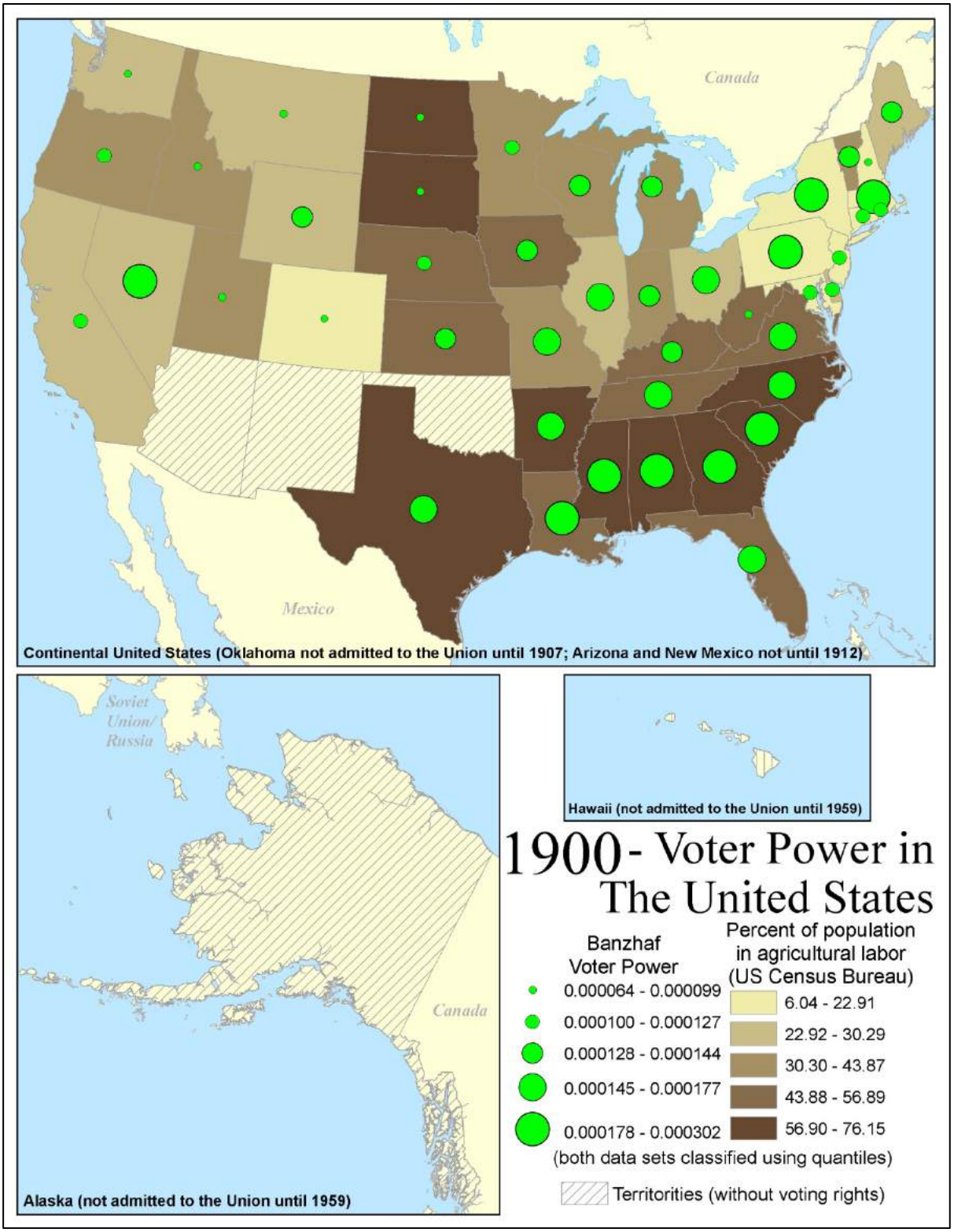

Figure 9: Map showing voter power during the election cycle of 1900 overlain on the percentage of each state's population engaged in agricultural labor as determined by the United States Census Bureau

The map and data in Figure 10 shows that by 2012 both North Dakota and South Carolina remained in the category of states with the highest percentage of agricultural laborers. While North Dakota remained in the group of states with the lowest measures of voter power South Carolina's voters went from possessing the highest voter power in the country in 1900 to a measure 4.5 times lower than those living in California, whose voters wielded the highest voter power in the 2012 election cycle.

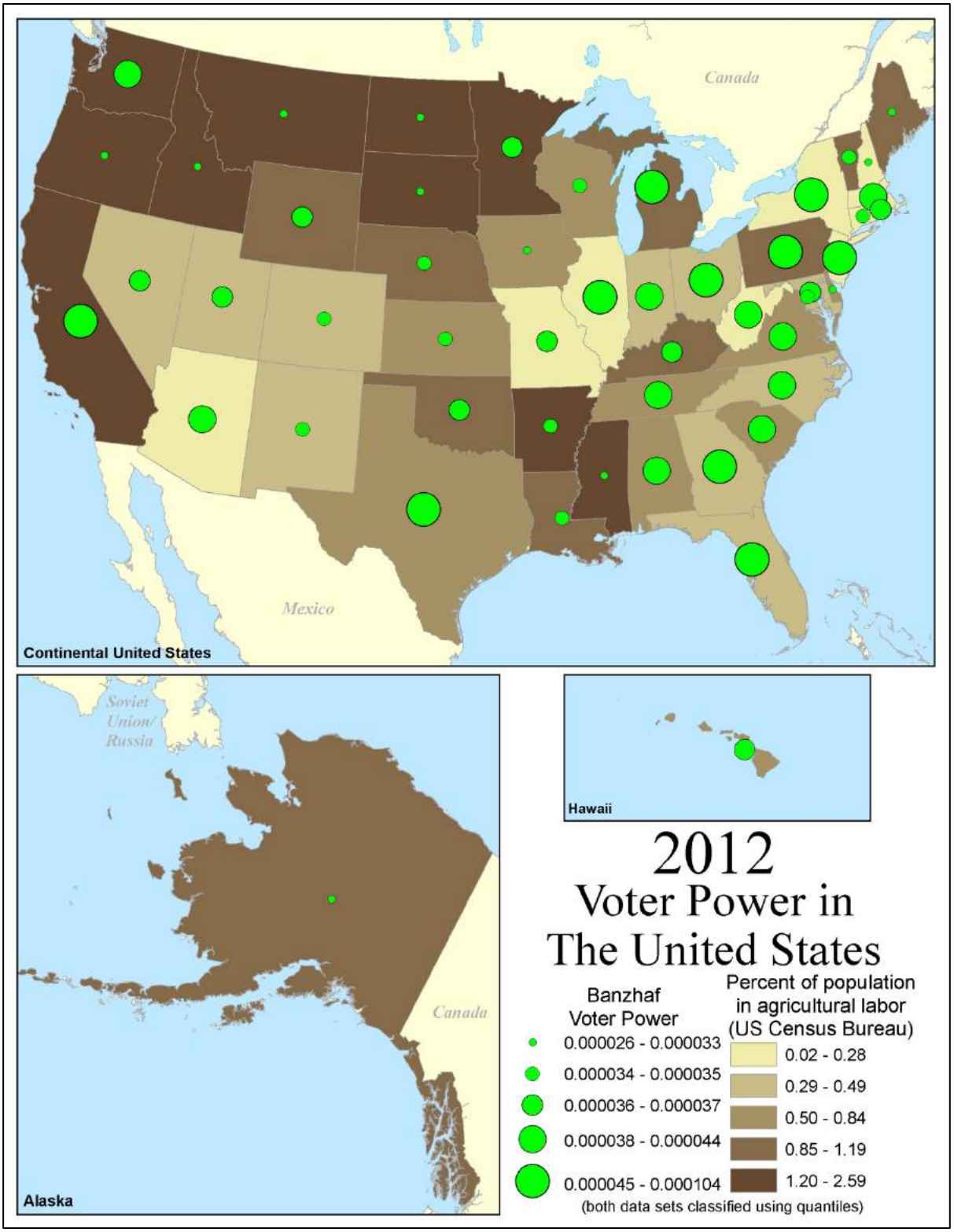

Figure 10: Map showing voter power during the election cycle of 2012 overlain on the percentage of each state's population engaged in agricultural labor as determined by the United States Census Bureau

4.4 The Total Population Map Series

The total population map series, all of which are available in Appendix D, shows the results of the voter power analyses overlain on each state's total population for each election cycle this study examines: 1900 through 2012. Using quantiles classification the maps present each state's population divided into five classes. As in the rural and agricultural map series, voter power was also divided into five classes using quantiles classification. The maps symbolize the grouping of states with the highest population counts with a dark gray fill while progressively less populous states use lighter and lighter shades of gray down to the least populous which use white. As above, the maps symbolize voter power using graduated symbols with the largest circles seen on states with the highest measures of voter power down to the smallest circles on states with the lowest measures of voter power.

Early in the 20th Century there were states in the lowest population classifications that also possessed some of the highest voter power measures in the nation. In 1900, seen below in Figure 11, Nevada with only 42,335 residents fell into this classification because it was also in the grouping of states with voters with the highest measure of voter power. By the 2012 election cycle, shown in Figure 12, Nevada still had a comparatively low number of residents that put them into the group of states with the second lowest population but the state's voter power in the national election had dropped significantly. In 2012, California's voters exhibited almost five times the voter power of those in Nevada. Mississippi, with one of the highest measures of voter power in 1900 and a population count that put them into the classification of states with the second lowest number of residents, in 2012 again found themselves in the group of states with the second lowest number of residents but now with a voter power nearly 5.5 times less than that of California.

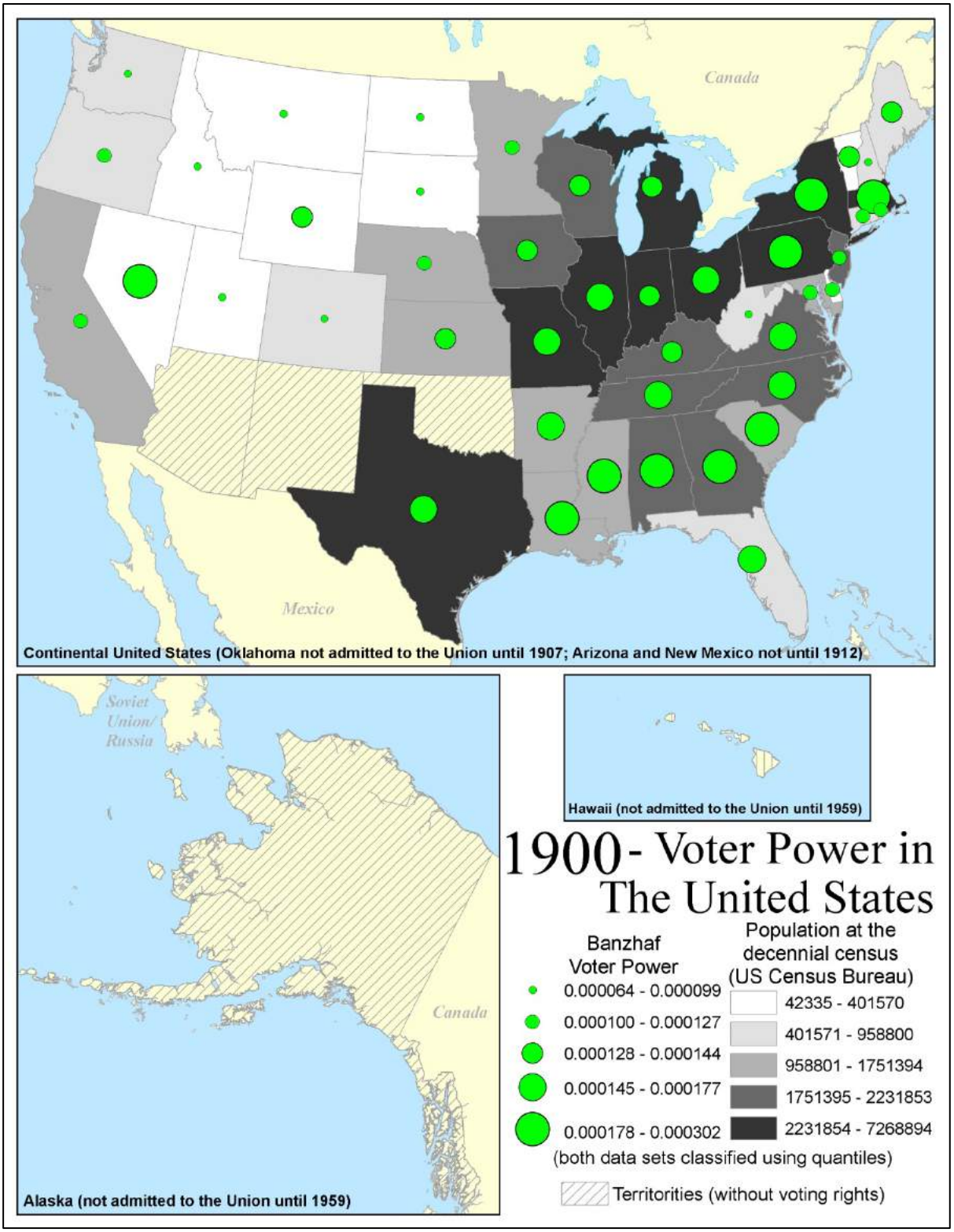

Figure 11: Map showing voter power during the election cycle of 1900 overlain on each state's population as determined by the United States Census Bureau

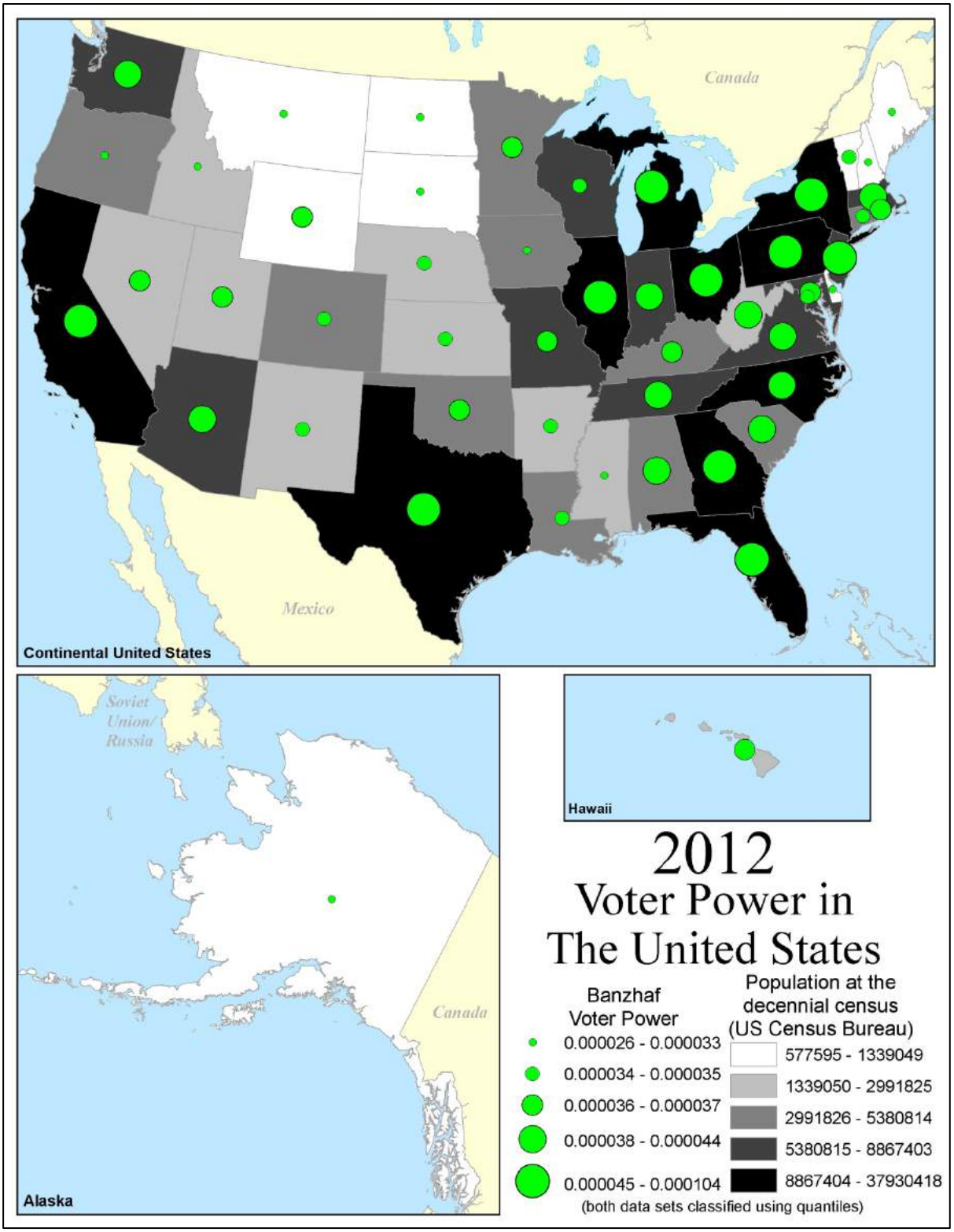

Figure 12: Map showing voter power during the election cycle of 2012 overlain on each state's population as determined by the United States Census Bureau

The exploration of voter power shows minimal relationships between rurality, urbanity, and population, but the exploration has revealed a relationship between how many voters participate in an election and voter power. Neither Nevada nor Virginia saw a significant enough increase in population in the census taken in 1900 for either state to receive any additional electoral votes in the election of 1904, but both states saw the voter power of individuals in their states go in very different directions due to the number of voters participating in elections within them. Nevada had only 10,196 votes counted in the election of 1900 and with the minimum number of electoral votes of three, voters in the state had a voter power only 1.34 times less than that of South Carolina with the highest. In the same year, Virginia had twelve electoral votes in an election in which the state had 264,208 voters and a voter power 1.7 times less than that of South Carolina's. In the election of 1908 though, the number of voters in Nevada more than doubled while the number in Virginia decreased by 127,143. Voter turnout alone dropped the voter power of voters in Nevada to more than 2 times less than that of Mississippi's, the state with the highest in the 1908 election cycle, and raised those in Virginia so that it was only 1.19 times less than that of those in Mississippi.

Delegates at the Constitutional Convention in 1787 were concerned that urbanized and more populous states would electorally overwhelm the more rural and less populous states through sheer numbers. Population does factor into voter power but not as the delegates had envisioned. In the census of 1900, the population of the state of Texas increased enough for the state to be awarded three more electoral votes for the election in 1904 than in 1900. In the election of 1900 Texas, with fifteen electoral votes, had 423,706 votes counted and the ninth highest voter power: 1.72 times less than that of South Carolina with the highest voter power in the nation. But in the next election in 1904 Texas had 189,698 fewer voters than it did in 1900. The increase in Texas' electoral votes combined with the drop in voter turnout immediately jumped the voter power of Texas voters to fourth highest in the nation.

4.5 Jim Crow, the Great Migration, and Voter Power

As seen in the maps produced for this study, voter power in national presidential elections in the United States can be placed into a broader historical context. The experience of black Americans throughout the 20th Century illustrates what can affect an individual's voter power within the Electoral College. Reconstruction was the process of incorporating the states of the Confederacy and the society within them back into the United States after the American Civil War (Morris 1996). One key demand of the victorious Northern states was that the states write new constitutions and that the newly freed slaves be allowed to vote. This and other aspects of Reconstruction were enforced through a series of laws as well as the military occupation of the Southern states. However, the old South soon found ways of nullifying the requirements of Reconstruction though through both legal and extra-legal means.

Legally and as required, beginning in 1890 Southern state governments did rewrite their constitutions or amend their existing ones but also included a series of laws within them that kept almost all black citizens, and poor whites as well, from voting. Extra-legally a concerted campaign took place in which groups such as the Ku Klux Klan used intimidation and outright violence to keep black citizens from voting. The map series in Figure 13 is an examination of voter turnout in relation to voter power beginning with the election of 1900 and shows not only the effect these laws had in the South, but also that these effects have persisted throughout much of the 20th Century. Historic data on registered voters is not readily available and as a result this map series calculates voter turnout by the total number votes as a percentage of the population. This is by no means an exact measure of voter turnout, but as each state's electoral votes are determined by each state's population including those who cannot vote, this map gives a fairly even picture nationally of voter participation in the national elections. The story the data tells nationally is clear.

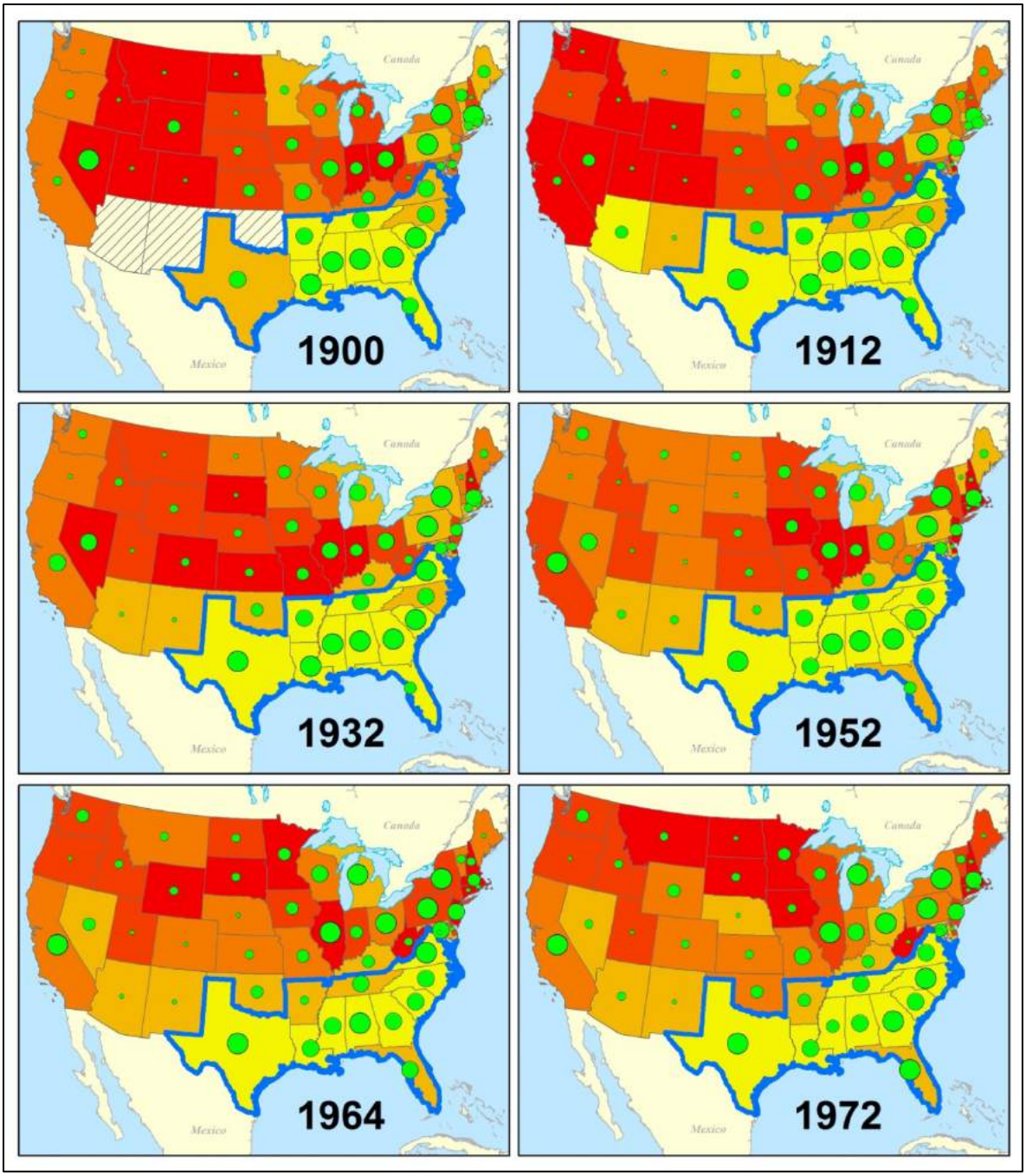

Figure 13: Voter turnout and voter power in the continental United States throughout the 20th Century. In this map states in red have the HIGHEST percentage of their population turning out to vote. Voter turnout decreases as the colors move from red to orange and finally to yellow in states that have the LOWEST percentage of their population voting. Voter power measures for voters in each state are represented using proportional symbols with voter power increasing as the symbol size increases. Both data sets are classified using quantiles. States symbolized with the crosshatch pattern were territories and had not been given their statehood yet at the time of the election the map depicts. For reference to the historical narrative of this paper, the blue border around the Southern states represents the borders of the ex-Confederate States of America; states within it were part of the CSA and are ex-slave states.

The examples of Nevada, Virginia, and Texas in the elections early in the 20th Century show how voter power is driven by electoral votes and voter turnout. The states of the old confederacy used Jim Crow laws, intimidation, and violence to suppress the ability of black citizens to vote driving down voter turnout thereby increasing the voter power of those who could vote, mostly whites, to such a level that these states consistently held the highest levels of voter power in the nation throughout the first half of 20th Century. This is readily apparent by examining the election data sets year by year.

In 1900, South Carolina had a population of over 1.3 million giving the state nine electoral votes but with only 50,812 votes counted in the presidential election in the state that year voters in South Carolina had the highest voter power in the nation. In the next election cycle though, the state dropped to three on the list as Mississippi took over the top spot and Louisiana the second.

After the census in 1900, electoral votes were reapportioned with both Mississippi and Louisiana receiving an additional electoral vote each for the election of 1904. Though the population in both of these states increased between the elections of 1900 and 1904 voter turnout dropped. In 1900, 59,055 and 67,096 votes were counted in Mississippi and Louisiana respectively. Yet, in 1904 less than 58,000 voted in Mississippi and in Louisiana less than 54,000. This low voter turnout combined with the extra electoral vote each received for the election gave voters in those two states the first and second highest measures of voter power in nation. This story is told over and over again in the Southern states throughout the first half of the 20th Century and can be seen in Appendix E which ranks each state by their voter power and contains each state's electoral votes, population, votes counted in the election, and voter power values throughout the entire study period.

In response to the poor economic and social conditions that existed for them in the Southern United States, beginning early in the 20th Century until around 1970 black Americans began moving from the South to the Northeast, Midwest, and Western states mostly to large industrialized cities in an

historic movement known as the “Great Migration”. Figure 14 below shows the percentage which each state’s black population changed during this time period.

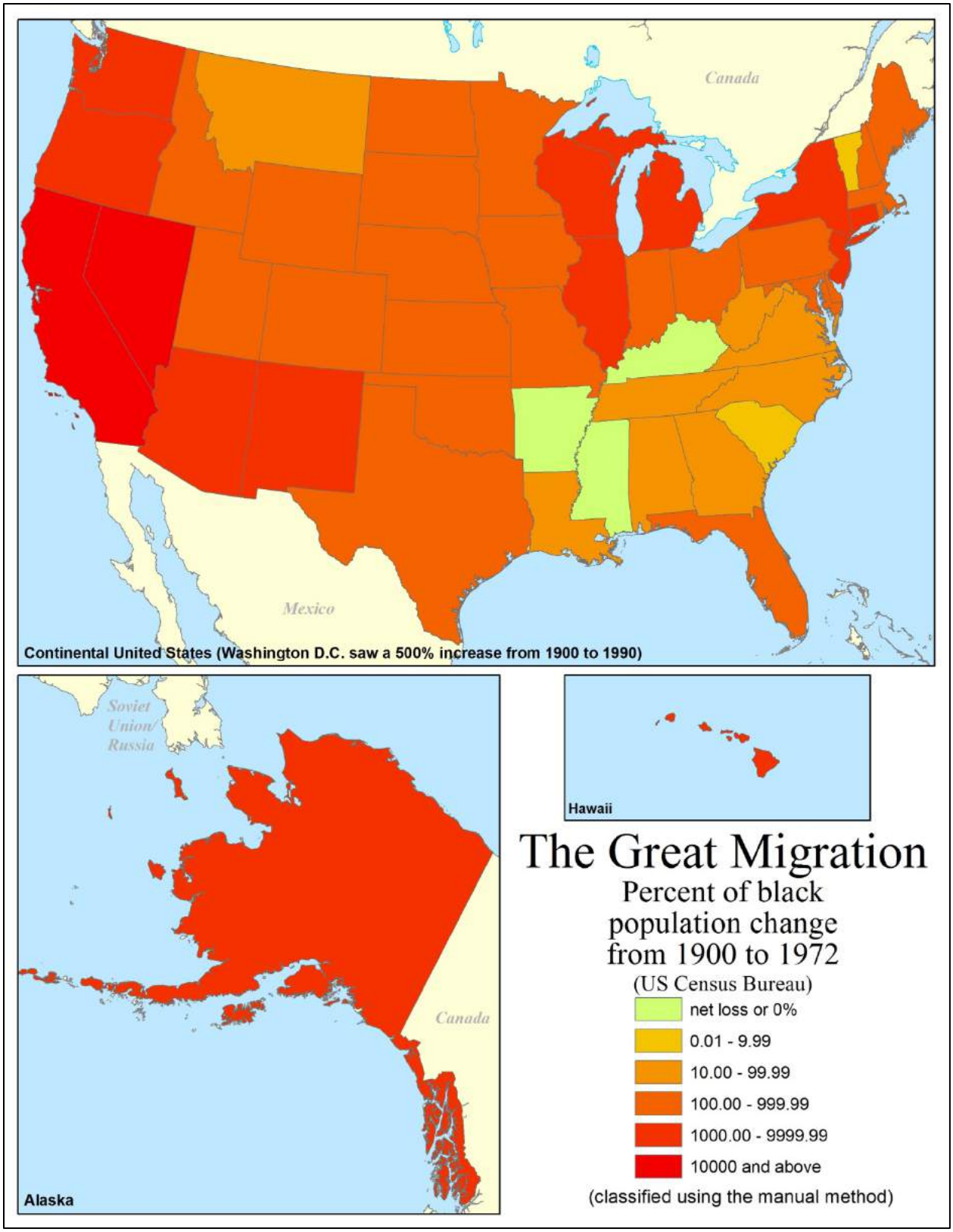

Figure 14: Black population change in the United States during The Great Migration

As each state's population determines the number of electoral votes it possesses, whether or not slaves would be counted in each state's population became part of the debate over representation at the Constitutional Convention in 1787. Though slaves could not vote, to the slave states' advantage it was ultimately decided slaves would count as three fifths of a person in census population totals increasing the number of electoral votes each of these states possessed. The historical record shows that even after the slaves were freed and given the right to vote, their vote was suppressed, particularly as reconstruction failed and race relations reached a nadir in the early decades of the 20th Century (Morris 1996). Election data would seem to support this and ex-slave states continued to take electoral advantage of the black citizens within their boundaries. After the American Civil War, former slaves still resident in the South further increased the voter power of individuals voting within states from the now defunct Confederacy as they would now be counted as one person in the census increased from the three fifths they were counted as prior to the American Civil War.

The Great Migration and the social advances that black Americans saw through the civil rights movement in America changed the advantage ex-slave states had. These states saw a reduction in their electoral votes as black citizens moved out and their population numbers decreased in the decennial census while the states they moved to saw population increases and a corresponding increase in electoral votes. Laws passed during the civil rights movement made it increasingly difficult to suppress the vote of black Americans. Those that remained in the South after the Great Migration were then able to vote thereby increasing voter turnout and lowering these states' voter power values.

Figure 15 below illustrates the effect the Great Migration had on voter power not only in the states black Americans left but also the states they moved to. California is particularly illustrative of this. From 1900 to 1972 the state saw an over 13,000% increase in its black population and the number of electoral votes it possessed increased from nine to forty-five. During this time period, its voters went from being ranked twenty-first in the nation in voter power during the election of 1900 to first during

the election that took place in 1972 and apart from the election of 1980 when it was ranked second, California's voters have retained the highest voter power in the nation since. While part of this population, electoral vote, and voter power increase can be attributed to immigration of all ethnicities to California, the Great Migration undoubtedly contributed to a large part of this particularly during World War II and after as black Americans flocked to the west coast to work in the burgeoning defense industry there. This map calculates black population for off census years using the same linear interpolation formula used to calculate total population in off census years discussed above in section 3.2.

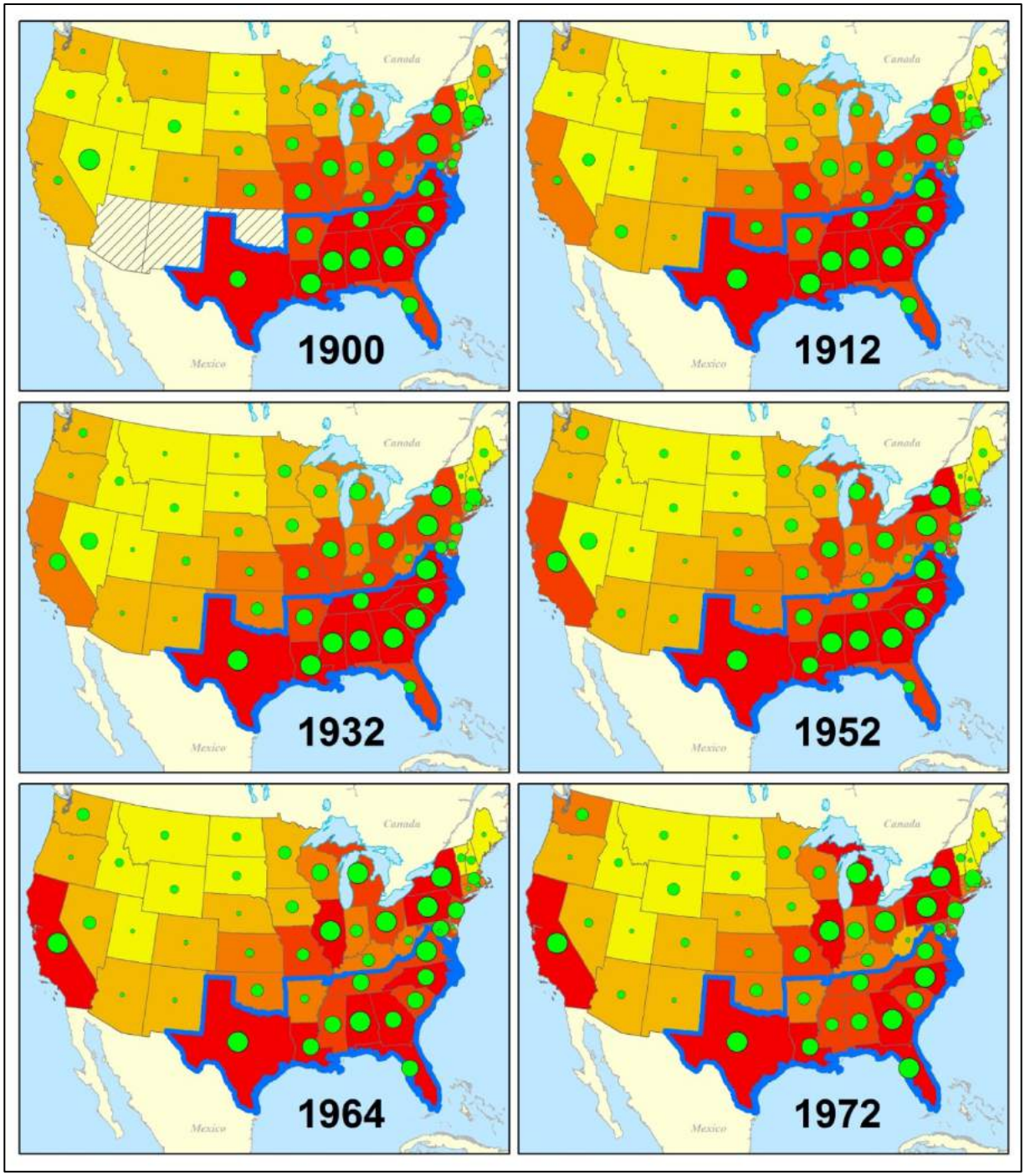

Figure 15: Black population and voter power in the continental United States across the 20th Century. In this map states in red have the HIGHEST total counts of black Americans within their populations. Black population decreases as the colors move from red to orange and finally to yellow in states that have the LOWEST total counts of black Americans. Voter power measures for voters in each state are represented with proportional symbols with voter power increasing as the symbol size increases. Both data sets are classified using quantiles. States symbolized with the crosshatch pattern were territories and had not been given their statehood yet at the time of the election the map depicts. For reference to the historical narrative of this paper, the blue border around the Southern states represents the borders of the ex-Confederate States of America; states within it were part of the CSA and are ex-slave states.

4.6 Counterfactual Analysis of Voter Power within the Electoral College and a National Popular Vote

One of the most common discussions around reforming the Electoral College concerns replacing it with a national popular vote. A national popular vote would not be a weighted election, as voting within the Electoral College is, but rather a true one person, one vote scheme in which every voter has the same voter power.

Using the first calculation from the Banzhaf voter power calculation which measures a voter's effectiveness in a simple majority, one person one vote system it is possible to measure voter power in a national popular vote. Figures 16 through 21 show simple scatterplot analyses of voter power within the Electoral College from the time Jim Crow laws were enacted, throughout the Great Migration, and finally until after the Civil Rights movement and voting rights laws were put in place. These graphics use a red line to show where voter power would be in a national popular vote illustrating the difference between the two voting schemes. Red dots represent ex-slave states that had seceded from the United States to join the Confederate States of America (CSA) in the middle of the 19th Century. Green dots represent states that had never been part of the CSA.

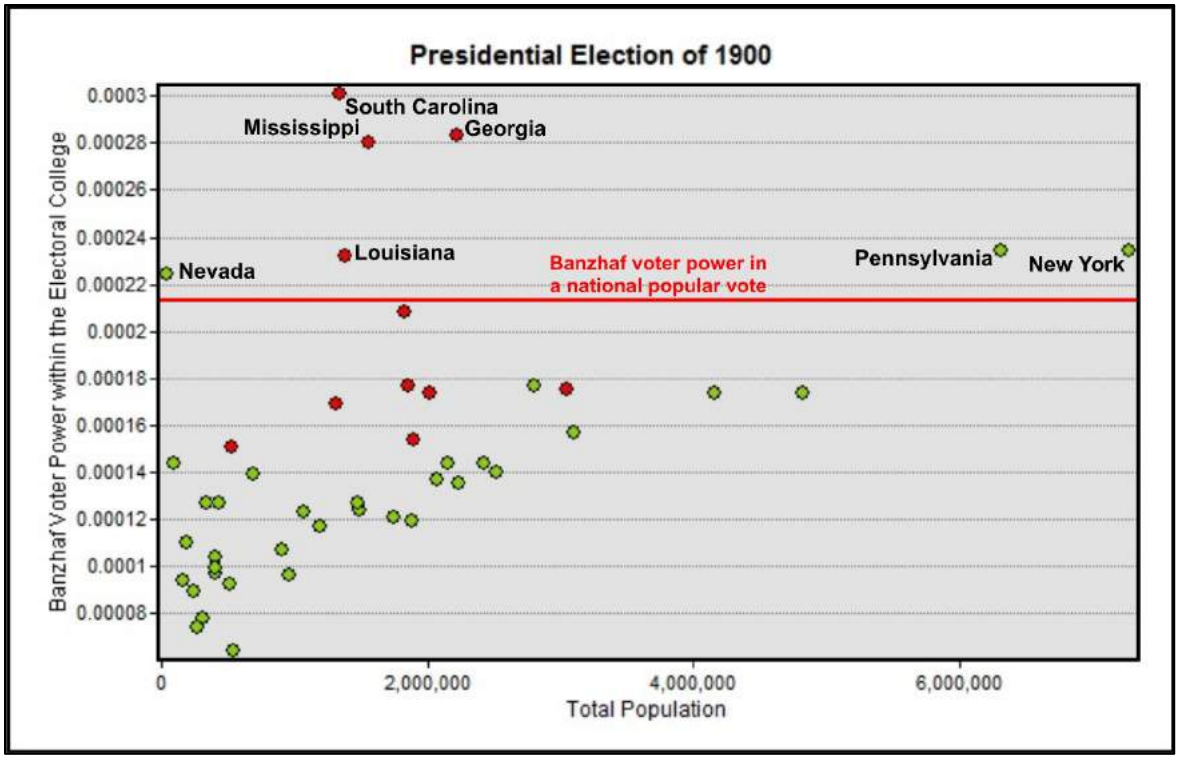

Figure 16: Counterfactual scatterplot analyses of voter power within the Electoral College and a national popular vote in the election of 1900

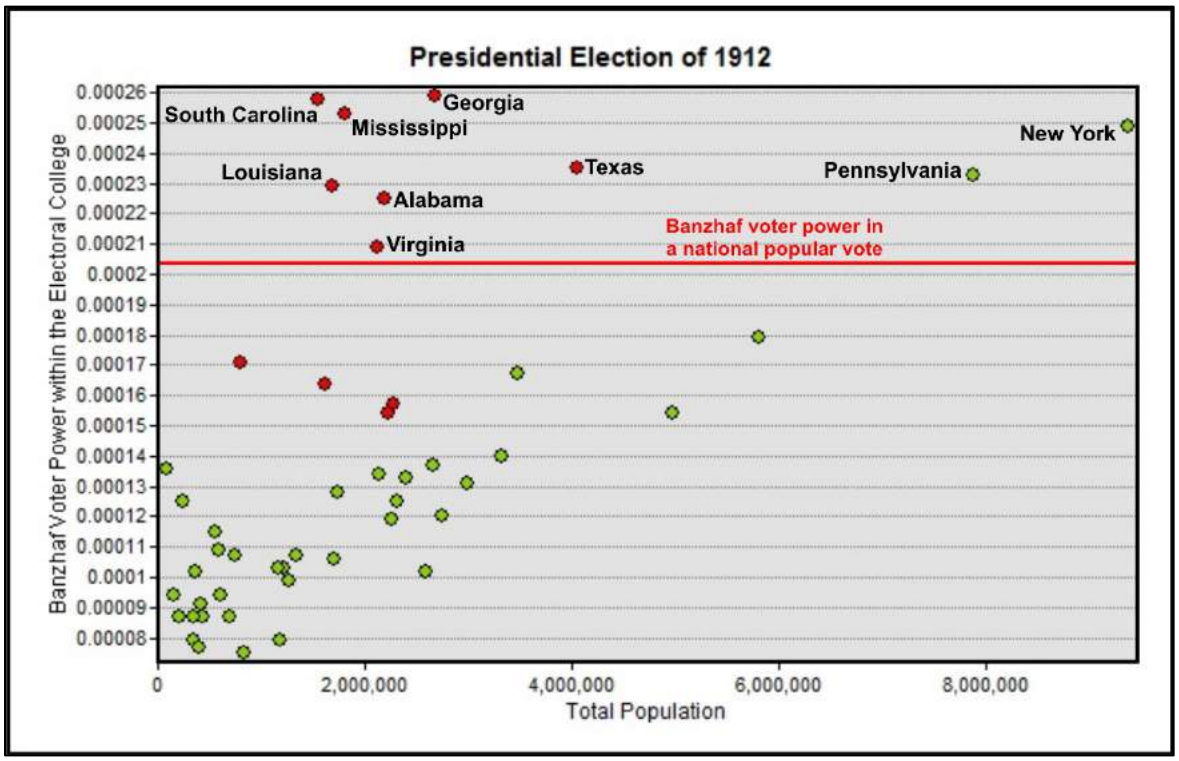

Figure 17: Counterfactual scatterplot analyses of voter power within the Electoral College and a national popular vote in the election of 1912

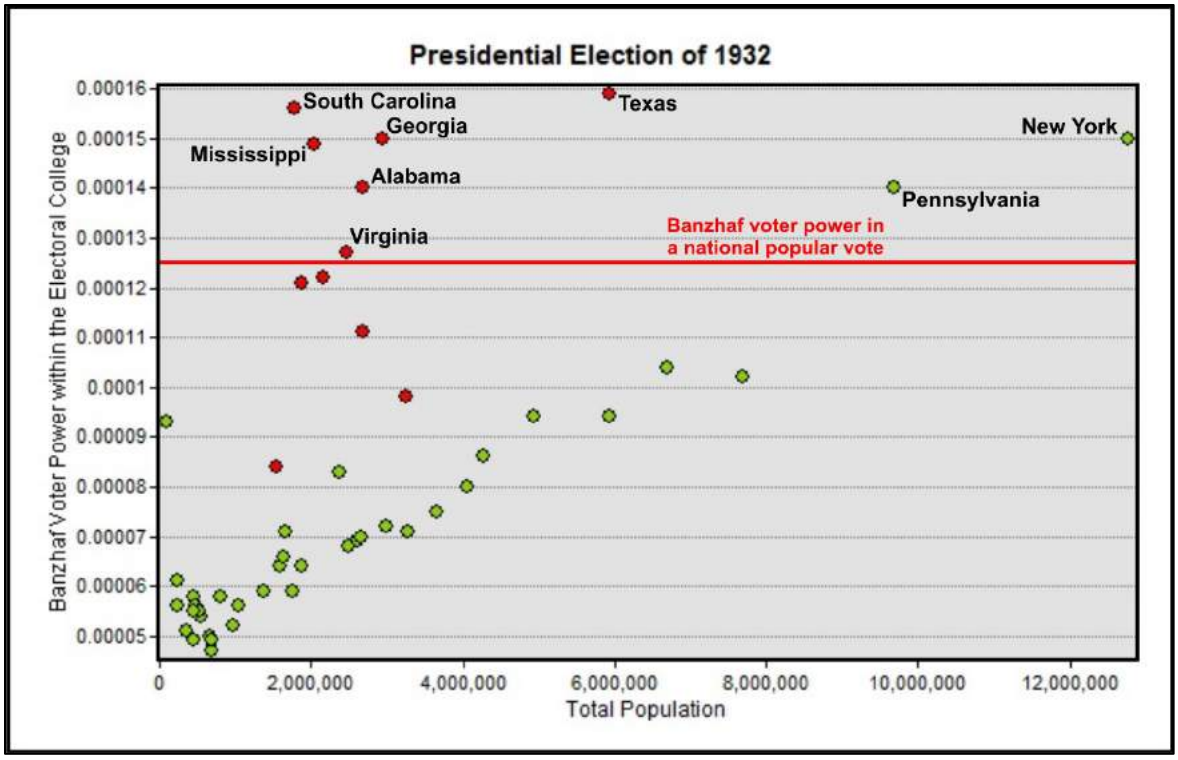

Figure 18: Counterfactual scatterplot analyses of voter power within the Electoral College and a national popular vote in the election of 1932

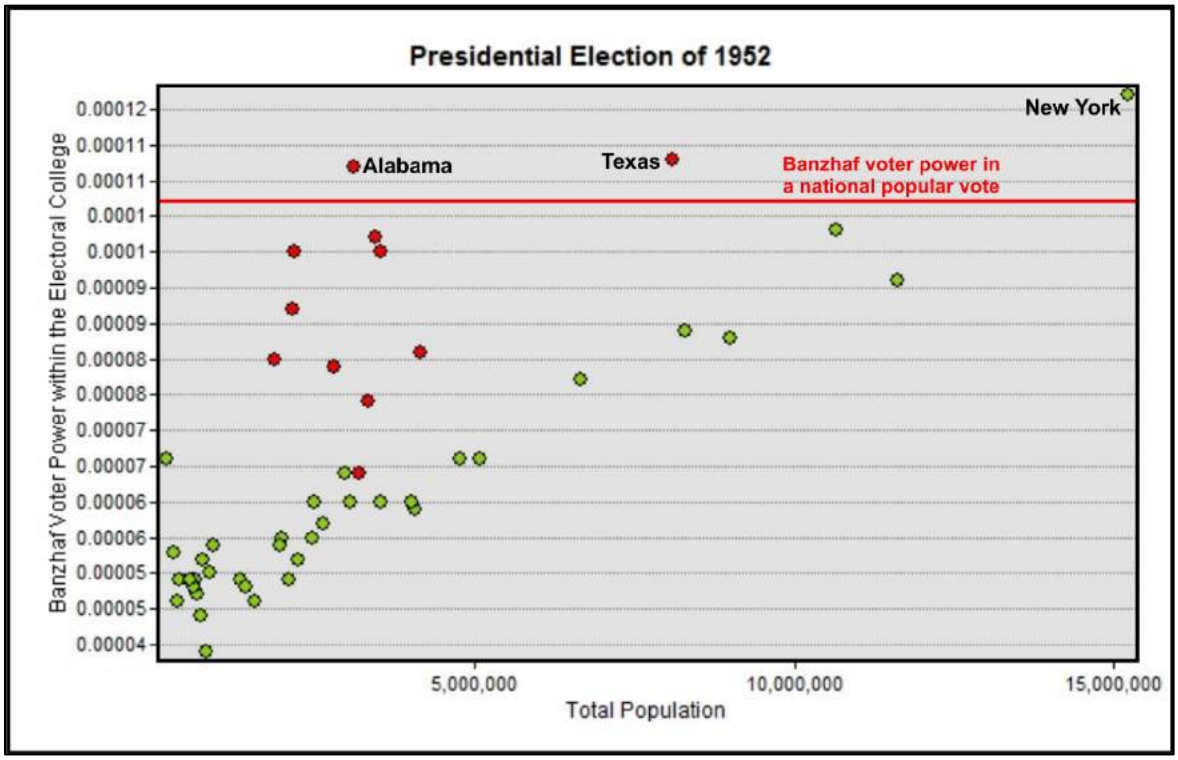

Figure 19: Counterfactual scatterplot analyses of voter power within the Electoral College and a national popular vote in the election of 1952

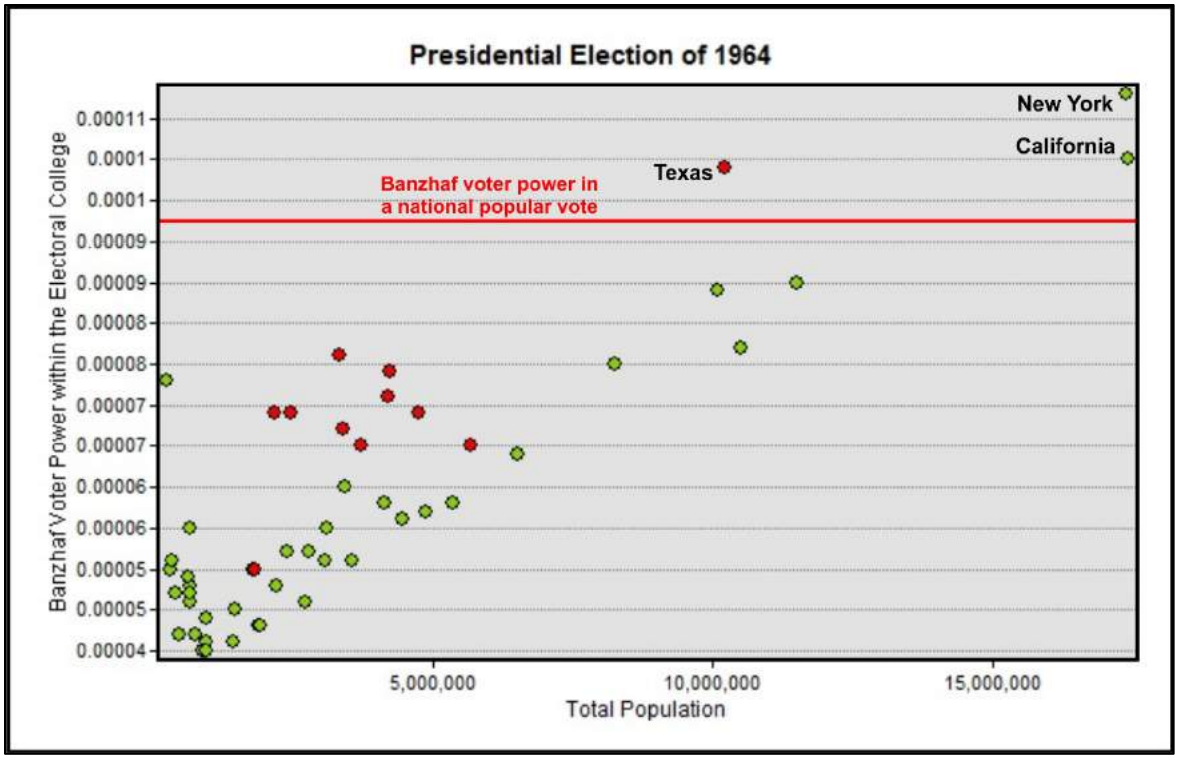

Figure 20: Counterfactual scatterplot analyses of voter power within the Electoral College and a national popular vote in the election of 1964

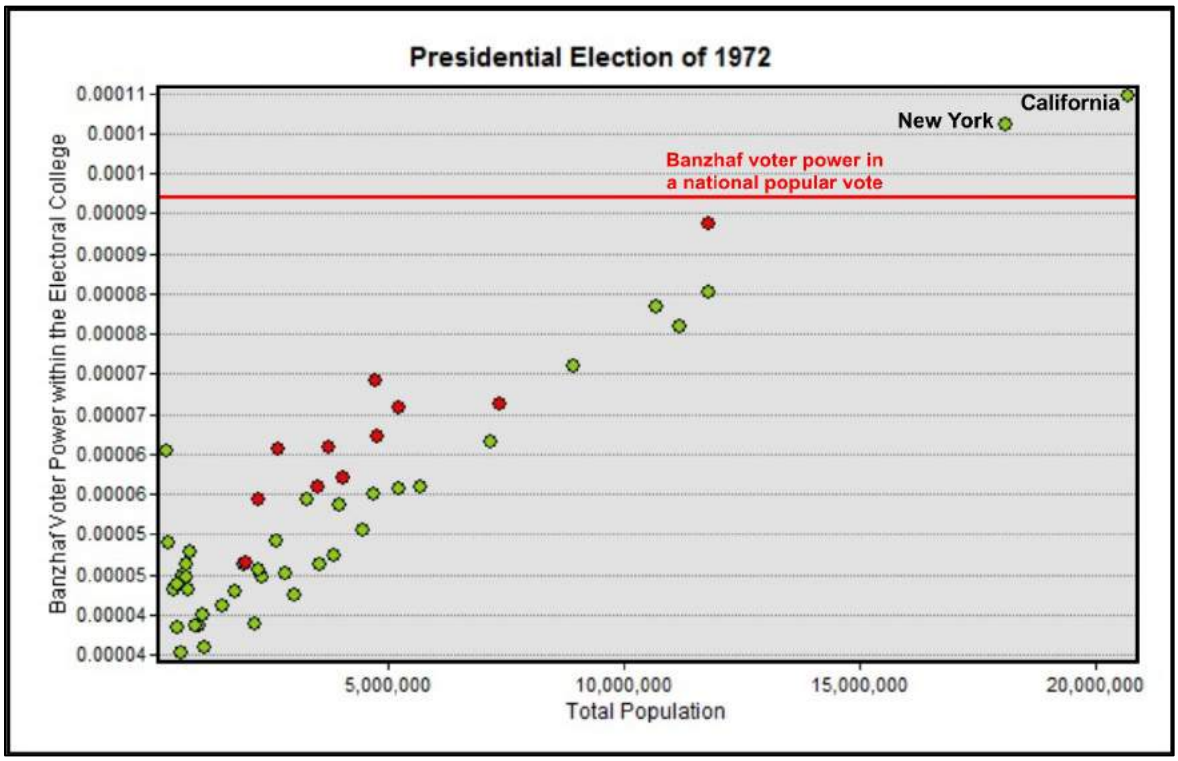

Figure 21: Counterfactual scatterplot analyses of voter power within the Electoral College and a national popular vote in the election of 1972

It is apparent from even the few scatterplots above that through the legal and extra-legal means by which the votes of black citizens, and poor whites, were suppressed many of the ex-slave states were able to increase their voter power through the first half of the 20th Century. These states' voter power was not only greater than what most other states in the nation possessed, but also higher than what it would have been had the election taken place within a national popular vote and not the Electoral College. The ex-slave states began losing voter power as many millions of their black citizens left during the Great Migration taking electoral votes with them. These states also lost voter power as they lost the ability to suppress the vote of the black citizens who remained. Scatterplots displaying the same data as those above are available from 1900 to 1972 throughout the Jim Crow era, the Great Migration, and the Civil Rights movement in Appendix F.

The scatterplots above contrast voter power within the Electoral College voting scheme and voter power in a national popular vote with total population during the Jim Crow era, the Great Migration, and the Civil Rights movement. Scatterplot series contrasting the two voting schemes with each population variable including percentage of the population classified as rural, percentage of the population engaged in agricultural labor, and total population for each election cycle covered by this study are available in Appendix A. The story they tell is that through voting within the Electoral College, the voter power of almost all voters in the United States is below what it would be if the national elections were a national popular vote, irrespective of these voters' classification as rural or urban dwellers.

However, towards the end of the 20th Century and into the 21st Century a new trend begins to be seen. Through sheer population numbers, and thereby electoral votes, in combination with voter turnout relative to the number of electoral votes, California, Texas, and New York are the only states whose voter power measures in voting within the Electoral College are consistently above what they would be in a national popular vote. This has been the case since the election of 1960 when the last of

the Southern states dropped out of this class of states. This is in sharp contrast to the argument that those on either side of the debate over the preservation of the Electoral College make: that it increases the influence that less populous and rural states have in voting for the President and Vice President in the United States.

CHAPTER FIVE: DISCUSSION AND CONCLUSIONS

There are many observations that can be made related to the historical contexts in which every election cycle this study examines takes place. And though voter power can be placed within each election's historical context it is important to recognize that, independent of what may have been going on in the country at the time, the analyses of voter power in this study expose that historically not every person's vote has the same chance of affecting outcomes of the national presidential elections. The analyses in this study expose that the Electoral College has not balanced voting between urban and rural states or more populous and less populous states and that its rules allowed the Southern voters undue influence on the national election through voter suppression. Analysis results indicate that, until the end of the 20th Century when the two or three states with both the highest total population counts and number of electoral votes begin to overwhelm the rest of the nation, the geographic character of the state, whether that be a rural state, an urbanized state, a populous state, or a less populous state, has little to no effect on their ability to influence the national election in the United States.

5.1 Contemporary Support for the Electoral College and Voter Power Analyses

This goal of this study is to evaluate a principal argument for the founding and preservation of the Electoral College: that without it urbanized and populous states would wield greater influence in the national elections than rural and less populous states. Supporters of the Electoral College argue that it has a balancing effect on the national election in the United States and that without it Presidential and Vice Presidential candidates would need to only cater to the urbanized areas and more populous states to be elected. Those who call for its reform claim that it raises the influence that small states have on the national elections to such a level that voters from these states far surpass the "one person, one vote" maxim (FindLaw 2013). Empirical analysis in this study demonstrates that at least since 1900, in practice the Electoral College has never performed the balancing function envisioned by its advocates.

Instead, the influence of voters in various states has been magnified beyond the "one person, one vote" standard for a variety of other reasons.

A quick look at where Barack Obama and Mitt Romney, the candidates from the two major parties in the election of 2012, spent most of their campaign time in the last six months of the election it is apparent that candidates already cater to voters in particular states. Though Romney spread his stops around the country a little more than Obama, only Ohio, Florida, Virginia, California, New York, Colorado, and Iowa saw double digit numbers of visits from both candidates (The Washington Post 2012). California and New York, both of whose electoral votes reliably go to the Democrats, were primarily visited for the money that can be raised there by both candidates. The other five states on that list were battleground states in the 2012 election meaning it was not a sure thing which way these states were going to vote and thereby which candidate would receive these states' electoral votes. Due to their low numbers of electoral votes and the fact that they are known to vote solidly Republican or Democratic, fourteen states saw neither of these candidates during this period of the election campaign (The Washington Post 2012). It may be the winner takes all distribution of electoral votes that drives candidates to states where the campaigns believe they have the best chance of tipping the electoral balance.

5.2 Review of Findings

Voter power, as formulated by John Banzhaf and the basis for the analyses in this study, is a multi-step calculation that combines the number of possible voting combinations in which an individual can affect the outcome of their state's popular vote, and thereby which candidate receives their state's electoral votes, with the number of possible voting combinations his or her state by changing how it casts its electoral votes, can affect the outcome of the national election. The statistical analysis package SPSS was used to look for relationships between voter power and percentage of each state's population classified as rural, the percentage of each state's population engaged in agricultural labor, and total

population. The Pearson's chi-square test for independence and Pearson's product-moment correlation coefficient analyses both indicated the same inconsistent relationship throughout all of the elections this paper studies in the 20th Century and the first three of the 21st: voter power and total population begin to show a defined relationship during elections past 1960 and into the 21st Century, but as the voter power and population variables are not independent of each other this is not unexpected and may not be a significant observation.

Simple scatterplot analyses report findings similar to those of the SPSS results and counterfactual analyses also show that most states' voter power has historically fallen below what it would be had the elections in question been held within a national popular vote rather than the Electoral College. Going further, this counterfactual analysis exposes that the only time the voter power of voters from more rural states or those from less populous states was increased occurred when the Southern states disenfranchised the black and poor white population within their borders. These ex-slave states from the by then dissolved Confederate States of America were able to take advantage of low voter turnout and the electoral votes their population gave them to boost the voter power of their electorate in national elections to levels above what every voter in the nation would have in a national popular vote.

By contemporary times and the elections towards the second half of the 20th Century and into the 21st, the South had experienced a reduction in their black population while the West, Midwest, and Northeast saw an increase through the Great Migration. With this loss in population, many of these states also saw a reduction in their electoral votes and a corresponding drop in voter power. In addition to these, the Civil Rights Movement and the voter rights laws that it put in place made it increasingly difficult to suppress the vote of those black citizens who had remained in the South through the Great Migration. These combined to increase the number of votes counted in each election further dropping these states' measures of voter power, Figure 22 illustrates this phenomenon.

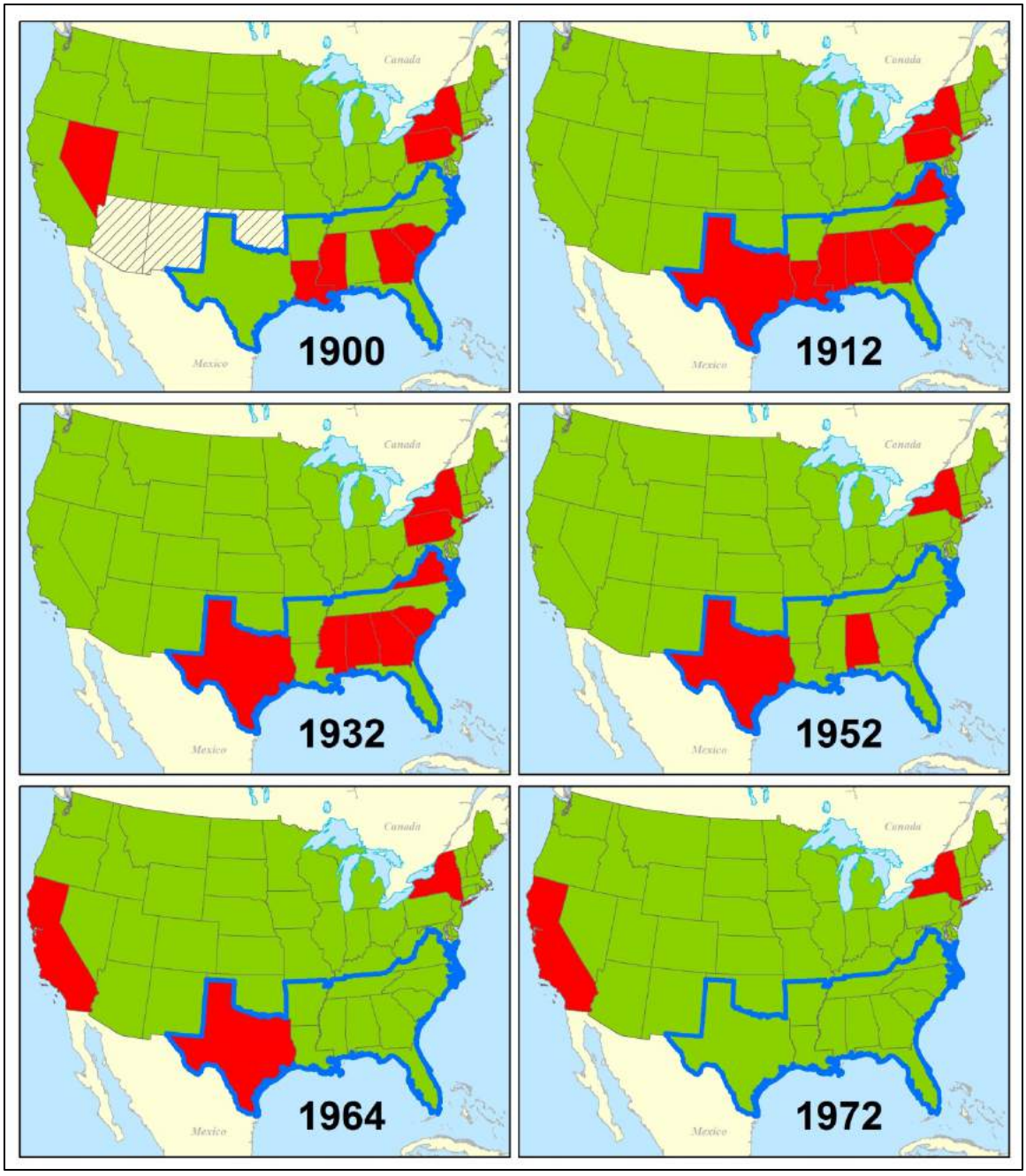

Figure 22: Depiction of states whose voters historically have a higher voter power measure when voting within the Electoral College than in a national popular vote. In this map voters in red states had HIGHER voter power measures voting within the Electoral College than they would had the election been a national popular vote and voters in green states had LOWER voter power measures voting within the Electoral College than they would had the election been a national popular vote. States symbolized with the crosshatch pattern were territories and had not been given their statehood yet at the time of the election the map depicts. For reference to the historical narrative of this paper, the blue border around the Southern states represents the borders of the ex-Confederate States of America; states within it were part of the CSA and are ex-slave states.

At the end of the time period this study covers, seen below in Figure 23, the only states with voter power levels that surpass that of what it would be in a national popular vote are also the states with the two or three highest population totals and thereby the highest numbers of electoral votes as well. Only one of these is a state from the ex-Confederate States of America, Texas. It appears that with the reapportionment of electoral votes occurring only once every ten years at the decennial census that the Electoral College may not be able to keep up with the pace of population change in the contemporary United States of America. Maps comparing voter power within the Electoral College with voter power within a national popular vote are available in Appendix G for each election cycle this study covers.

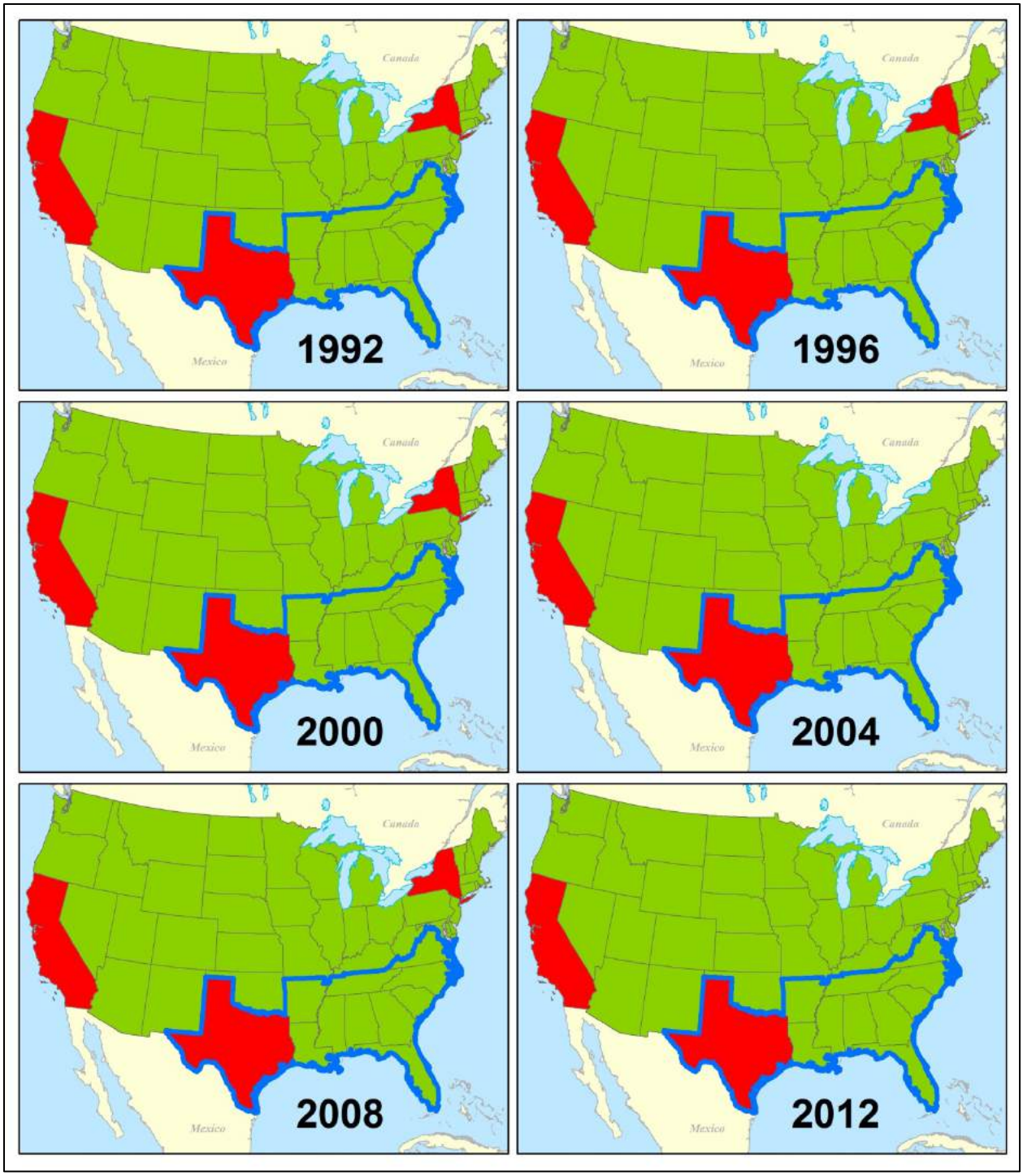

Figure 23: Depiction of states whose voters have a higher voter power measure in contemporary elections when voting within the Electoral College than in a national popular vote. In this map voters in red states had HIGHER voter power measures voting within the Electoral College than they would had the election been a national popular vote and voters in green states had LOWER voter power measures voting within the Electoral College than they would had the election been a national popular vote. For reference to the historical narrative, the blue border around the Southern states represents the borders of the ex-Confederate States of America; states within it were part of the CSA and are ex-slave states.

5.3 Future Research in Assessing Voter Power at the County Level

Findings in this study are all performed at the state level using the Banzhaf measure of voter power. However, assessing voter power and rurality at the county scale may also be a valid exploration of the relationship between voter power in the Electoral College and the character of places across the U.S. A study of this nature would be feasible from the election of 1960 forward as election results at the county level are available starting with the election of 1960 (Leip 2012). A highly detailed urban/rural classification scheme is available from the United States Department of Agriculture that breaks the United States Census Bureau urban classification into three smaller groups based on population (United States Department of Agriculture 2013). The USDA scheme breaks the Census Bureau's rural classification into six smaller delineations based on degree of urbanization and their adjacency to metropolitan areas (United States Department of Agriculture 2013).

A means of calculating Banzhaf voter power at the county level needs to be formulated for an exploration at the county level such as this. Banzhaf factors in each state's electoral votes into his calculation of voter power within the Electoral College. A measure of voter power at the county level would need to factor in the county in question's share of the electoral votes possessed by the state that county is within. This could be accomplished with an equation that determines a county's electoral votes in proportion to that county's population in the state. For example, consider a fictional state with a population of 10,000 and ten electoral votes in the Electoral College. A county within that state that has a population of 4,500 would be awarded 4.5 electoral votes while one with 2,000 residents two electoral votes, and so on.

5.4 Final Thoughts

Militarily, economically, politically, and culturally the United States has become increasingly powerful over the time period this study covers. It is essential that the voting system electing individuals to the offices within the Executive branch of the United States government be as free of

inequality as possible. The Electoral College was created at the founding of the United States with the goal of balancing voting between large, urbanized (more populous) states and smaller, rural (less populous) states. Analyses in this study have revealed though that voting within the Electoral College does not balance voting in the 21st Century and never did as it was envisioned throughout the 20th Century. Thus it appears that that on this basis, critics of the Electoral College are correct in calling for its reform.

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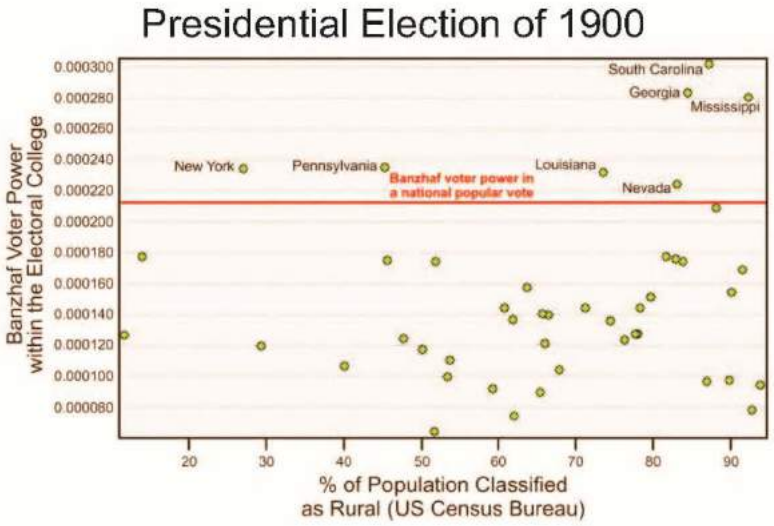
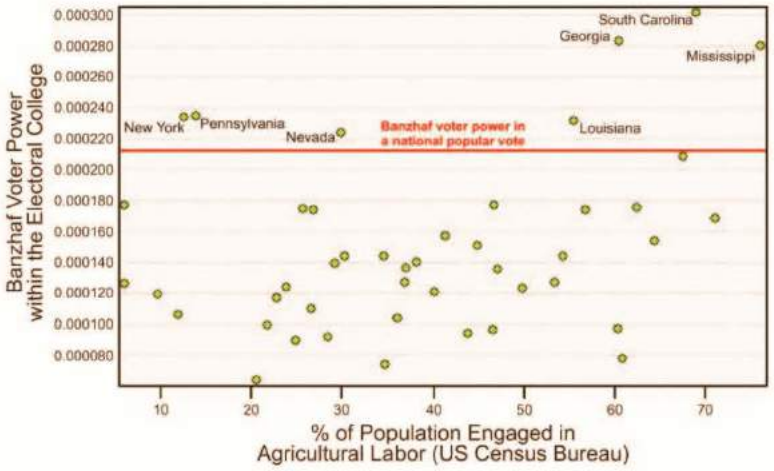
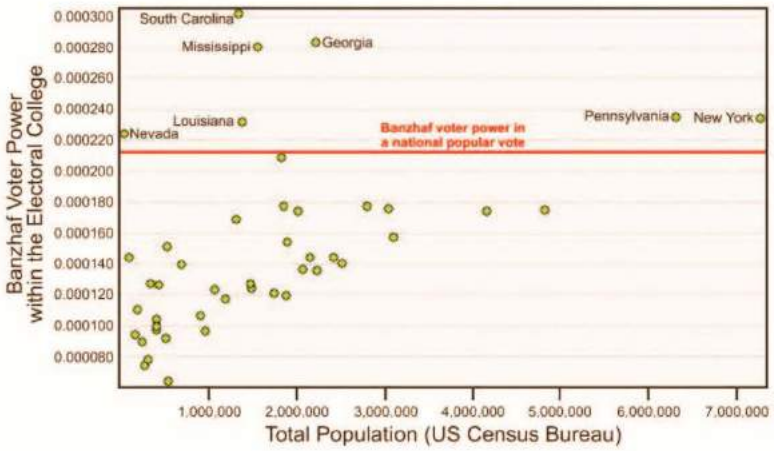
APPENDIX A: POPULATION VARIABLE/VOTER POWER SCATTERPLOT SERIES







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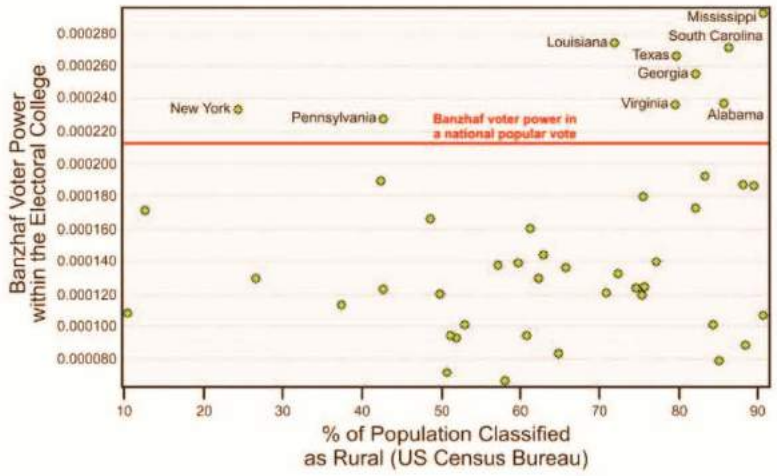

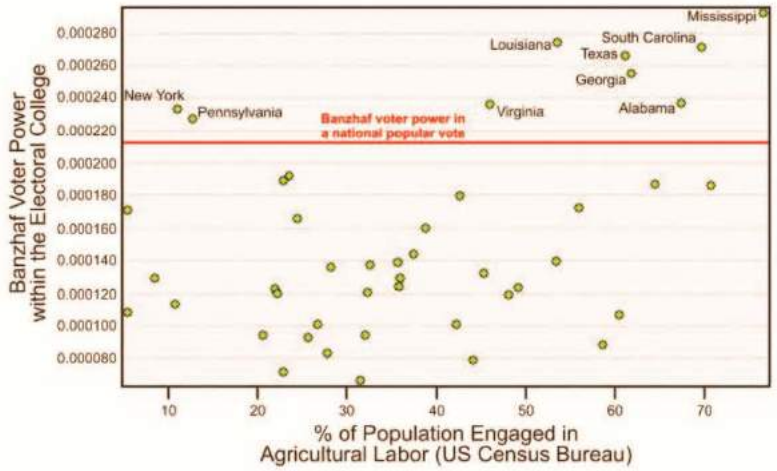

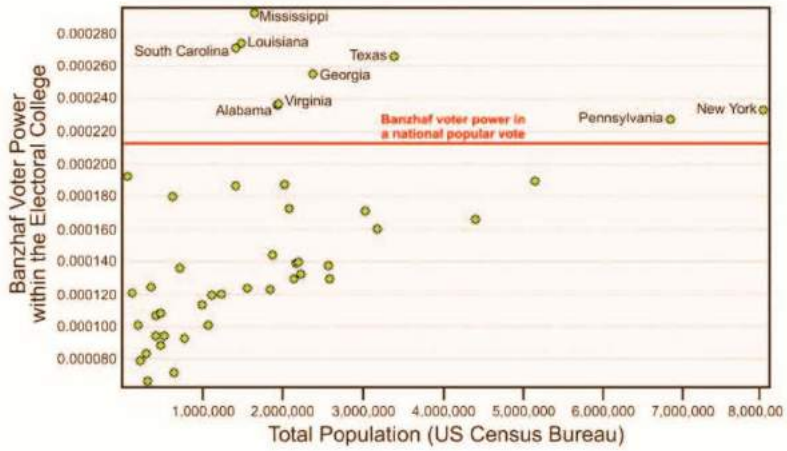

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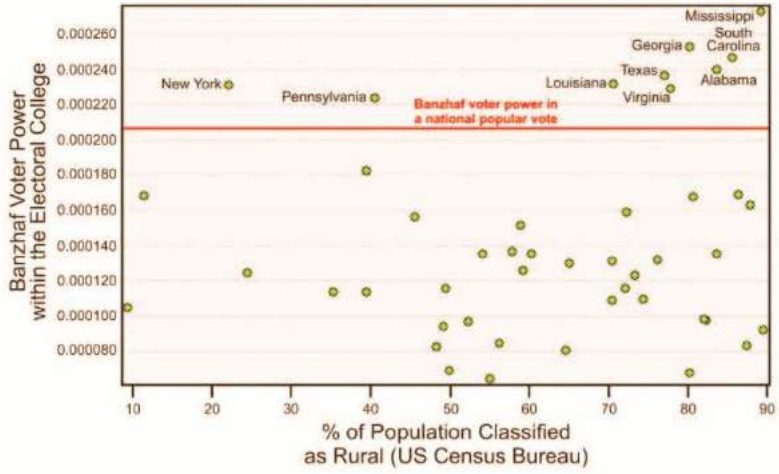

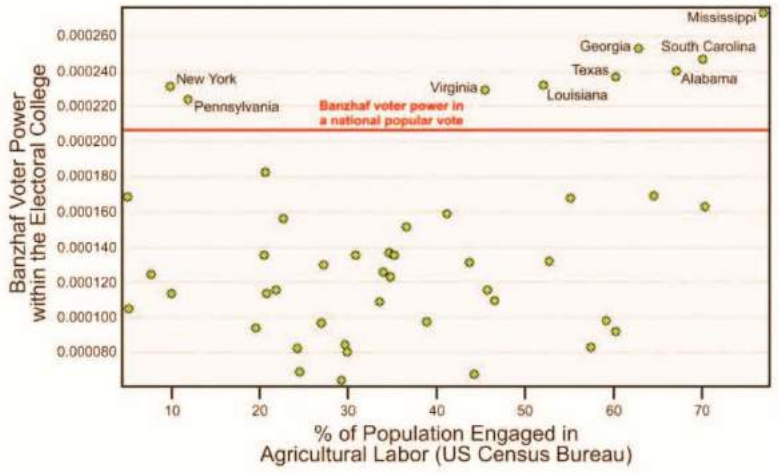

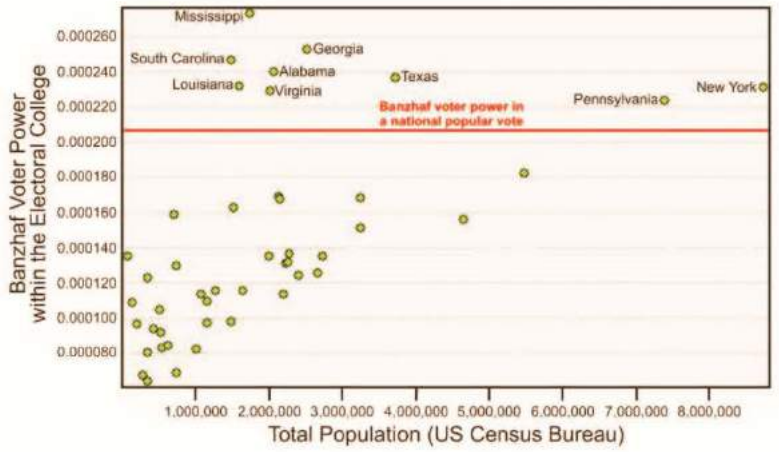

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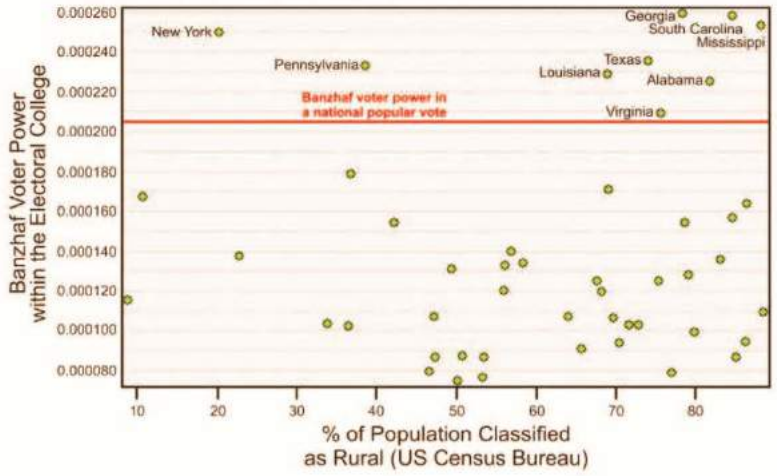

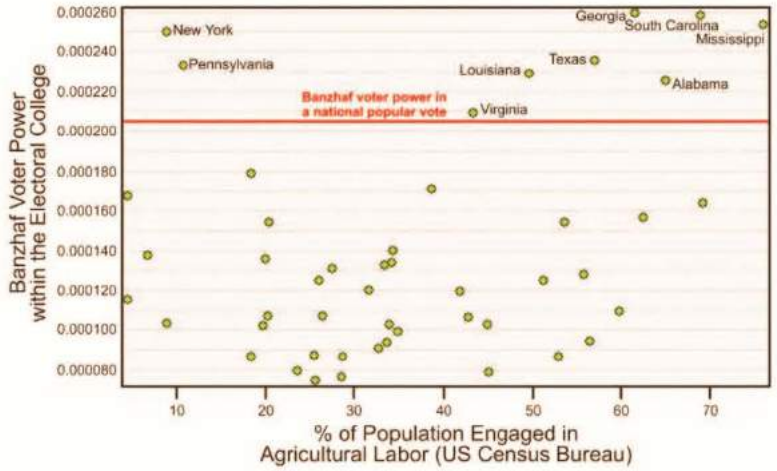

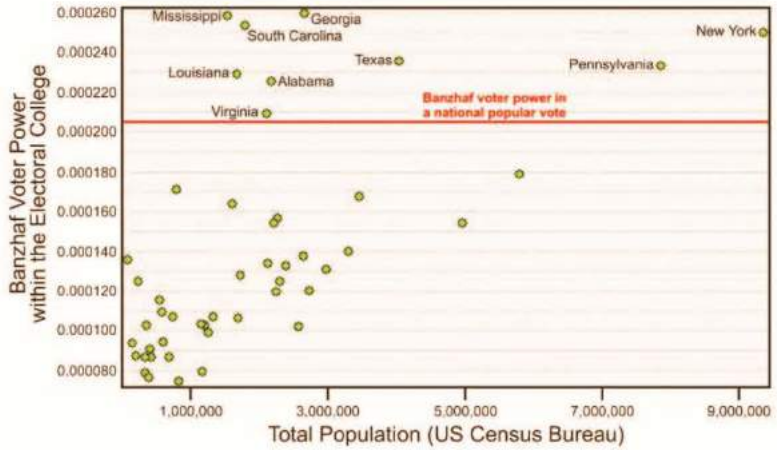

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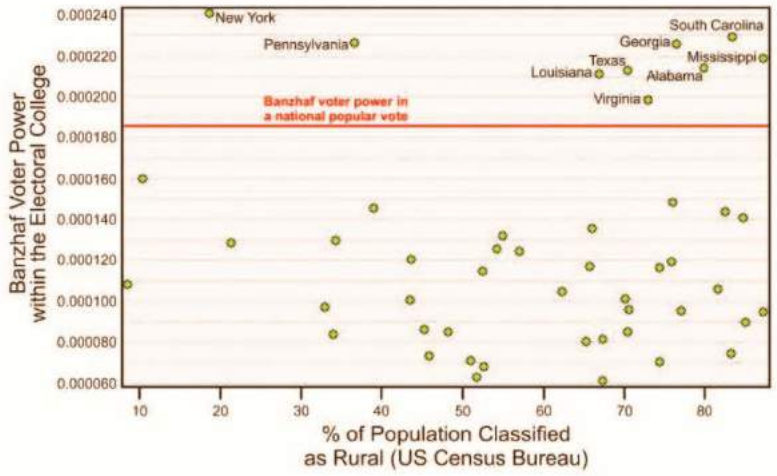

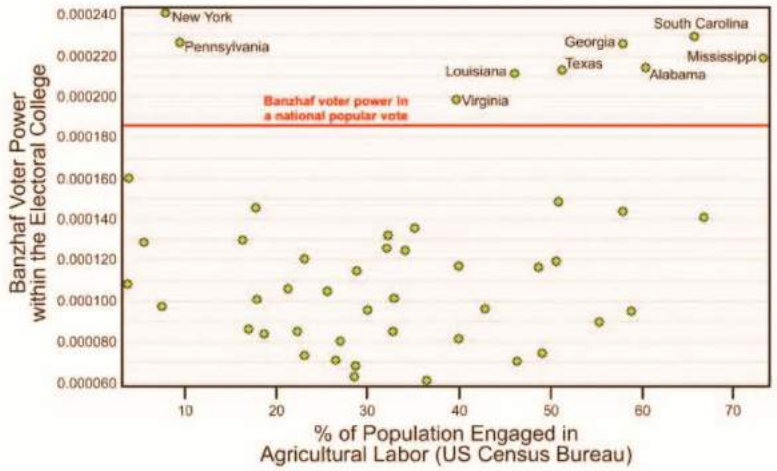

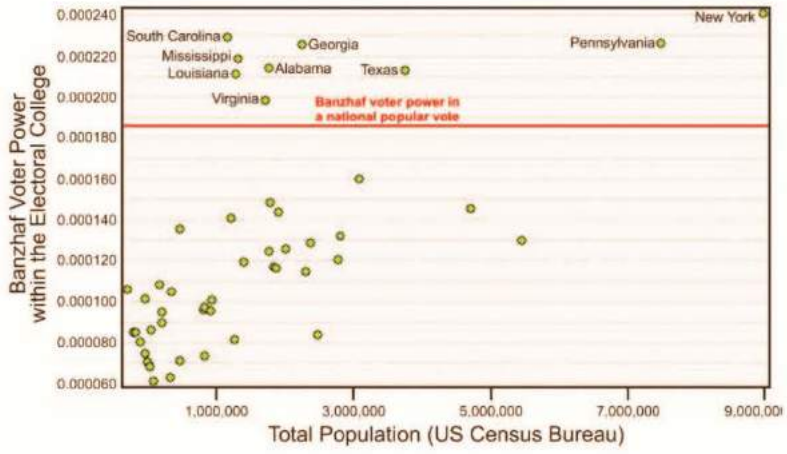

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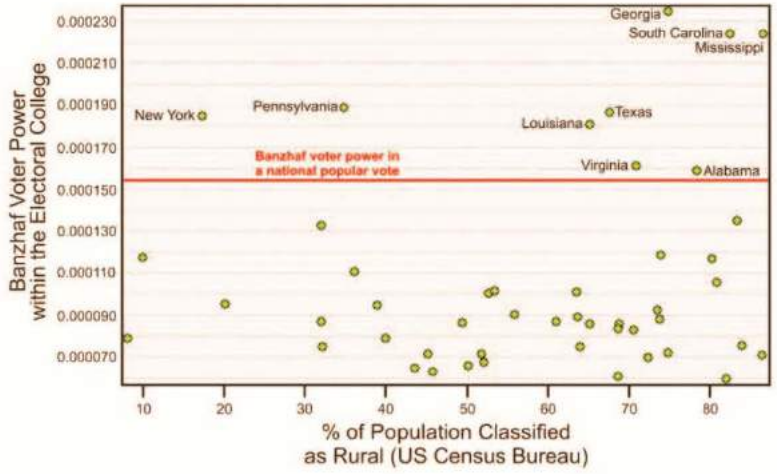
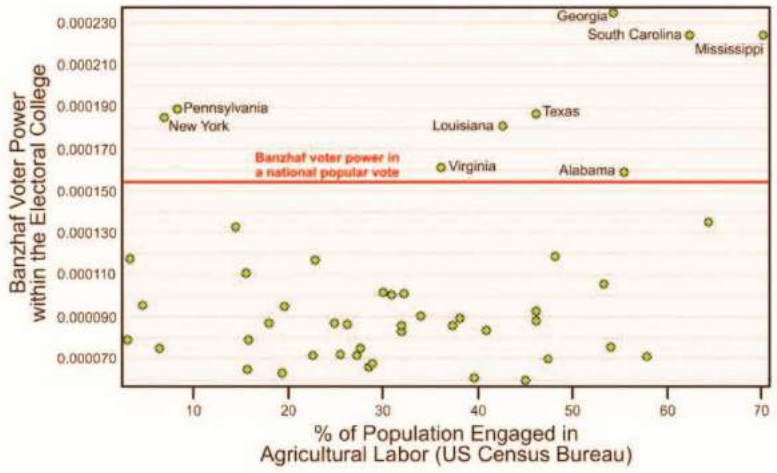
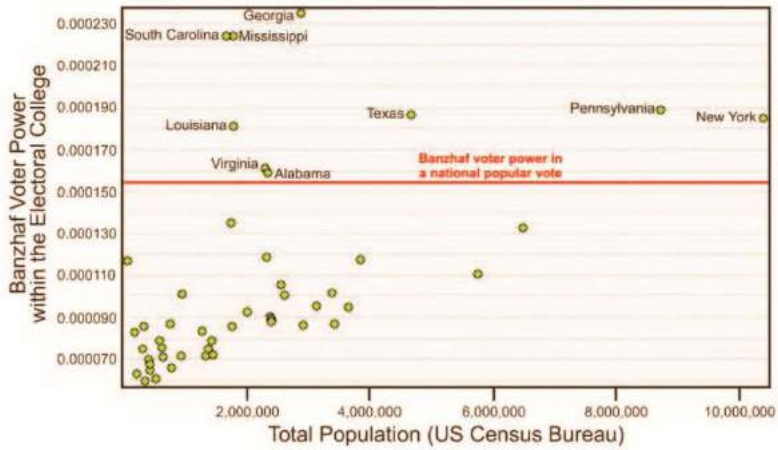
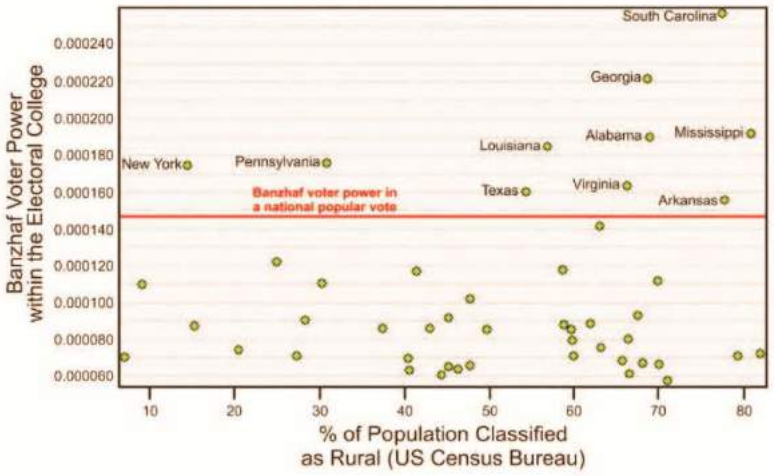
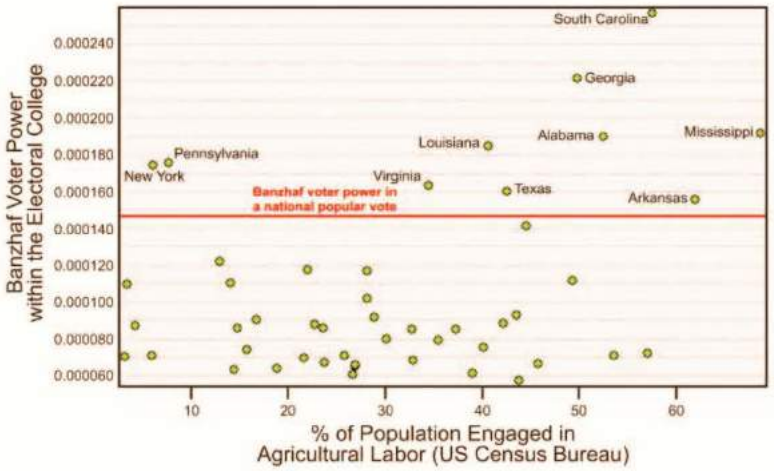


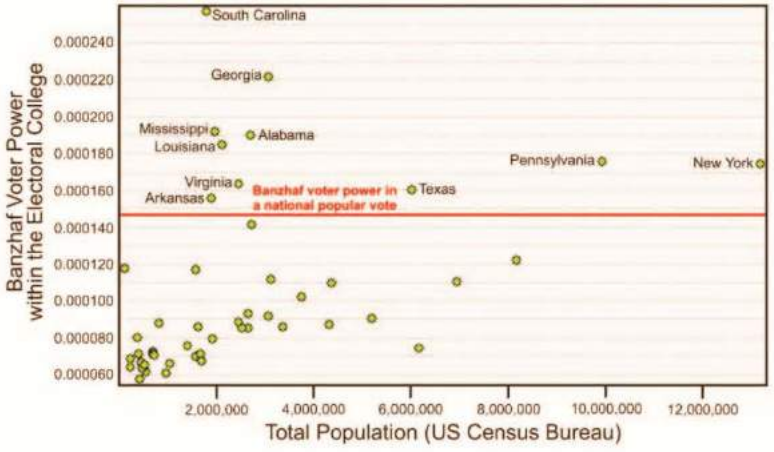




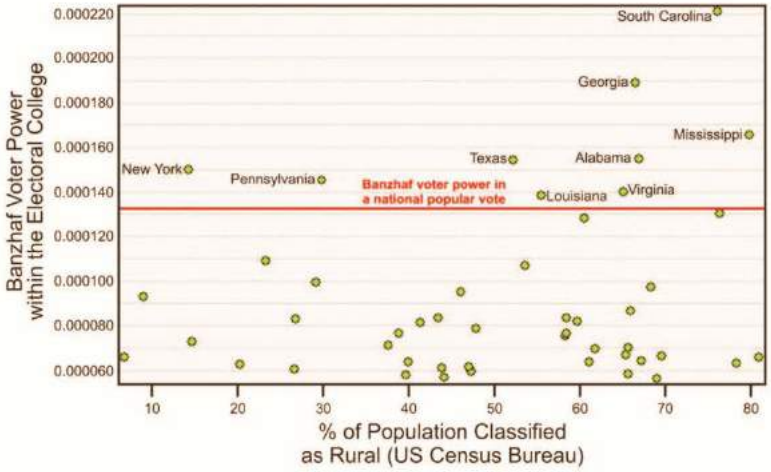
Presidential Election of 1924

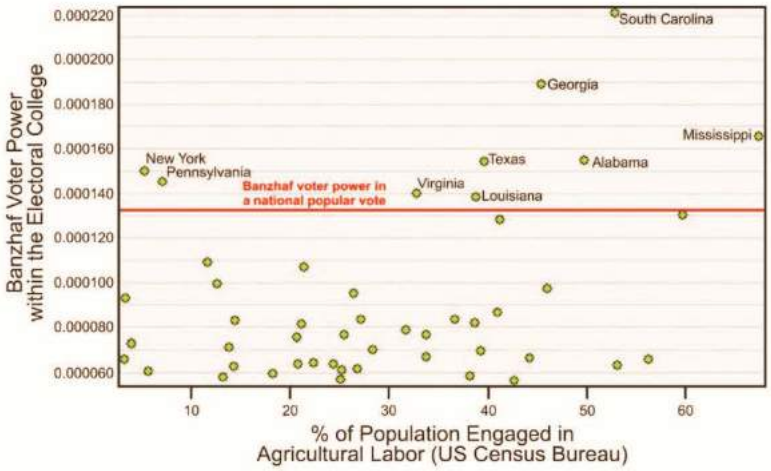


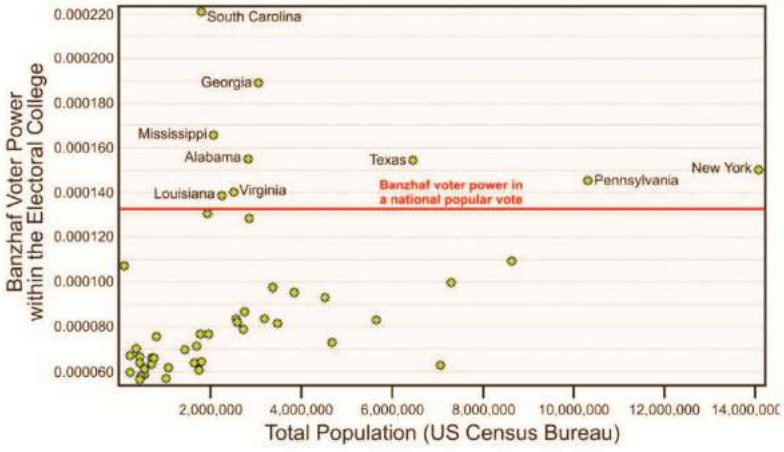




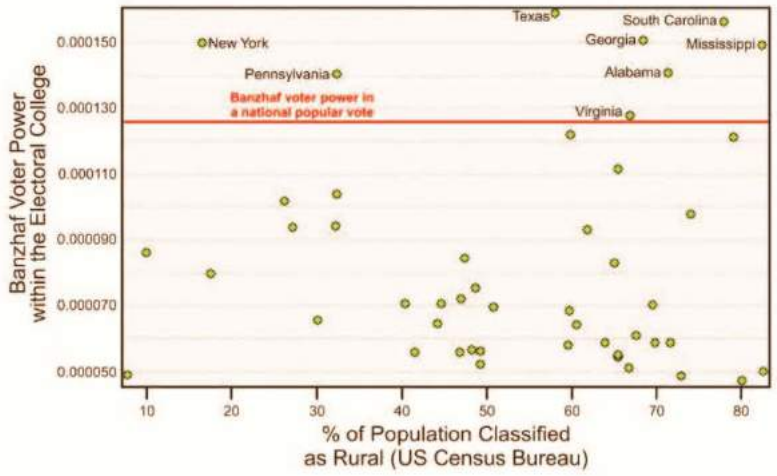
Presidential Election of 1928

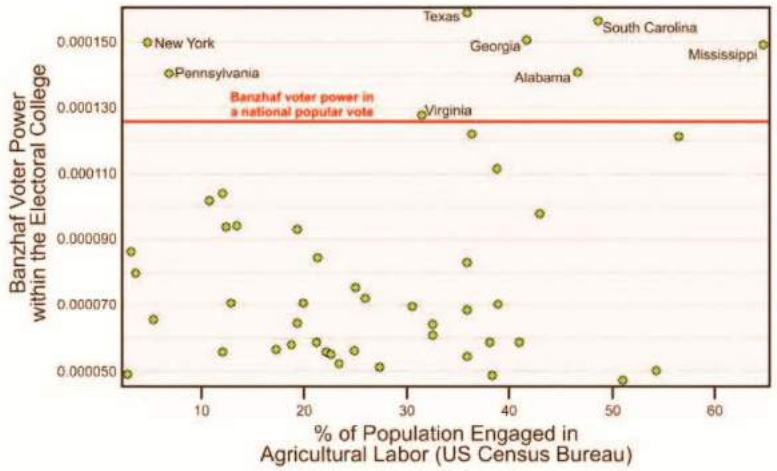


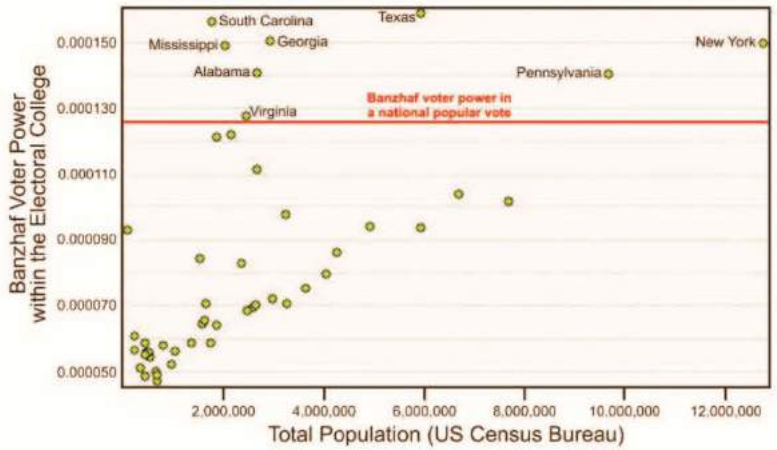




Presidential Election of 1932







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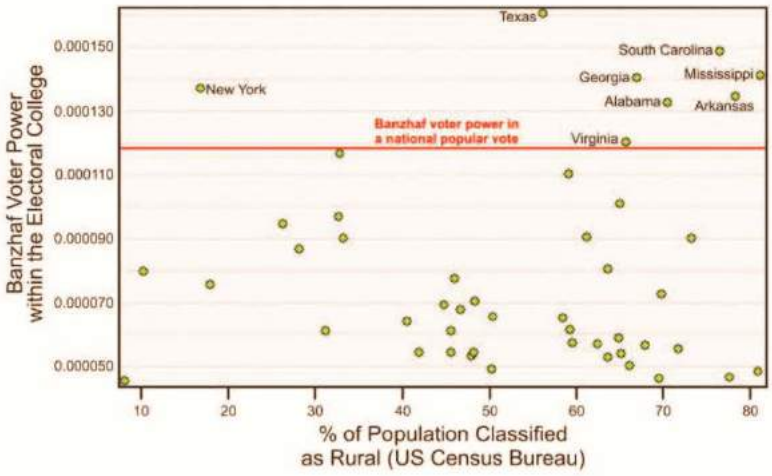
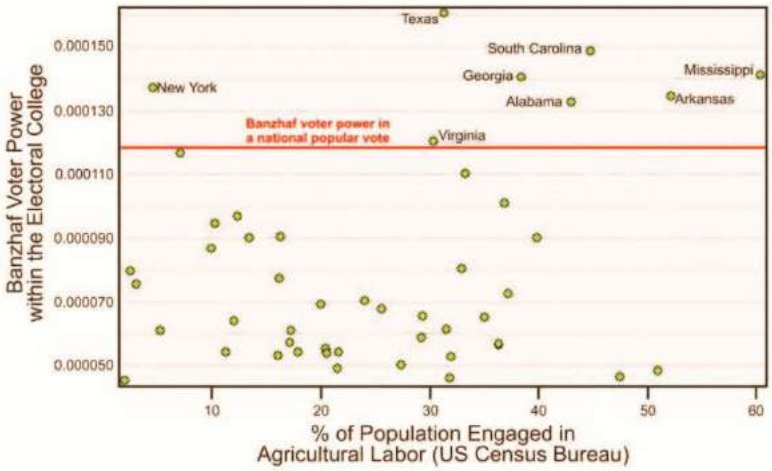
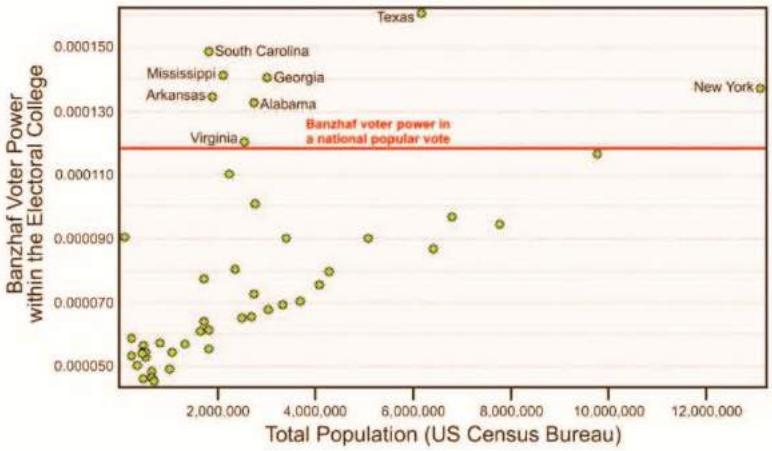
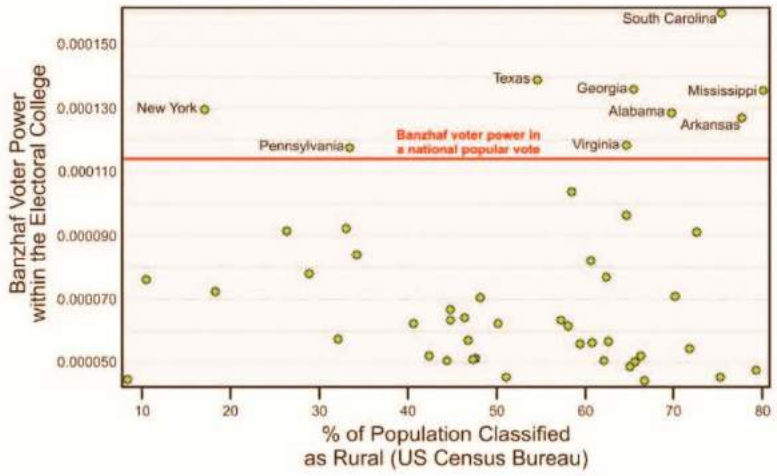
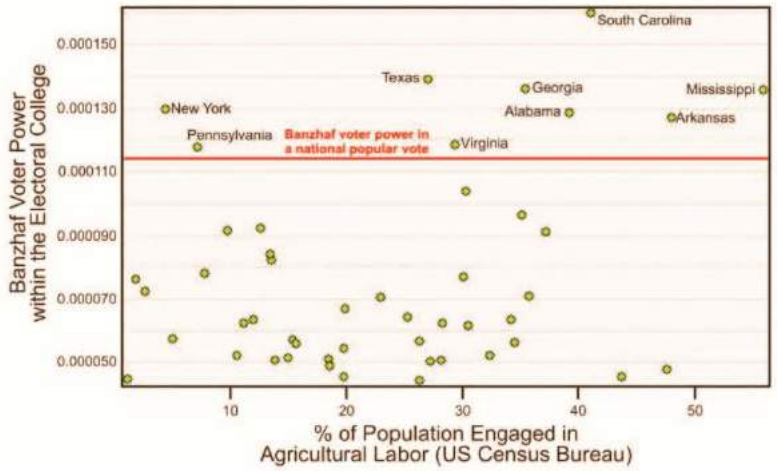


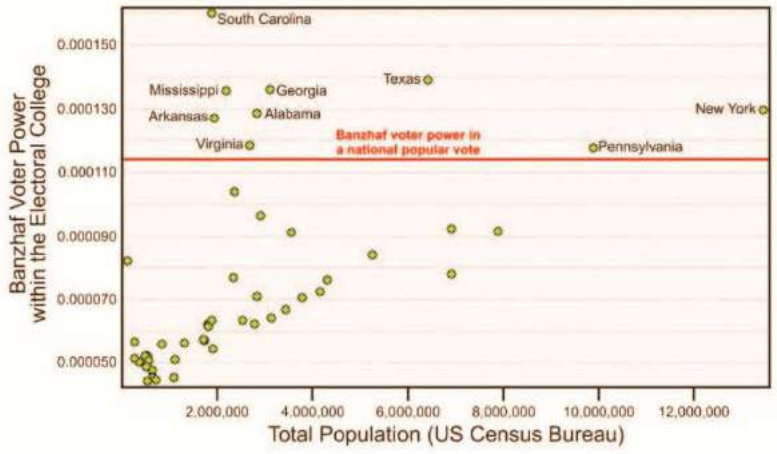




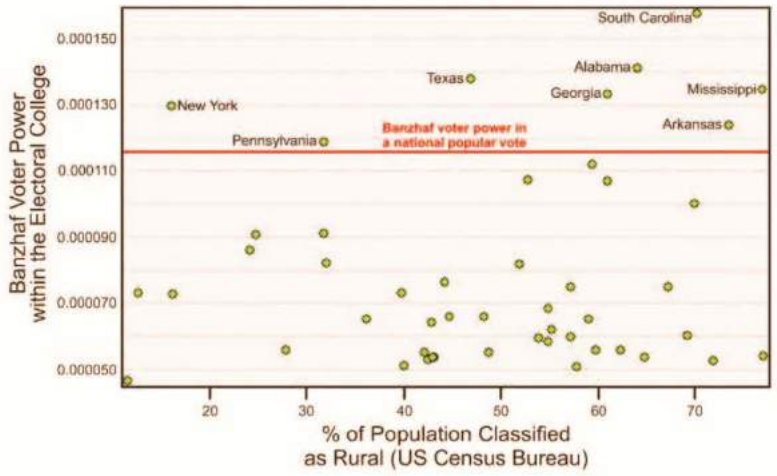
Presidential Election of 1940

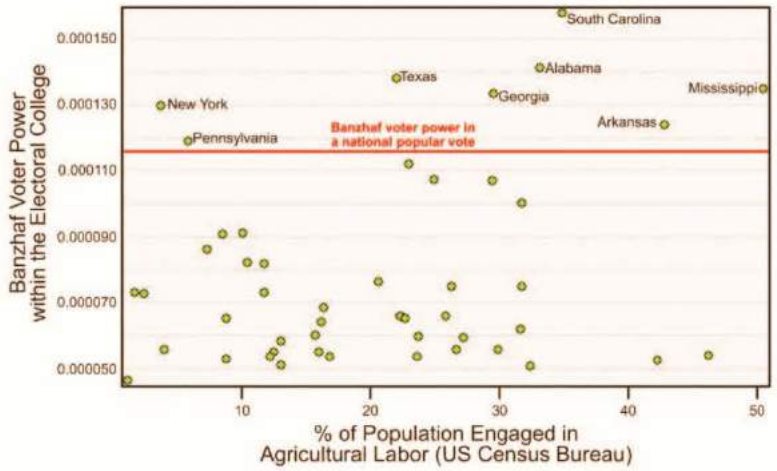


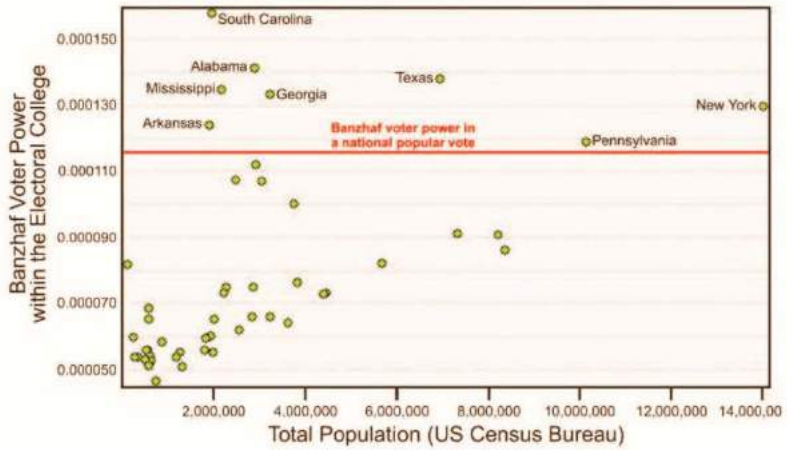




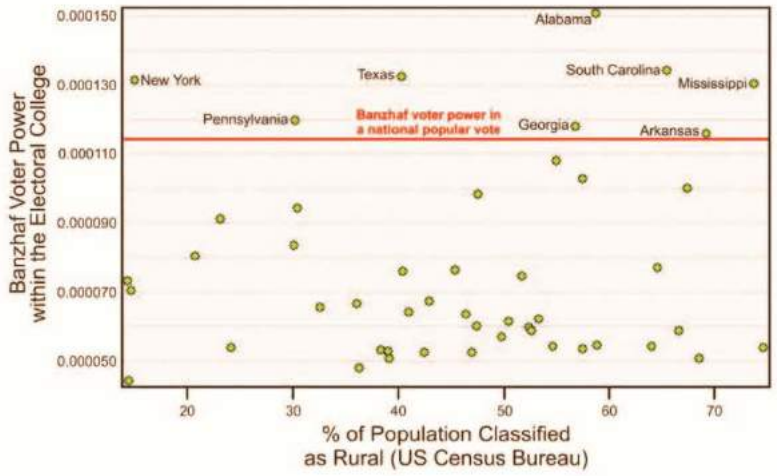
Presidential Election of 1944

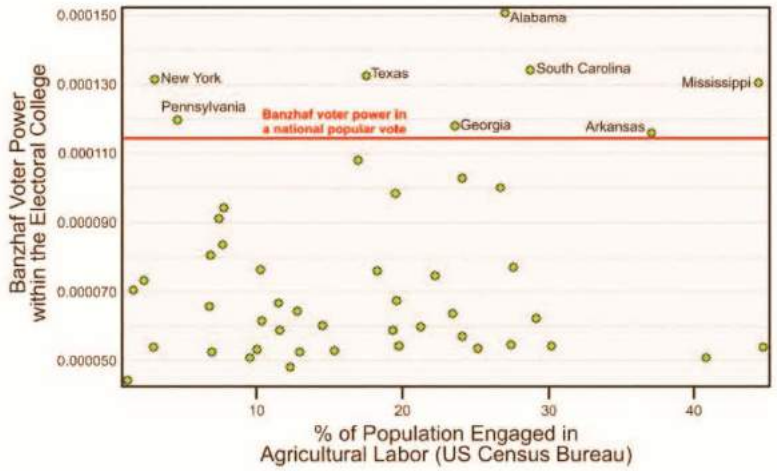


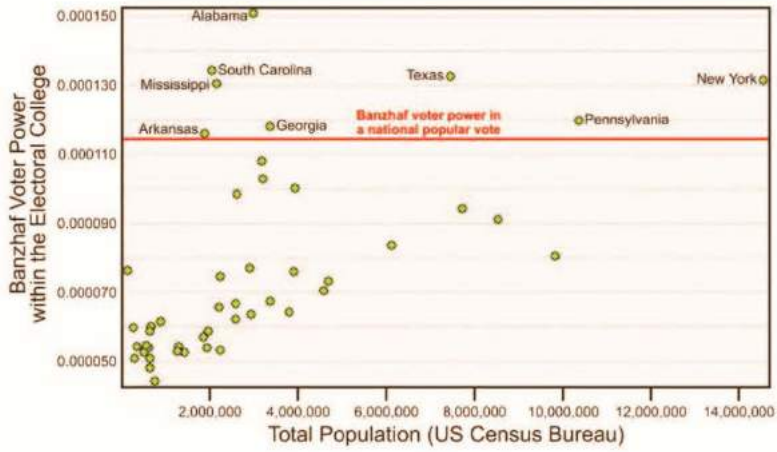




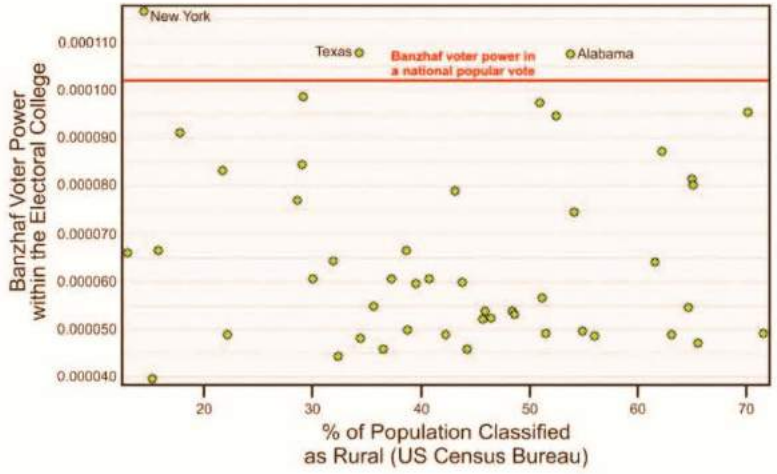
Presidential Election of 1948

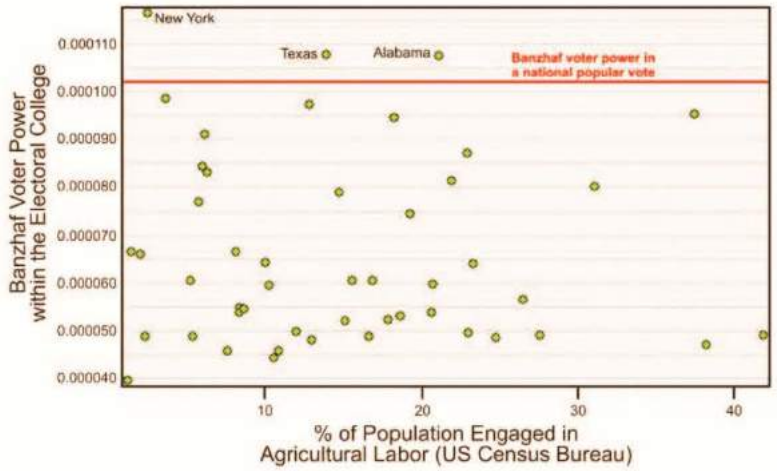


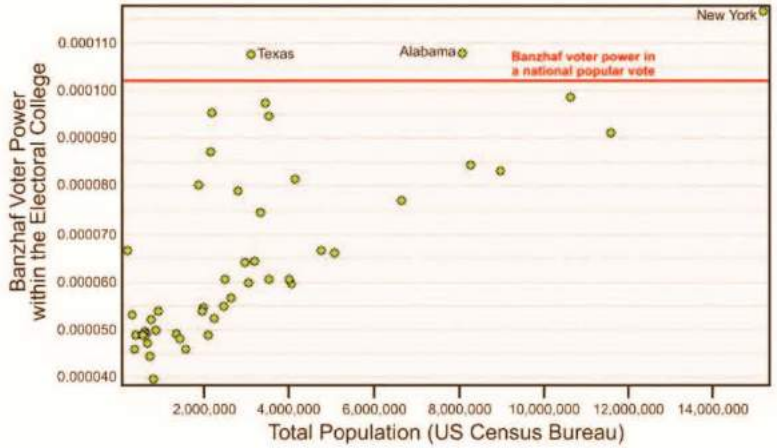




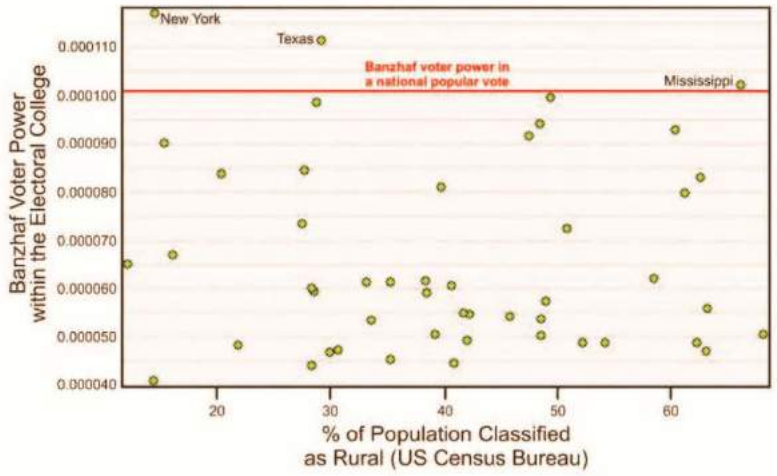
Presidential Election of 1952

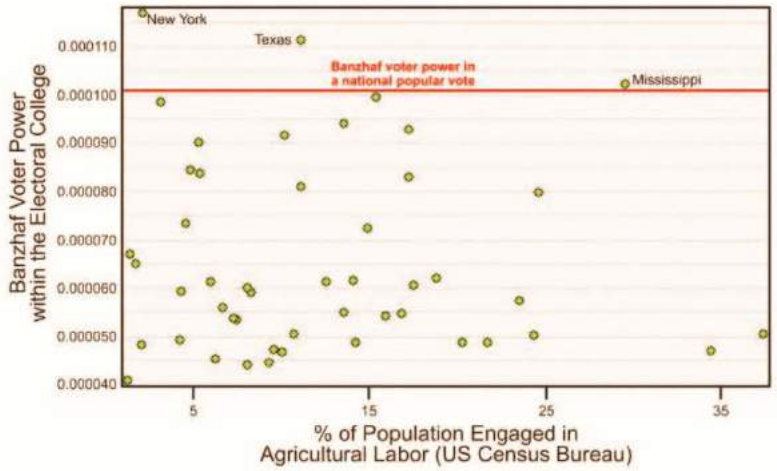


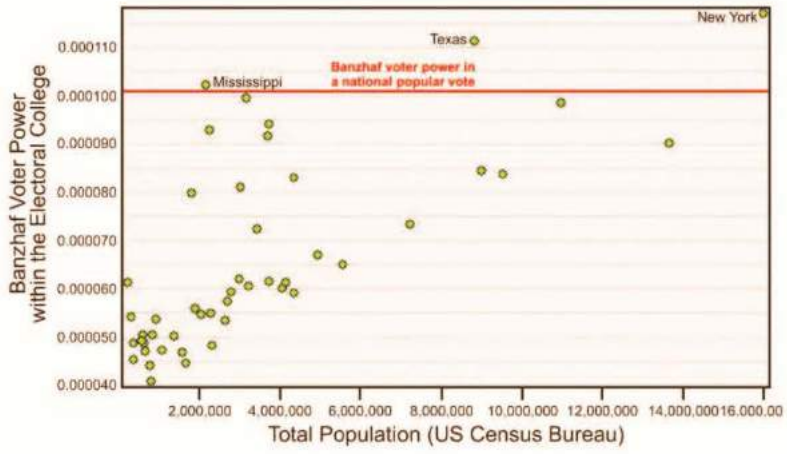




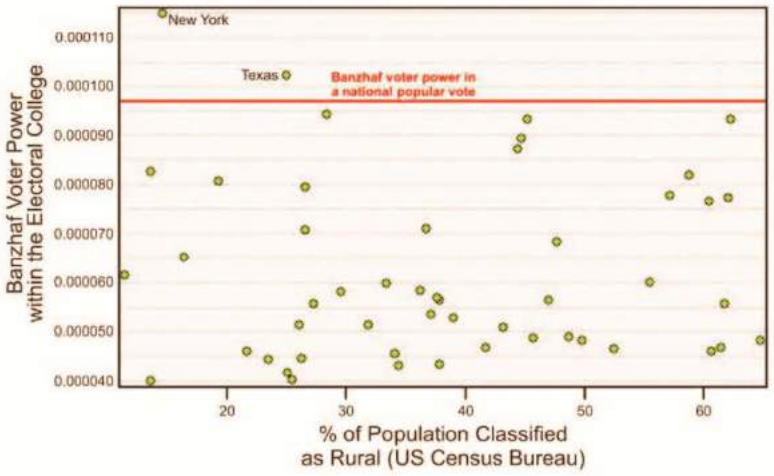
Presidential Election of 1956

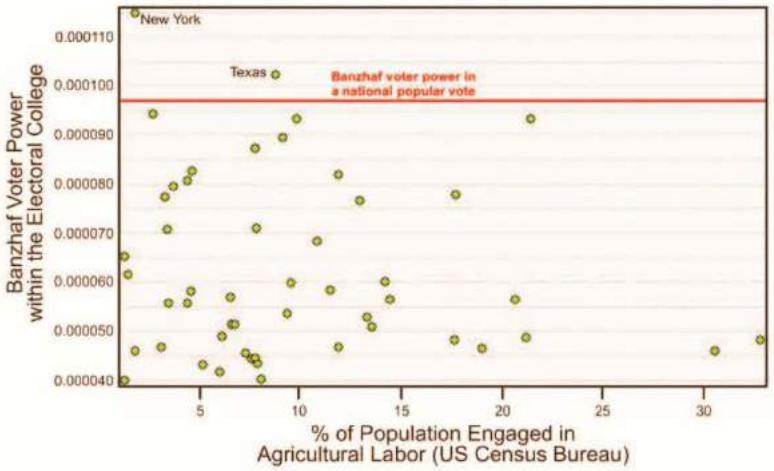


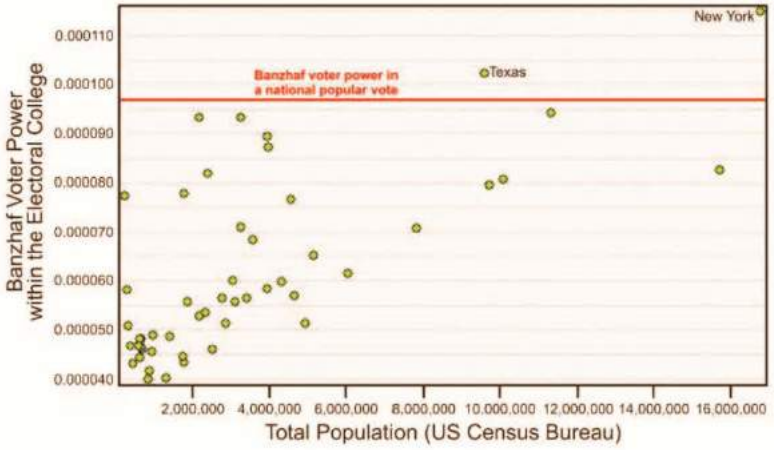




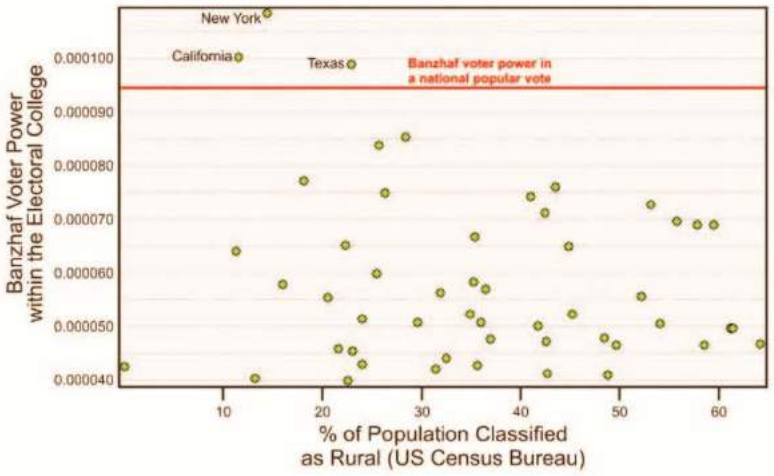
Presidential Election of 1960

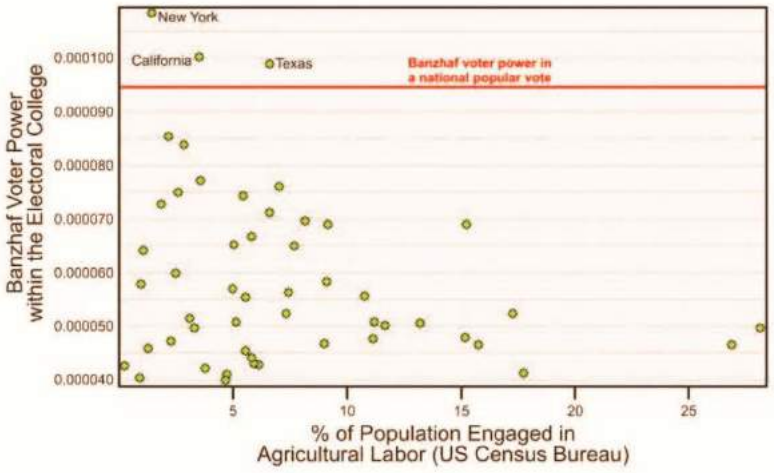


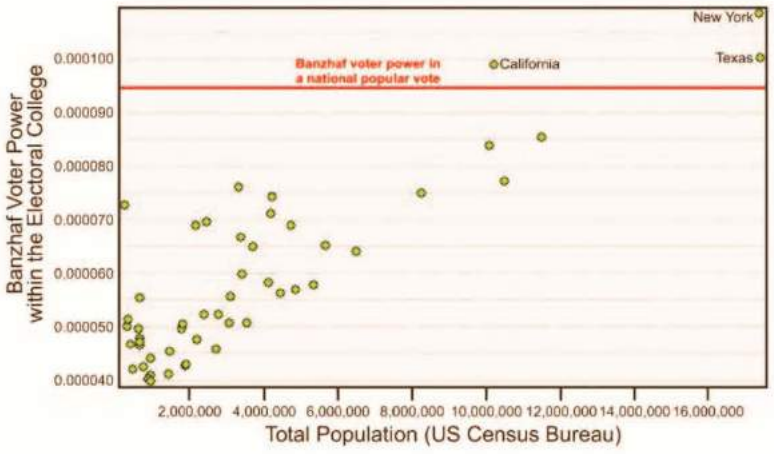




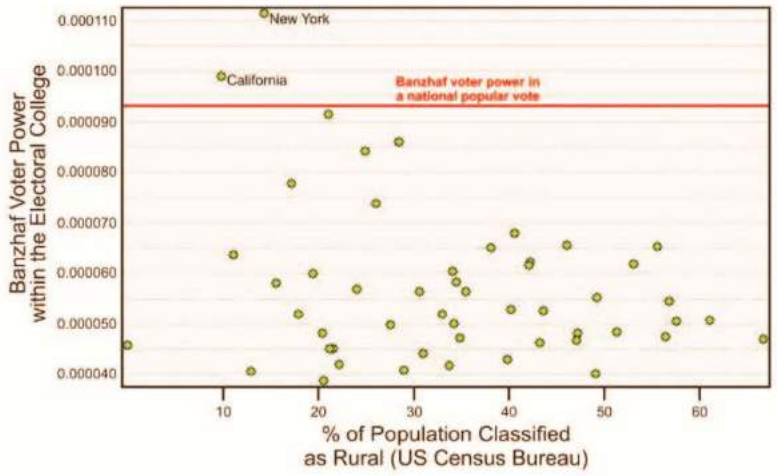
Presidential Election of 1964

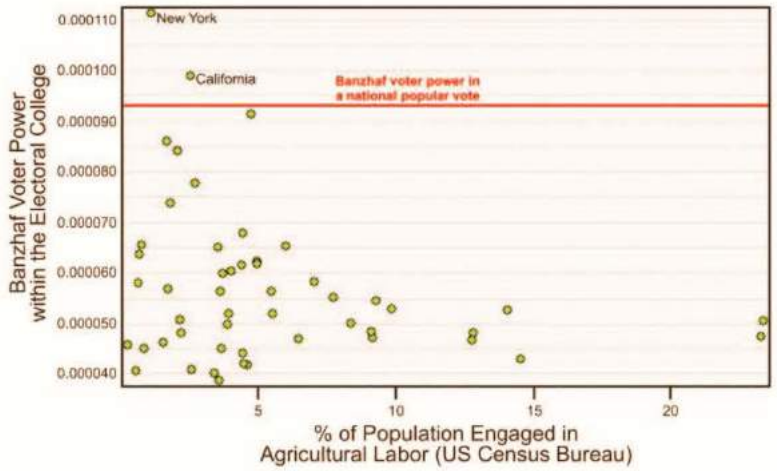


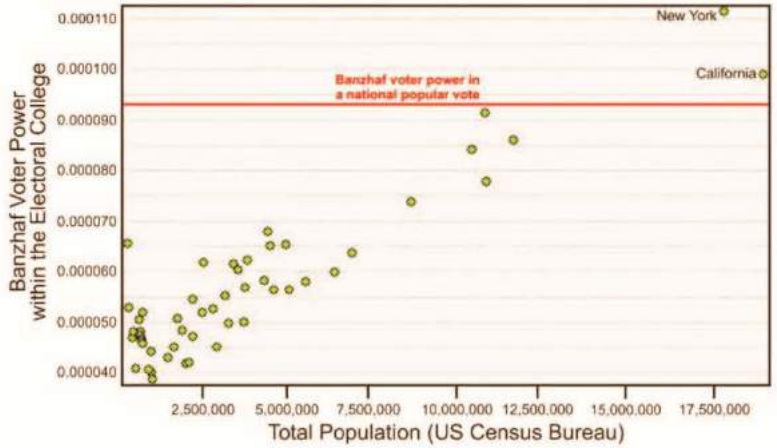




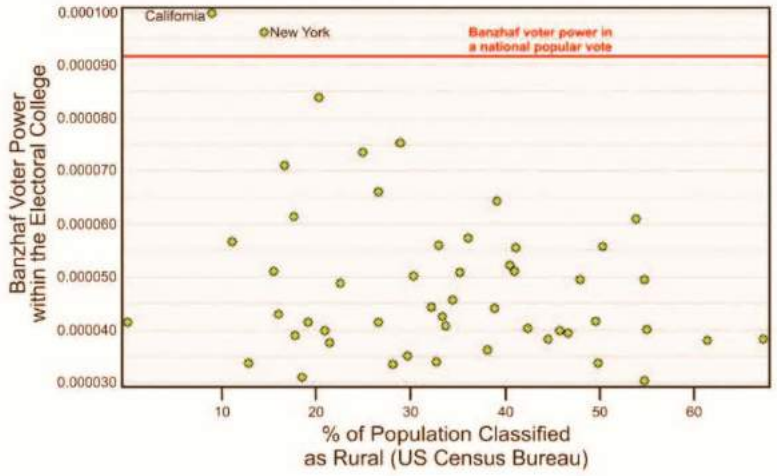
Presidential Election of 1968

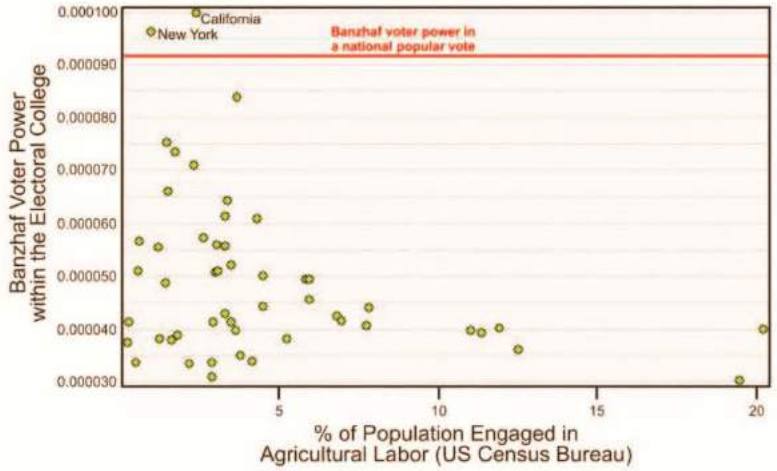


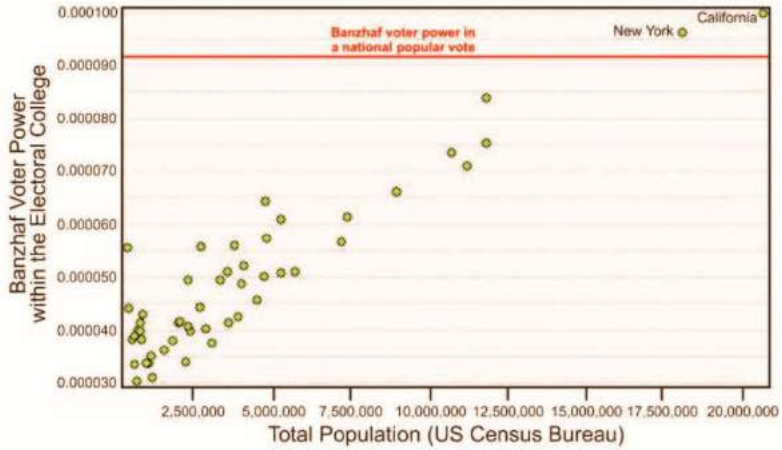




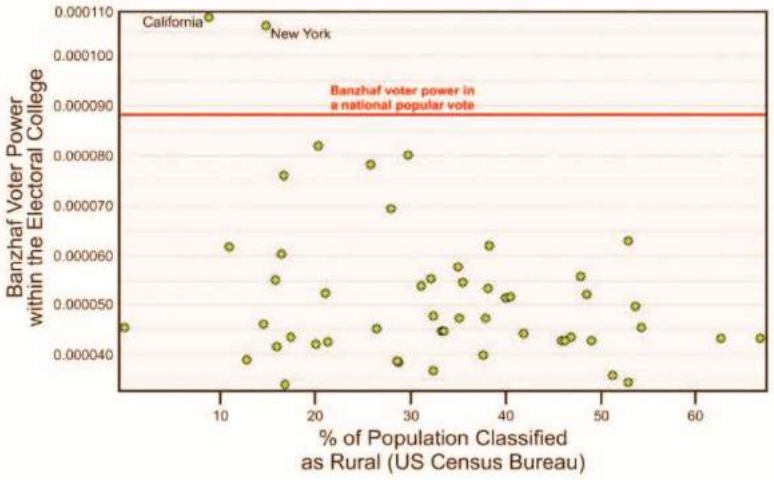
Presidential Election of 1972

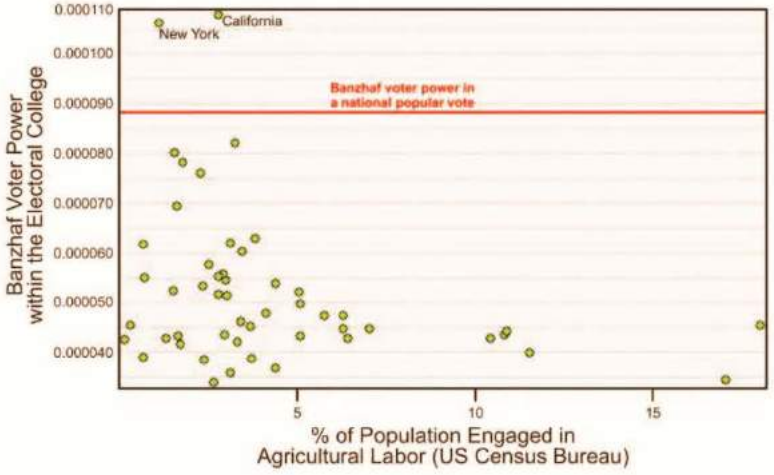


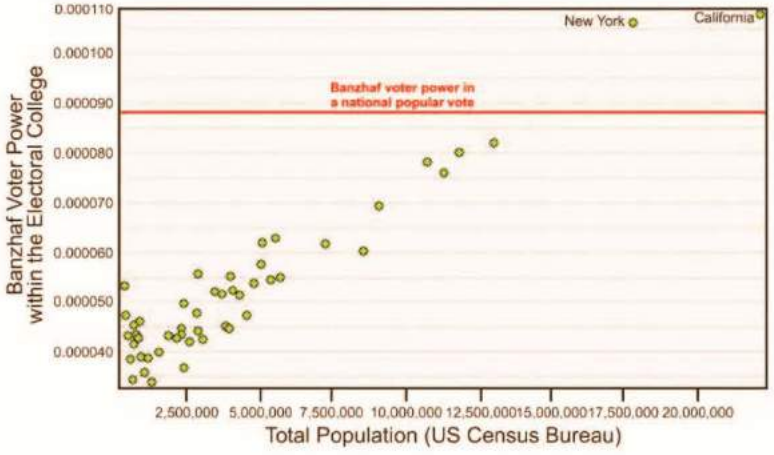




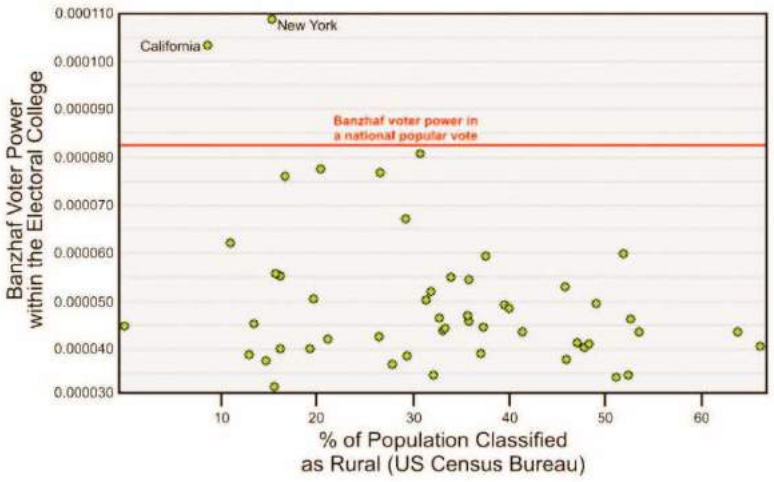
Presidential Election of 1976

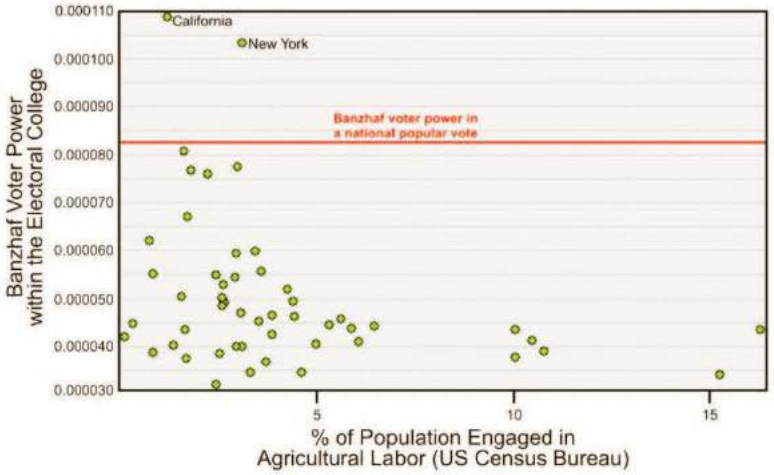


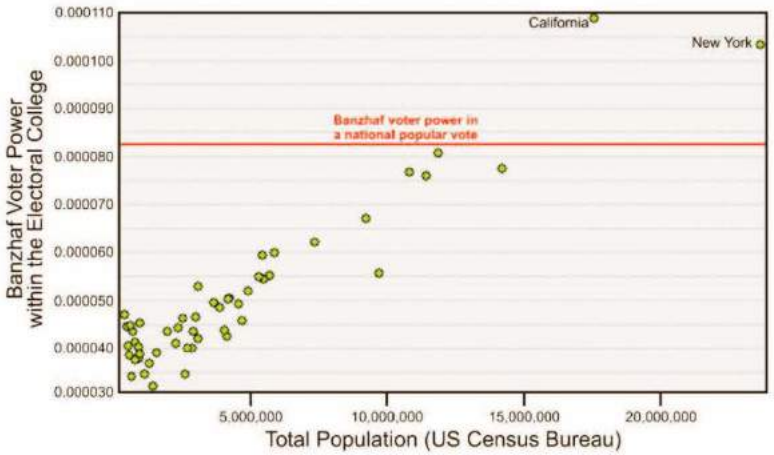




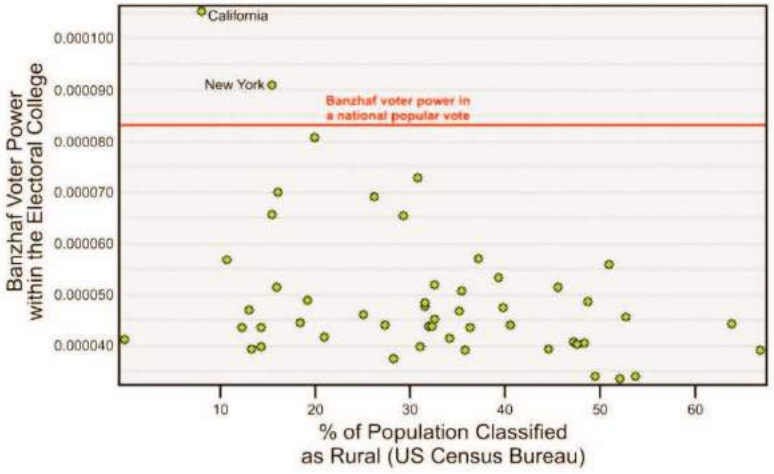
Presidential Election of 1980

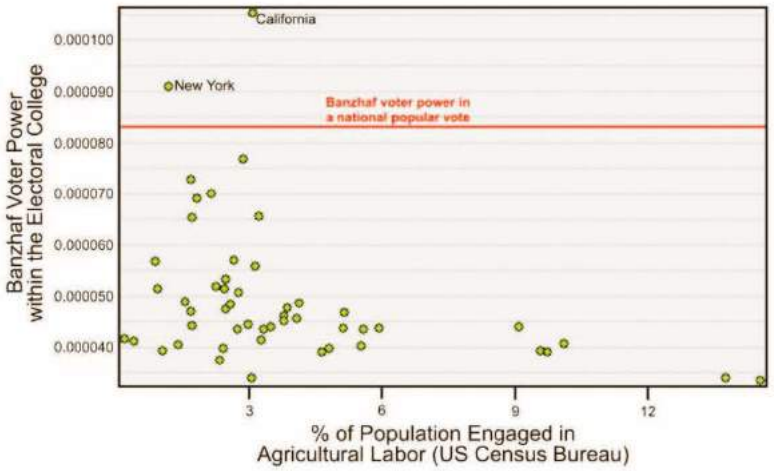


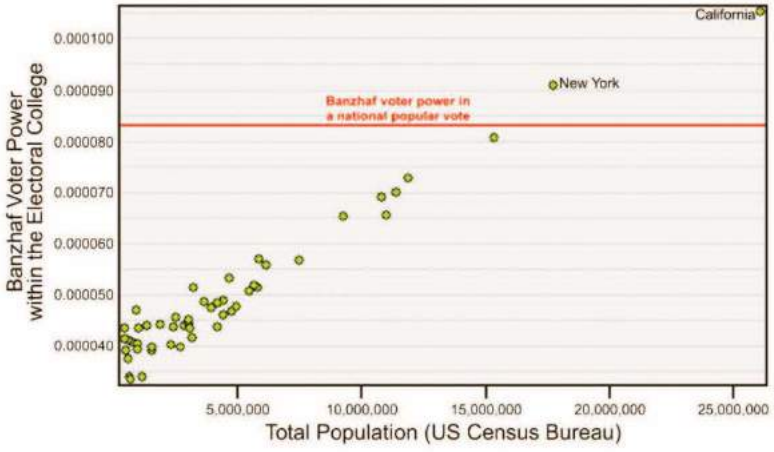




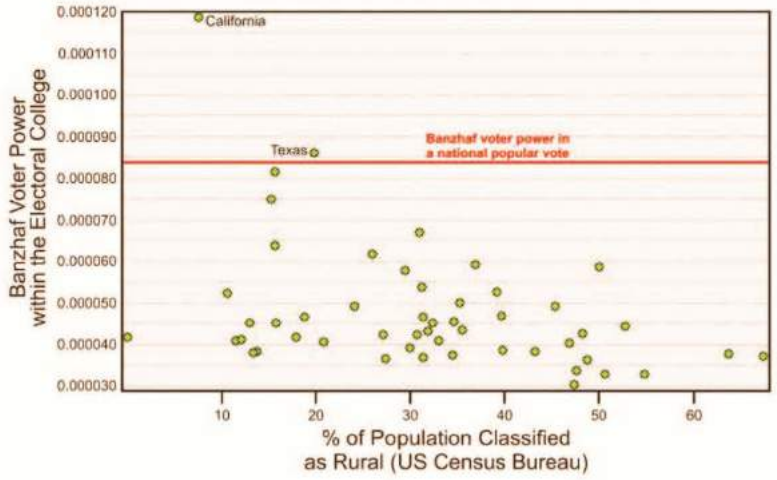
Presidential Election of 1984

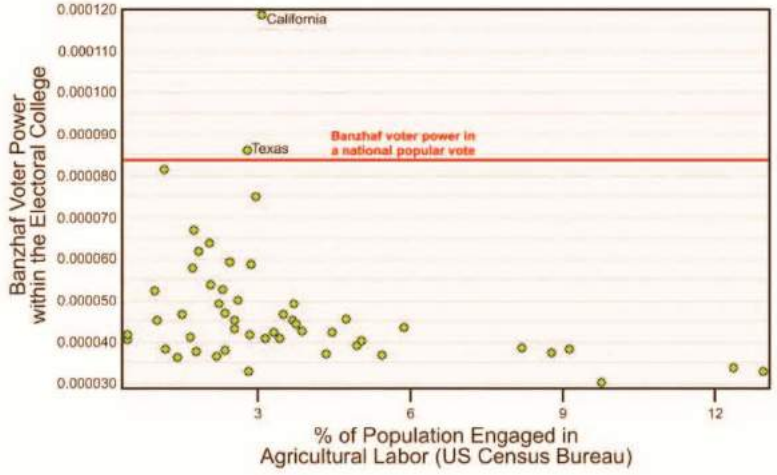


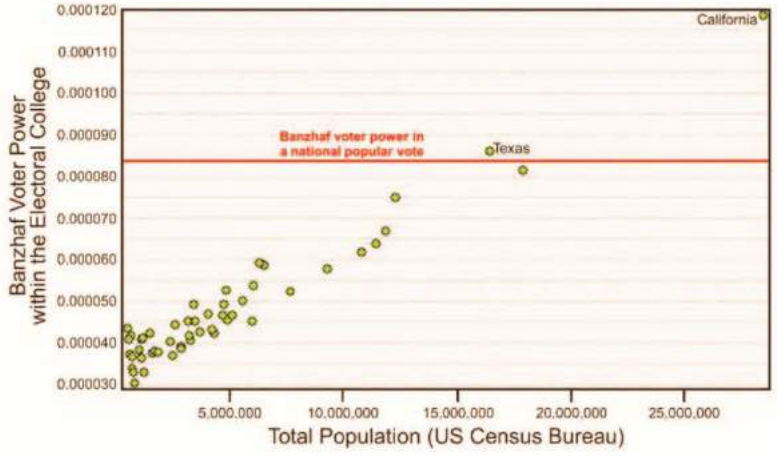




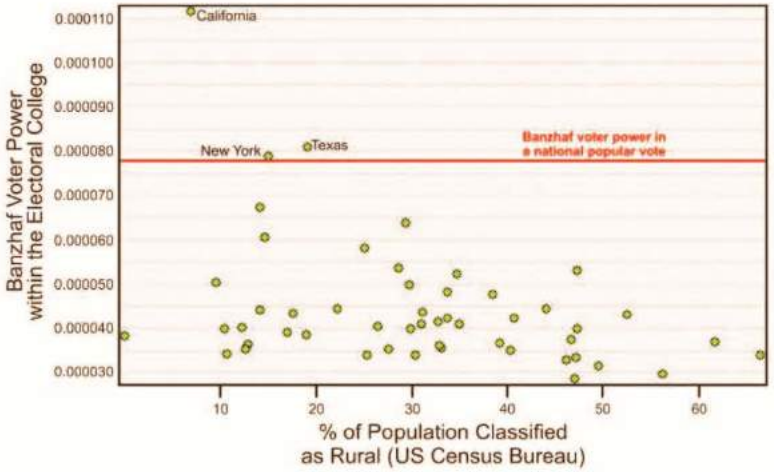
Presidential Election of 1988

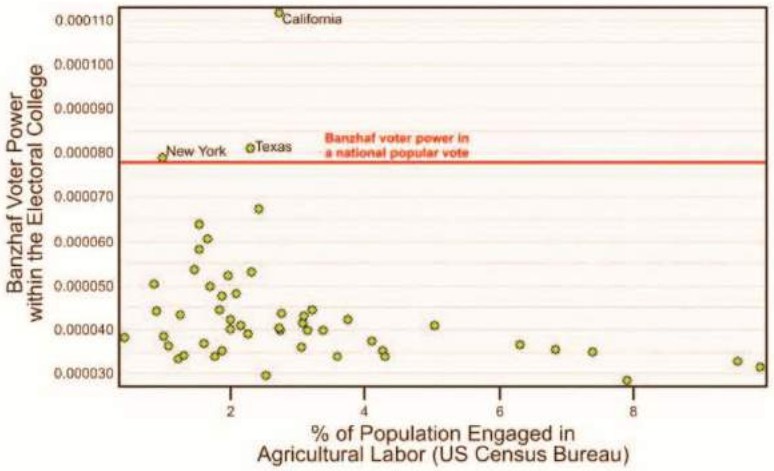


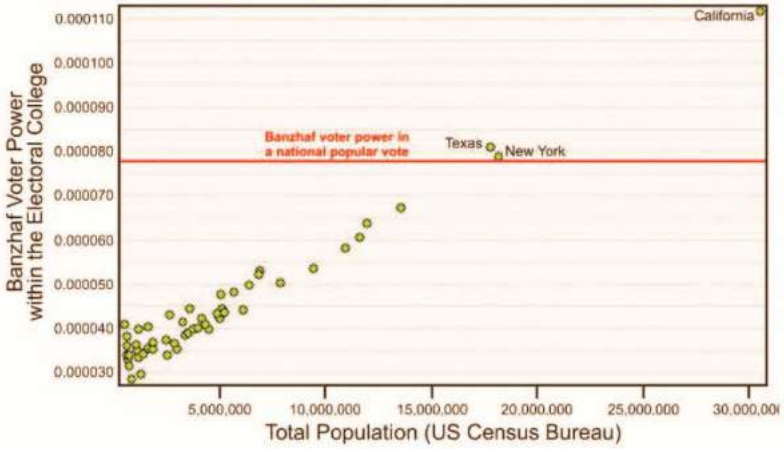




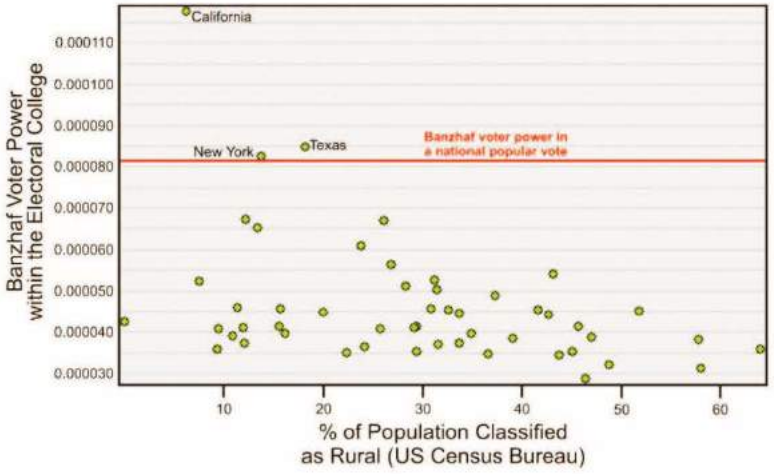
Presidential Election of 1992

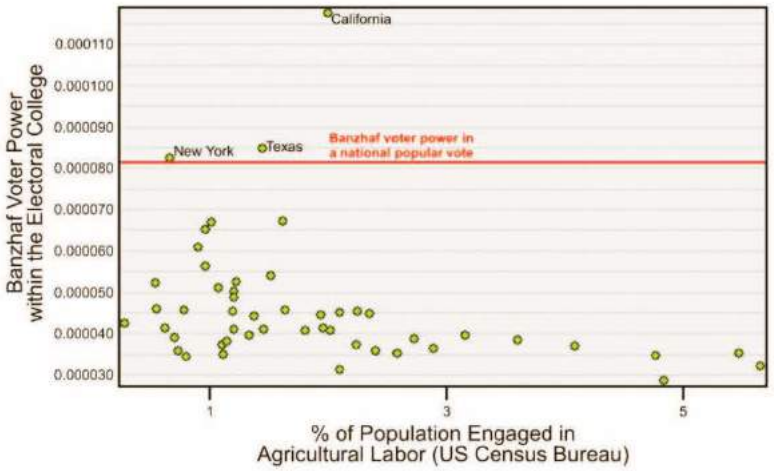


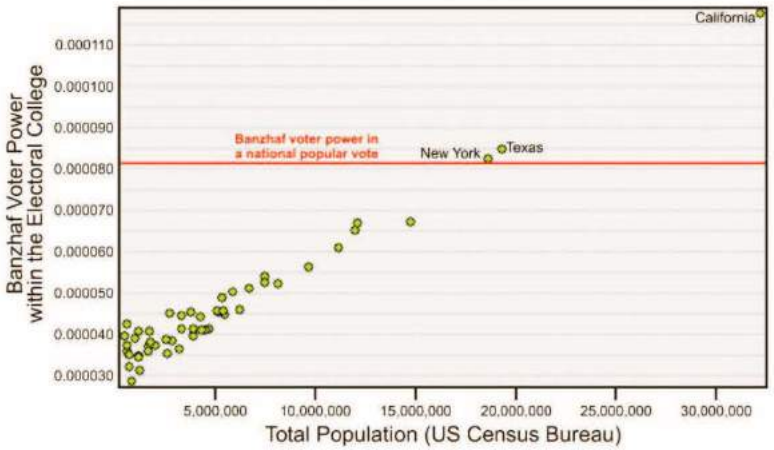




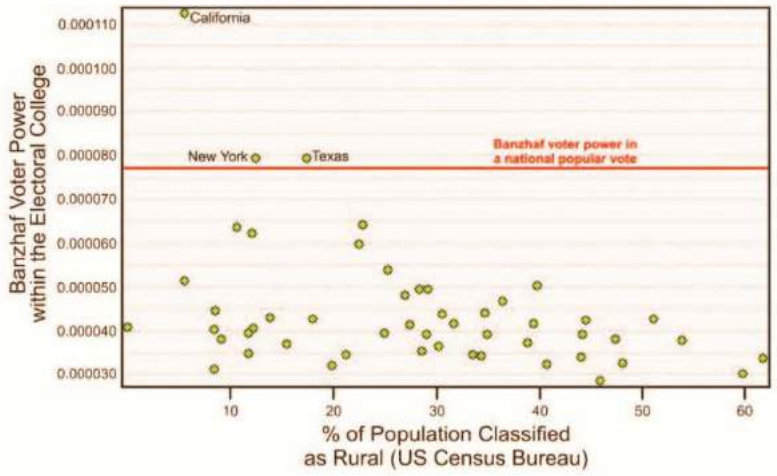
Presidential Election of 1996

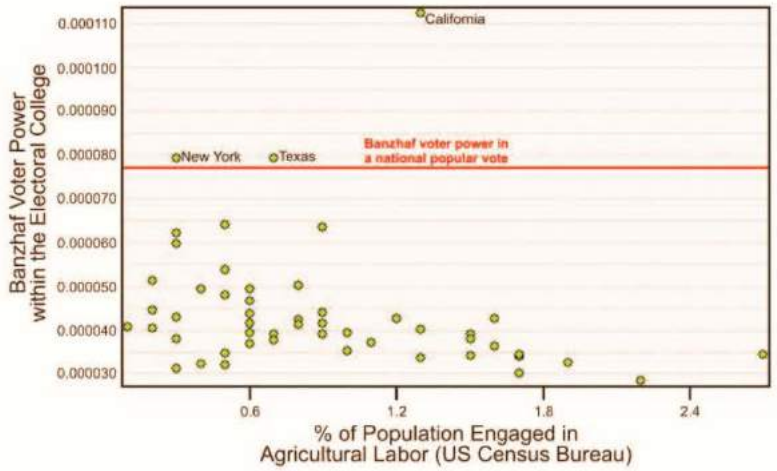


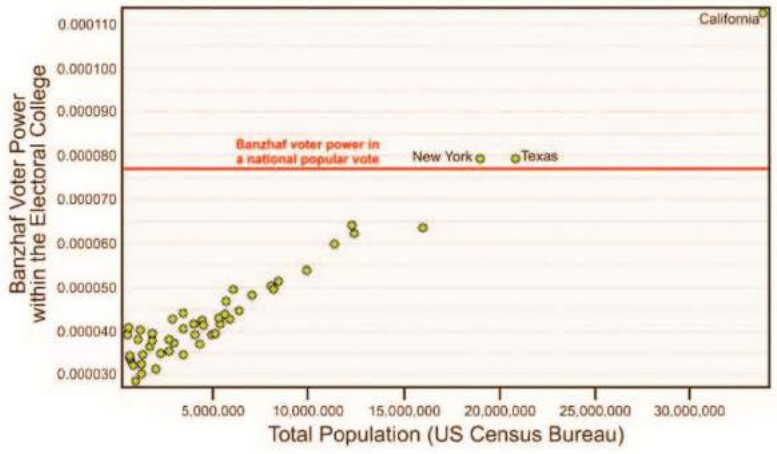




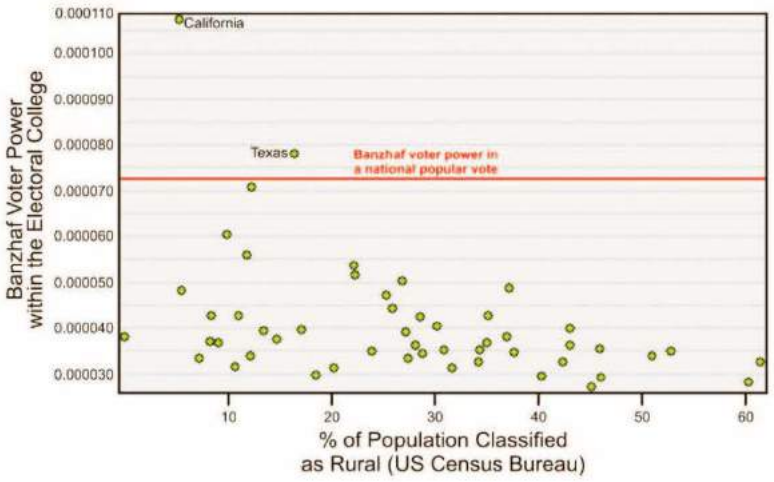
Presidential Election of 2000

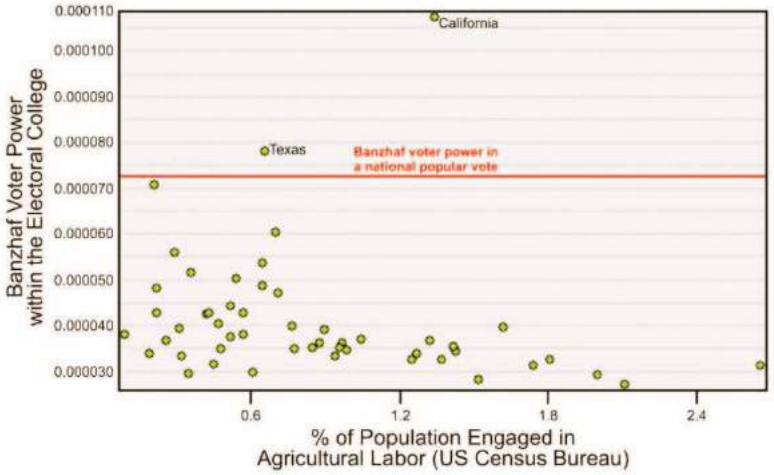


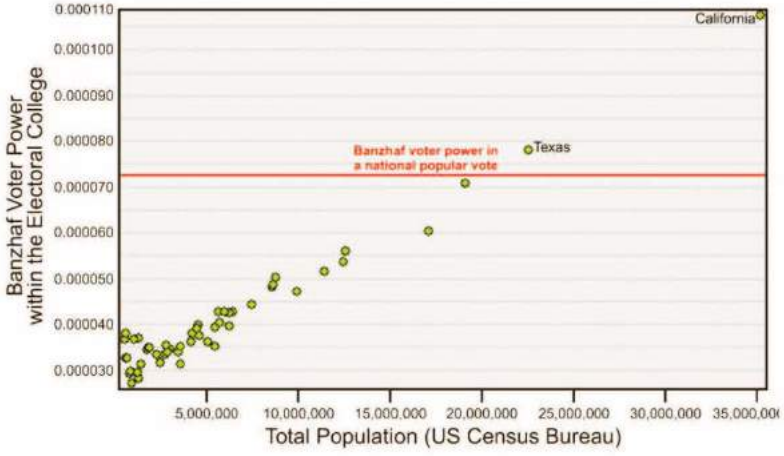




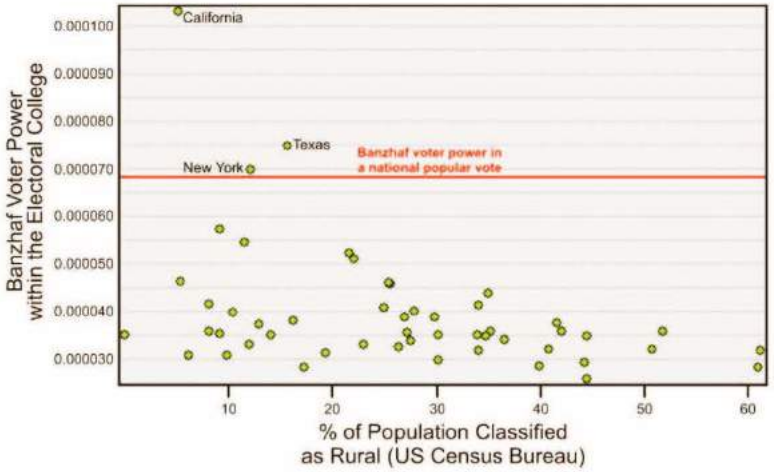
Presidential Election of 2004

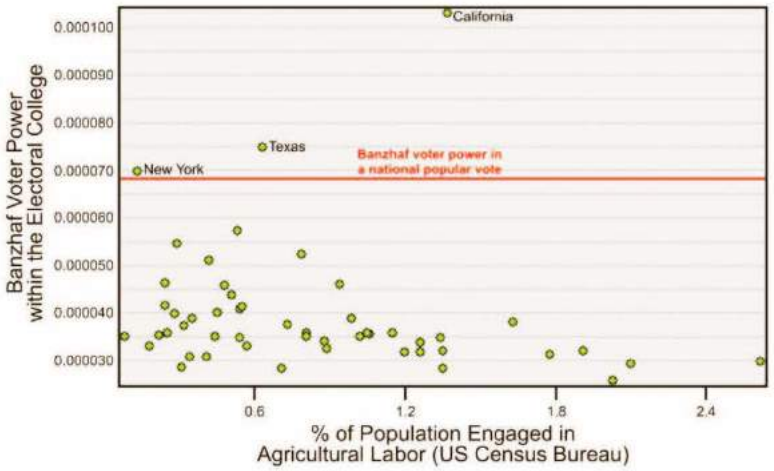


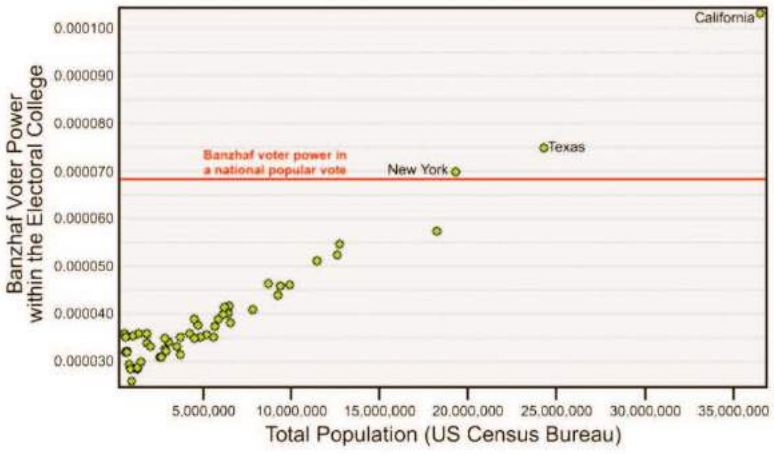




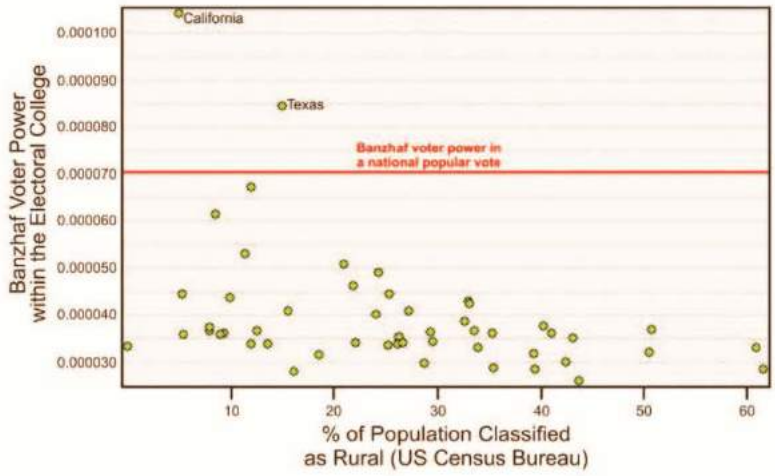
Presidential Election of 2008

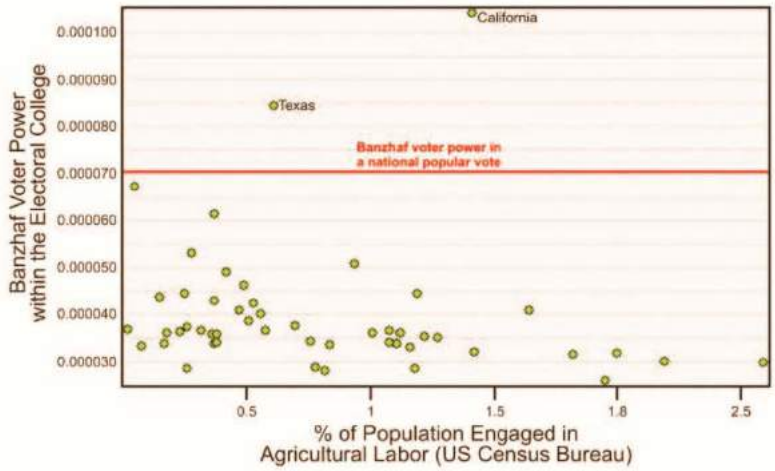


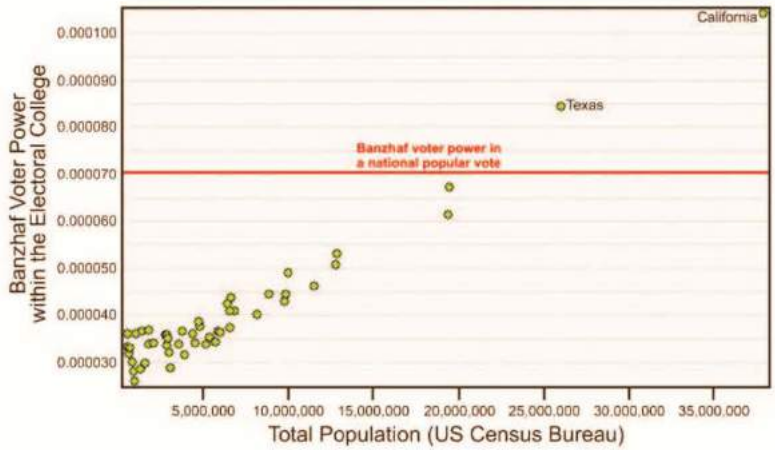




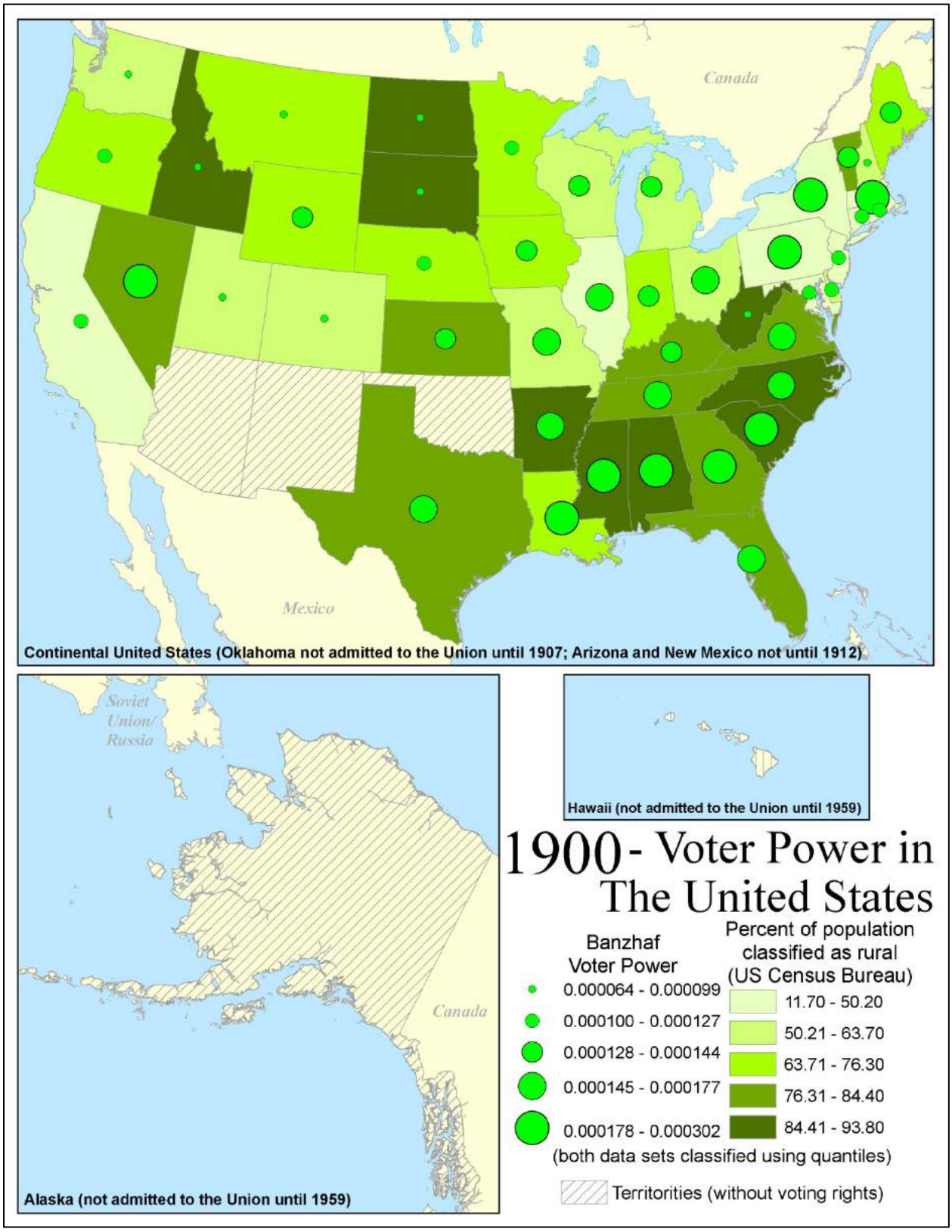
Presidential Election of 2012

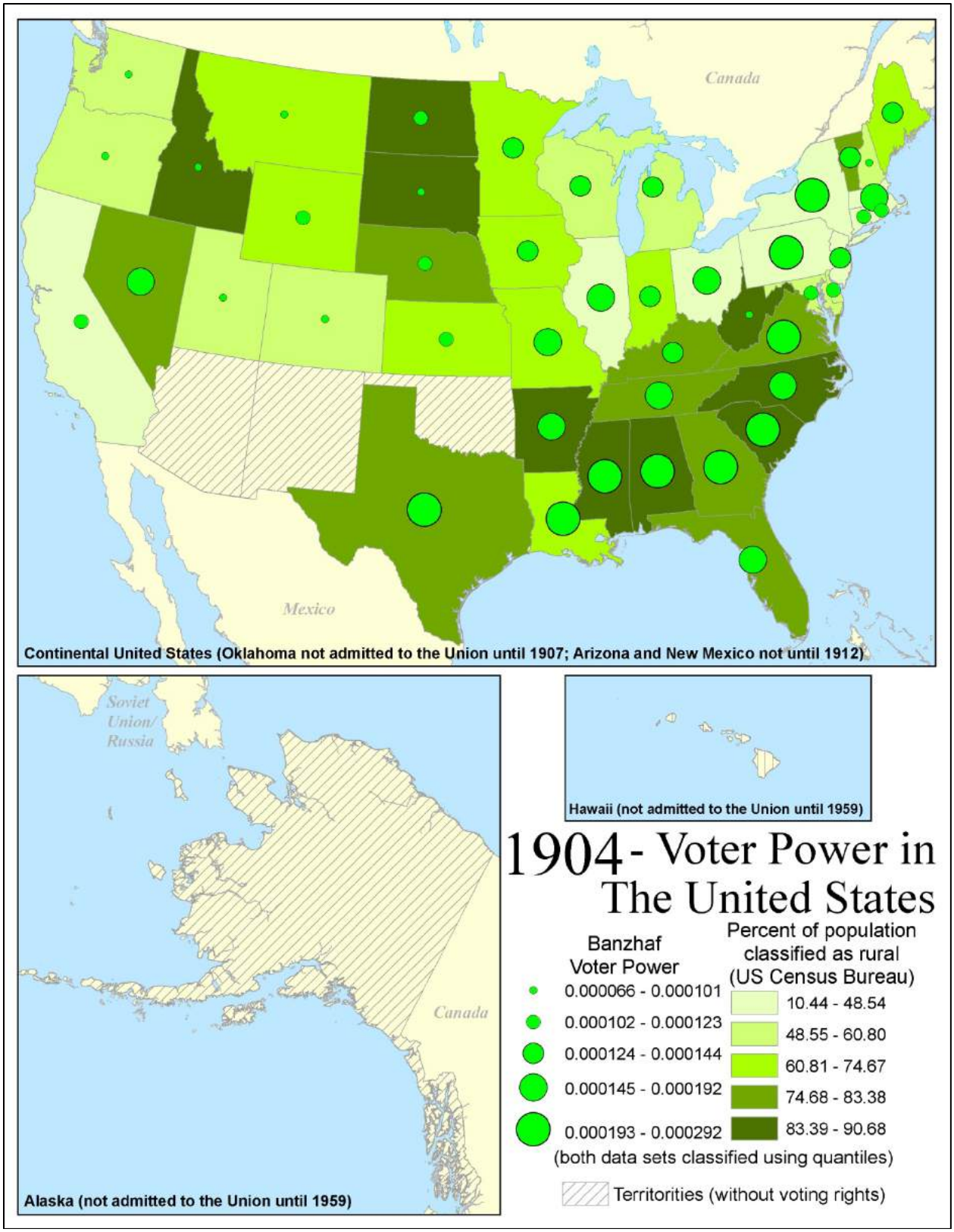


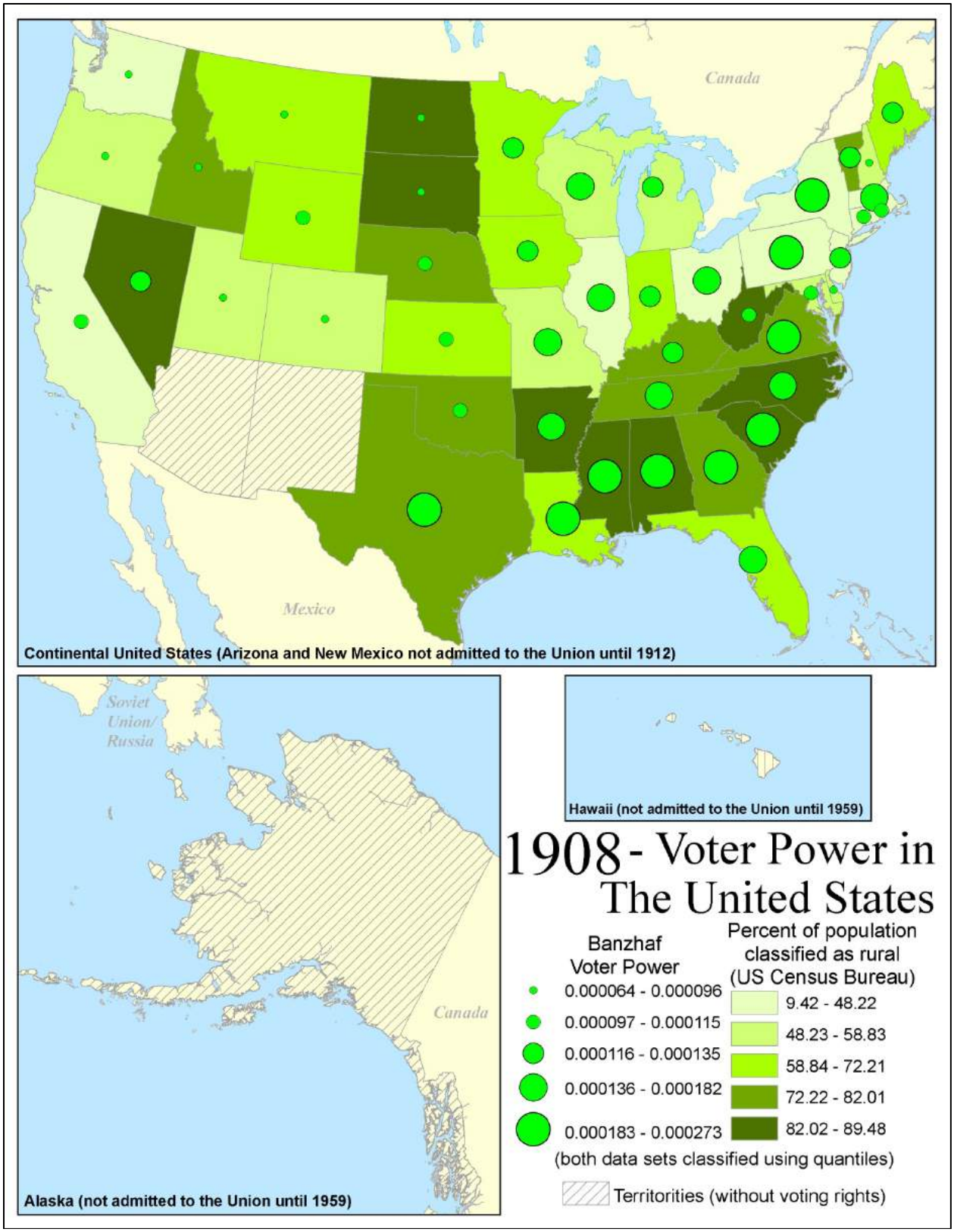


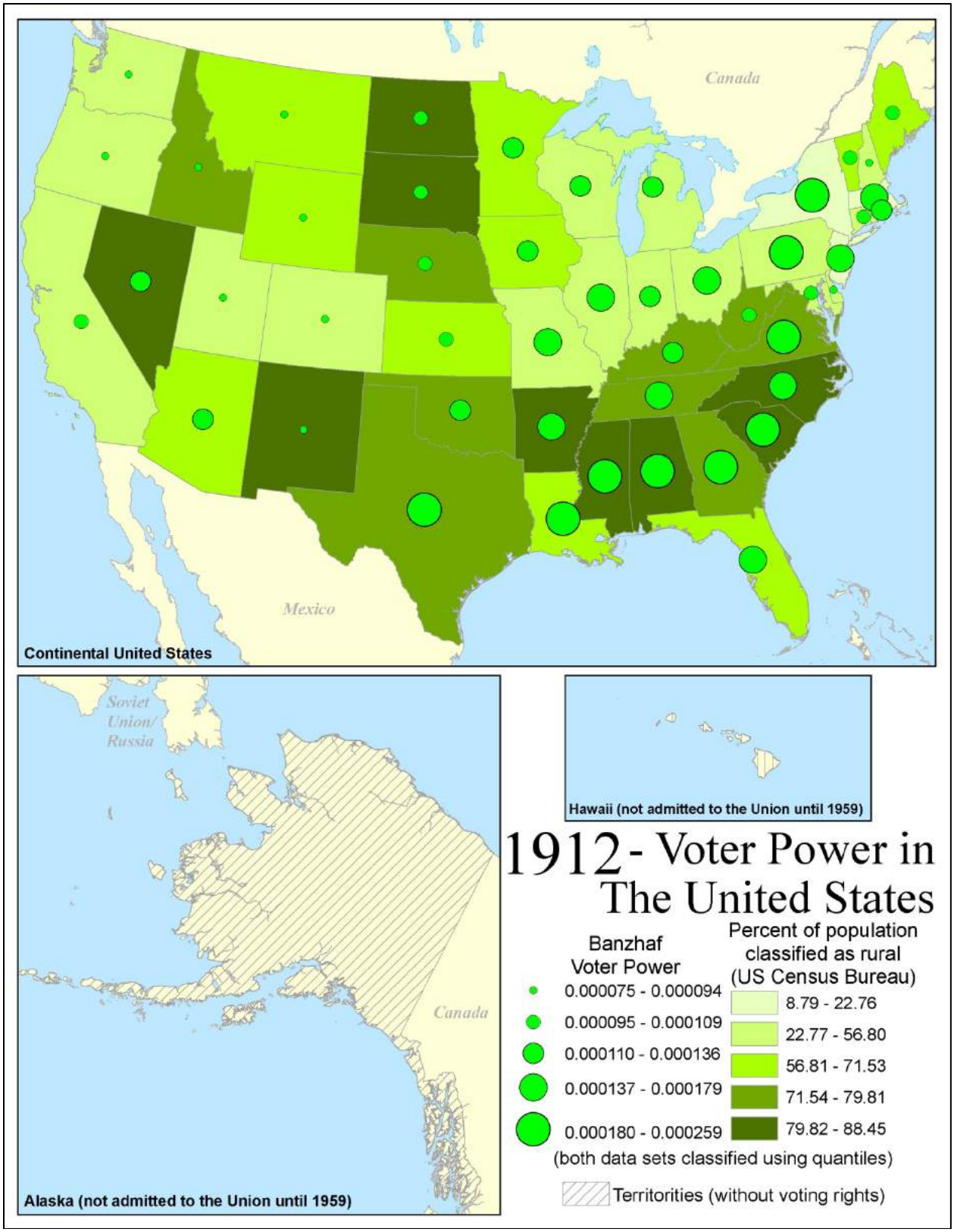


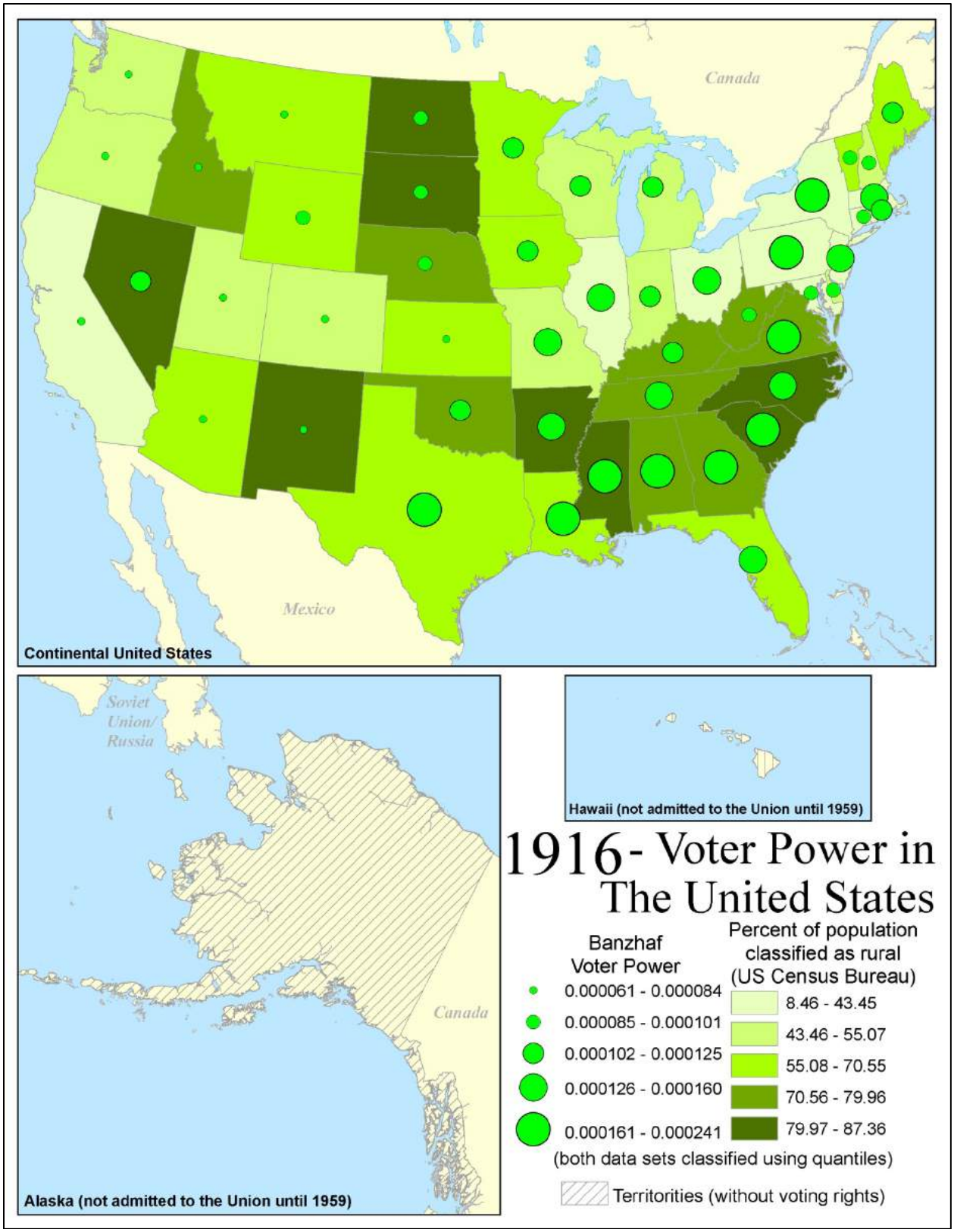
APPENDIX B: RURAL POPULATION/VOTER POWER MAP SERIES

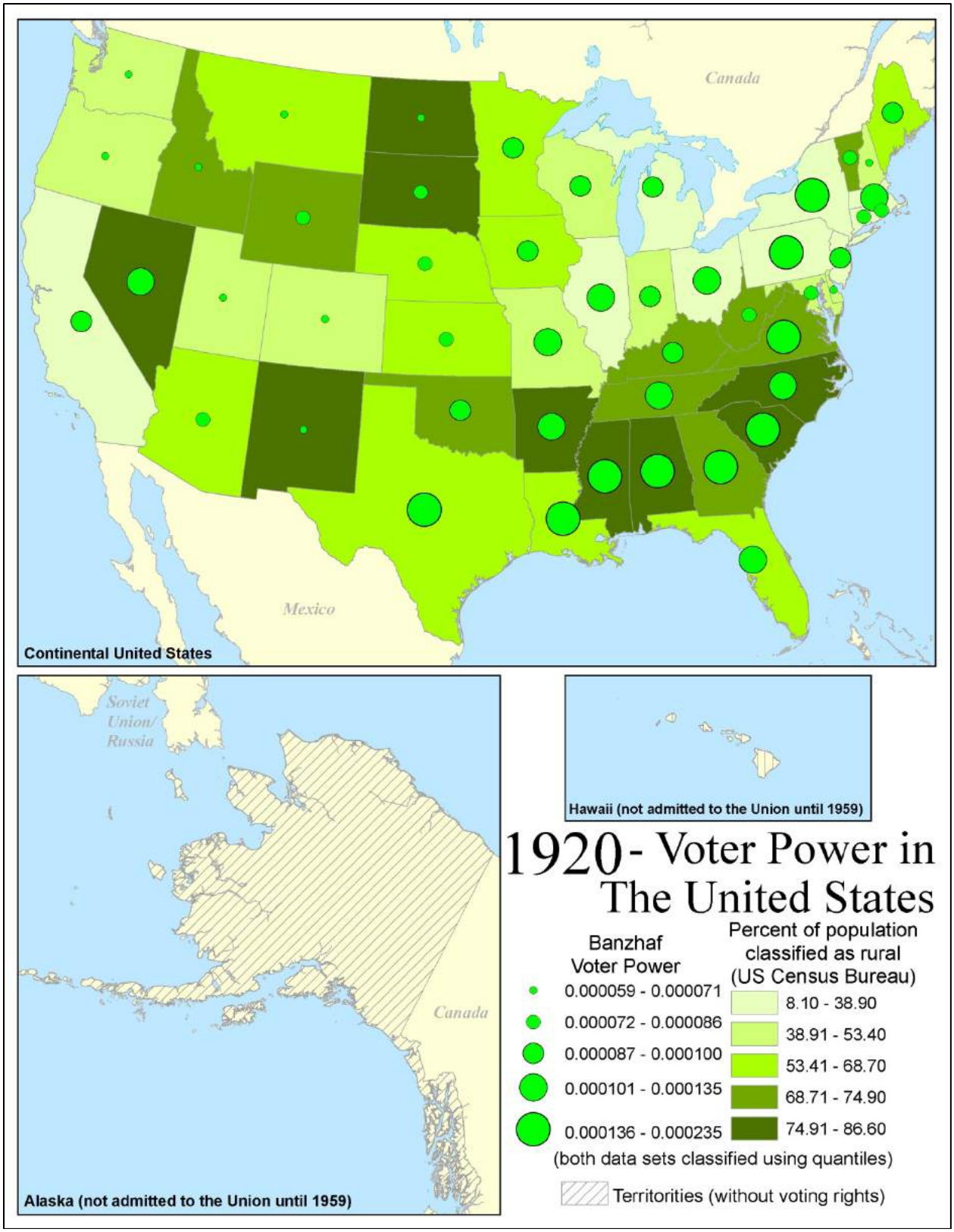


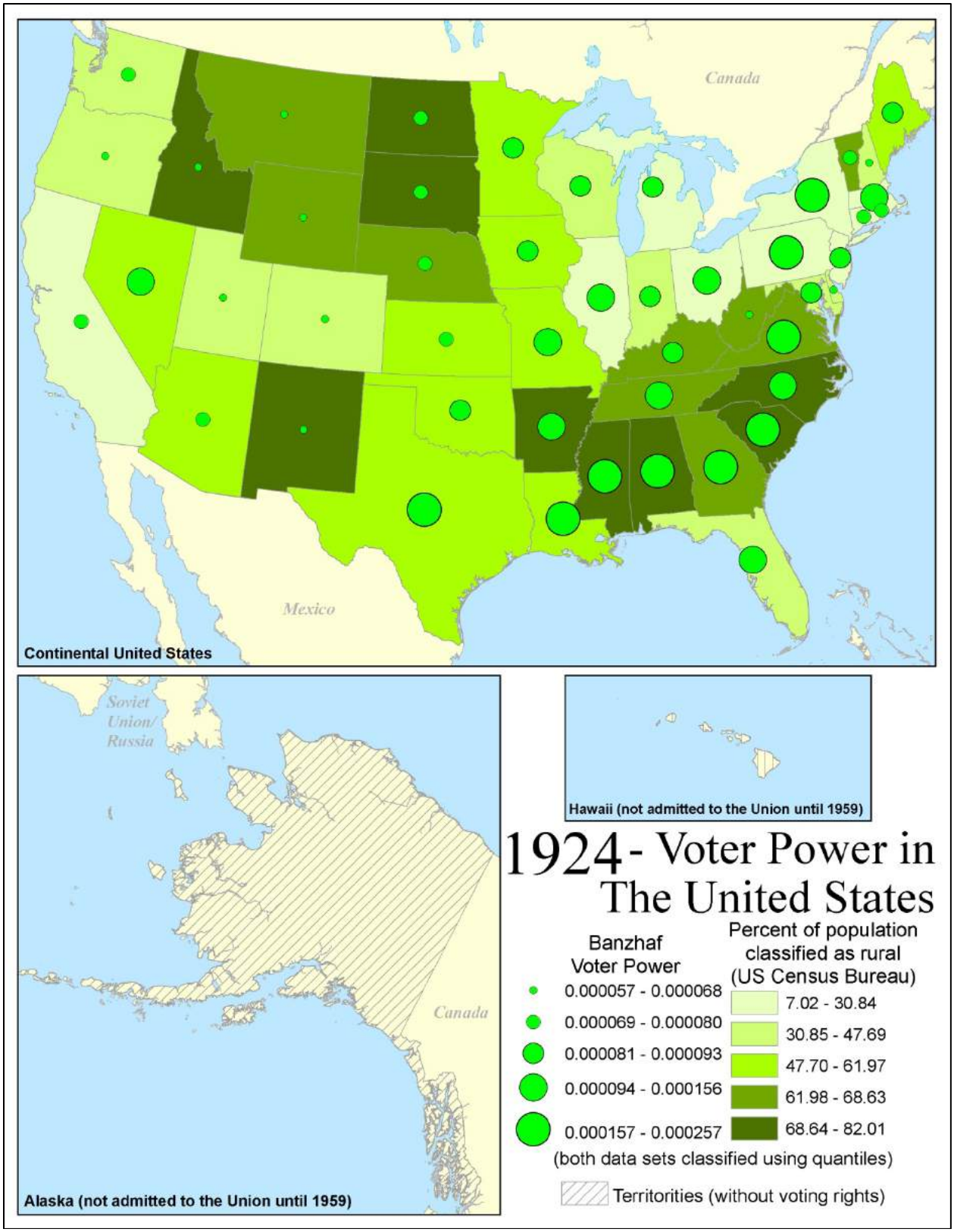

Canada
Mexico
Continental United States (Oklahoma not admitted to the Union until 1907; Arizona and New Mexico not until 1912)
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1904 - Voter Power in The United States
Banzhaf Voter Power
0.000066 - 0.000101
0.000102 - 0.000123
0.000124 - 0.000144
0.000145 - 0.000192
0.000193 - 0.000292
Percent of population classified as rural (US Census Bureau)
10.44 - 48.54
48.55 - 60.80
60.81 - 74.67
74.68 - 83.38
83.39 - 90.68
(both data sets classified using quantiles)
Territorities (without voting rights)

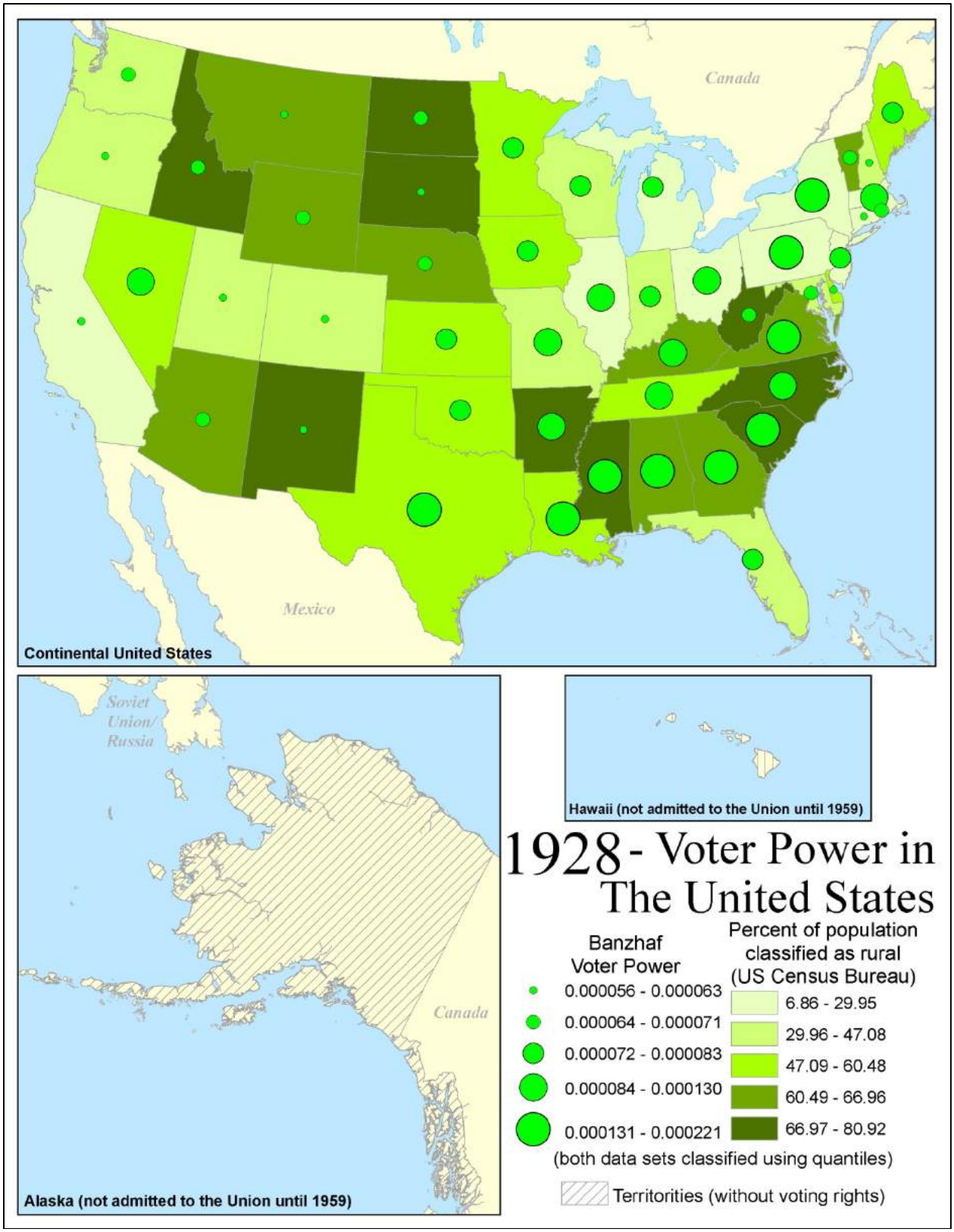

Canada
Mexico
Continental United States (Arizona and New Mexico not admitted to the Union until 1912)
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1908 - Voter Power in The United States
Banzhaf Voter Power
0.000064 - 0.000096
0.000097 - 0.000115
0.000116 - 0.000135
0.000136 - 0.000182
0.000183 - 0.000273
Percent of population classified as rural (US Census Bureau)
9.42 - 48.22
48.23 - 58.83
58.84 - 72.21
72.22 - 82.01
82.02 - 89.48
(both data sets classified using quantiles)
Territorities (without voting rights)

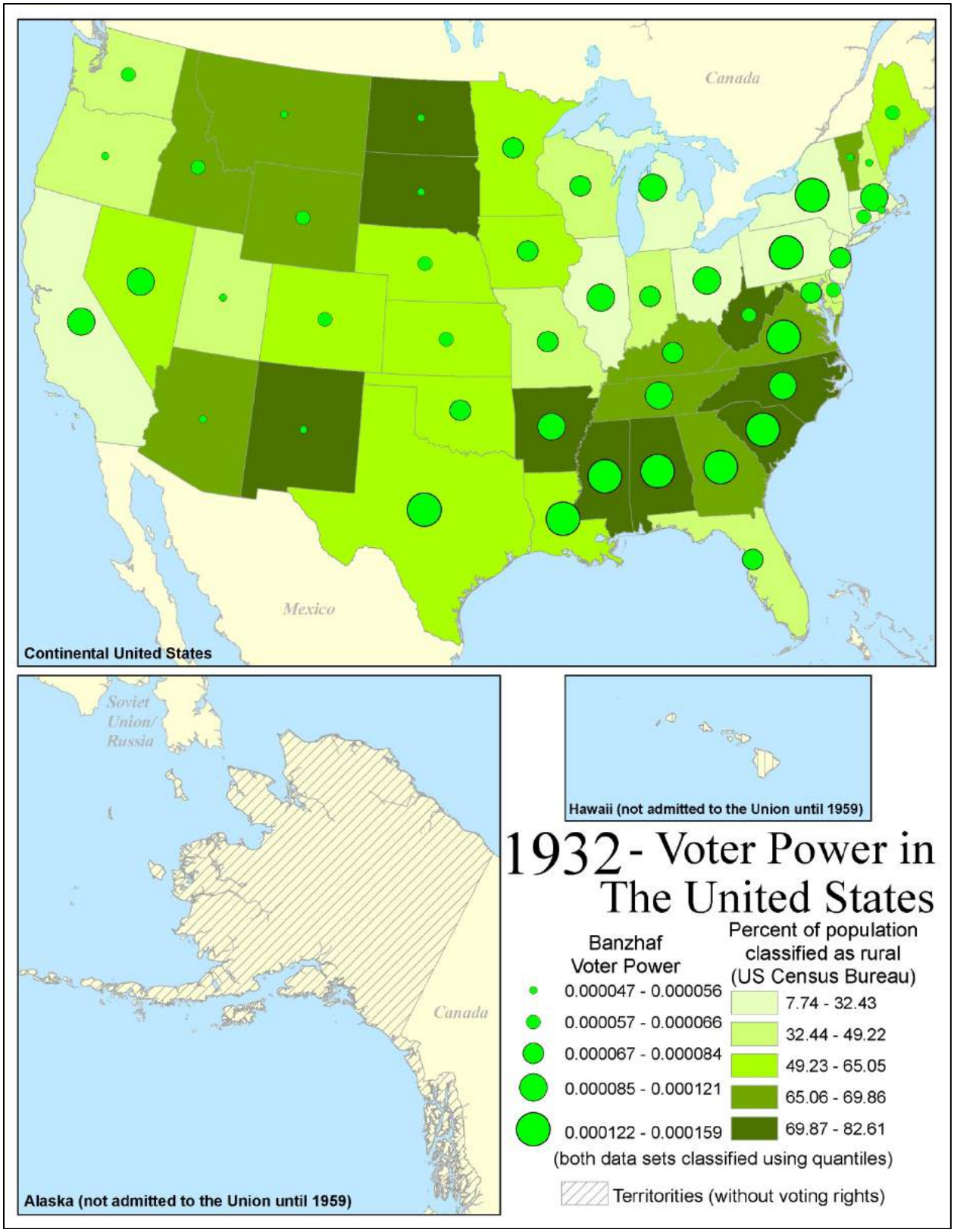

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1912 - Voter Power in The United States
Banzhaf Voter Power
0.000075 - 0.000094
0.000095 - 0.000109
0.000110 - 0.000136
0.000137 - 0.000179
0.000180 - 0.000259
Percent of population classified as rural (US Census Bureau)
8.79 - 22.76
22.77 - 56.80
56.81 - 71.53
71.54 - 79.81
79.82 - 88.45
(both data sets classified using quantiles)
Territorities (without voting rights)

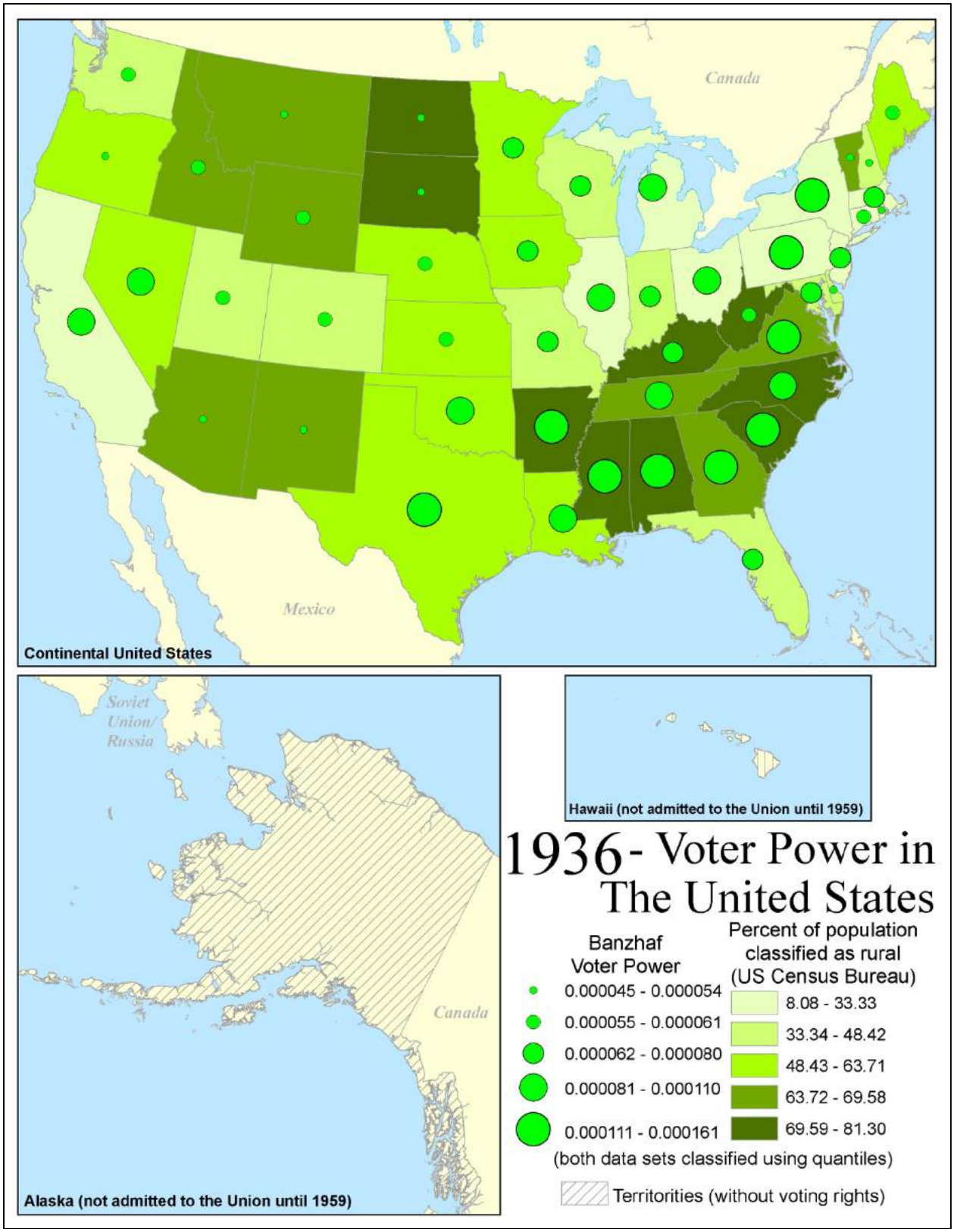

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1916- Voter Power in The United States
Banzhaf Voter Power
0.000061 - 0.000084
0.000085 - 0.000101
0.000102 - 0.000125
0.000126 - 0.000160
0.000161 - 0.000241
Percent of population classified as rural (US Census Bureau)
8.46 - 43.45
43.46 - 55.07
55.08 - 70.55
70.56 - 79.96
79.97 - 87.36
(both data sets classified using quantiles)
Territorities (without voting rights)

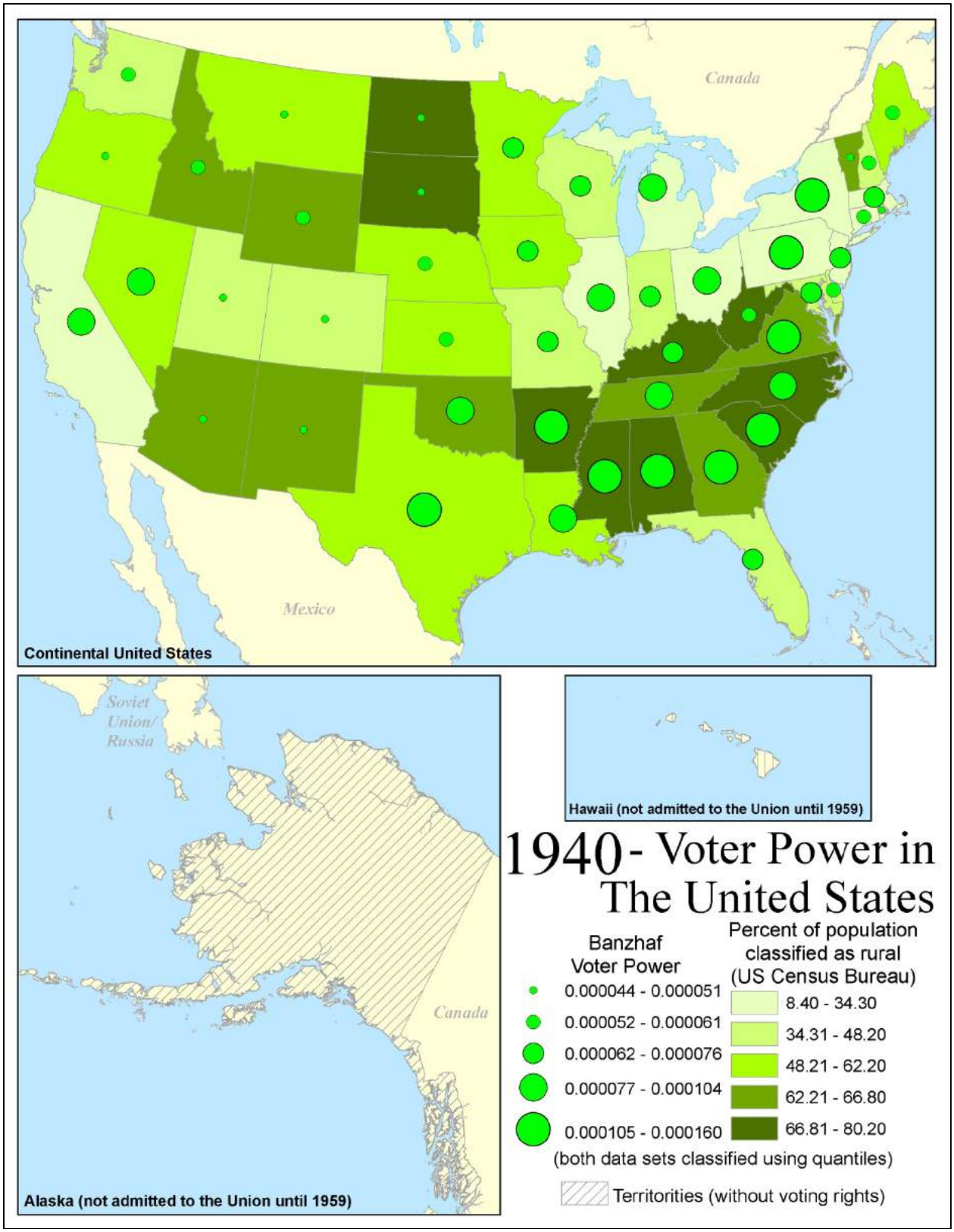

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1920- Voter Power in The United States
Banzhaf Voter Power
0.000059 - 0.000071
0.000072 - 0.000086
0.000087 - 0.000100
0.000101 - 0.000135
0.000136 - 0.000235
Percent of population classified as rural (US Census Bureau)
8.10 - 38.90
38.91 - 53.40
53.41 - 68.70
68.71 - 74.90
74.91 - 86.60
(both data sets classified using quantiles)
Territorities (without voting rights)

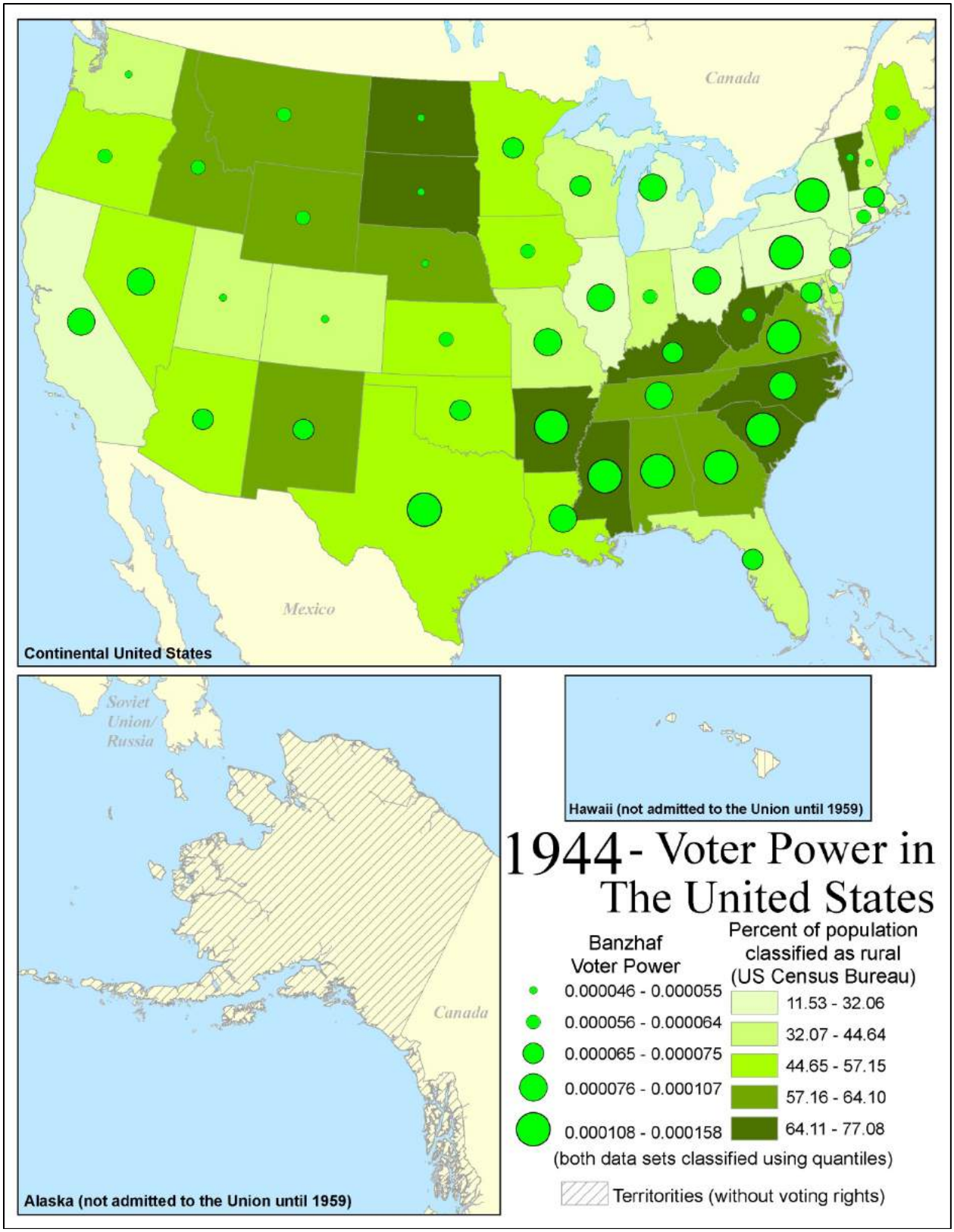

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1924- Voter Power in The United States
Banzhaf Voter Power
0.000057 - 0.000068
0.000069 - 0.000080
0.000081 - 0.000093
0.000094 - 0.000156
0.000157 - 0.000257
Percent of population classified as rural (US Census Bureau)
7.02 - 30.84
30.85 - 47.69
47.70 - 61.97
61.98 - 68.63
68.64 - 82.01
(both data sets classified using quantiles)
Territorities (without voting rights)

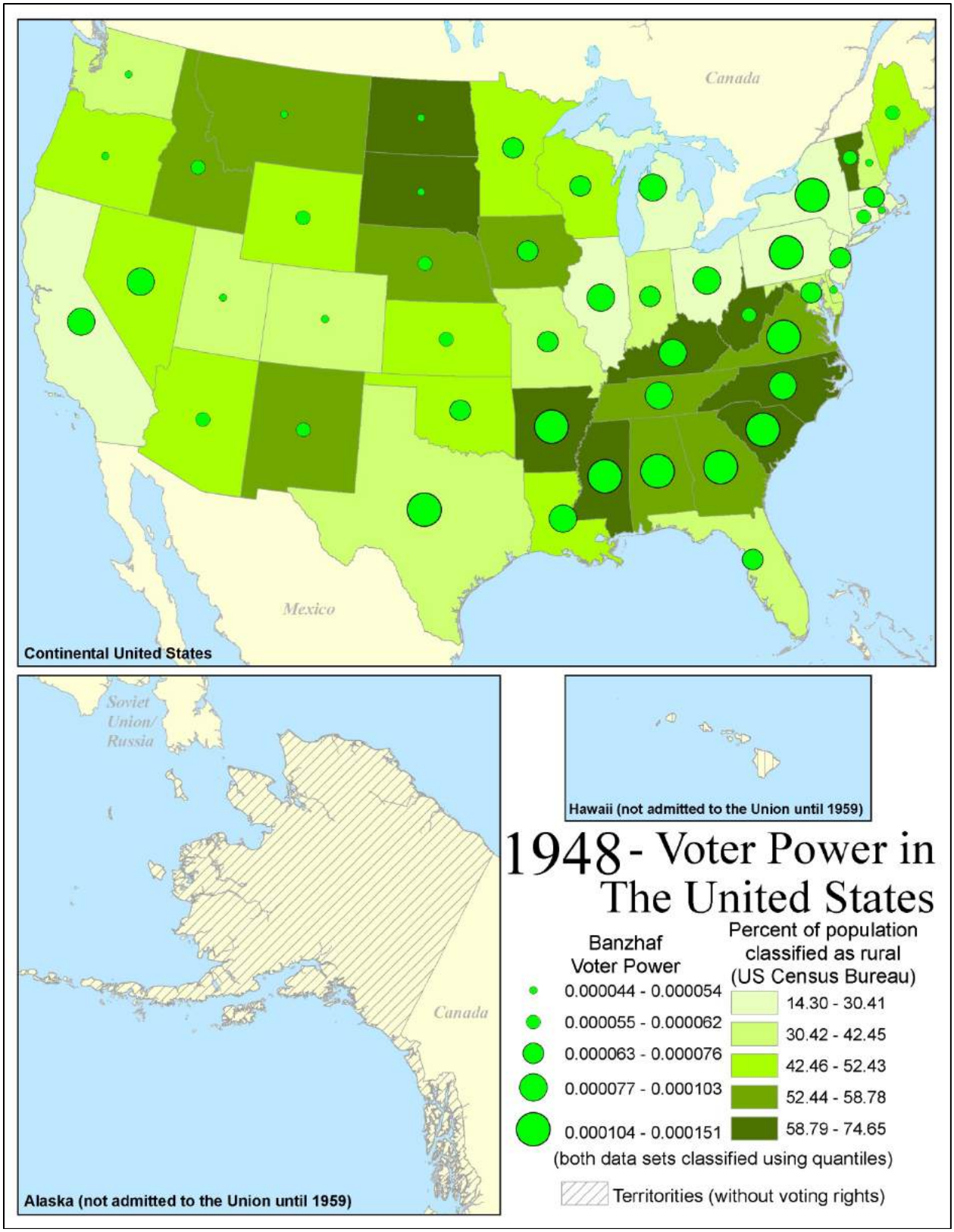

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1928 - Voter Power in The United States
Banzhaf Voter Power
0.000056 - 0.000063
0.000064 - 0.000071
0.000072 - 0.000083
0.000084 - 0.000130
0.000131 - 0.000221
Percent of population classified as rural (US Census Bureau)
6.86 - 29.95
29.96 - 47.08
47.09 - 60.48
60.49 - 66.96
66.97 - 80.92
(both data sets classified using quantiles)
Territorities (without voting rights)

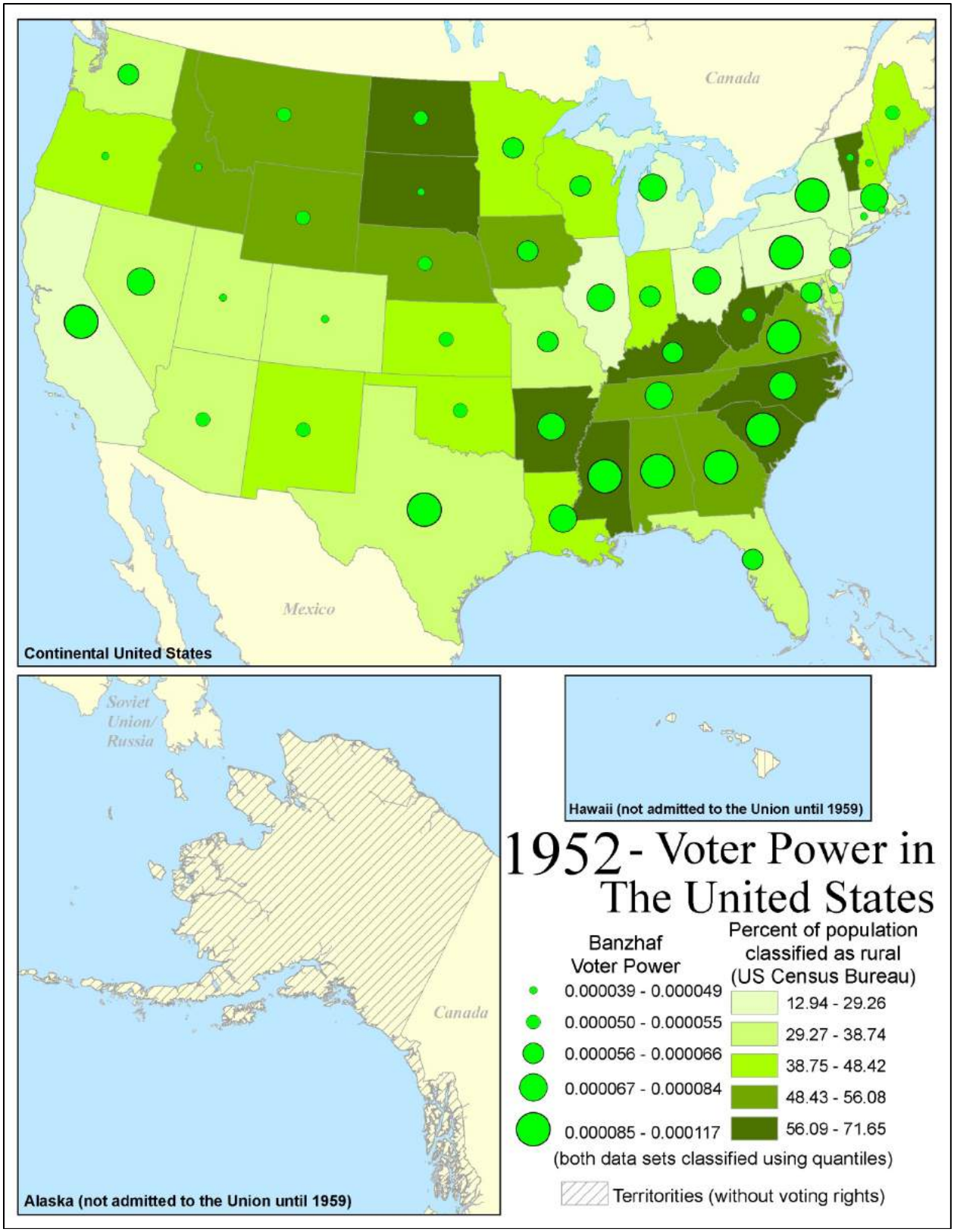

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1932 - Voter Power in The United States
Banzhaf Voter Power
0.000047 - 0.000056
0.000057 - 0.000066
0.000067 - 0.000084
0.000085 - 0.000121
0.000122 - 0.000159
Percent of population classified as rural (US Census Bureau)
7.74 - 32.43
32.44 - 49.22
49.23 - 65.05
65.06 - 69.86
69.87 - 82.61
(both data sets classified using quantiles)
Territorities (without voting rights)

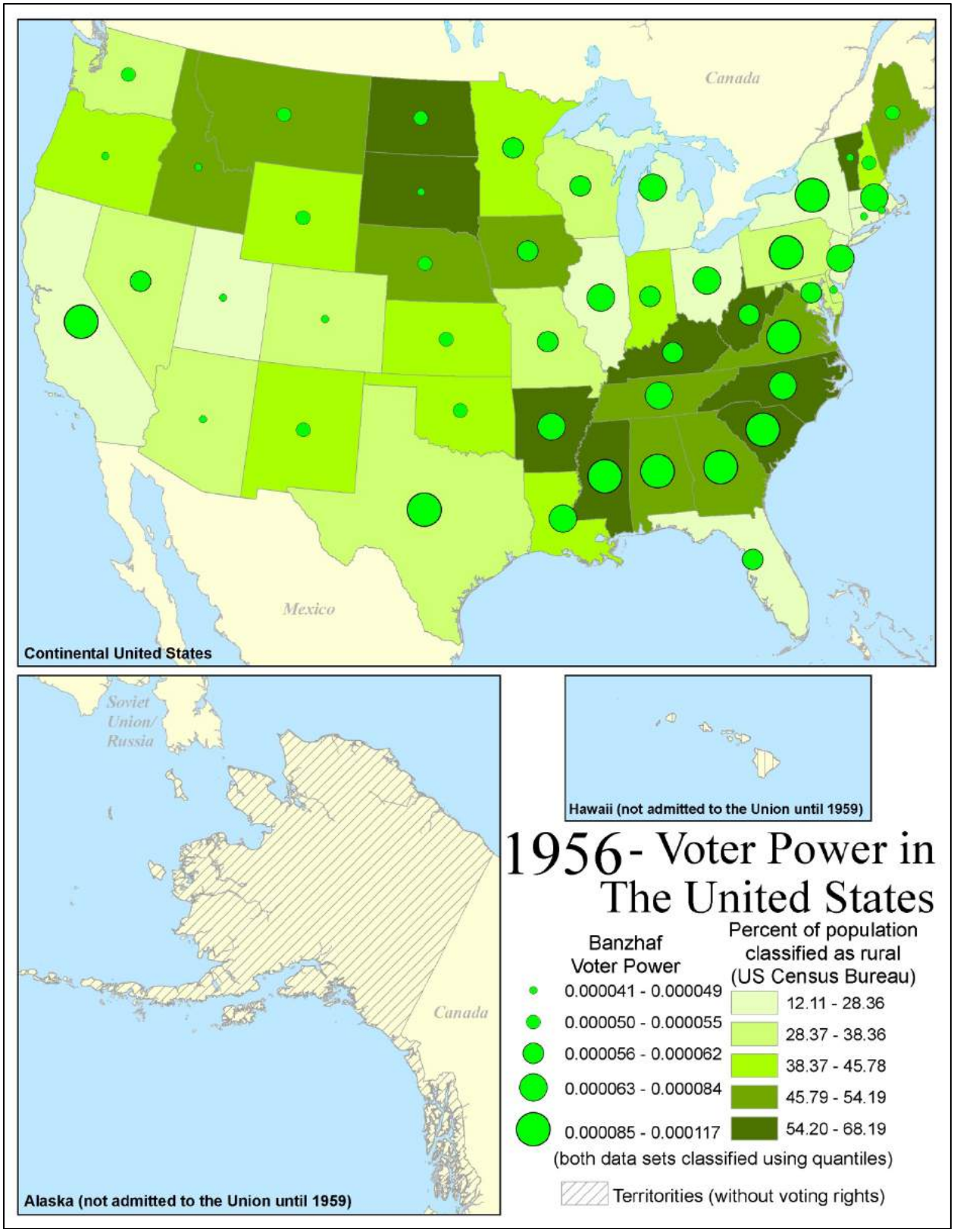

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1936- Voter Power in The United States
Banzhaf Voter Power
0.000045 - 0.000054
0.000055 - 0.000061
0.000062 - 0.000080
0.000081 - 0.000110
0.000111 - 0.000161
Percent of population classified as rural (US Census Bureau)
8.08 - 33.33
33.34 - 48.42
48.43 - 63.71
63.72 - 69.58
69.59 - 81.30
(both data sets classified using quantiles)
Territorities (without voting rights)

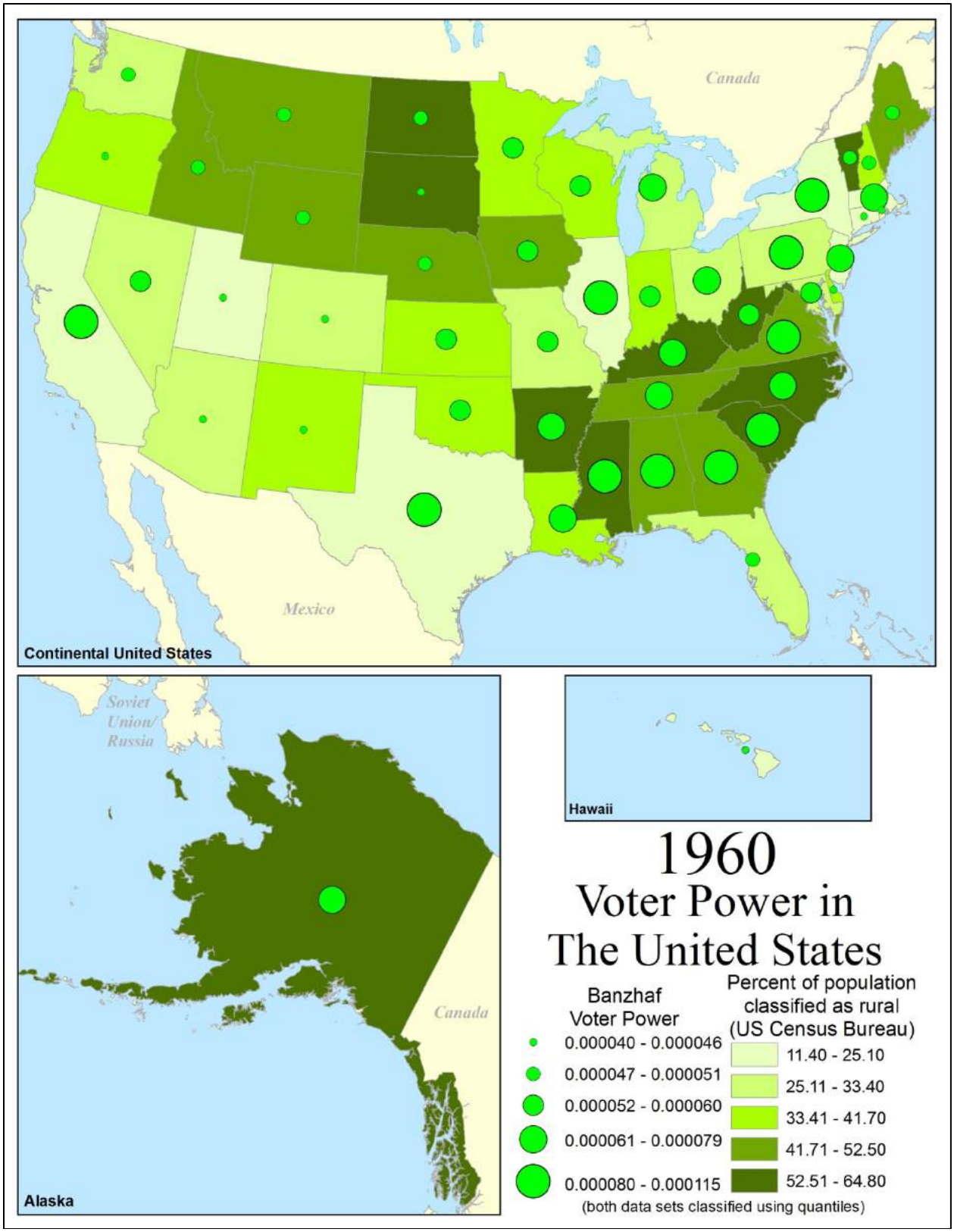

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1940 - Voter Power in The United States
Banzhaf Voter Power
0.000044 - 0.000051
0.000052 - 0.000061
0.000062 - 0.000076
0.000077 - 0.000104
0.000105 - 0.000160
Percent of population classified as rural (US Census Bureau)
8.40 - 34.30
34.31 - 48.20
48.21 - 62.20
62.21 - 66.80
66.81 - 80.20
(both data sets classified using quantiles)
Territorities (without voting rights)

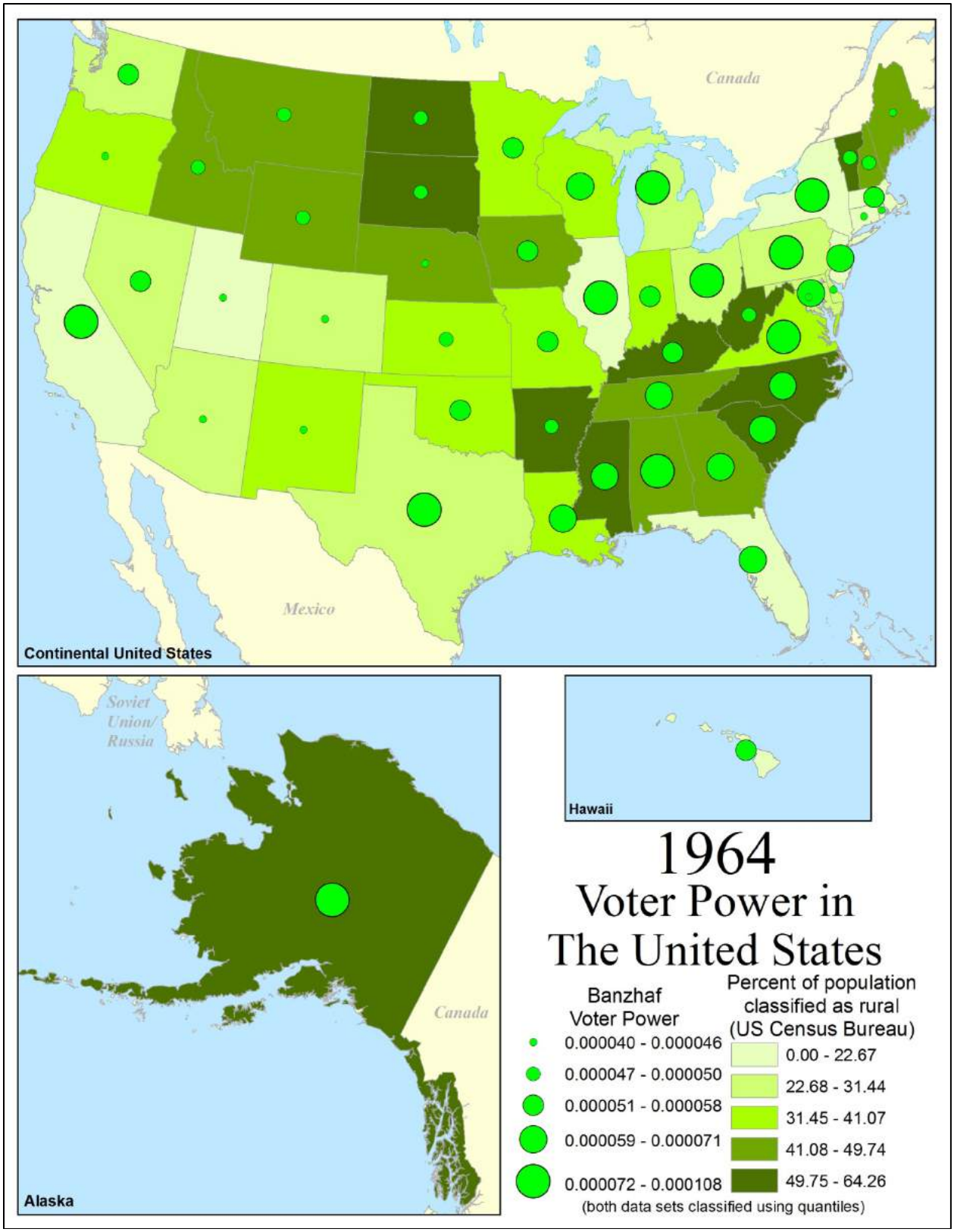

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1944 - Voter Power in The United States
Banzhaf Voter Power
0.000046 - 0.000055
0.000056 - 0.000064
0.000065 - 0.000075
0.000076 - 0.000107
0.000108 - 0.000158
Percent of population classified as rural (US Census Bureau)
11.53 - 32.06
32.07 - 44.64
44.65 - 57.15
57.16 - 64.10
64.11 - 77.08
(both data sets classified using quantiles)
Territorities (without voting rights)

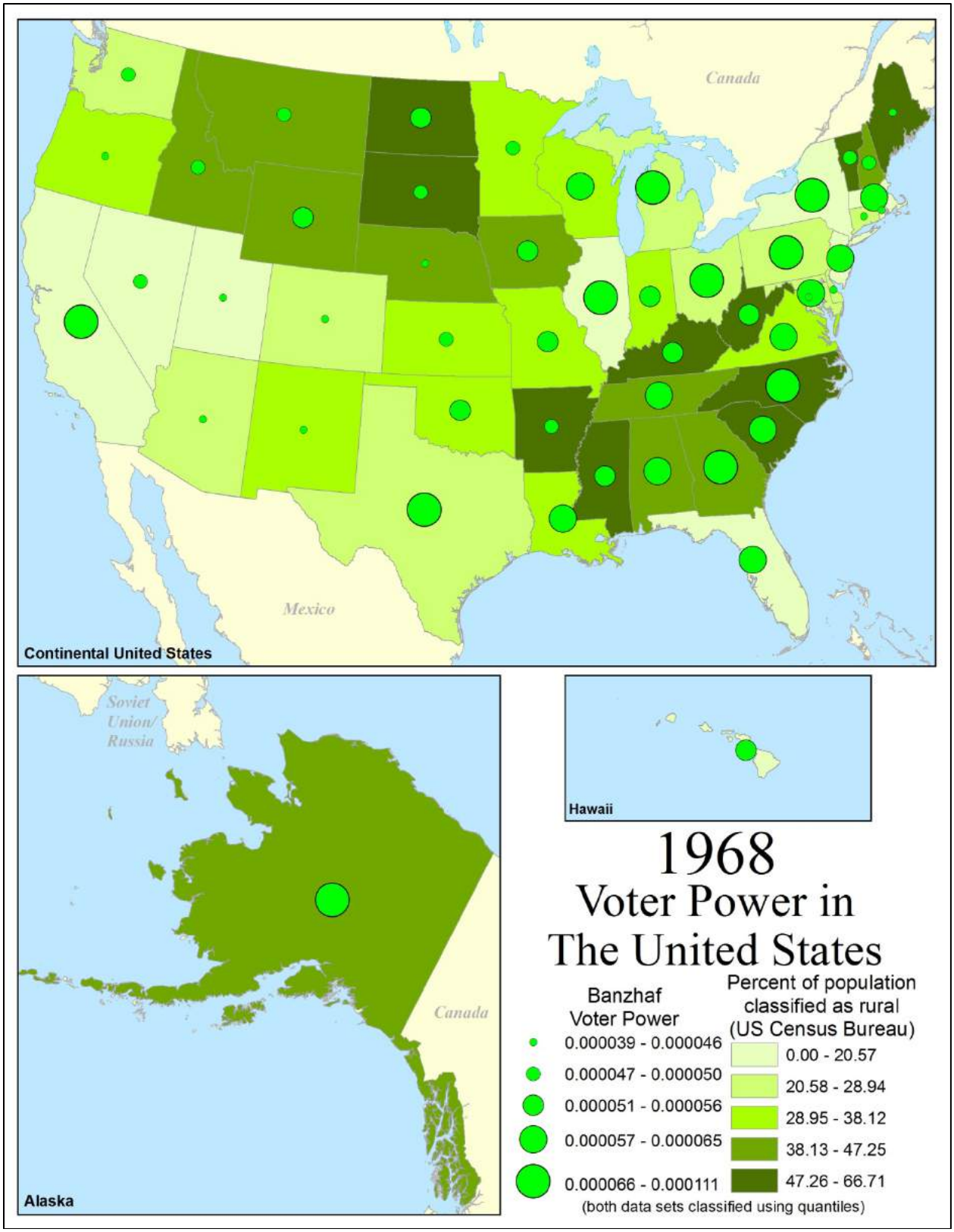

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1948 - Voter Power in The United States
Banzhaf Voter Power
0.000044 - 0.000054
0.000055 - 0.000062
0.000063 - 0.000076
0.000077 - 0.000103
0.000104 - 0.000151
Percent of population classified as rural (US Census Bureau)
14.30 - 30.41
30.42 - 42.45
42.46 - 52.43
52.44 - 58.78
58.79 - 74.65
(both data sets classified using quantiles)
Territorities (without voting rights)

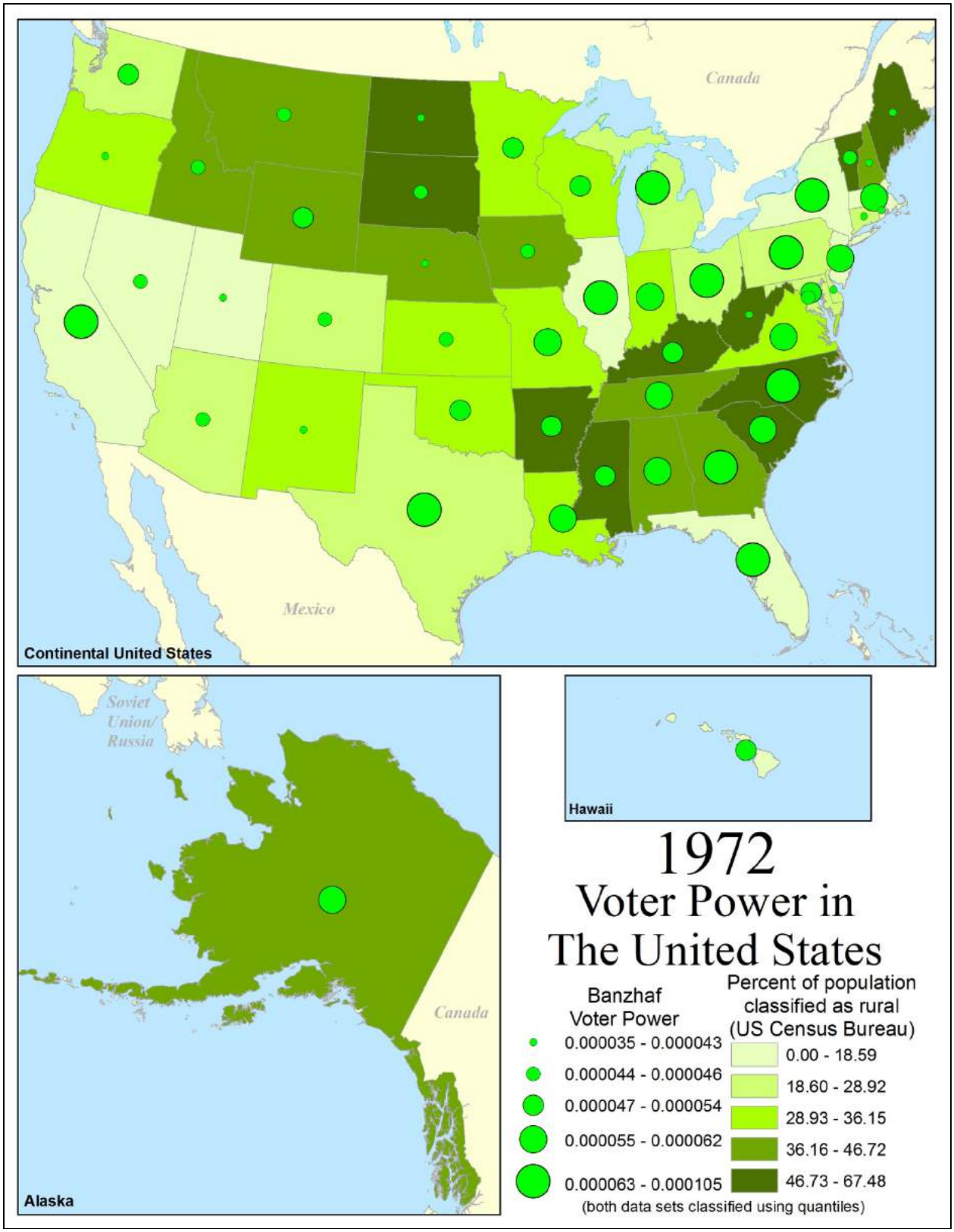

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1952 - Voter Power in The United States
Banzhaf Voter Power
0.000039 - 0.000049
0.000050 - 0.000055
0.000056 - 0.000066
0.000067 - 0.000084
0.000085 - 0.000117
Percent of population classified as rural (US Census Bureau)
12.94 - 29.26
29.27 - 38.74
38.75 - 48.42
48.43 - 56.08
56.09 - 71.65
(both data sets classified using quantiles)
Territorities (without voting rights)

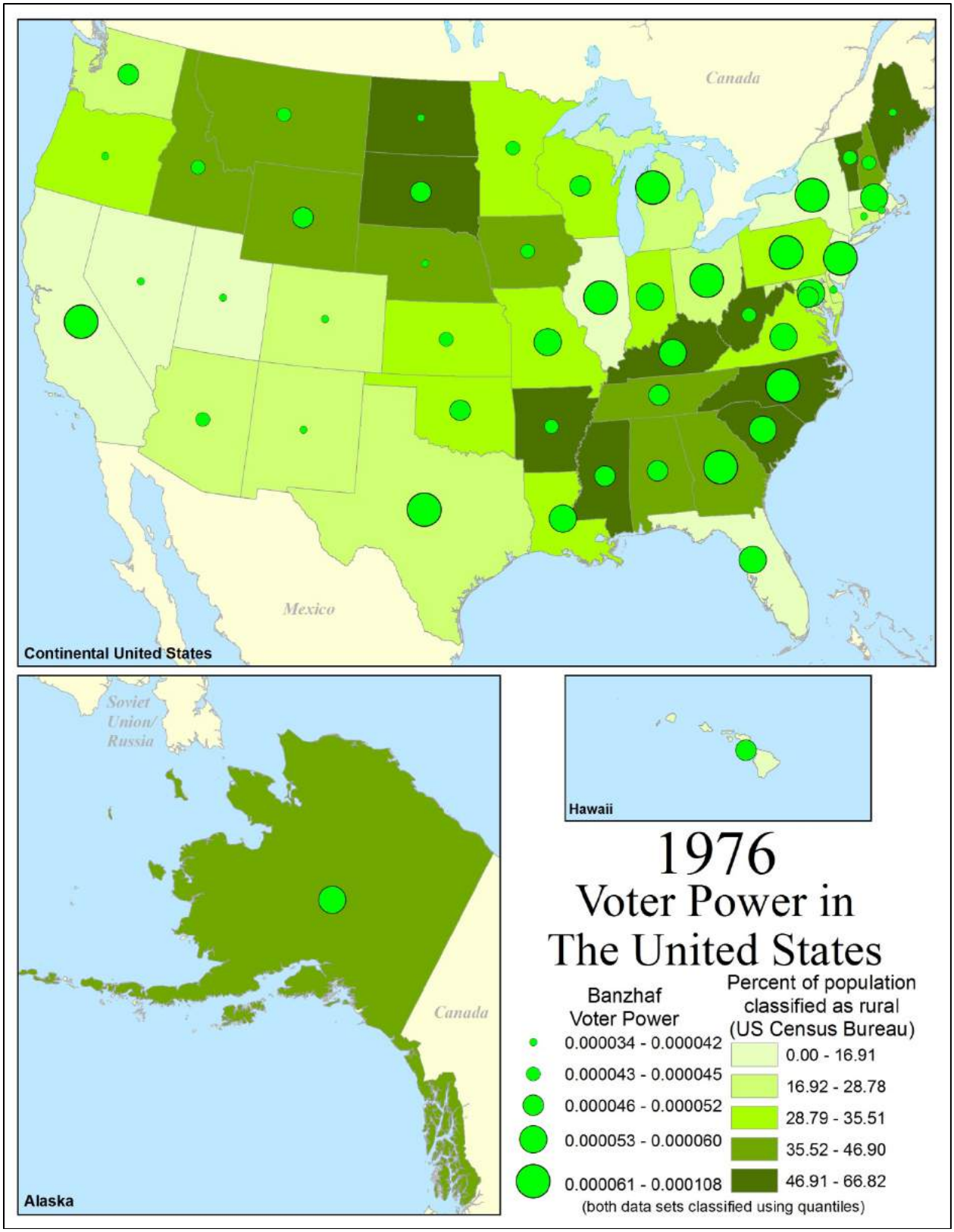

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1956- Voter Power in The United States
Banzhaf Voter Power
0.000041 - 0.000049
0.000050 - 0.000055
0.000056 - 0.000062
0.000063 - 0.000084
0.000085 - 0.000117
Percent of population classified as rural (US Census Bureau)
12.11 - 28.36
28.37 - 38.36
38.37 - 45.78
45.79 - 54.19
54.20 - 68.19
(both data sets classified using quantiles)
Territorities (without voting rights)

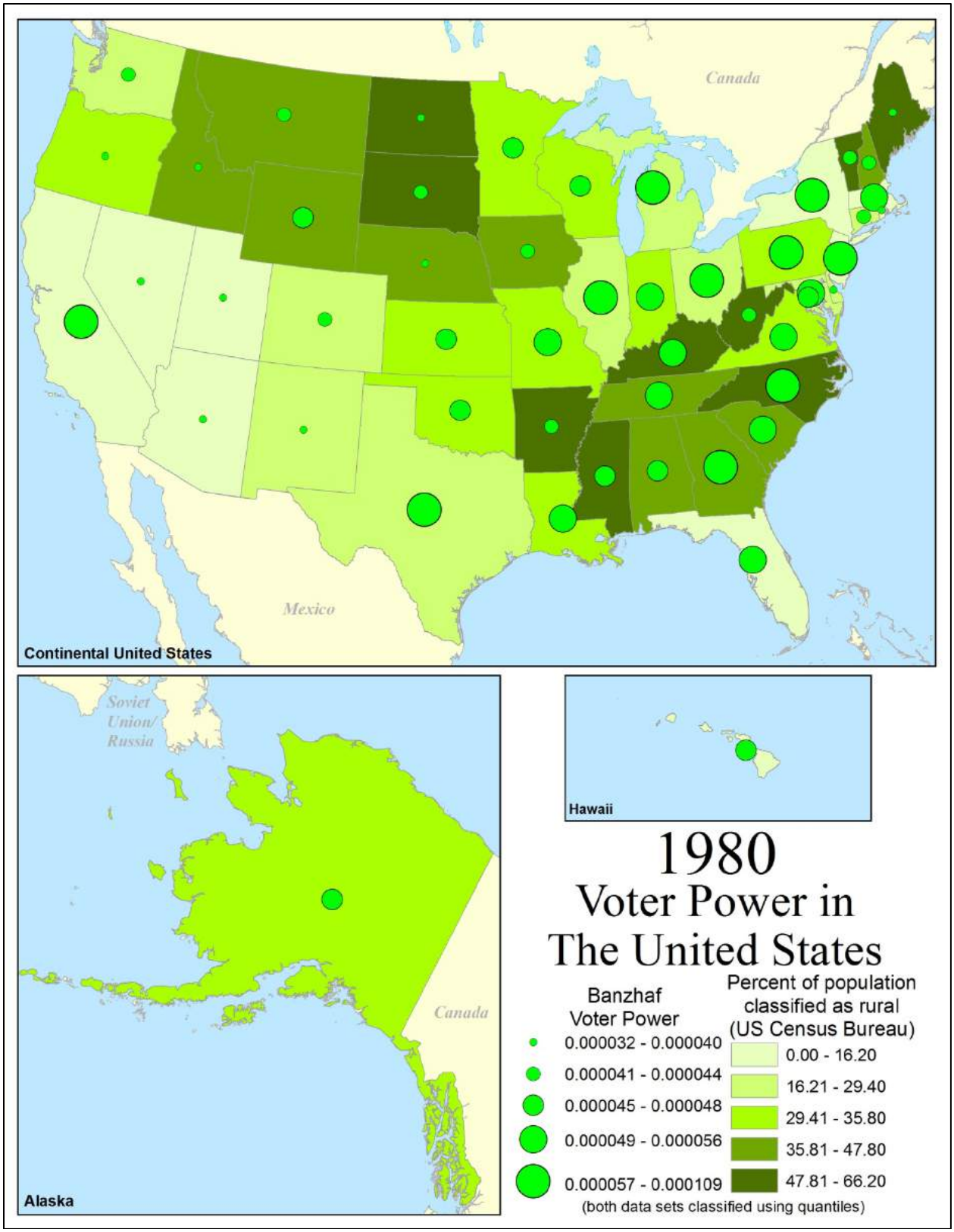

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1960
Voter Power in The United States
Banzhaf Voter Power
0.000040 - 0.000046
0.000047 - 0.000051
0.000052 - 0.000060
0.000061 - 0.000079
0.000080 - 0.000115
Percent of population classified as rural (US Census Bureau)
11.40 - 25.10
25.11 - 33.40
33.41 - 41.70
41.71 - 52.50
52.51 - 64.80
(both data sets classified using quantiles)

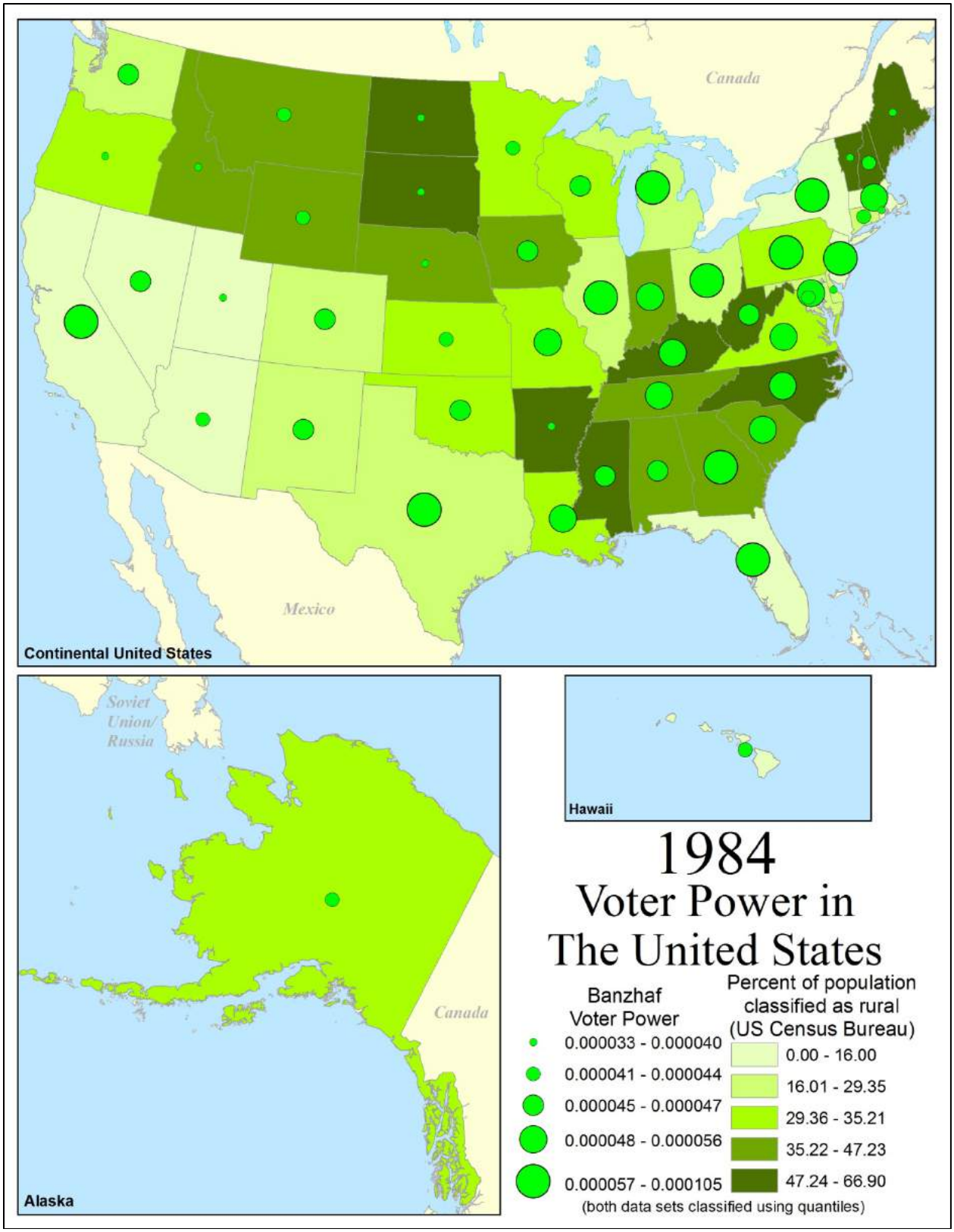

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1964
Voter Power in The United States
Banzhaf Voter Power
0.000040 - 0.000046
0.000047 - 0.000050
0.000051 - 0.000058
0.000059 - 0.000071
0.000072 - 0.000108
Percent of population classified as rural (US Census Bureau)
0.00 - 22.67
22.68 - 31.44
31.45 - 41.07
41.08 - 49.74
49.75 - 64.26
(both data sets classified using quantiles)

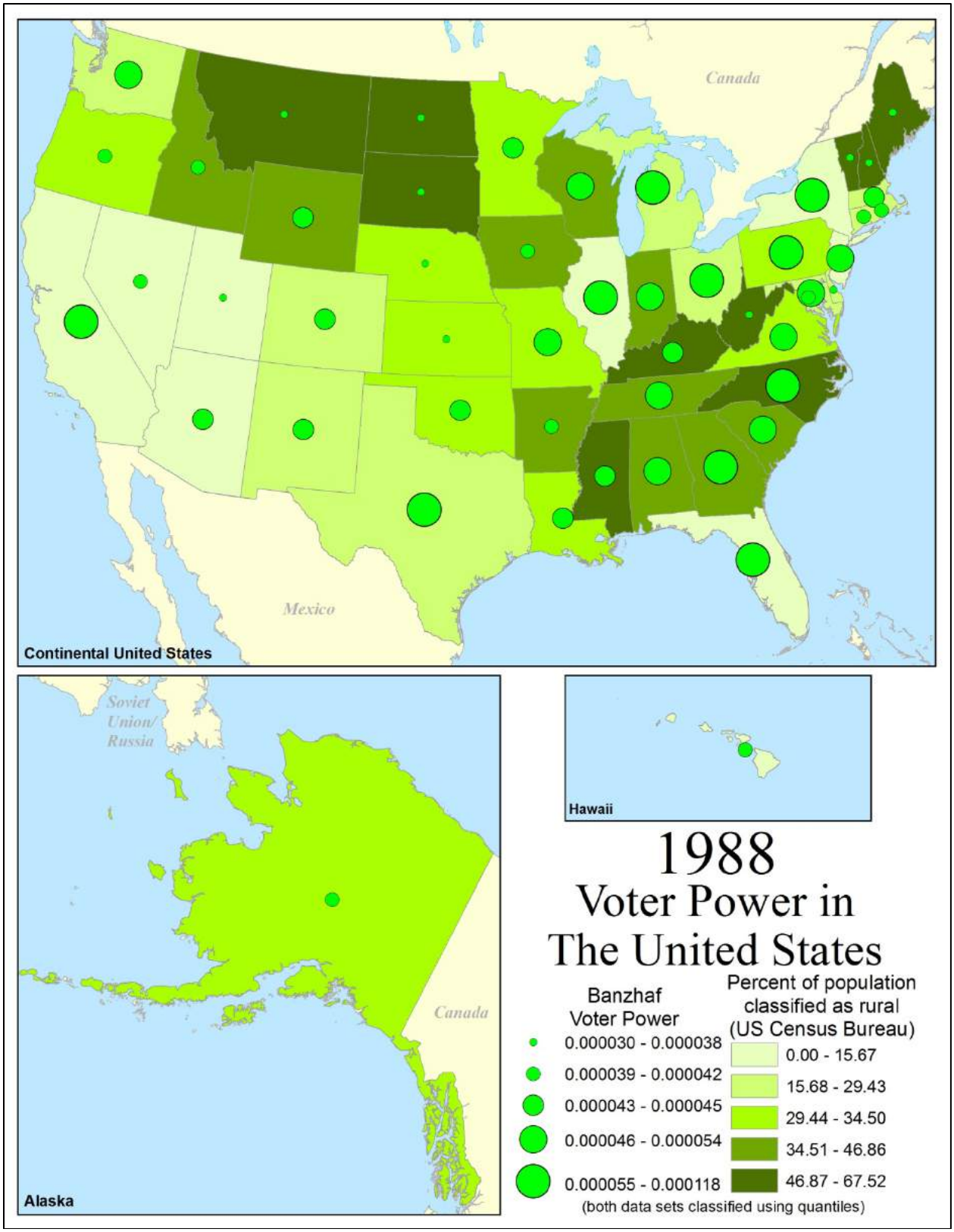

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1968
Voter Power in The United States
Banzhaf Voter Power
0.000039 - 0.000046
0.000047 - 0.000050
0.000051 - 0.000056
0.000057 - 0.000065
0.000066 - 0.000111
Percent of population classified as rural (US Census Bureau)
0.00 - 20.57
20.58 - 28.94
28.95 - 38.12
38.13 - 47.25
47.26 - 66.71
(both data sets classified using quantiles)

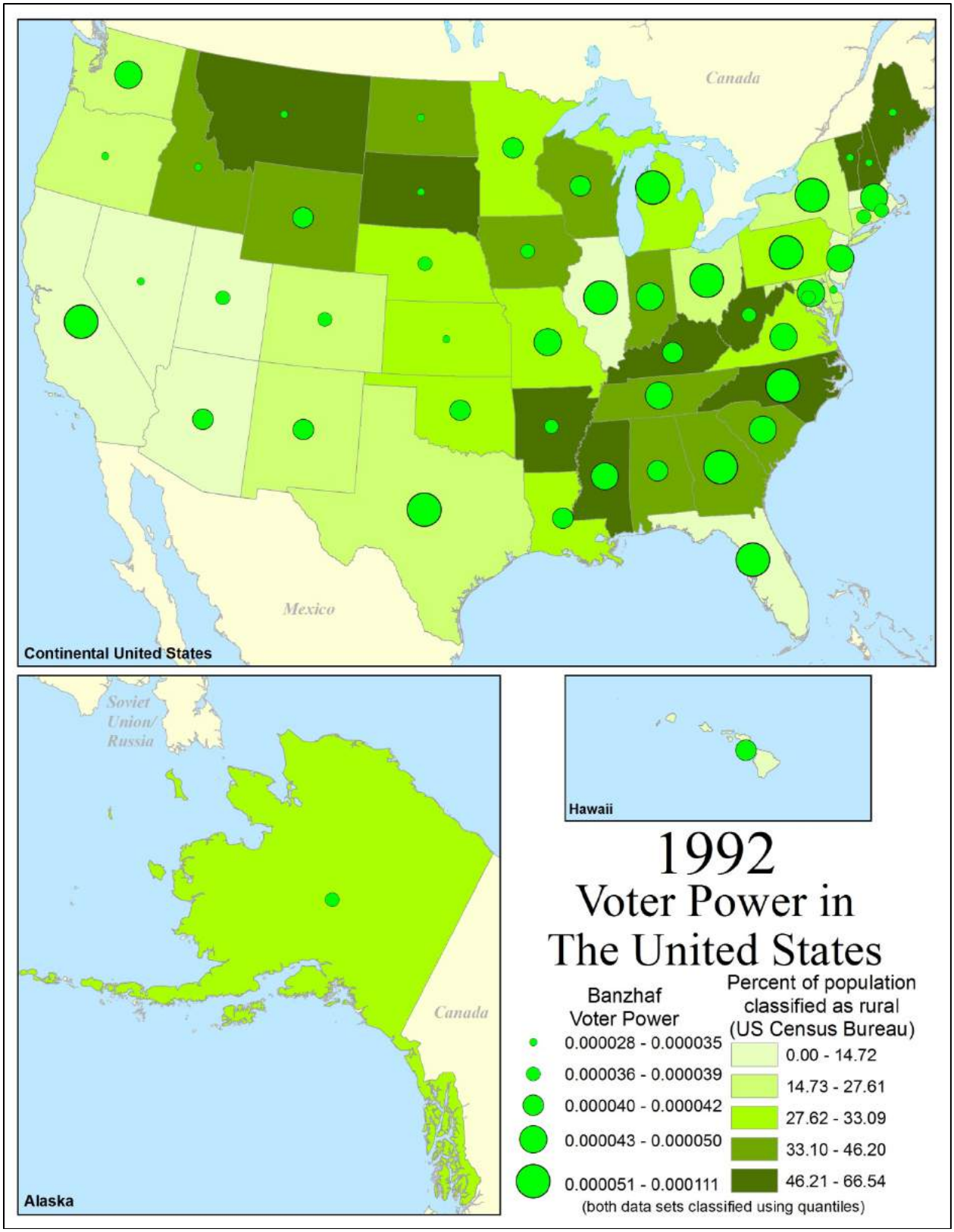

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1972
Voter Power in The United States
Banzhaf Voter Power
0.000035 - 0.000043
0.000044 - 0.000046
0.000047 - 0.000054
0.000055 - 0.000062
0.000063 - 0.000105
Percent of population classified as rural (US Census Bureau)
0.00 - 18.59
18.60 - 28.92
28.93 - 36.15
36.16 - 46.72
46.73 - 67.48
(both data sets classified using quantiles)

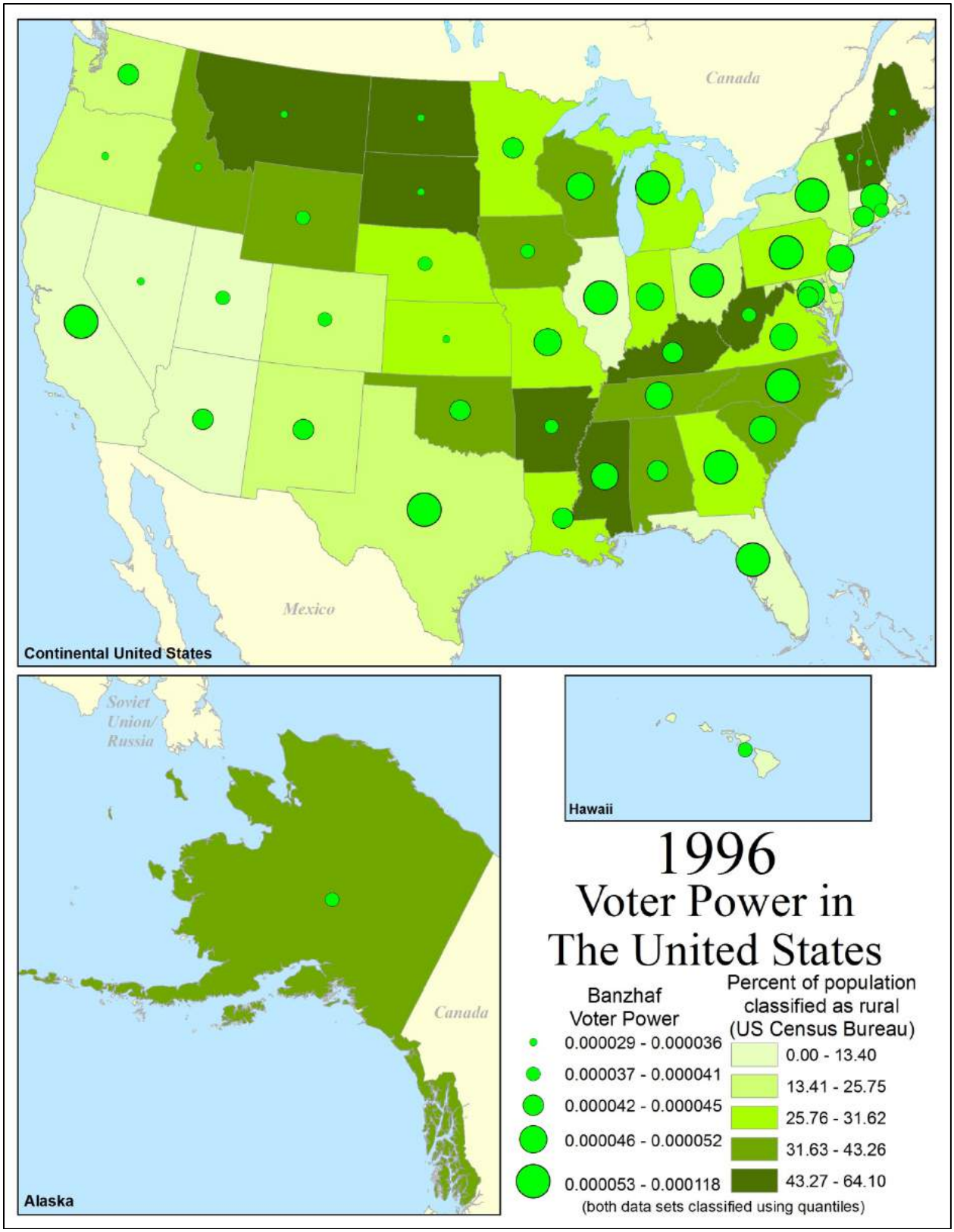

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1976
Voter Power in The United States
Banzhaf Voter Power
0.000034 - 0.000042
0.000043 - 0.000045
0.000046 - 0.000052
0.000053 - 0.000060
0.000061 - 0.000108
Percent of population classified as rural (US Census Bureau)
0.00 - 16.91
16.92 - 28.78
28.79 - 35.51
35.52 - 46.90
46.91 - 66.82
(both data sets classified using quantiles)

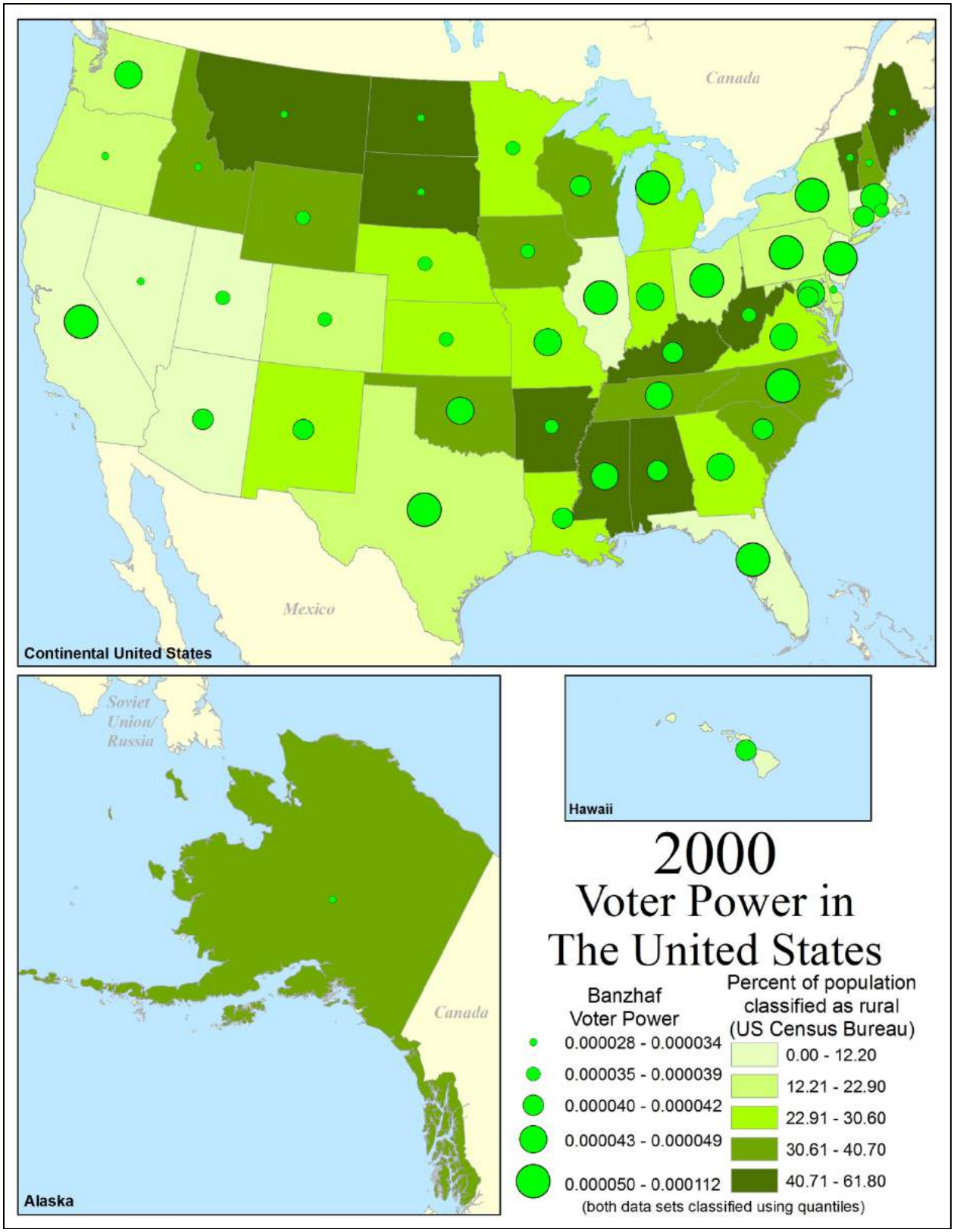

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1980
Voter Power in The United States
Banzhaf Voter Power
0.000032 - 0.000040
0.000041 - 0.000044
0.000045 - 0.000048
0.000049 - 0.000056
0.000057 - 0.000109
Percent of population classified as rural (US Census Bureau)
0.00 - 16.20
16.21 - 29.40
29.41 - 35.80
35.81 - 47.80
47.81 - 66.20
(both data sets classified using quantiles)

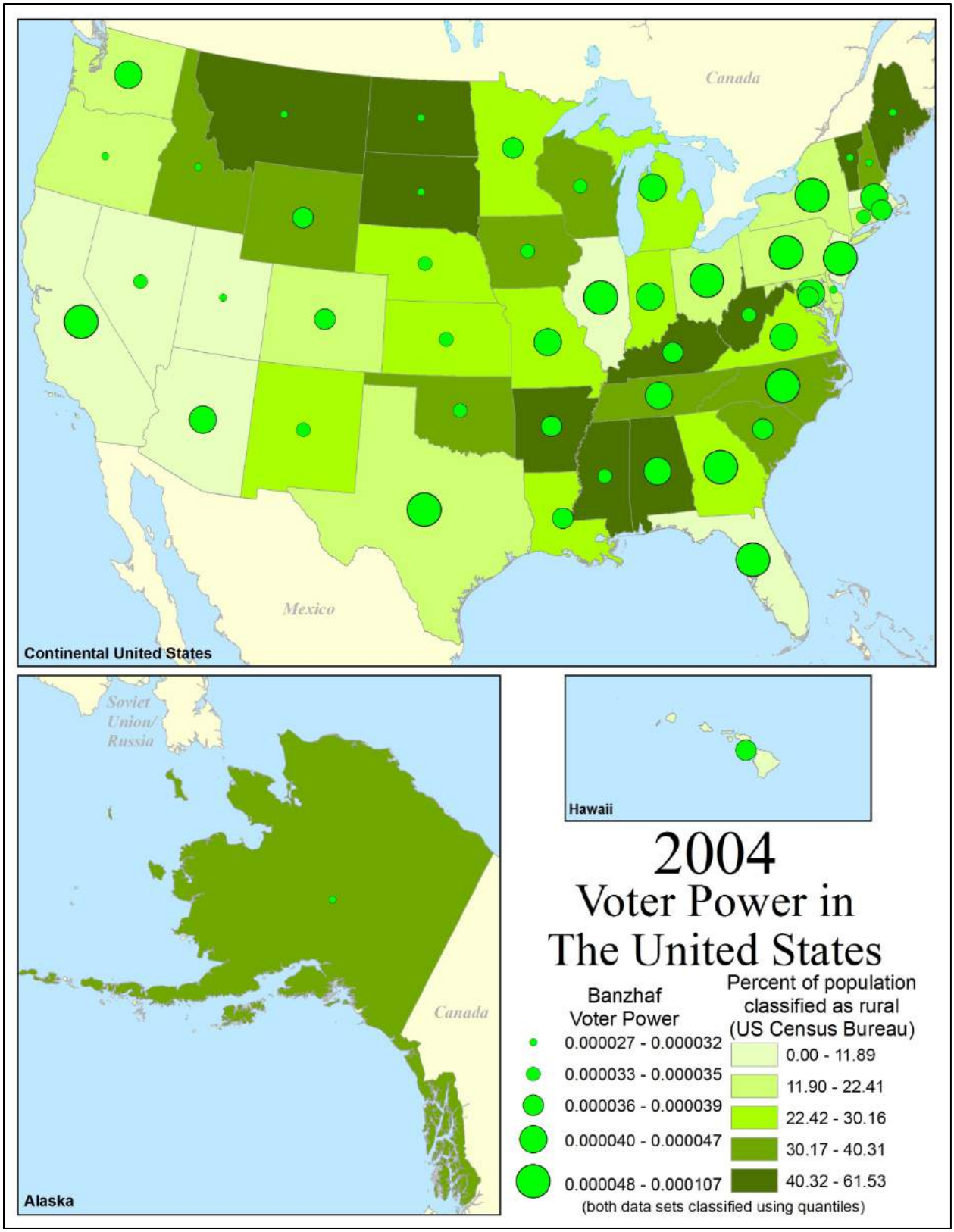

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1984
Voter Power in The United States
Banzhaf Voter Power
0.000033 - 0.000040
0.000041 - 0.000044
0.000045 - 0.000047
0.000048 - 0.000056
0.000057 - 0.000105
Percent of population classified as rural (US Census Bureau)
0.00 - 16.00
16.01 - 29.35
29.36 - 35.21
35.22 - 47.23
47.24 - 66.90
(both data sets classified using quantiles)

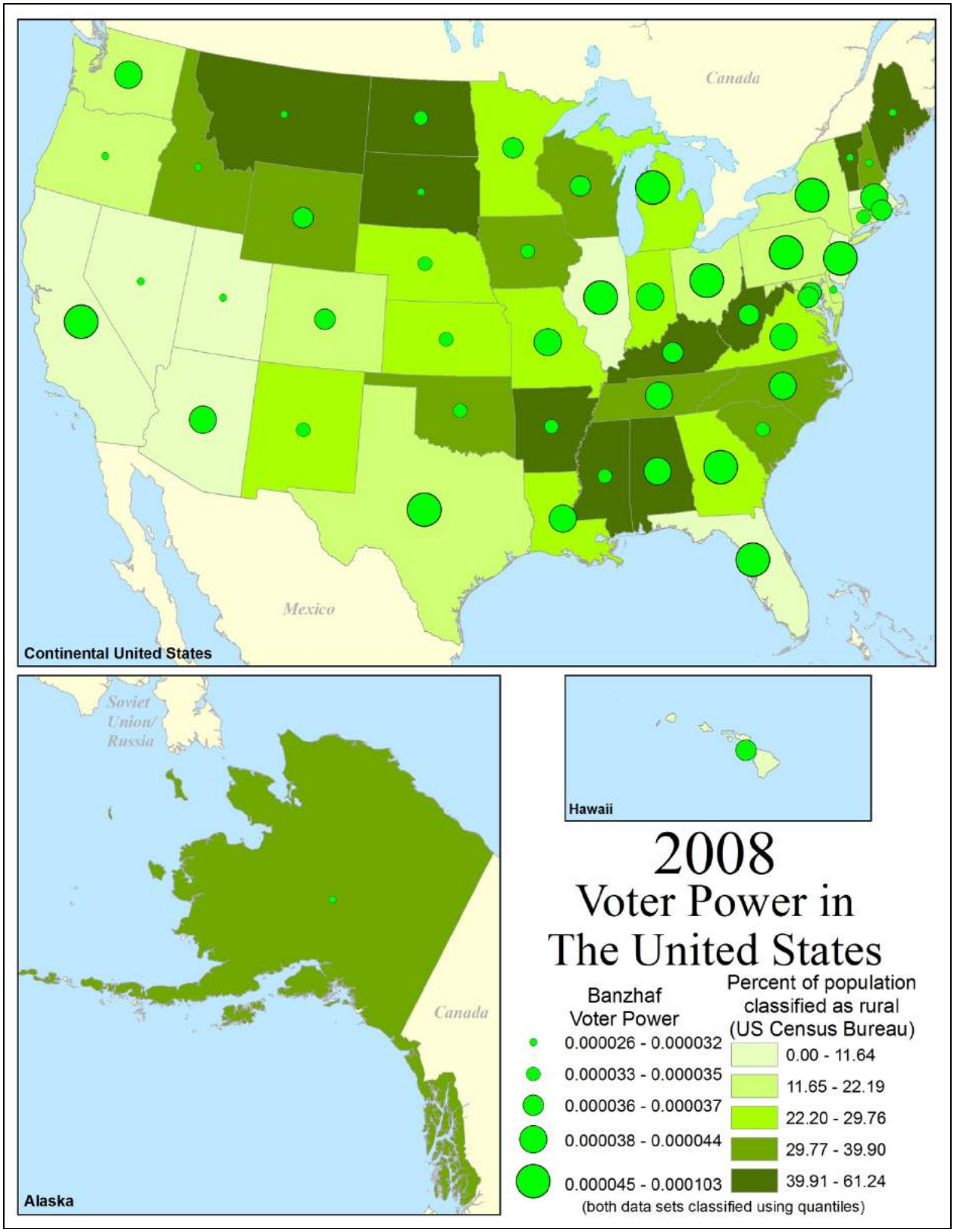

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1988
Voter Power in The United States
Banzhaf Voter Power
0.000030 - 0.000038
0.000039 - 0.000042
0.000043 - 0.000045
0.000046 - 0.000054
0.000055 - 0.000118
Percent of population classified as rural (US Census Bureau)
0.00 - 15.67
15.68 - 29.43
29.44 - 34.50
34.51 - 46.86
46.87 - 67.52
(both data sets classified using quantiles)

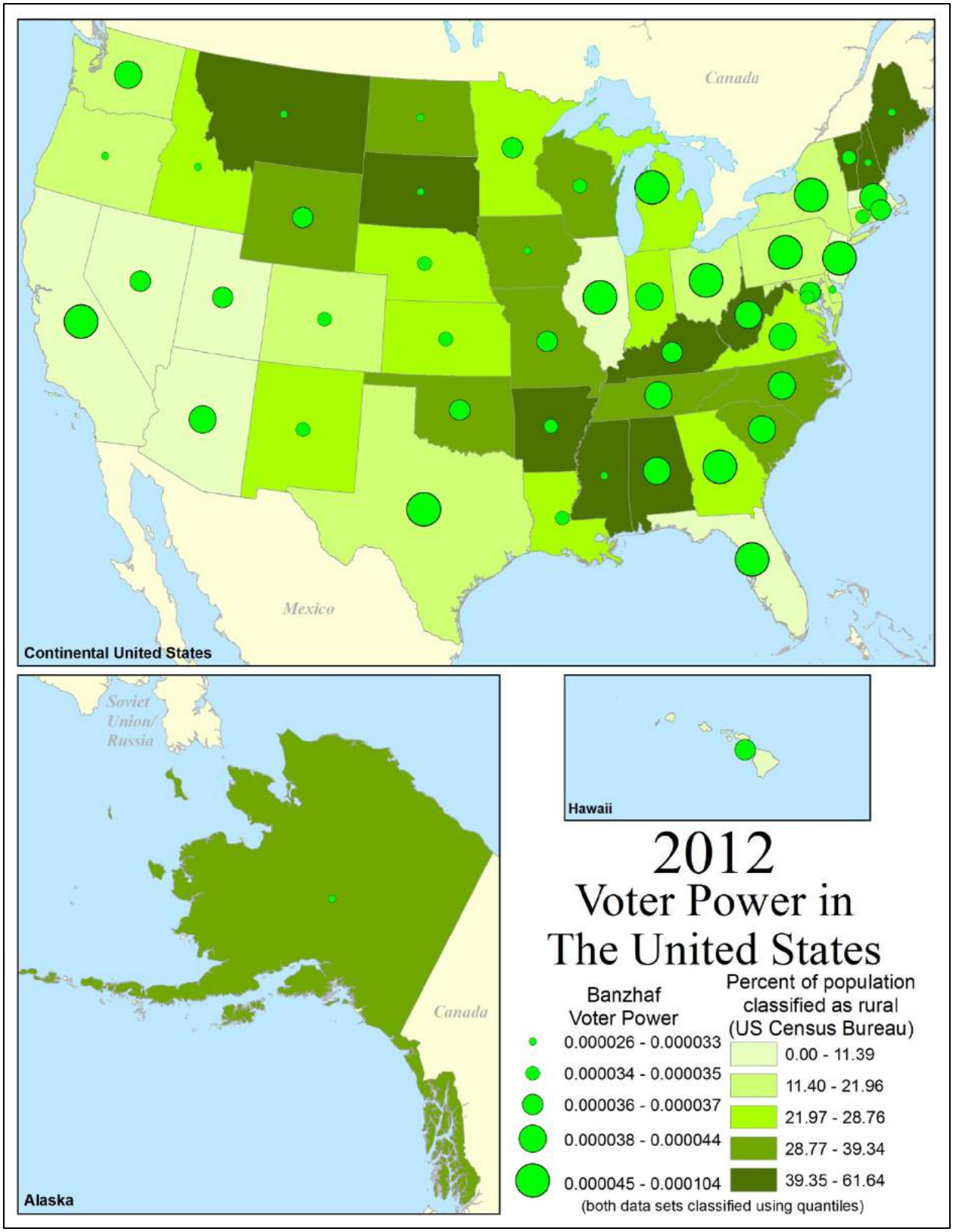

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1992
Voter Power in The United States
Banzhaf Voter Power
0.000028 - 0.000035
0.000036 - 0.000039
0.000040 - 0.000042
0.000043 - 0.000050
0.000051 - 0.000111
Percent of population classified as rural (US Census Bureau)
0.00 - 14.72
14.73 - 27.61
27.62 - 33.09
33.10 - 46.20
46.21 - 66.54
(both data sets classified using quantiles)


Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1996
Voter Power in The United States
Banzhaf Voter Power
0.000029 - 0.000036
0.000037 - 0.000041
0.000042 - 0.000045
0.000046 - 0.000052
0.000053 - 0.000118
Percent of population classified as rural (US Census Bureau)
0.00 - 13.40
13.41 - 25.75
25.76 - 31.62
31.63 - 43.26
43.27 - 64.10
(both data sets classified using quantiles)

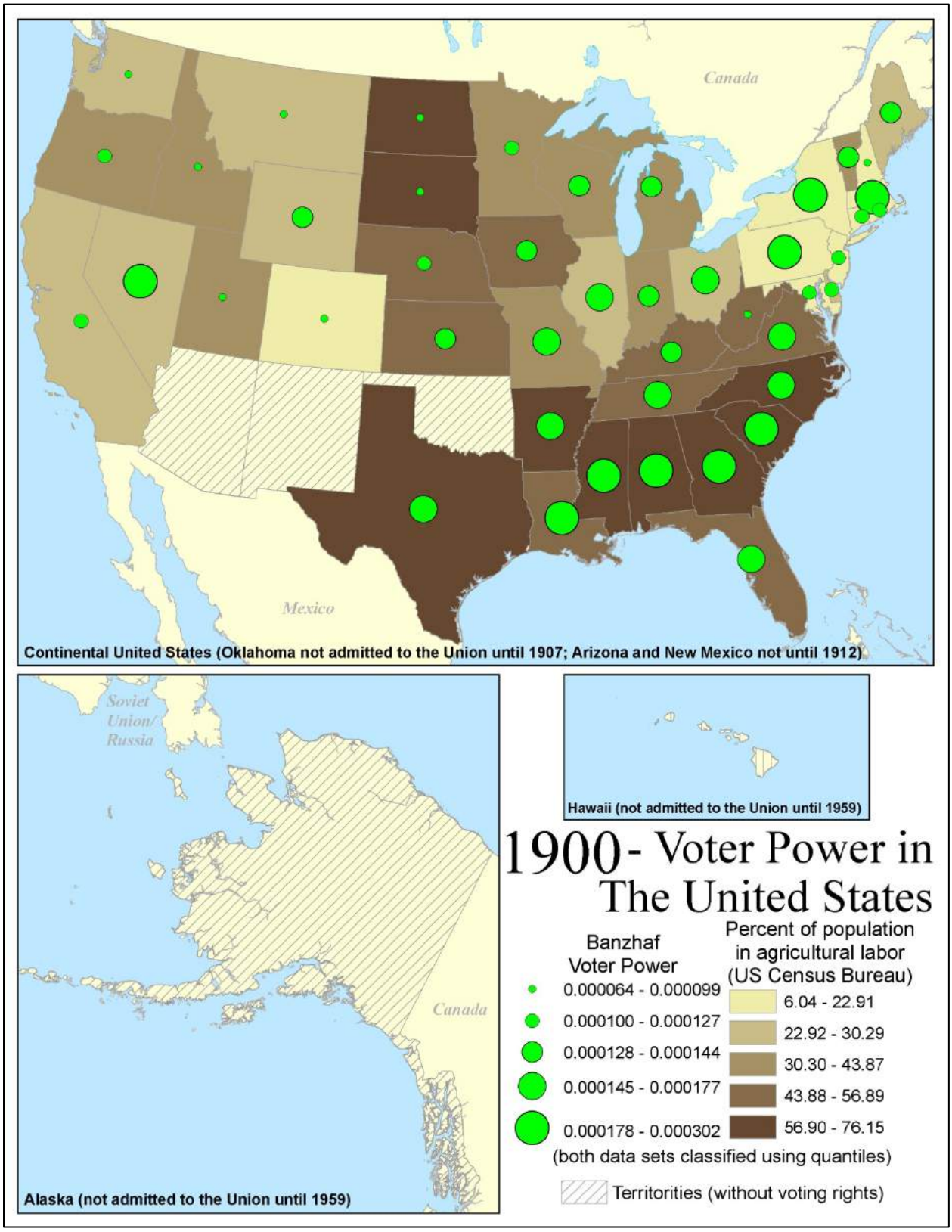

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
2000
Voter Power in The United States
Banzhaf Voter Power
0.000028 - 0.000034
0.000035 - 0.000039
0.000040 - 0.000042
0.000043 - 0.000049
0.000050 - 0.000112
(both data sets classified using quantiles)
Percent of population classified as rural (US Census Bureau)
0.00 - 12.20
12.21 - 22.90
22.91 - 30.60
30.61 - 40.70
40.71 - 61.80

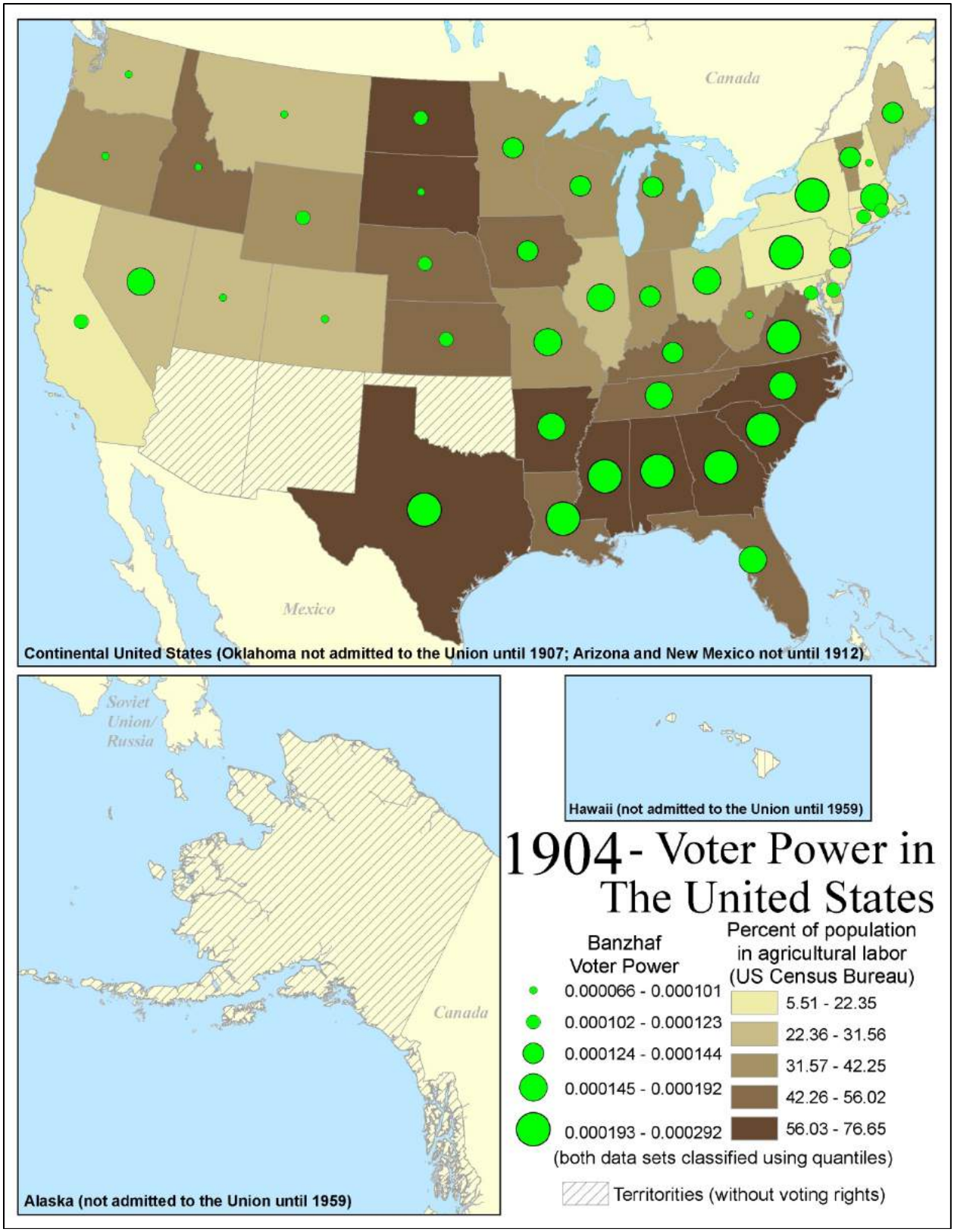

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
2004
Voter Power in The United States
Banzhaf Voter Power
0.000027 - 0.000032
0.000033 - 0.000035
0.000036 - 0.000039
0.000040 - 0.000047
0.000048 - 0.000107
(both data sets classified using quantiles)
Percent of population classified as rural (US Census Bureau)
0.00 - 11.89
11.90 - 22.41
22.42 - 30.16
30.17 - 40.31
40.32 - 61.53

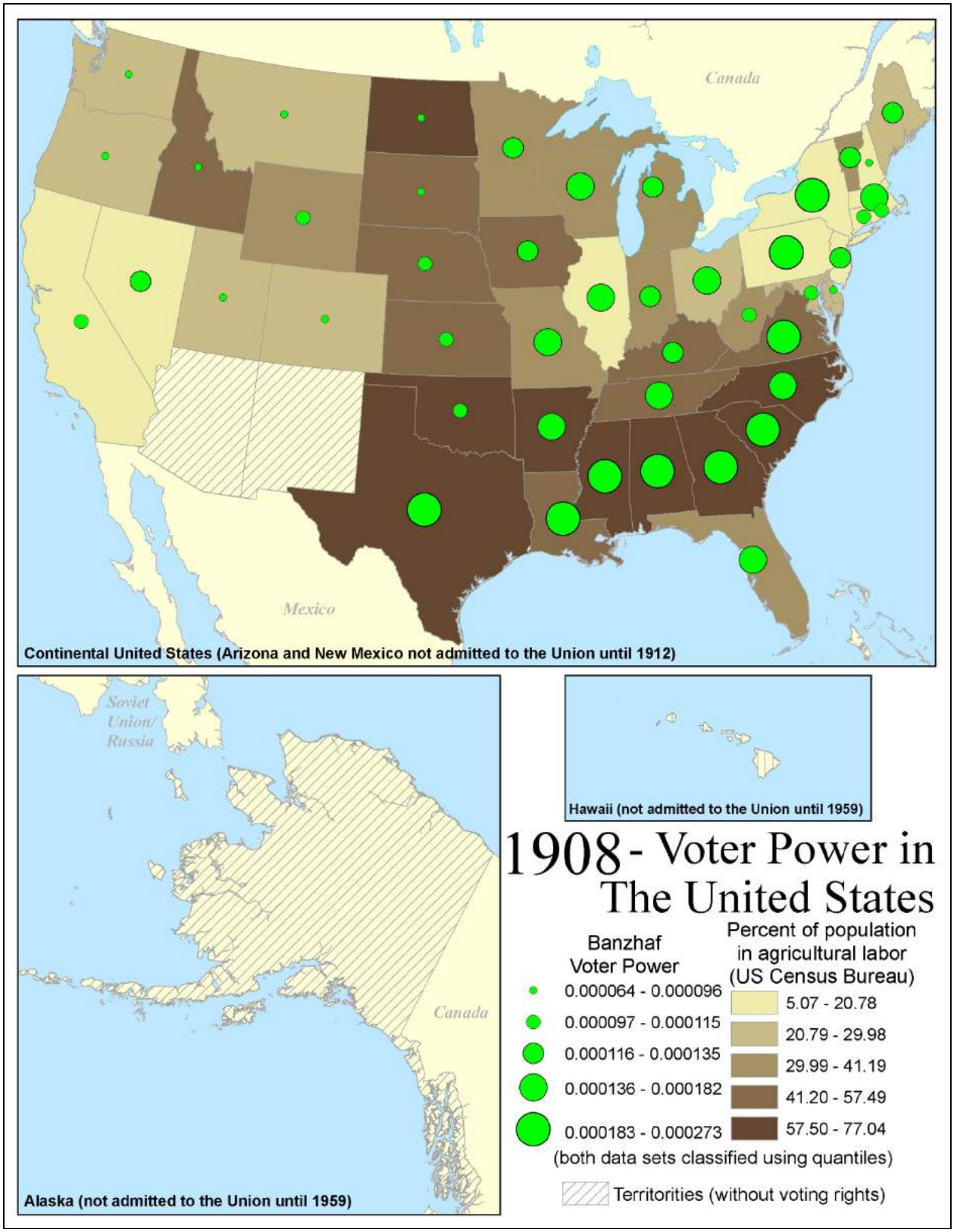

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
2008
Voter Power in The United States
Banzhaf Voter Power
0.000026 - 0.000032
0.000033 - 0.000035
0.000036 - 0.000037
0.000038 - 0.000044
0.000045 - 0.000103
Percent of population classified as rural (US Census Bureau)
0.00 - 11.64
11.65 - 22.19
22.20 - 29.76
29.77 - 39.90
39.91 - 61.24
(both data sets classified using quantiles)

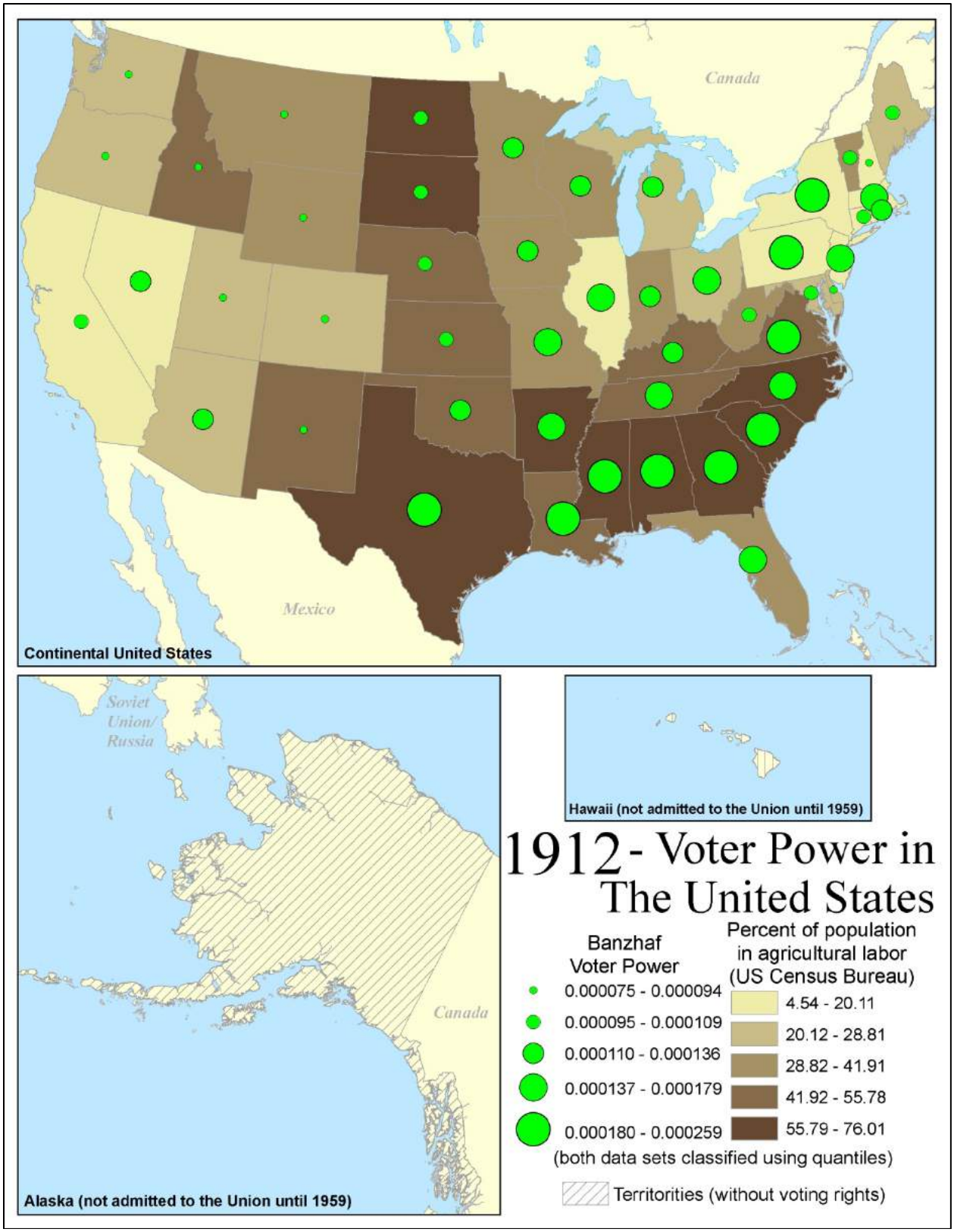

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
2012
Voter Power in The United States
Banzhaf Voter Power
0.000026 - 0.000033
0.000034 - 0.000035
0.000036 - 0.000037
0.000038 - 0.000044
0.000045 - 0.000104
Percent of population classified as rural (US Census Bureau)
0.00 - 11.39
11.40 - 21.96
21.97 - 28.76
28.77 - 39.34
39.35 - 61.64
(both data sets classified using quantiles)

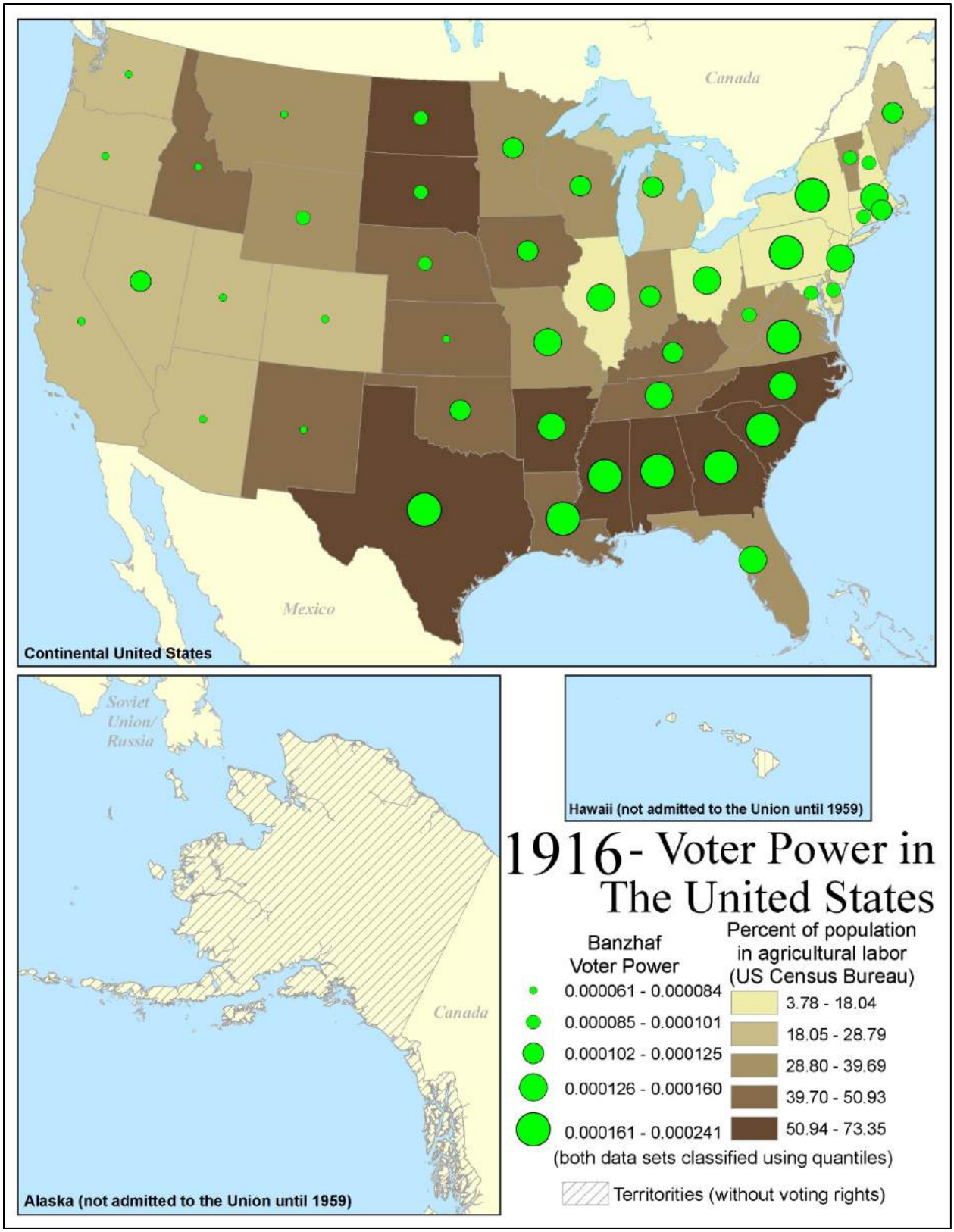
APPENDIX C: AGRICULTURAL LABOR POPULATION/VOTER POWER MAP SERIES

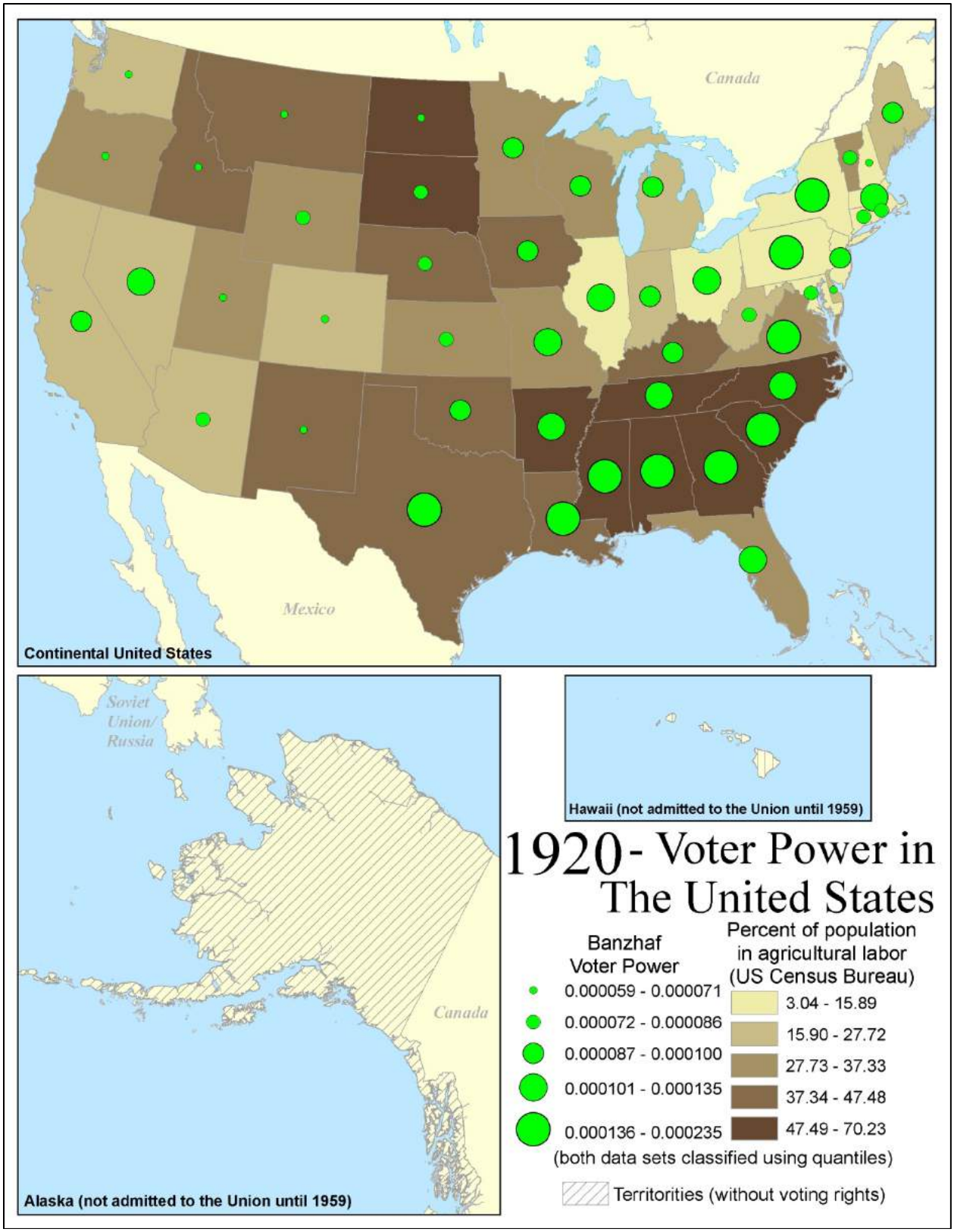


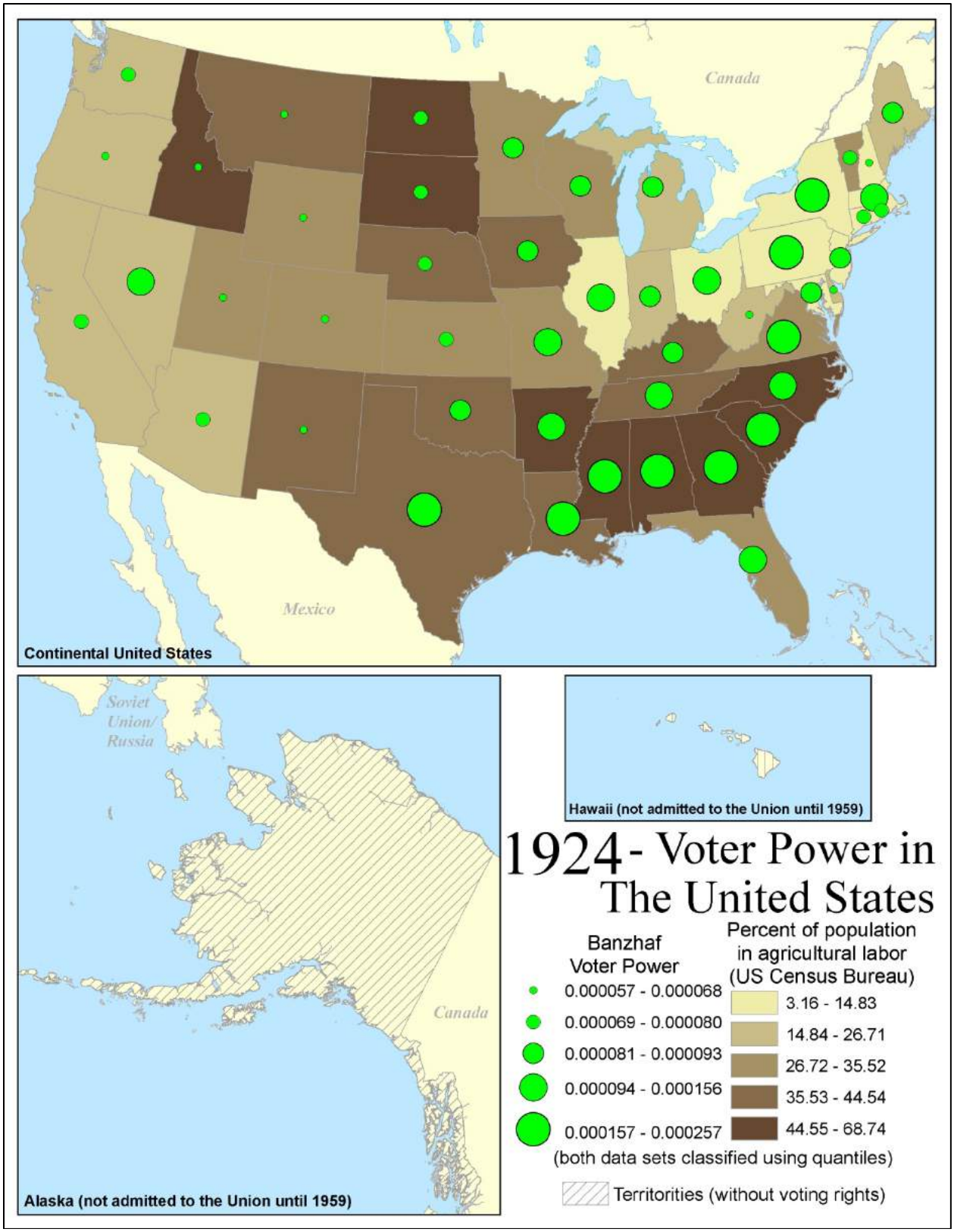

Canada
Mexico
Continental United States (Oklahoma not admitted to the Union until 1907; Arizona and New Mexico not until 1912)
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1904 - Voter Power in The United States
Banzhaf Voter Power
0.000066 - 0.000101
0.000102 - 0.000123
0.000124 - 0.000144
0.000145 - 0.000192
0.000193 - 0.000292
Percent of population in agricultural labor (US Census Bureau)
5.51 - 22.35
22.36 - 31.56
31.57 - 42.25
42.26 - 56.02
56.03 - 76.65
(both data sets classified using quantiles)
Territorities (without voting rights)

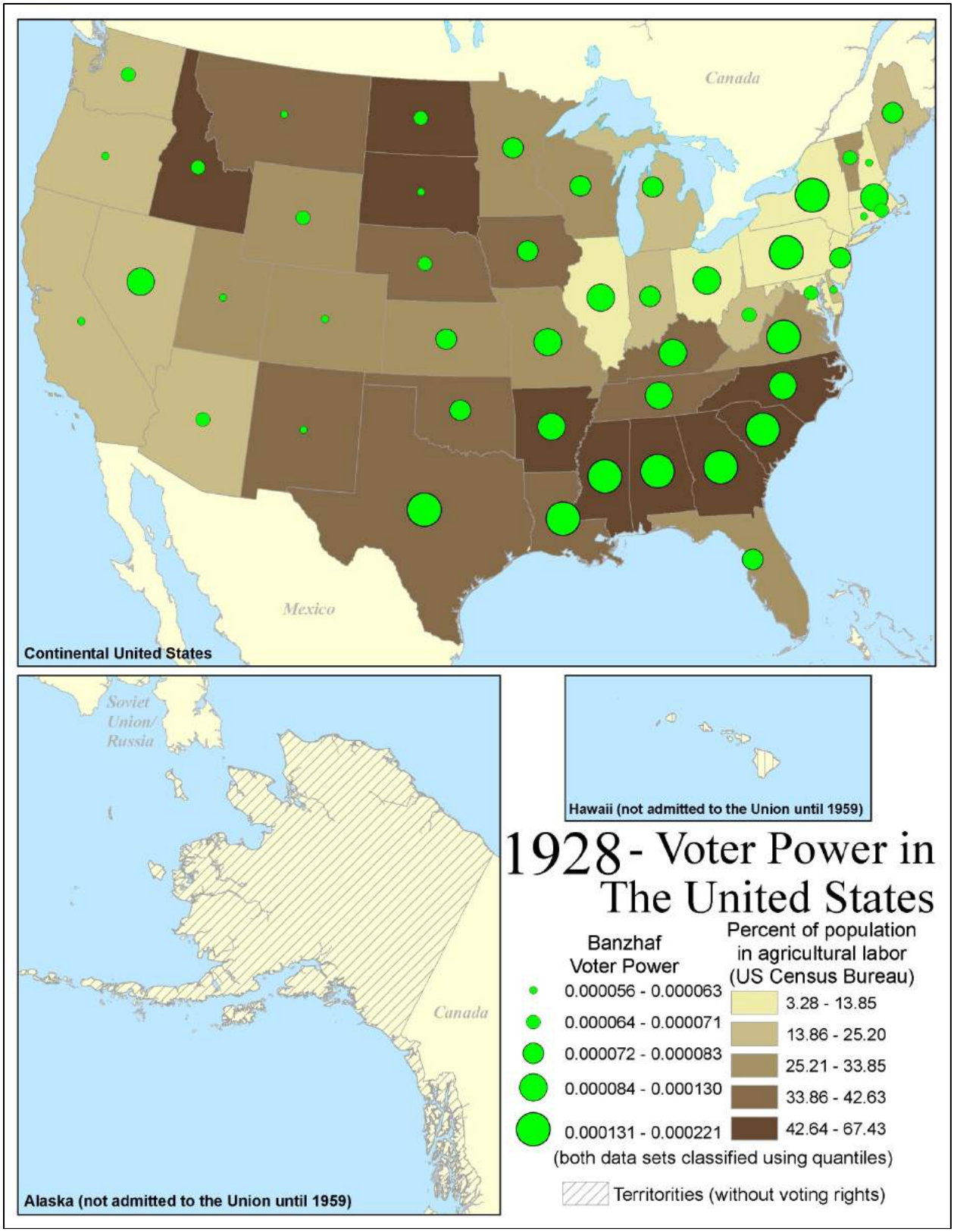

Canada
Mexico
Continental United States (Arizona and New Mexico not admitted to the Union until 1912)
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1908 - Voter Power in The United States
Banzhaf Voter Power
0.000064 - 0.000096
0.000097 - 0.000115
0.000116 - 0.000135
0.000136 - 0.000182
0.000183 - 0.000273
(both data sets classified using quantiles)
Percent of population in agricultural labor (US Census Bureau)
5.07 - 20.78
20.79 - 29.98
29.99 - 41.19
41.20 - 57.49
57.50 - 77.04
Territorities (without voting rights)

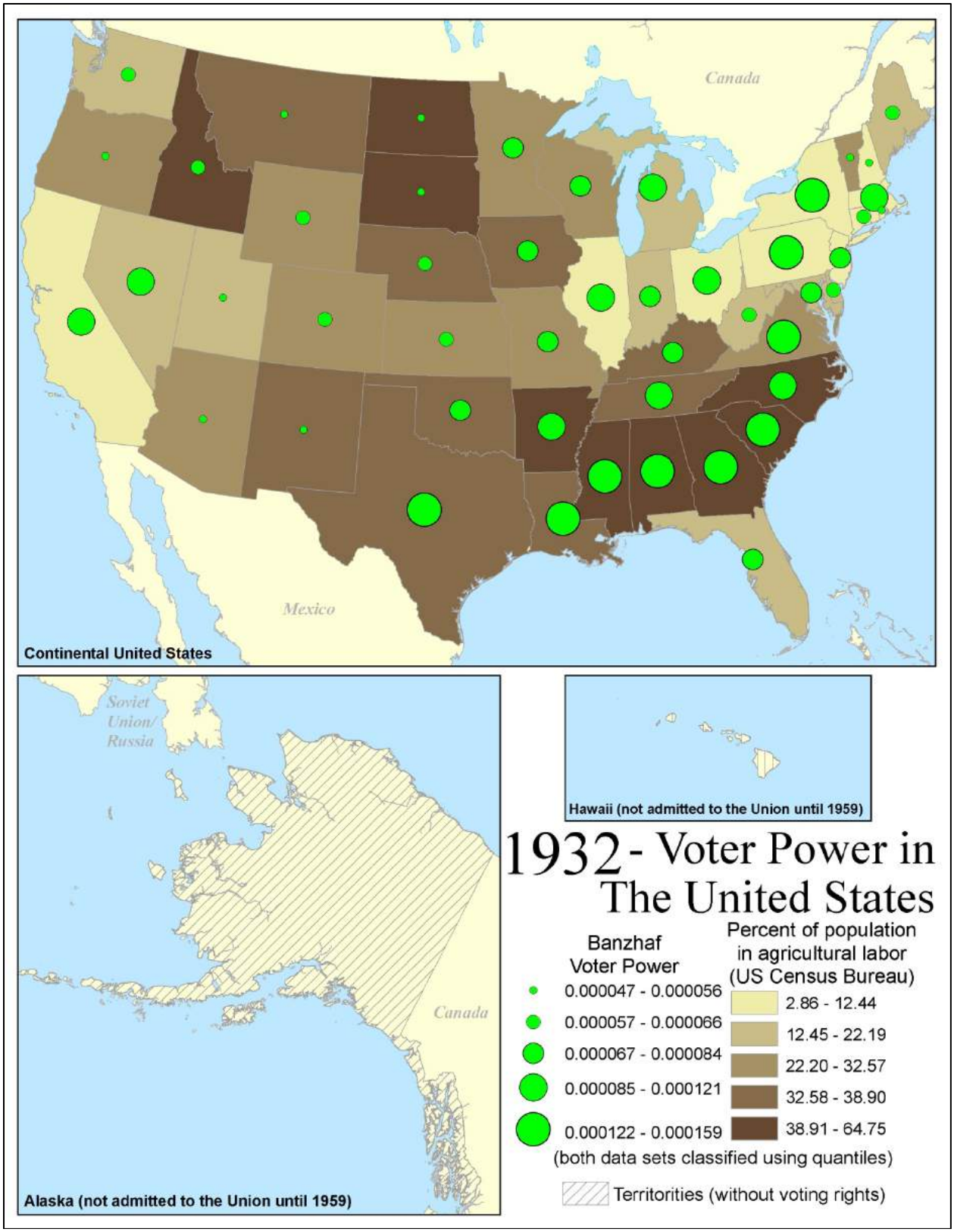

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1912 - Voter Power in The United States
Banzhaf Voter Power
0.000075 - 0.000094
0.000095 - 0.000109
0.000110 - 0.000136
0.000137 - 0.000179
0.000180 - 0.000259
(both data sets classified using quantiles)
Percent of population in agricultural labor (US Census Bureau)
4.54 - 20.11
20.12 - 28.81
28.82 - 41.91
41.92 - 55.78
55.79 - 76.01
Territorities (without voting rights)

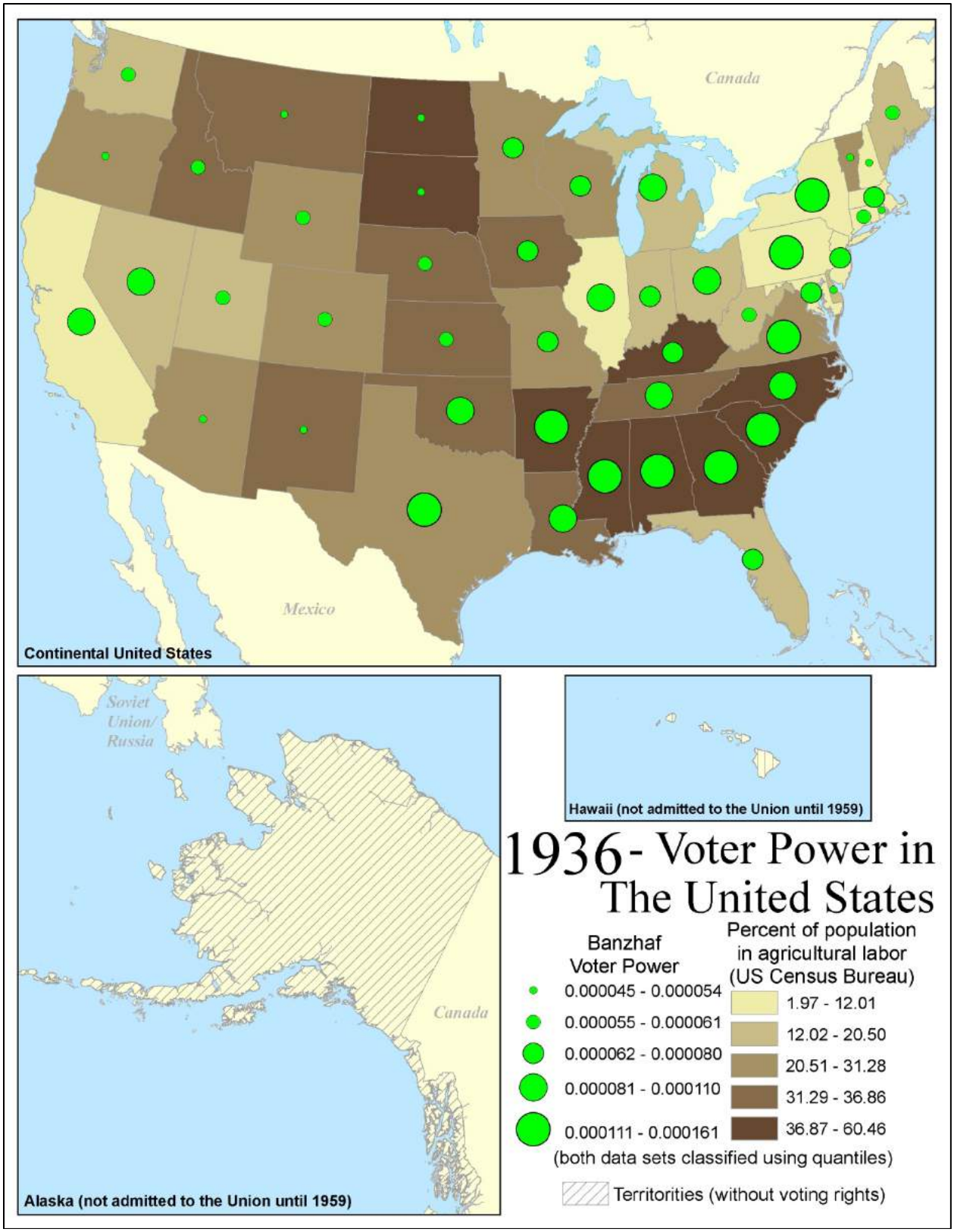

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1916- Voter Power in The United States
Banzhaf Voter Power
0.000061 - 0.000084
0.000085 - 0.000101
0.000102 - 0.000125
0.000126 - 0.000160
0.000161 - 0.000241
Percent of population in agricultural labor (US Census Bureau)
3.78 - 18.04
18.05 - 28.79
28.80 - 39.69
39.70 - 50.93
50.94 - 73.35
(both data sets classified using quantiles)
Territorities (without voting rights)

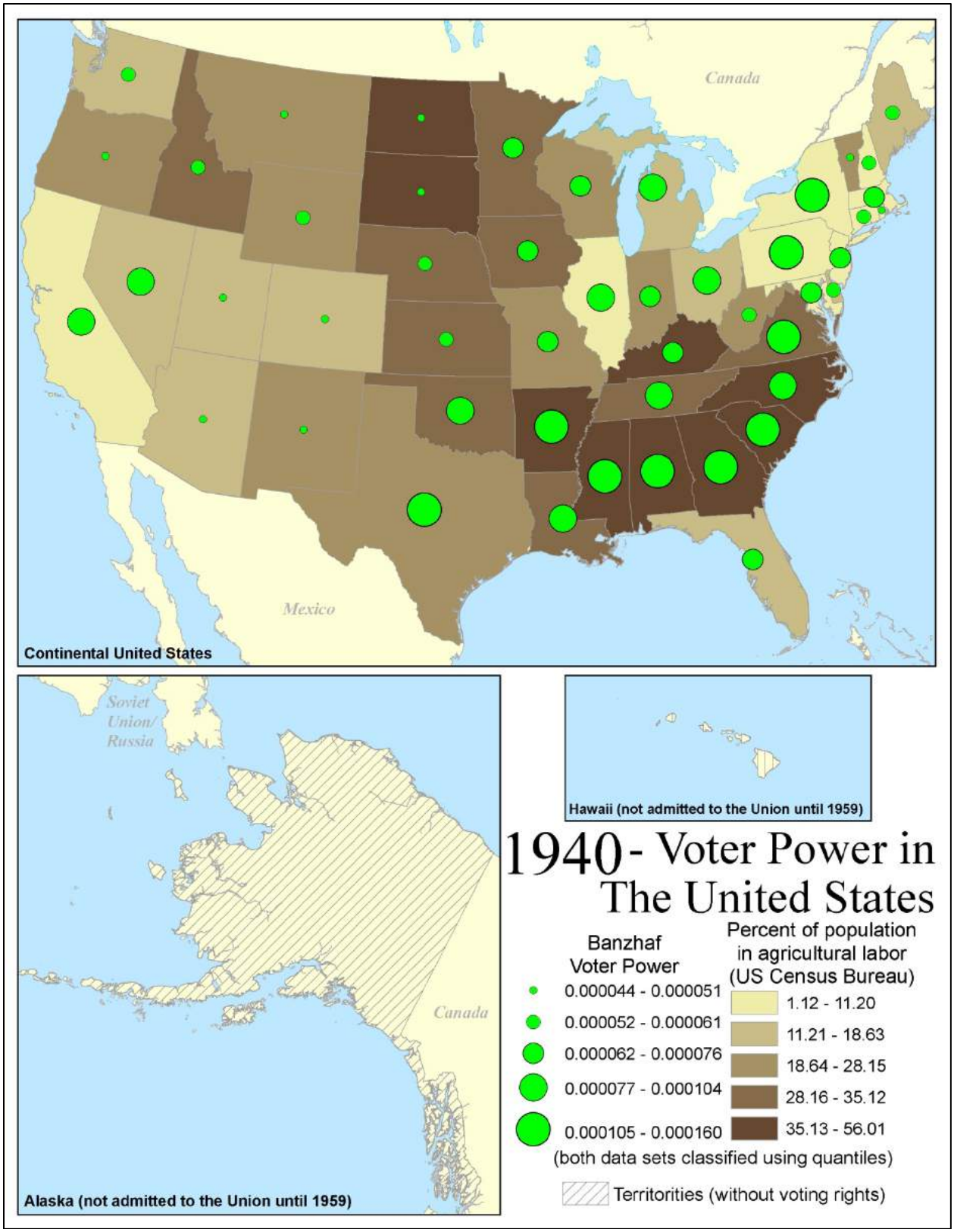

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1920- Voter Power in The United States
Banzhaf Voter Power
0.000059 - 0.000071
0.000072 - 0.000086
0.000087 - 0.000100
0.000101 - 0.000135
0.000136 - 0.000235
Percent of population in agricultural labor (US Census Bureau)
3.04 - 15.89
15.90 - 27.72
27.73 - 37.33
37.34 - 47.48
47.49 - 70.23
(both data sets classified using quantiles)
Territorities (without voting rights)

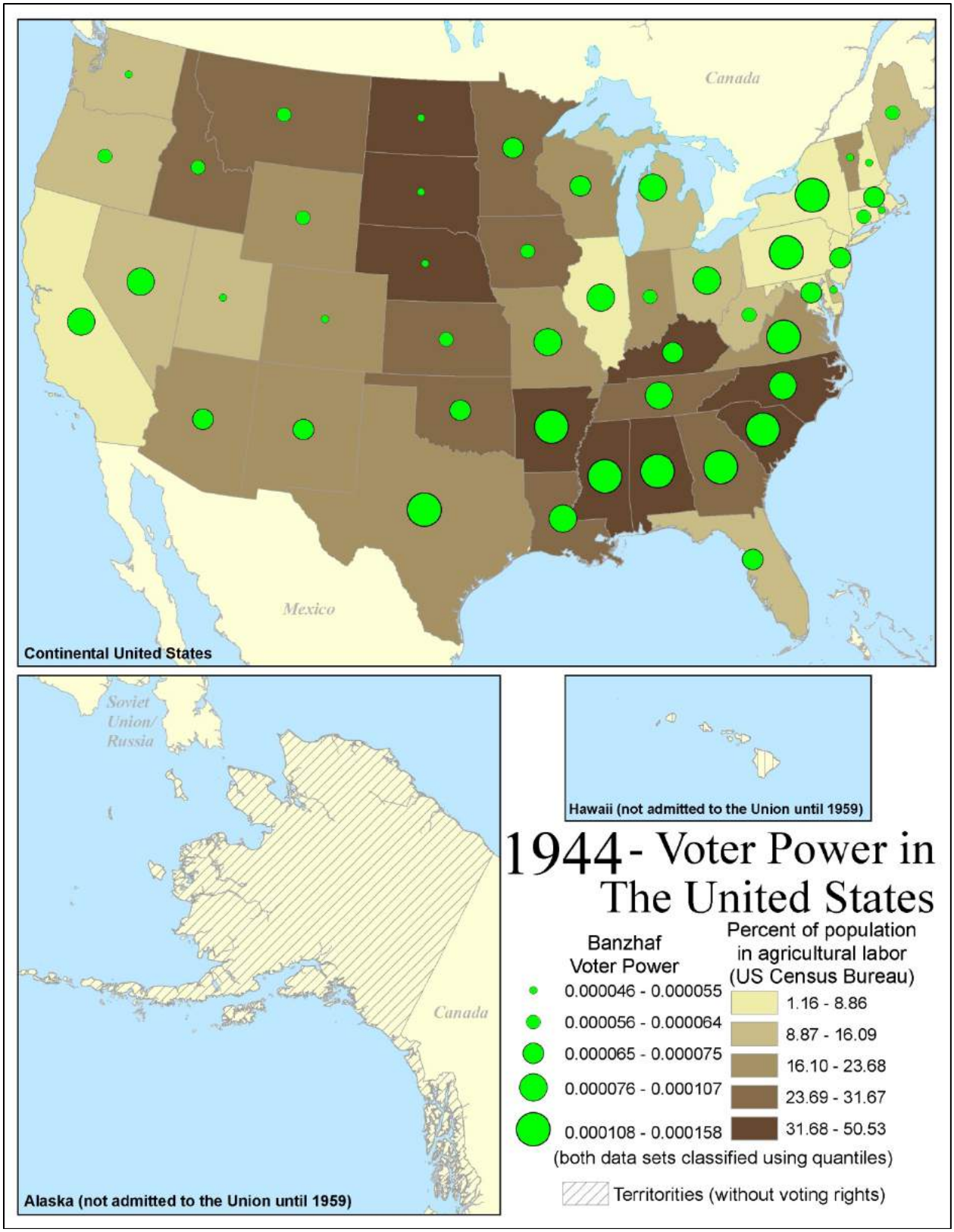

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1924- Voter Power in The United States
Banzhaf Voter Power
0.000057 - 0.000068
0.000069 - 0.000080
0.000081 - 0.000093
0.000094 - 0.000156
0.000157 - 0.000257
Percent of population in agricultural labor (US Census Bureau)
3.16 - 14.83
14.84 - 26.71
26.72 - 35.52
35.53 - 44.54
44.55 - 68.74
(both data sets classified using quantiles)
Territorities (without voting rights)

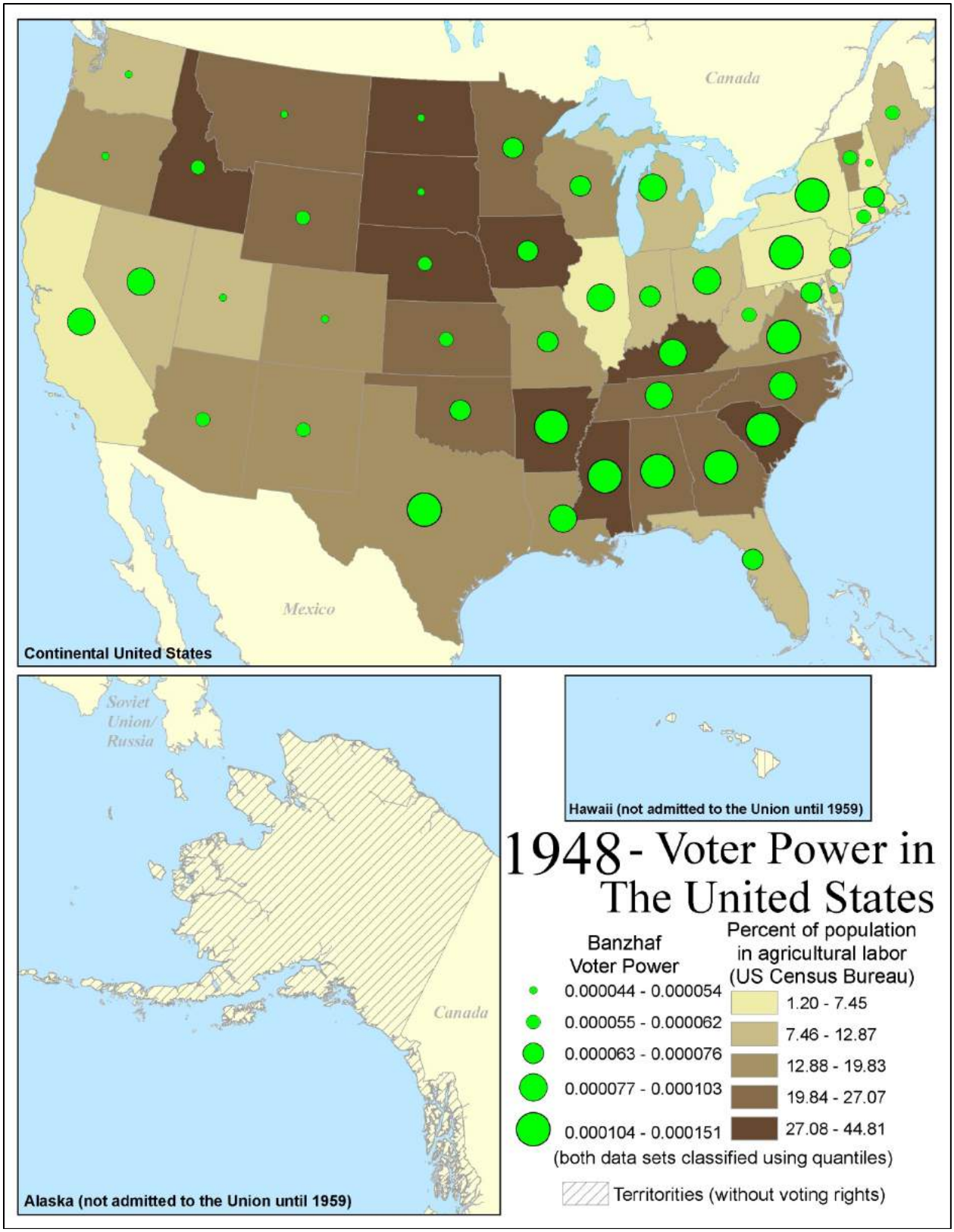

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1928 - Voter Power in The United States
Banzhaf Voter Power
0.000056 - 0.000063
0.000064 - 0.000071
0.000072 - 0.000083
0.000084 - 0.000130
0.000131 - 0.000221
Percent of population in agricultural labor (US Census Bureau)
3.28 - 13.85
13.86 - 25.20
25.21 - 33.85
33.86 - 42.63
42.64 - 67.43
(both data sets classified using quantiles)
Territorities (without voting rights)

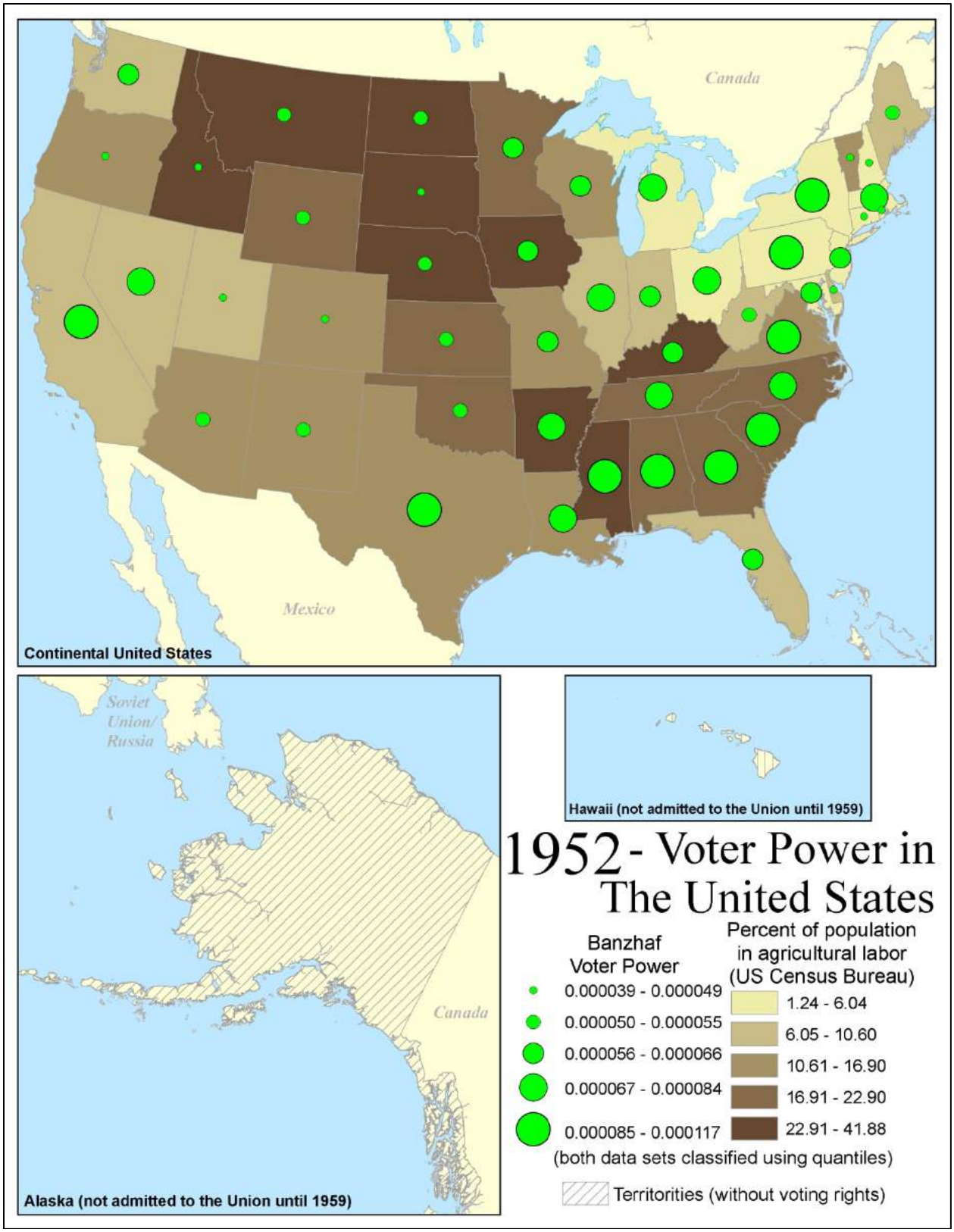

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1932 - Voter Power in The United States
Banzhaf Voter Power
0.000047 - 0.000056
0.000057 - 0.000066
0.000067 - 0.000084
0.000085 - 0.000121
0.000122 - 0.000159
Percent of population in agricultural labor (US Census Bureau)
2.86 - 12.44
12.45 - 22.19
22.20 - 32.57
32.58 - 38.90
38.91 - 64.75
(both data sets classified using quantiles)
Territorities (without voting rights)

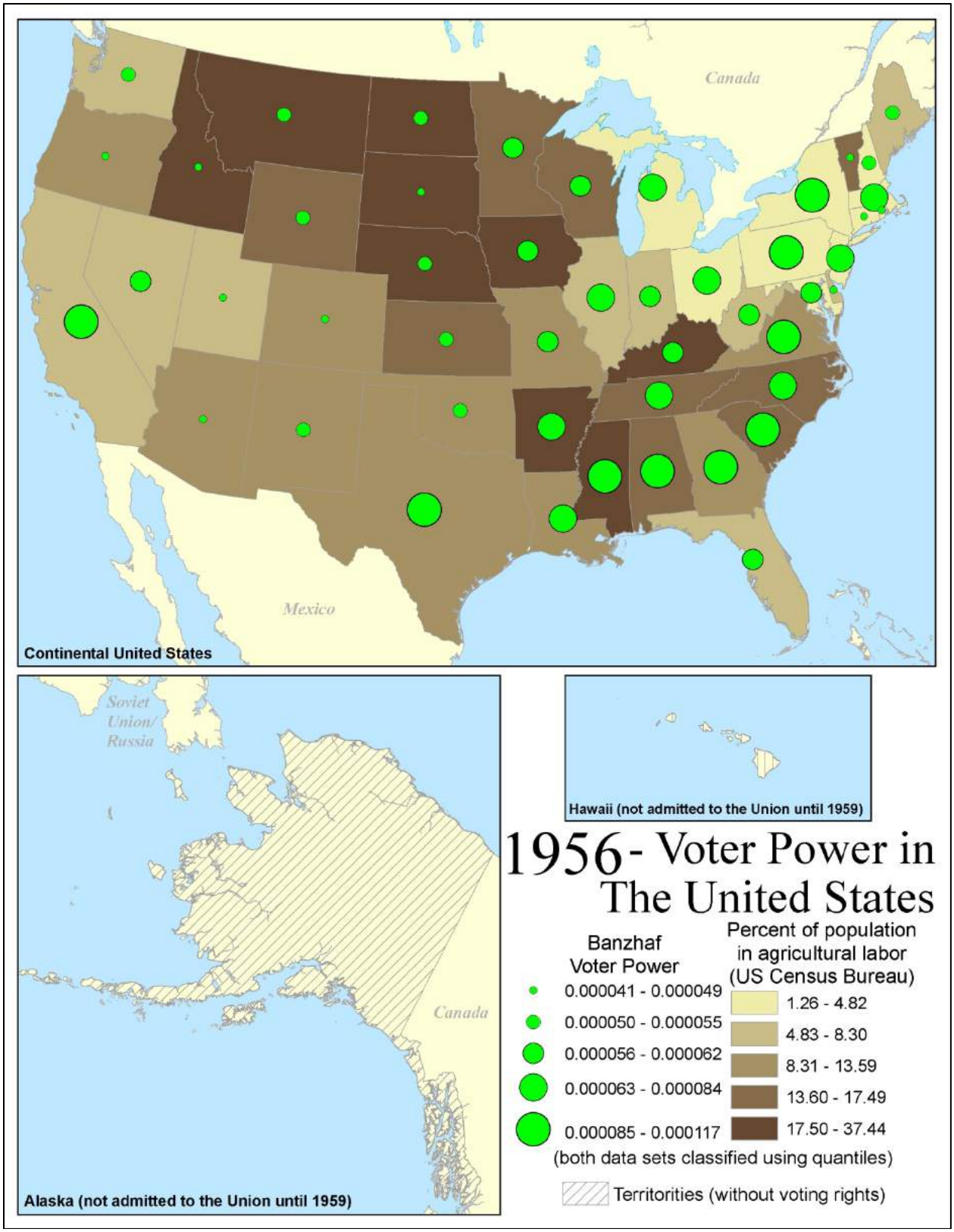

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1936- Voter Power in The United States
Banzhaf Voter Power
0.000045 - 0.000054
0.000055 - 0.000061
0.000062 - 0.000080
0.000081 - 0.000110
0.000111 - 0.000161
Percent of population in agricultural labor (US Census Bureau)
1.97 - 12.01
12.02 - 20.50
20.51 - 31.28
31.29 - 36.86
36.87 - 60.46
(both data sets classified using quantiles)
Territorities (without voting rights)

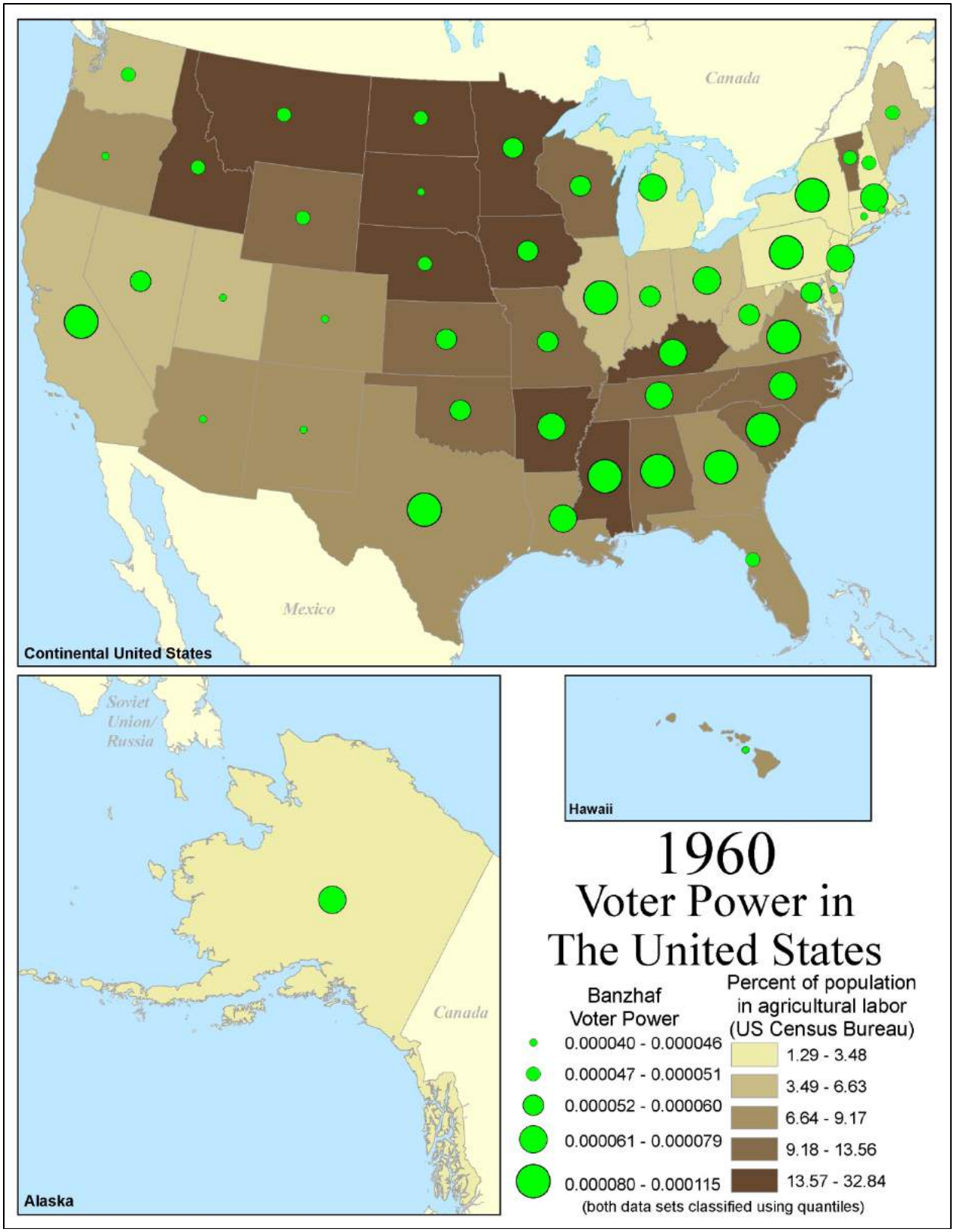

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1940 - Voter Power in The United States
Banzhaf Voter Power
0.000044 - 0.000051
0.000052 - 0.000061
0.000062 - 0.000076
0.000077 - 0.000104
0.000105 - 0.000160
Percent of population in agricultural labor (US Census Bureau)
1.12 - 11.20
11.21 - 18.63
18.64 - 28.15
28.16 - 35.12
35.13 - 56.01
(both data sets classified using quantiles)
Territorities (without voting rights)

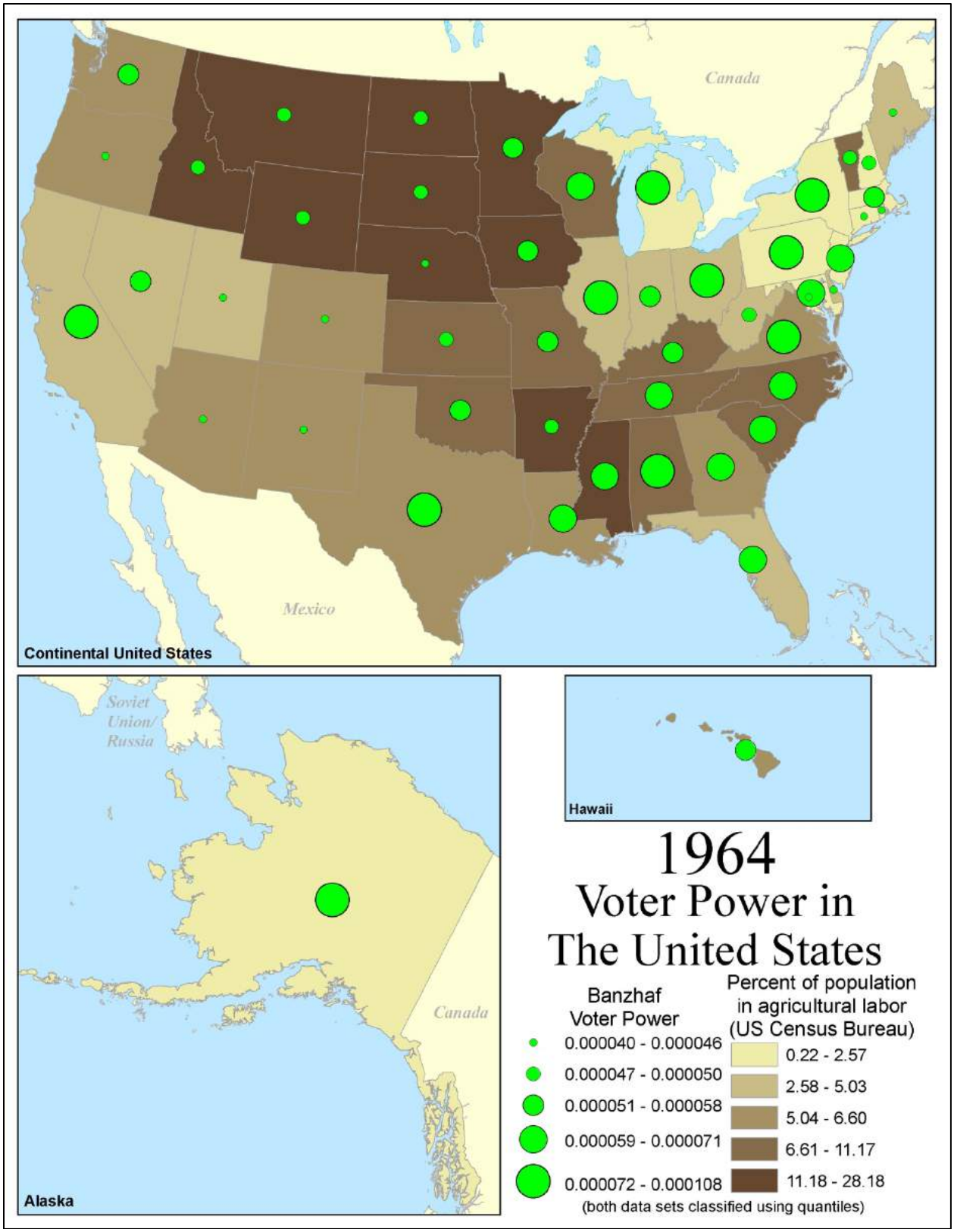

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1944 - Voter Power in The United States
Banzhaf Voter Power
0.000046 - 0.000055
0.000056 - 0.000064
0.000065 - 0.000075
0.000076 - 0.000107
0.000108 - 0.000158
(both data sets classified using quantiles)
Percent of population in agricultural labor (US Census Bureau)
1.16 - 8.86
8.87 - 16.09
16.10 - 23.68
23.69 - 31.67
31.68 - 50.53
Territorities (without voting rights)

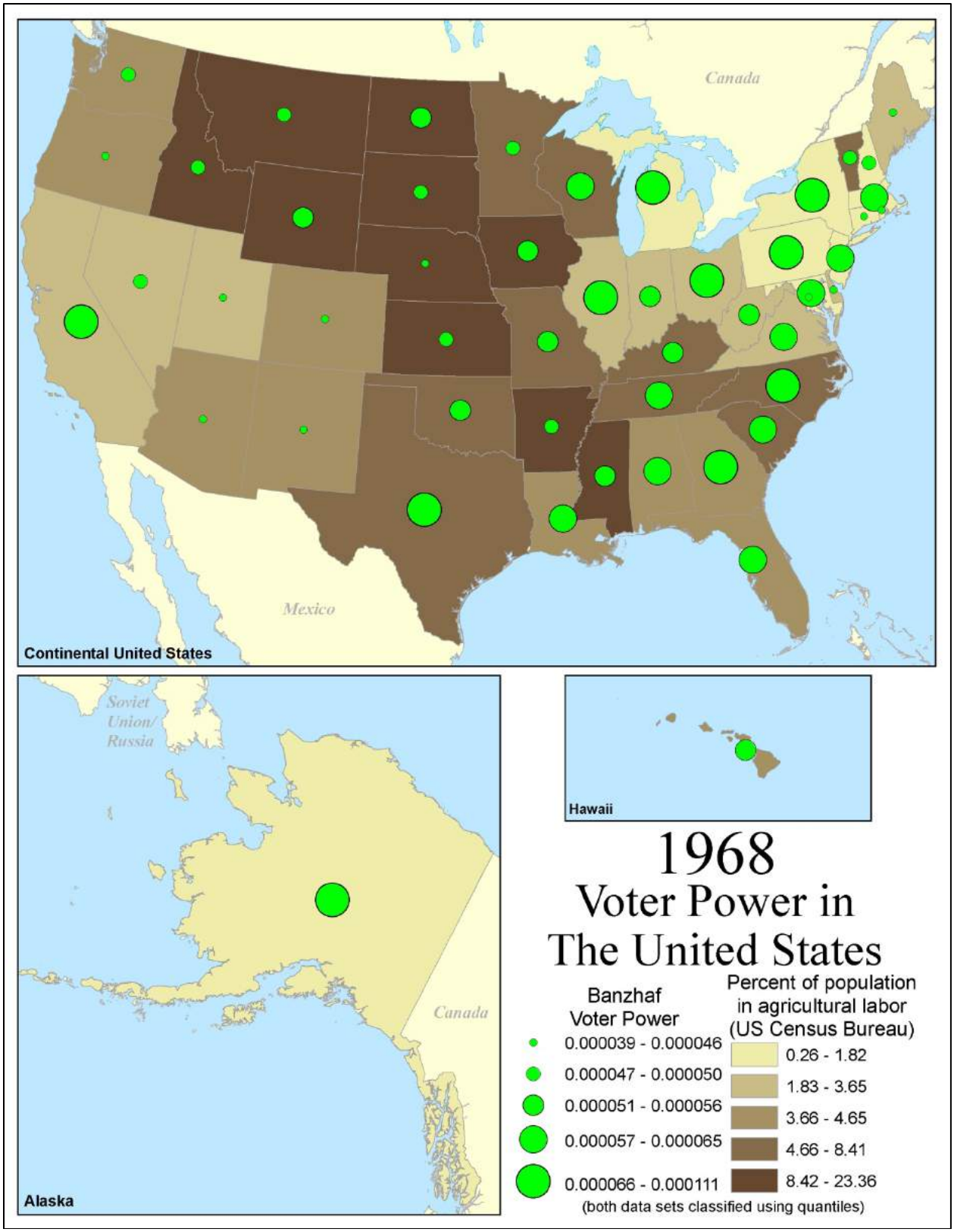

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1948 - Voter Power in The United States
Banzhaf Voter Power
0.000044 - 0.000054
0.000055 - 0.000062
0.000063 - 0.000076
0.000077 - 0.000103
0.000104 - 0.000151
Percent of population in agricultural labor (US Census Bureau)
1.20 - 7.45
7.46 - 12.87
12.88 - 19.83
19.84 - 27.07
27.08 - 44.81
(both data sets classified using quantiles)
Territorities (without voting rights)

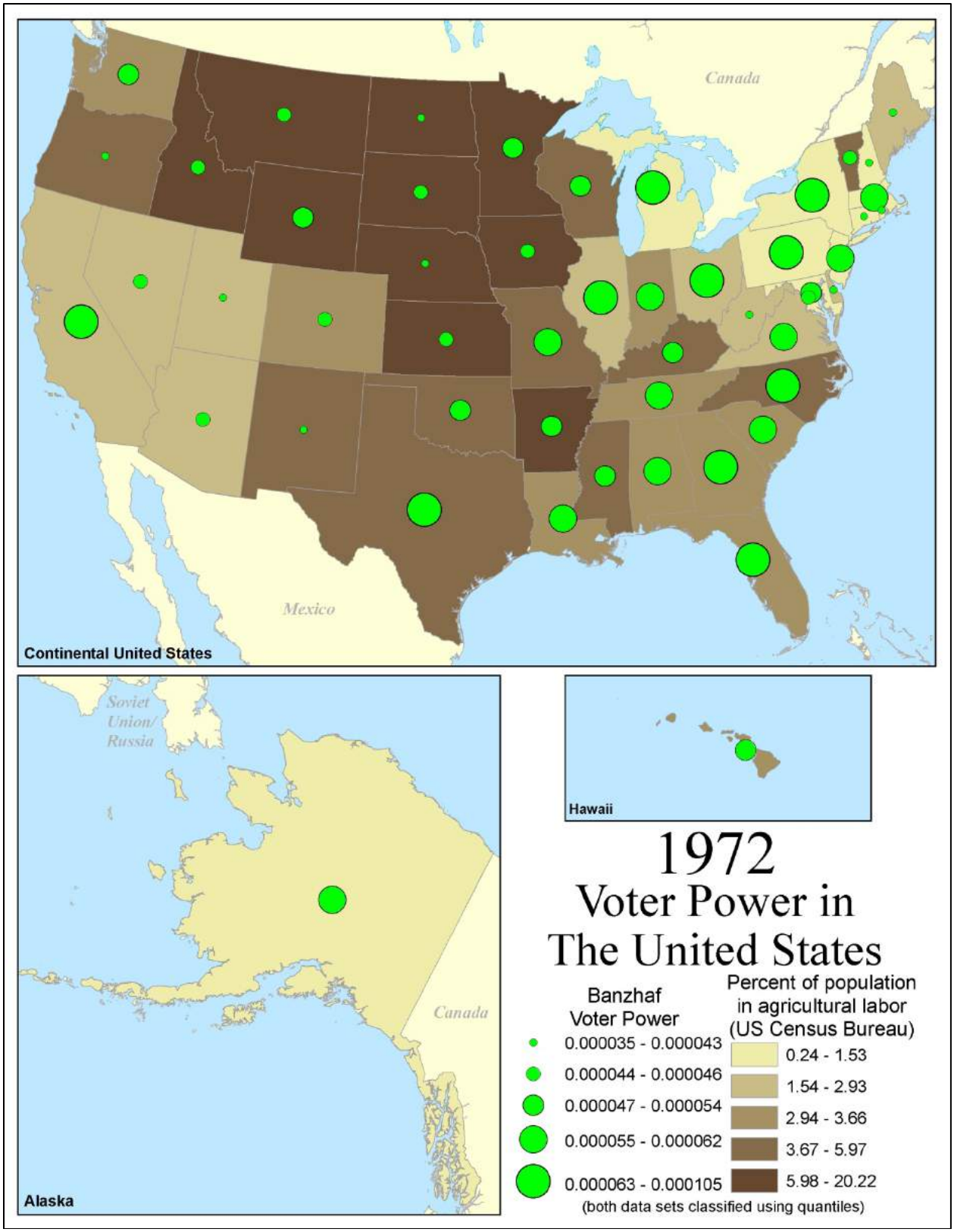

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1952 - Voter Power in The United States
Banzhaf Voter Power
0.000039 - 0.000049
0.000050 - 0.000055
0.000056 - 0.000066
0.000067 - 0.000084
0.000085 - 0.000117
Percent of population in agricultural labor (US Census Bureau)
1.24 - 6.04
6.05 - 10.60
10.61 - 16.90
16.91 - 22.90
22.91 - 41.88
(both data sets classified using quantiles)
Territorities (without voting rights)

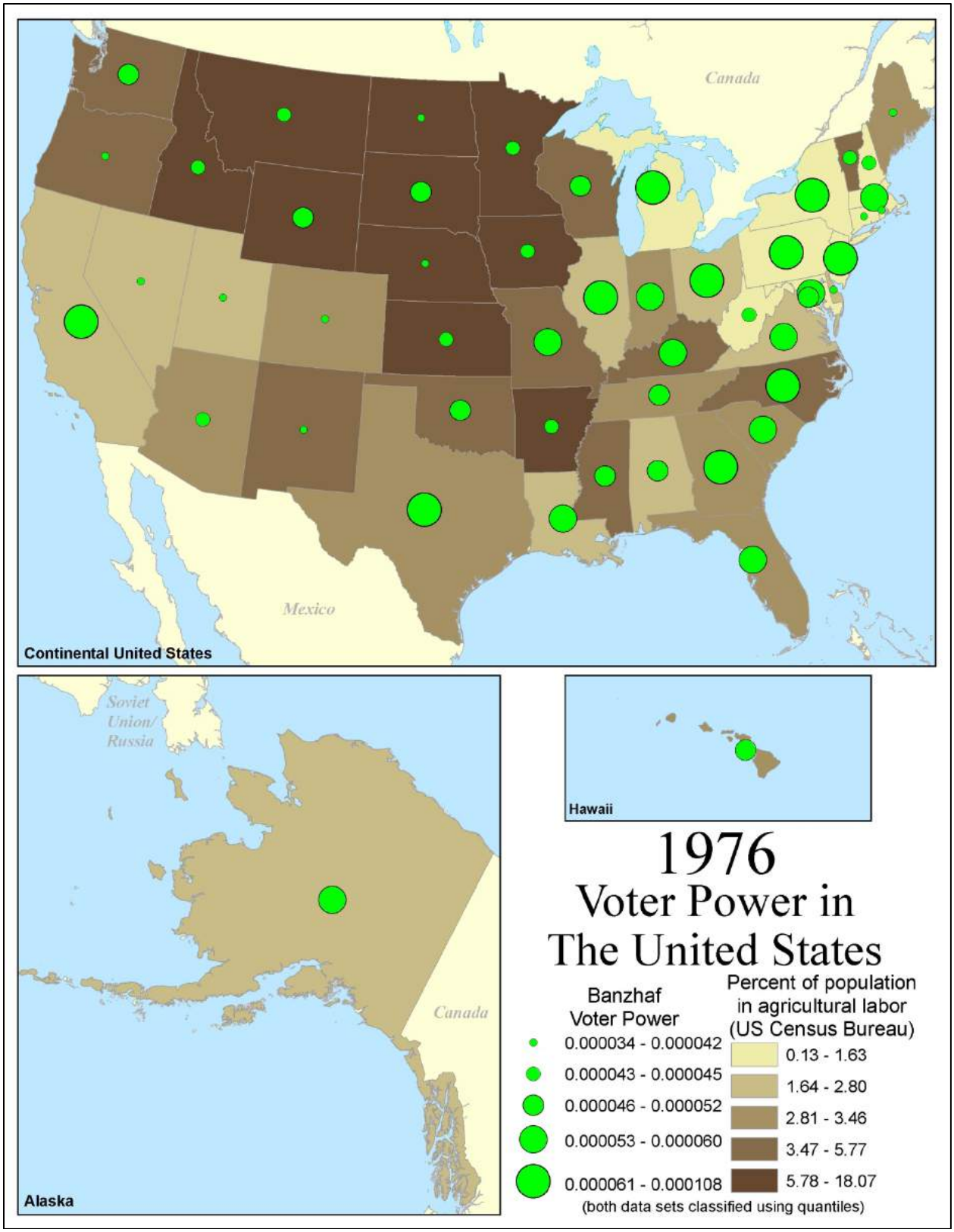

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1956- Voter Power in The United States
Banzhaf Voter Power
0.000041 - 0.000049
0.000050 - 0.000055
0.000056 - 0.000062
0.000063 - 0.000084
0.000085 - 0.000117
Percent of population in agricultural labor (US Census Bureau)
1.26 - 4.82
4.83 - 8.30
8.31 - 13.59
13.60 - 17.49
17.50 - 37.44
(both data sets classified using quantiles)
Territorities (without voting rights)

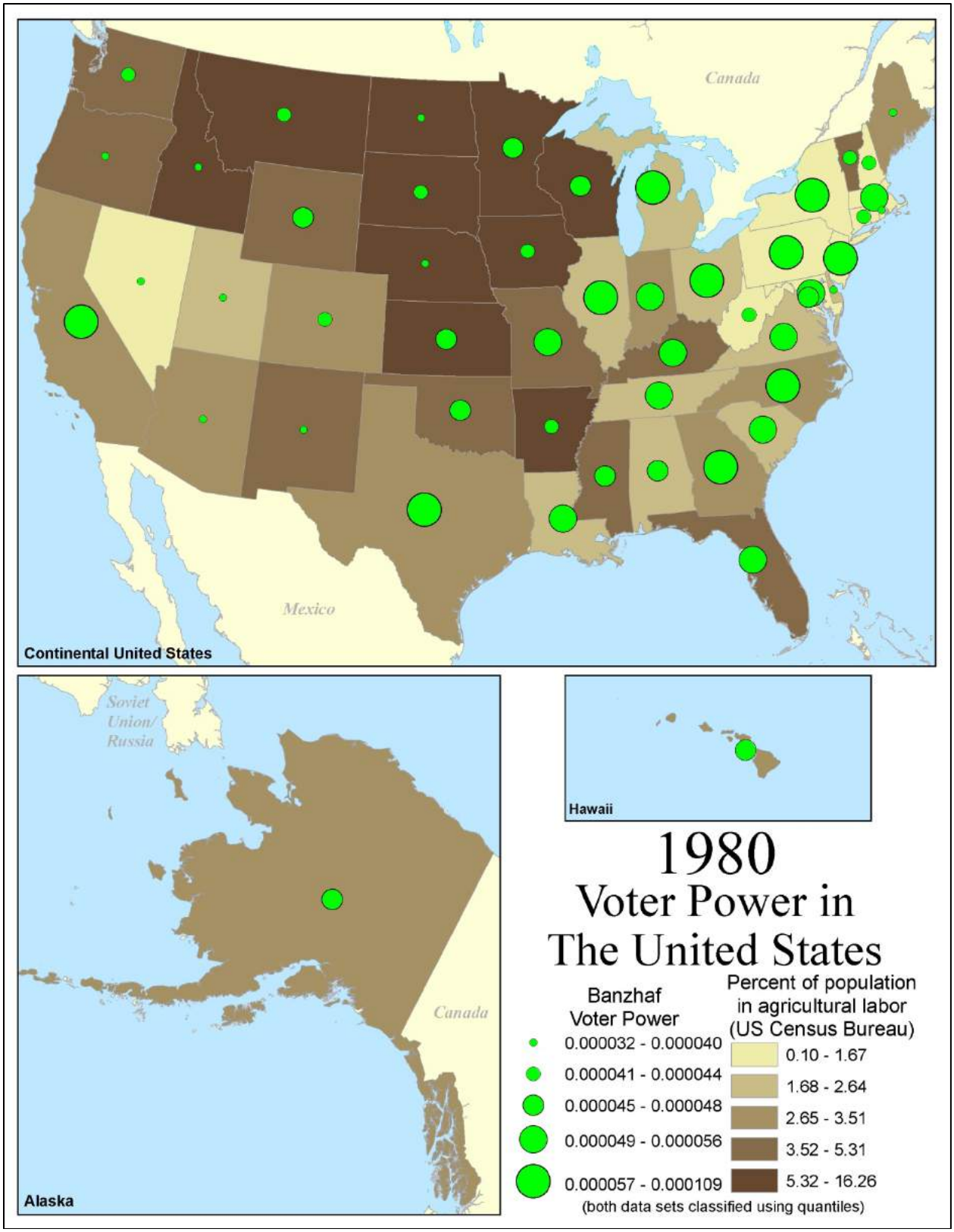

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1960
Voter Power in The United States
Banzhaf Voter Power
0.000040 - 0.000046
0.000047 - 0.000051
0.000052 - 0.000060
0.000061 - 0.000079
0.000080 - 0.000115
Percent of population in agricultural labor (US Census Bureau)
1.29 - 3.48
3.49 - 6.63
6.64 - 9.17
9.18 - 13.56
13.57 - 32.84
(both data sets classified using quantiles)

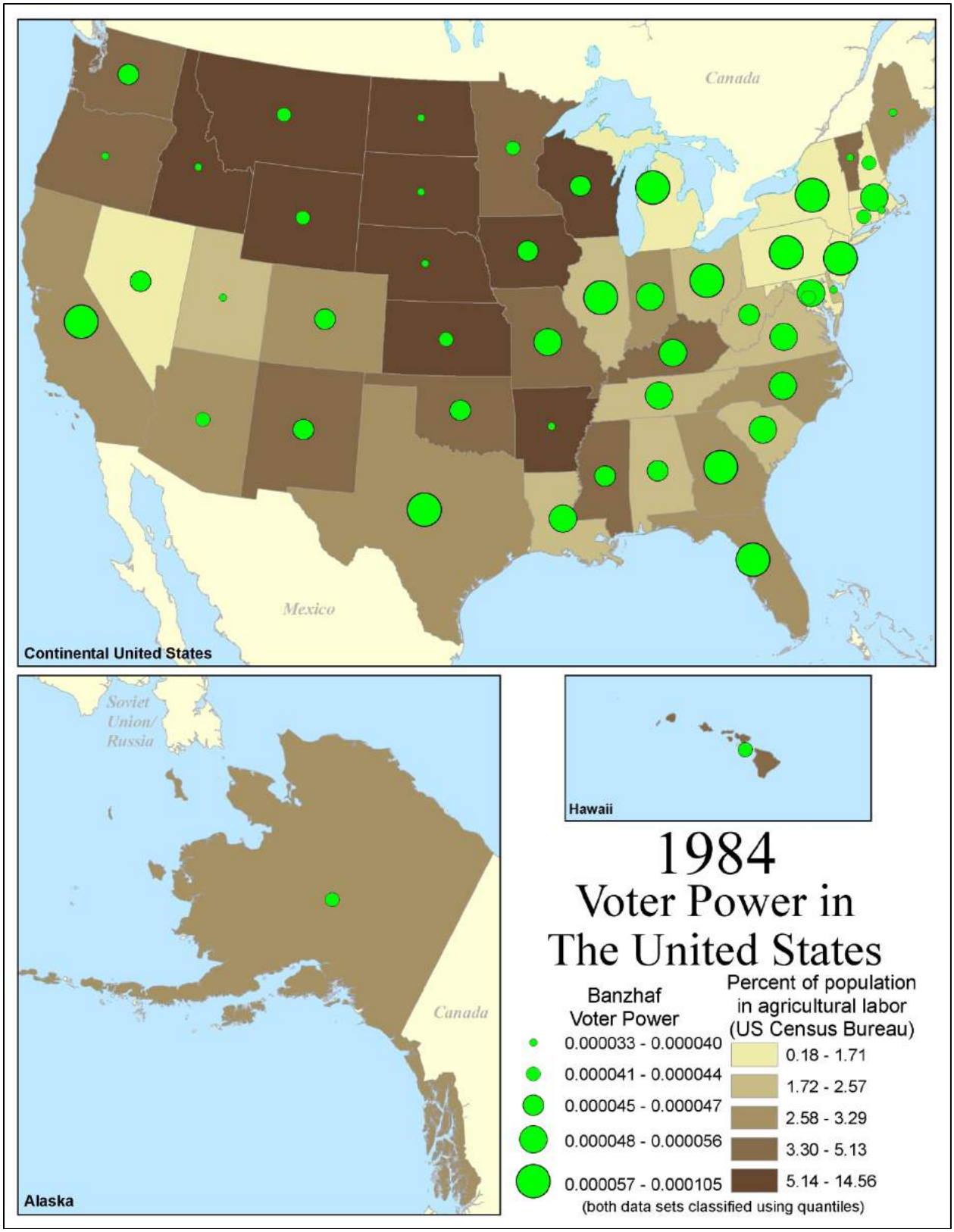

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1964
Voter Power in The United States
Banzhaf Voter Power
0.000040 - 0.000046
0.000047 - 0.000050
0.000051 - 0.000058
0.000059 - 0.000071
0.000072 - 0.000108
Percent of population in agricultural labor (US Census Bureau)
0.22 - 2.57
2.58 - 5.03
5.04 - 6.60
6.61 - 11.17
11.18 - 28.18
(both data sets classified using quantiles)

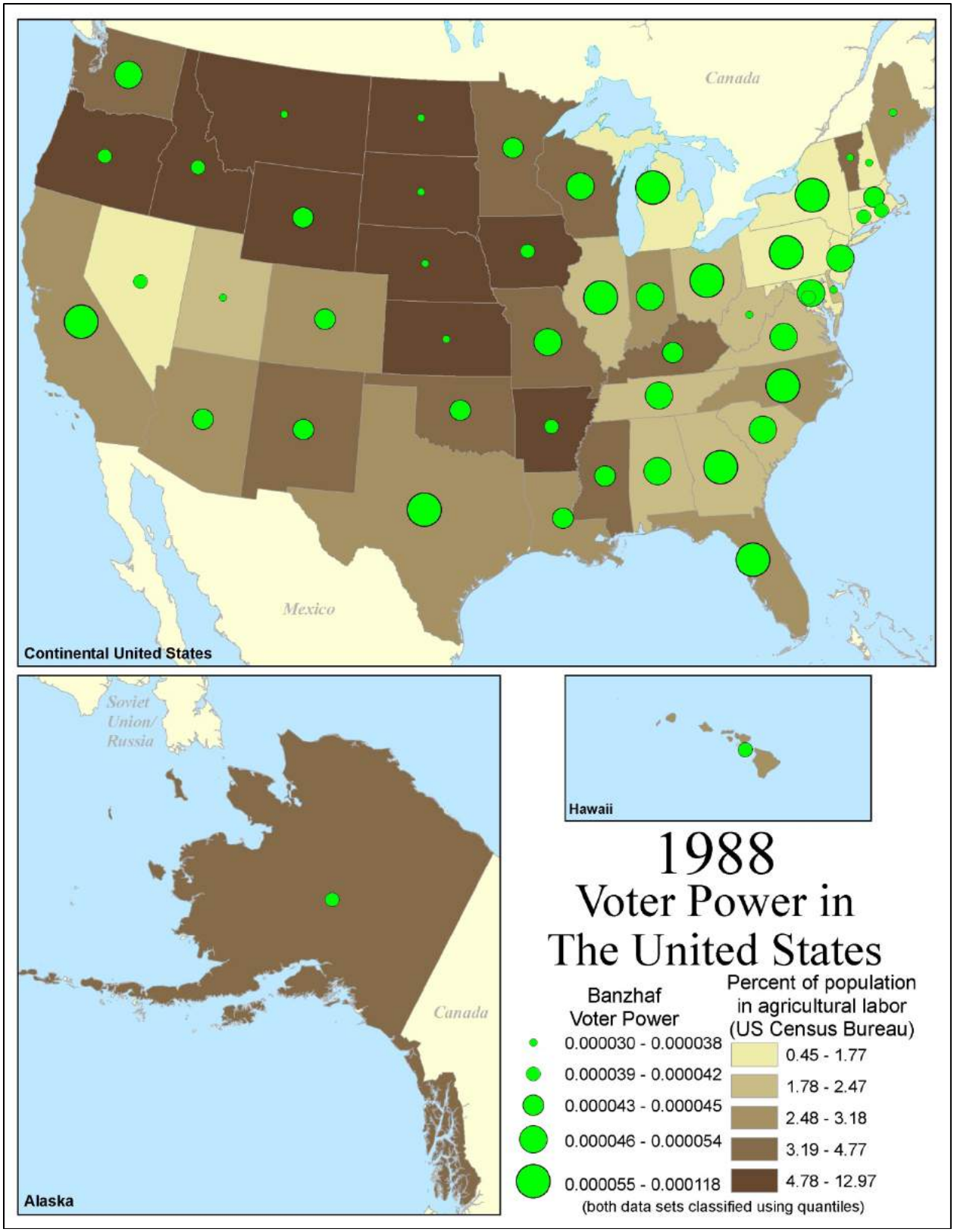

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1968
Voter Power in The United States
Banzhaf Voter Power
0.000039 - 0.000046
0.000047 - 0.000050
0.000051 - 0.000056
0.000057 - 0.000065
0.000066 - 0.000111
Percent of population in agricultural labor (US Census Bureau)
0.26 - 1.82
1.83 - 3.65
3.66 - 4.65
4.66 - 8.41
8.42 - 23.36
(both data sets classified using quantiles)

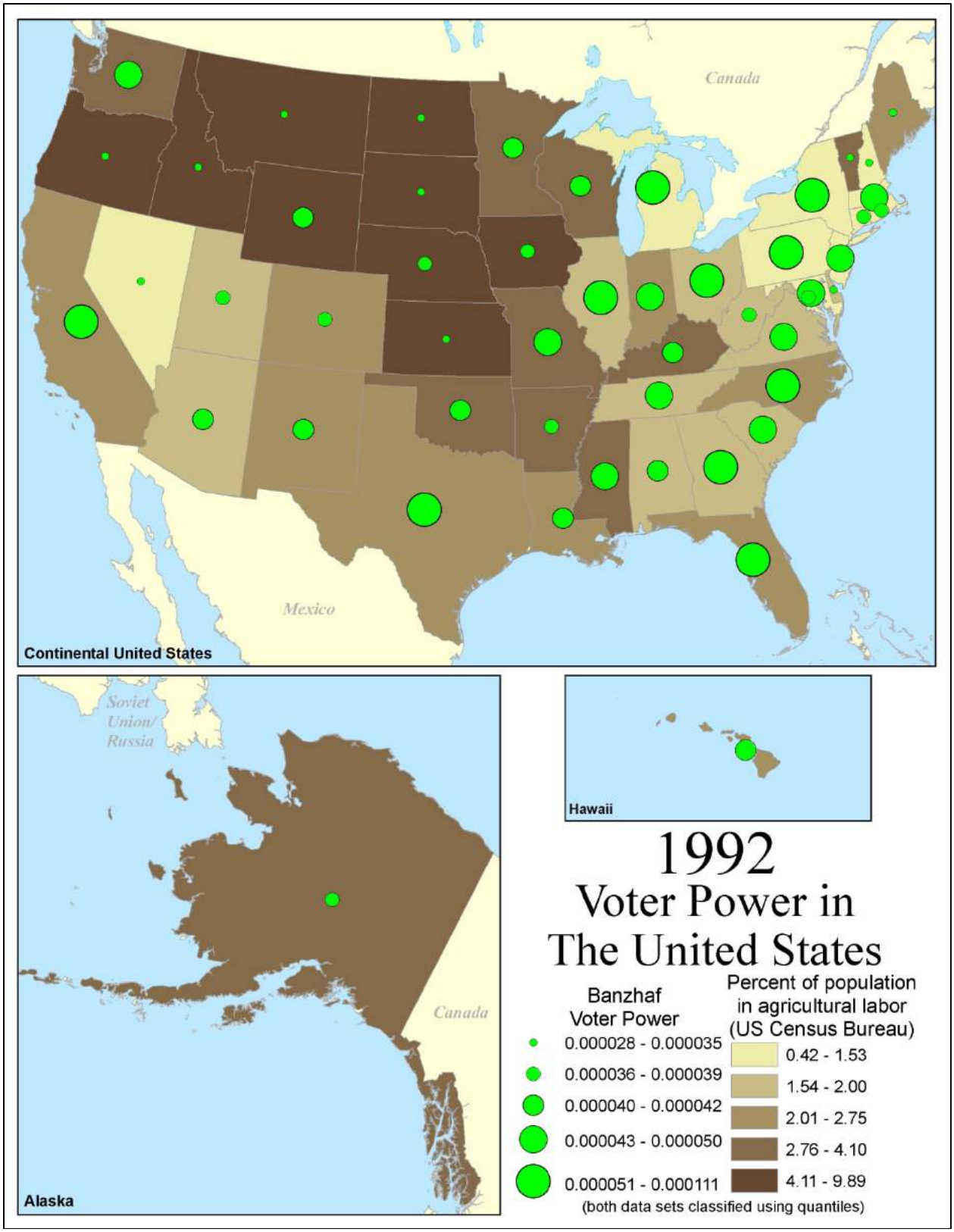

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1972
Voter Power in The United States
Banzhaf Voter Power
0.000035 - 0.000043
0.000044 - 0.000046
0.000047 - 0.000054
0.000055 - 0.000062
0.000063 - 0.000105
Percent of population in agricultural labor (US Census Bureau)
0.24 - 1.53
1.54 - 2.93
2.94 - 3.66
3.67 - 5.97
5.98 - 20.22
(both data sets classified using quantiles)

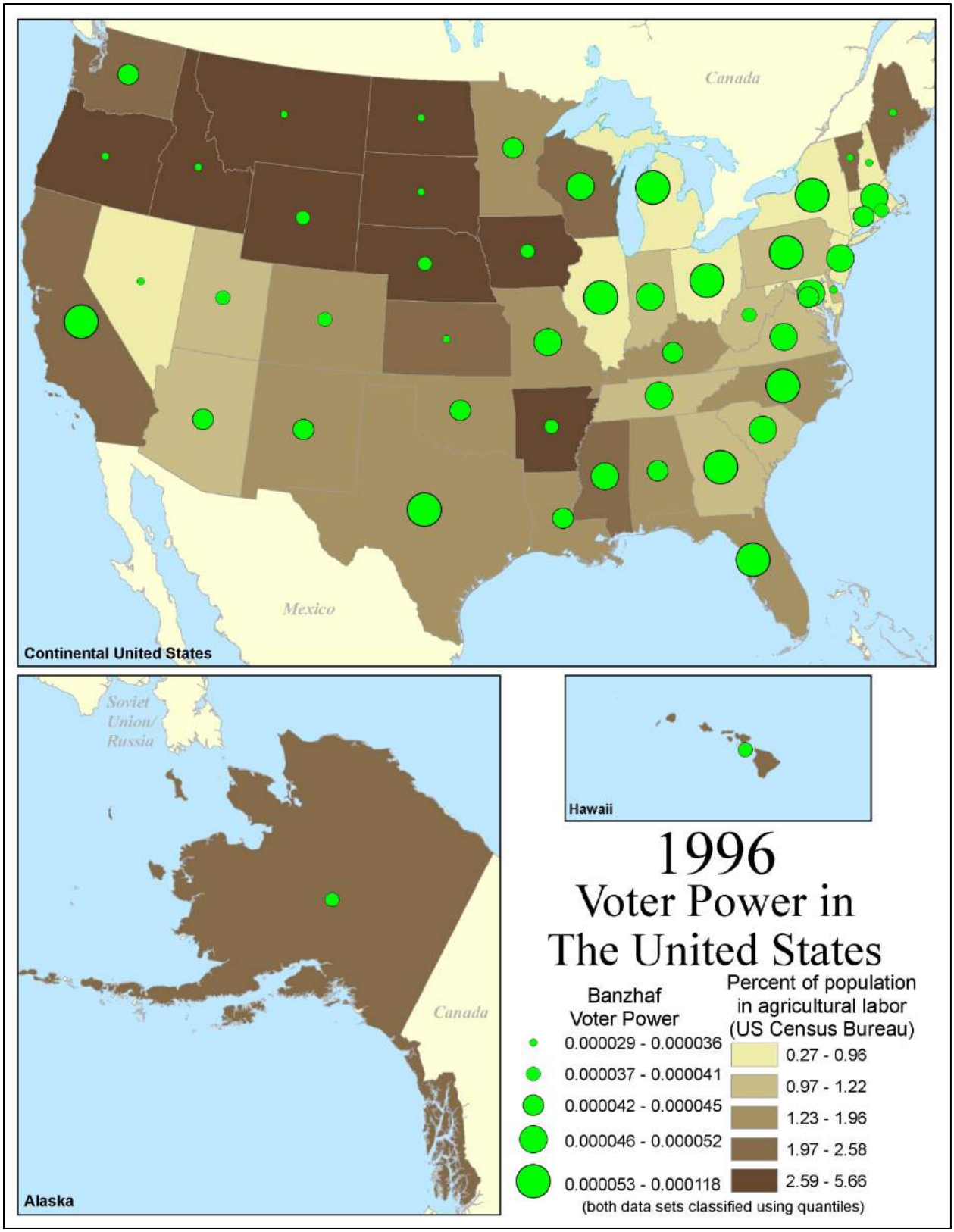

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1976
Voter Power in The United States
Banzhaf Voter Power
0.000034 - 0.000042
0.000043 - 0.000045
0.000046 - 0.000052
0.000053 - 0.000060
0.000061 - 0.000108
Percent of population in agricultural labor (US Census Bureau)
0.13 - 1.63
1.64 - 2.80
2.81 - 3.46
3.47 - 5.77
5.78 - 18.07
(both data sets classified using quantiles)

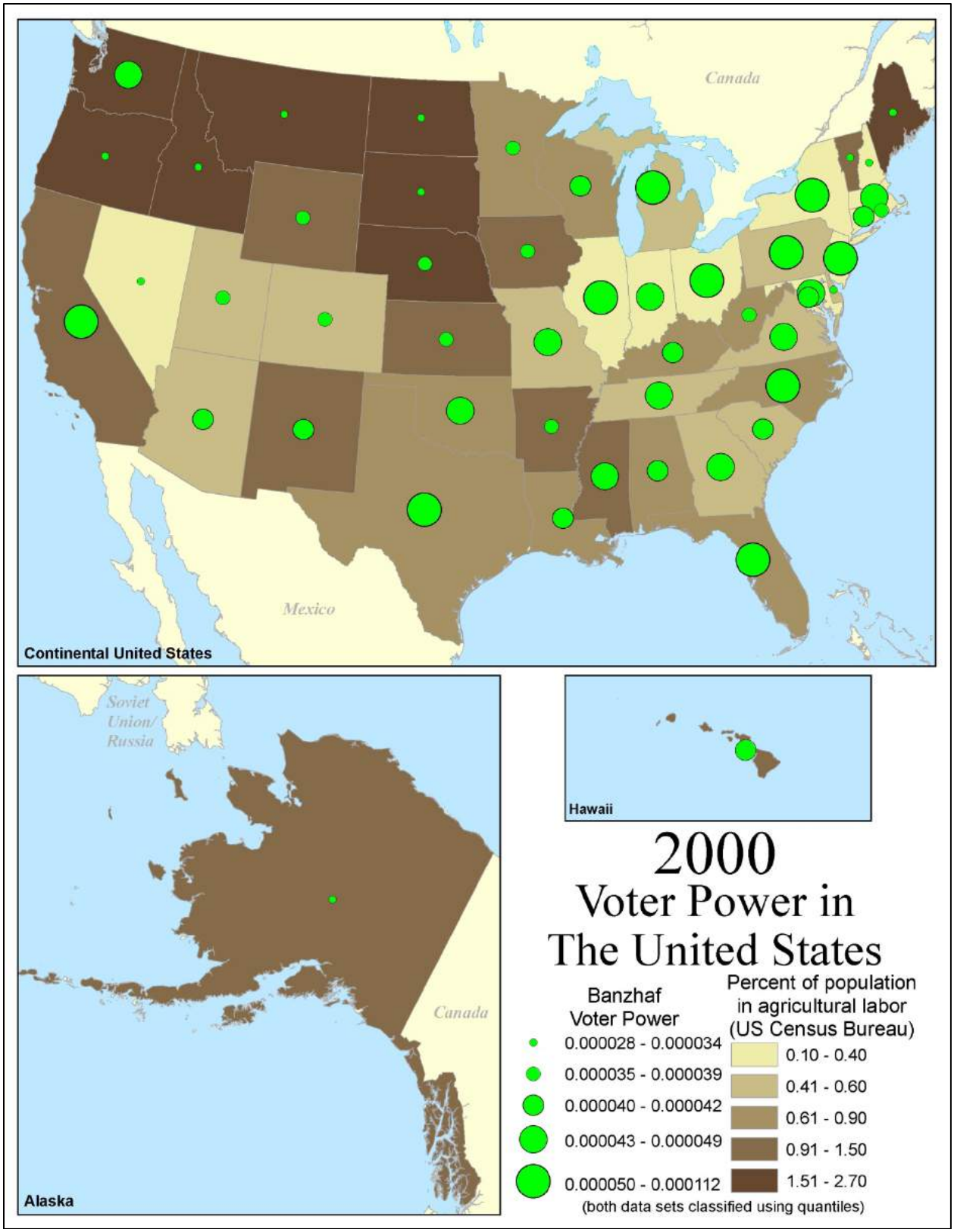

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1980
Voter Power in The United States
Banzhaf Voter Power
0.000032 - 0.000040
0.000041 - 0.000044
0.000045 - 0.000048
0.000049 - 0.000056
0.000057 - 0.000109
Percent of population in agricultural labor (US Census Bureau)
0.10 - 1.67
1.68 - 2.64
2.65 - 3.51
3.52 - 5.31
5.32 - 16.26
(both data sets classified using quantiles)

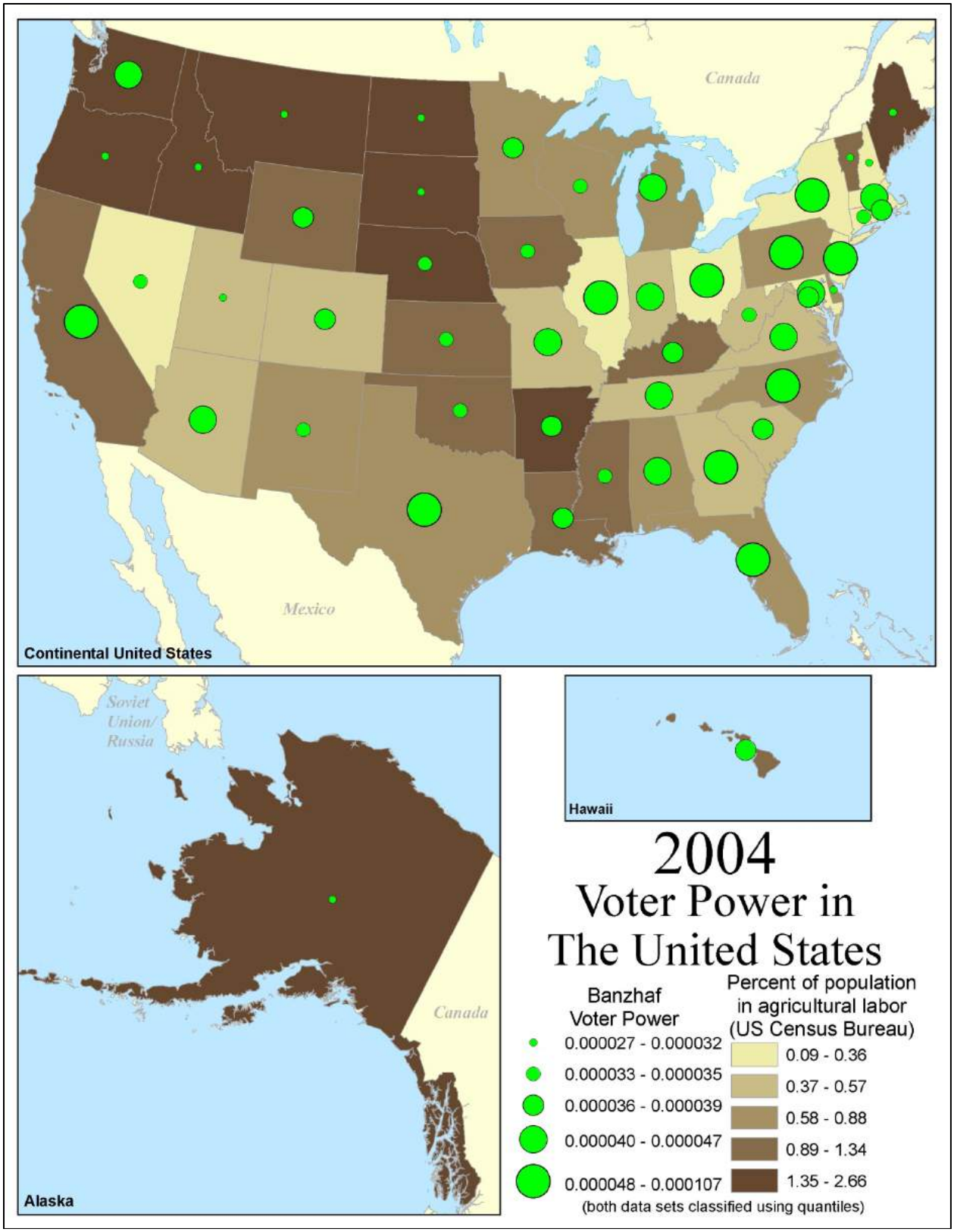

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1984
Voter Power in The United States
Banzhaf Voter Power
0.000033 - 0.000040
0.000041 - 0.000044
0.000045 - 0.000047
0.000048 - 0.000056
0.000057 - 0.000105
Percent of population in agricultural labor (US Census Bureau)
0.18 - 1.71
1.72 - 2.57
2.58 - 3.29
3.30 - 5.13
5.14 - 14.56
(both data sets classified using quantiles)

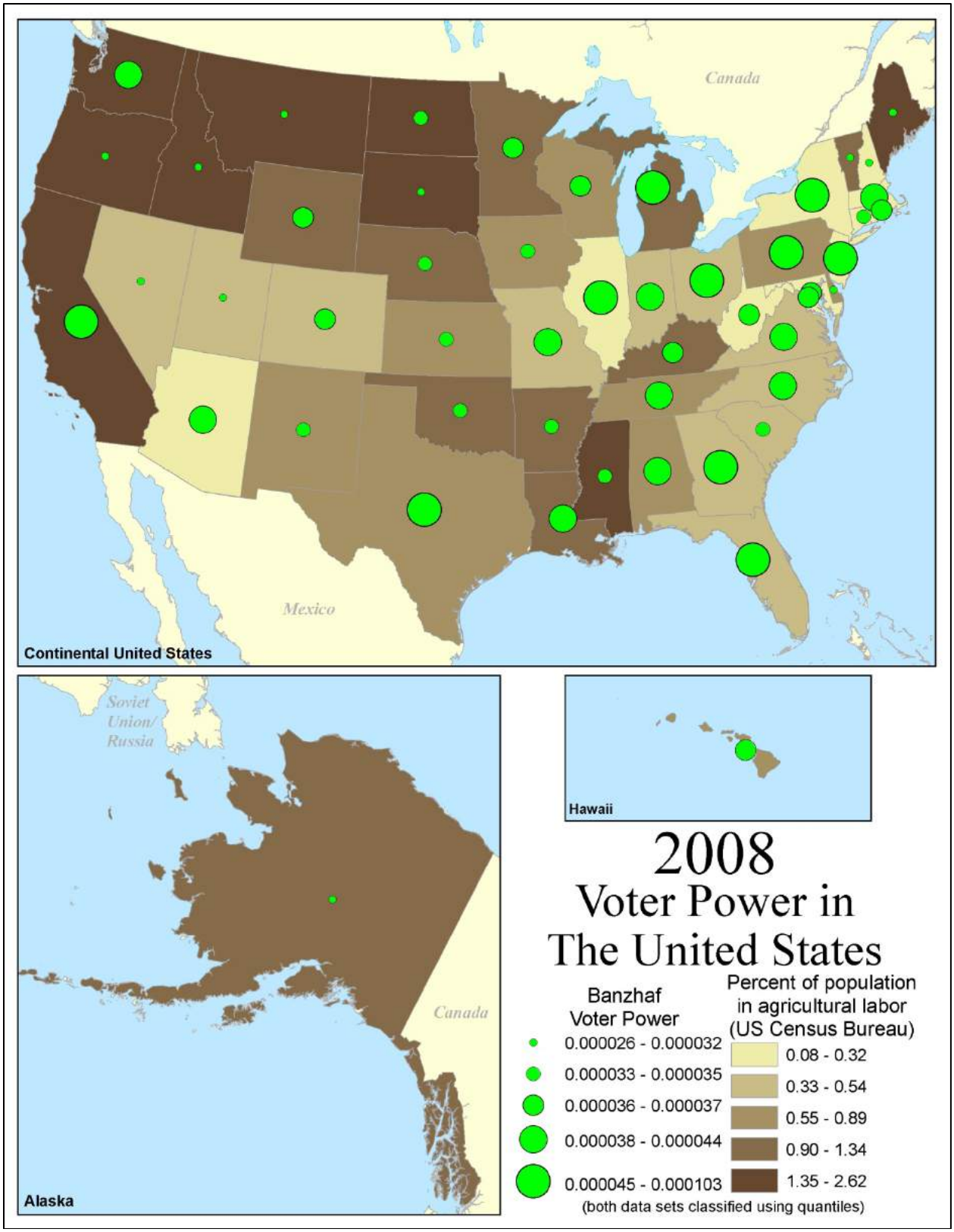

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1988
Voter Power in The United States
Banzhaf Voter Power
0.000030 - 0.000038
0.000039 - 0.000042
0.000043 - 0.000045
0.000046 - 0.000054
0.000055 - 0.000118
Percent of population in agricultural labor (US Census Bureau)
0.45 - 1.77
1.78 - 2.47
2.48 - 3.18
3.19 - 4.77
4.78 - 12.97
(both data sets classified using quantiles)

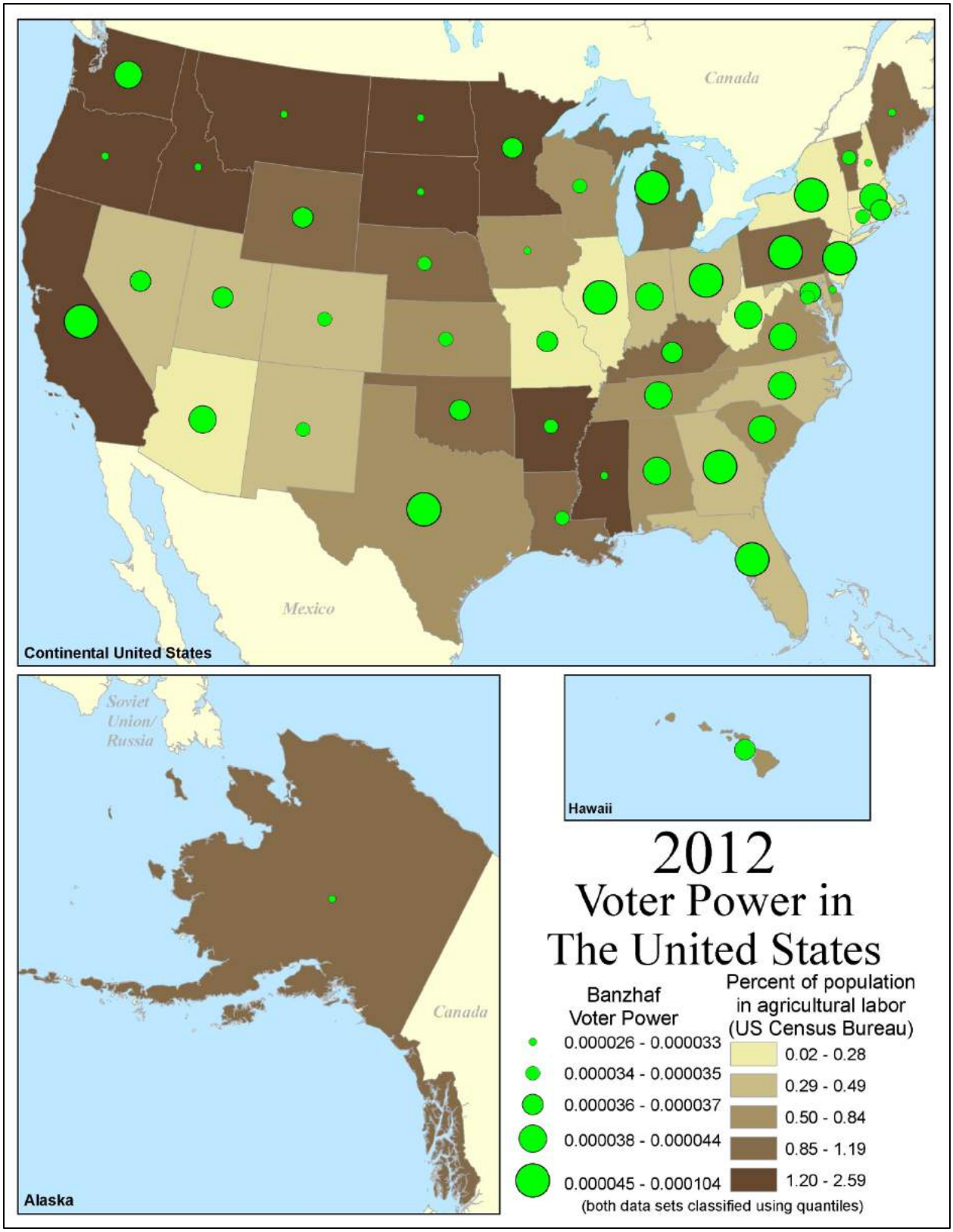

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1992
Voter Power in The United States
Banzhaf Voter Power
0.000028 - 0.000035
0.000036 - 0.000039
0.000040 - 0.000042
0.000043 - 0.000050
0.000051 - 0.000111
Percent of population in agricultural labor (US Census Bureau)
0.42 - 1.53
1.54 - 2.00
2.01 - 2.75
2.76 - 4.10
4.11 - 9.89
(both data sets classified using quantiles)


Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1996
Voter Power in The United States
Banzhaf Voter Power
0.000029 - 0.000036
0.000037 - 0.000041
0.000042 - 0.000045
0.000046 - 0.000052
0.000053 - 0.000118
Percent of population in agricultural labor (US Census Bureau)
0.27 - 0.96
0.97 - 1.22
1.23 - 1.96
1.97 - 2.58
2.59 - 5.66
(both data sets classified using quantiles)

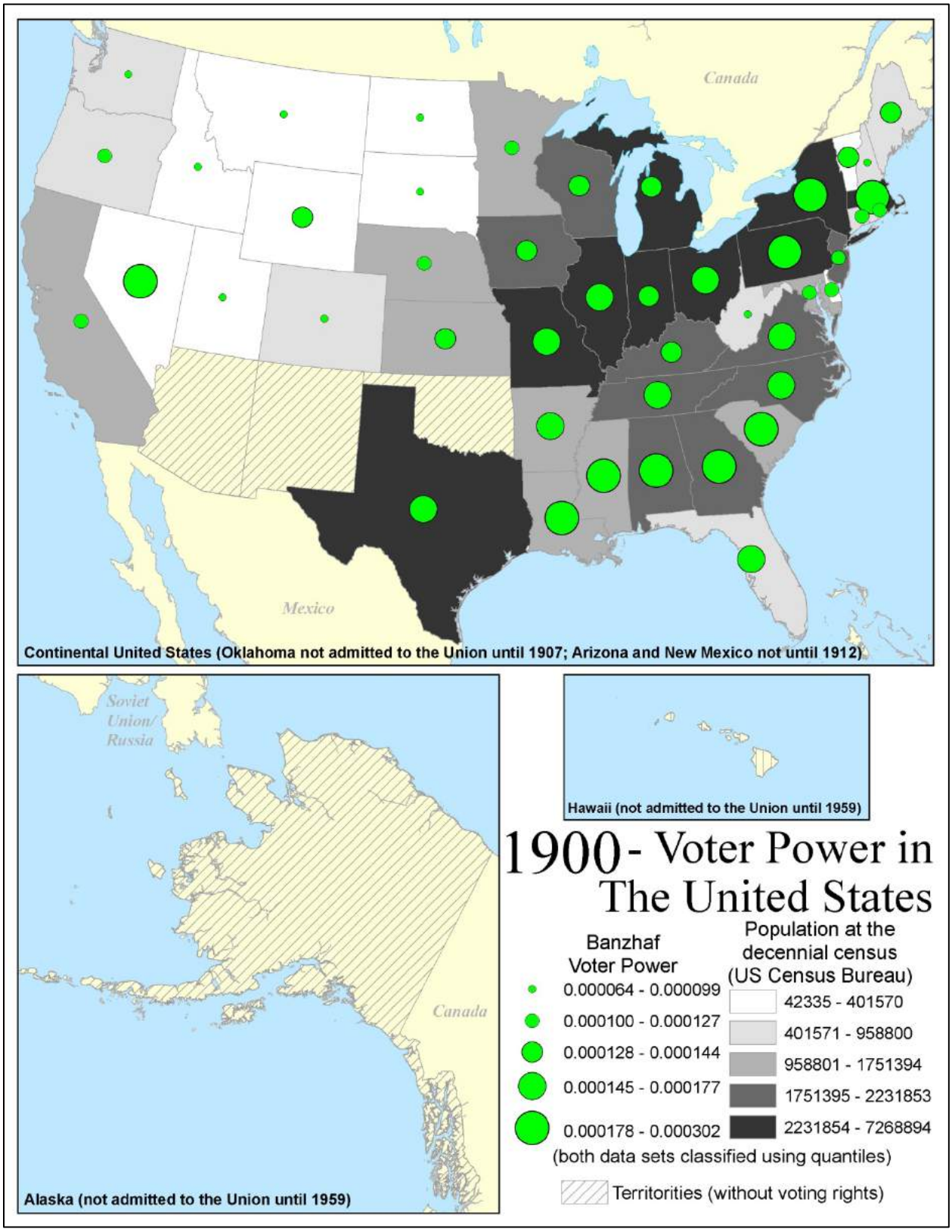

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
2000
Voter Power in The United States
Banzhaf Voter Power
0.000028 - 0.000034
0.000035 - 0.000039
0.000040 - 0.000042
0.000043 - 0.000049
0.000050 - 0.000112
Percent of population in agricultural labor (US Census Bureau)
0.10 - 0.40
0.41 - 0.60
0.61 - 0.90
0.91 - 1.50
1.51 - 2.70
(both data sets classified using quantiles)

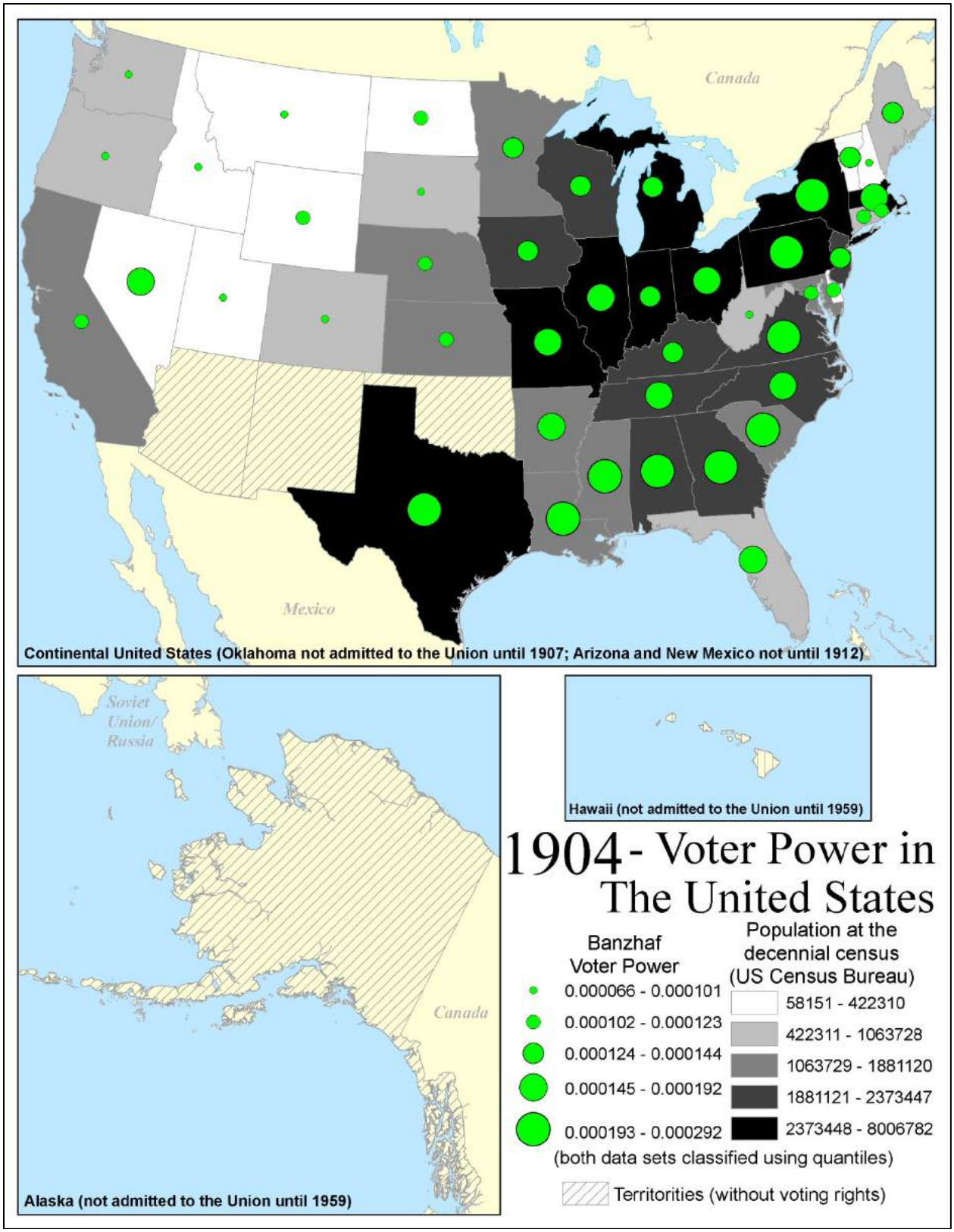

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
2004
Voter Power in The United States
Banzhaf Voter Power
0.000027 - 0.000032
0.000033 - 0.000035
0.000036 - 0.000039
0.000040 - 0.000047
0.000048 - 0.000107
Percent of population in agricultural labor (US Census Bureau)
0.09 - 0.36
0.37 - 0.57
0.58 - 0.88
0.89 - 1.34
1.35 - 2.66
(both data sets classified using quantiles)

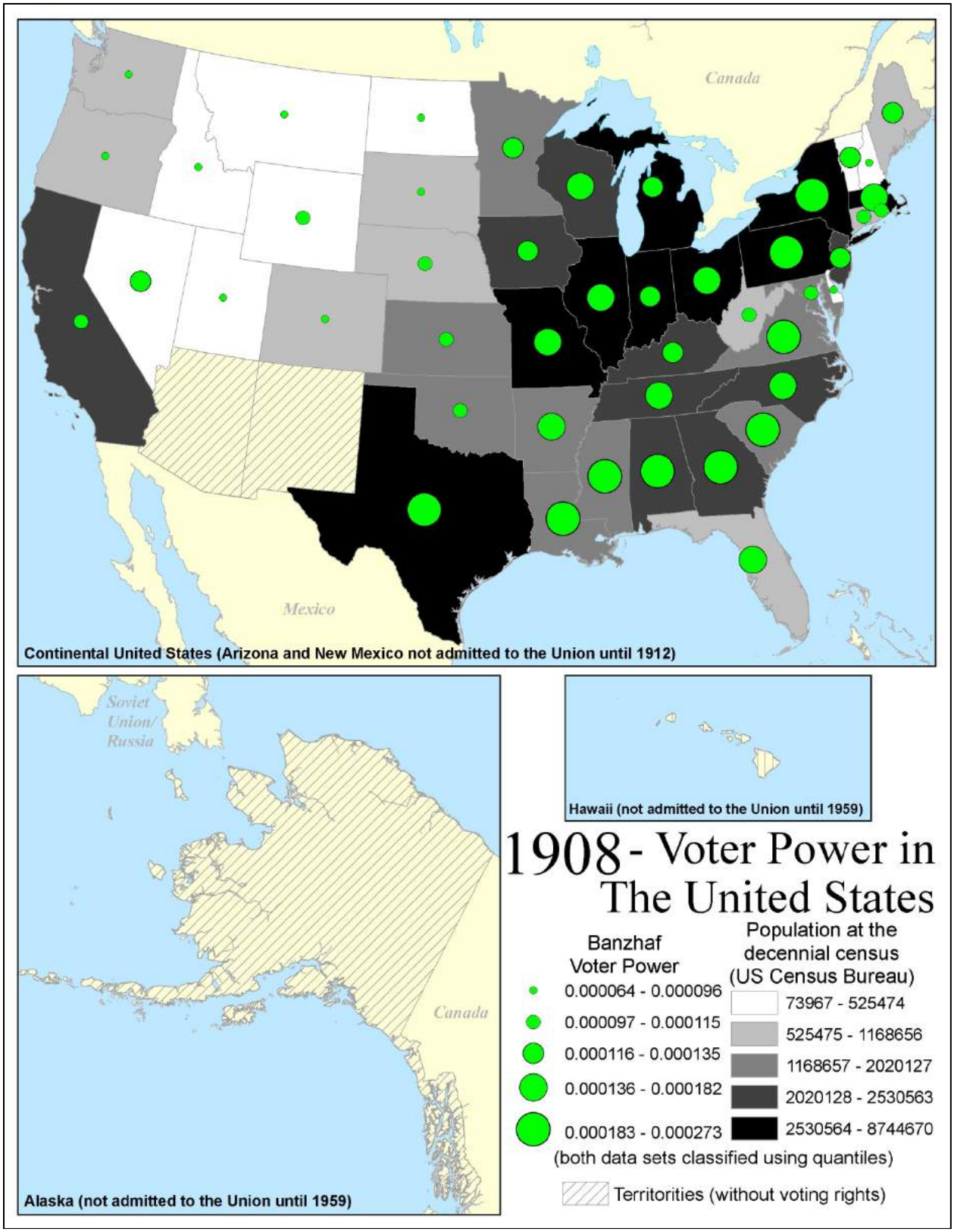

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
2008
Voter Power in The United States
Banzhaf Voter Power
0.000026 - 0.000032
0.000033 - 0.000035
0.000036 - 0.000037
0.000038 - 0.000044
0.000045 - 0.000103
Percent of population in agricultural labor (US Census Bureau)
0.08 - 0.32
0.33 - 0.54
0.55 - 0.89
0.90 - 1.34
1.35 - 2.62
(both data sets classified using quantiles)

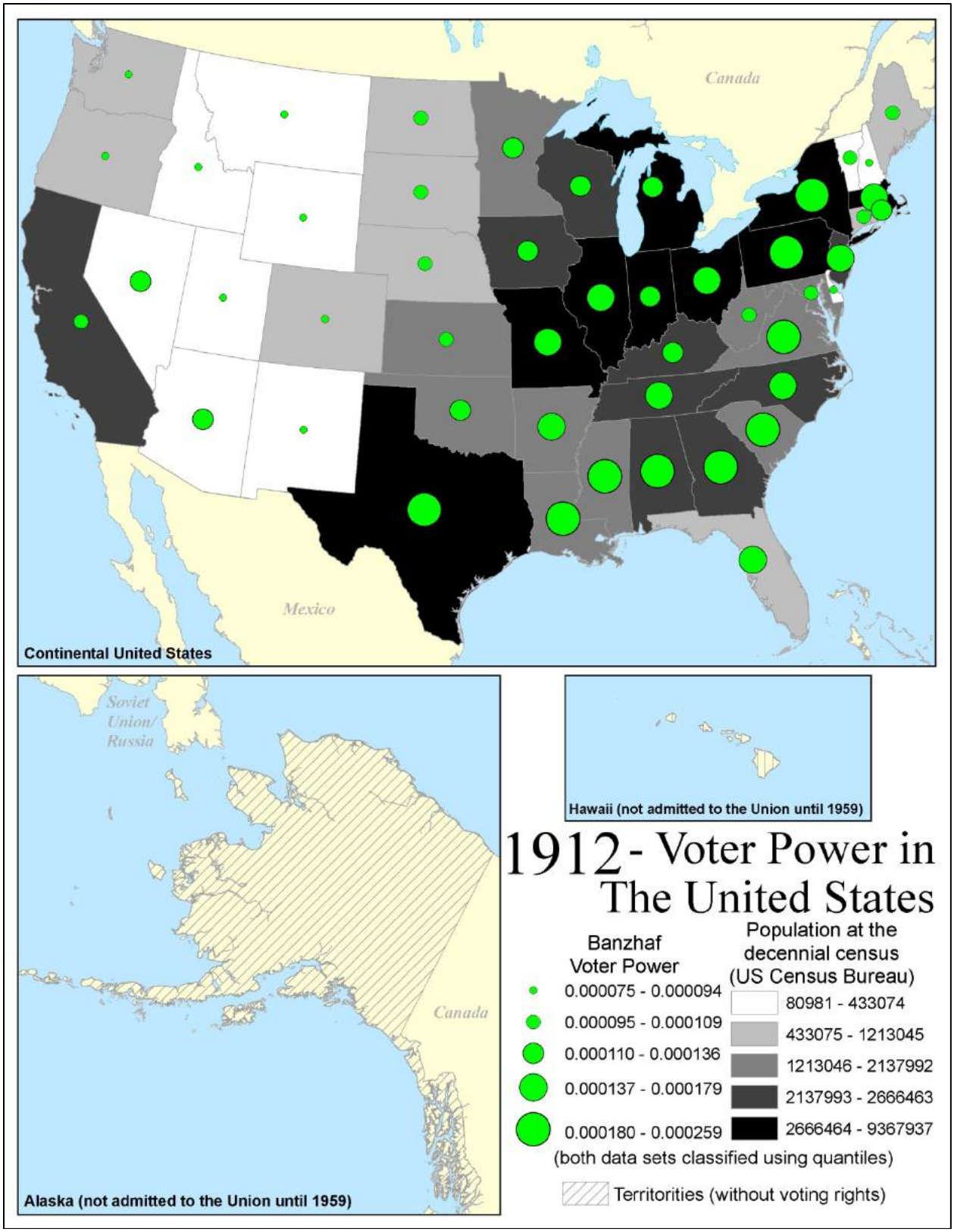

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
2012
Voter Power in The United States
Banzhaf Voter Power
0.000026 - 0.000033
0.000034 - 0.000035
0.000036 - 0.000037
0.000038 - 0.000044
0.000045 - 0.000104
Percent of population in agricultural labor (US Census Bureau)
0.02 - 0.28
0.29 - 0.49
0.50 - 0.84
0.85 - 1.19
1.20 - 2.59
(both data sets classified using quantiles)

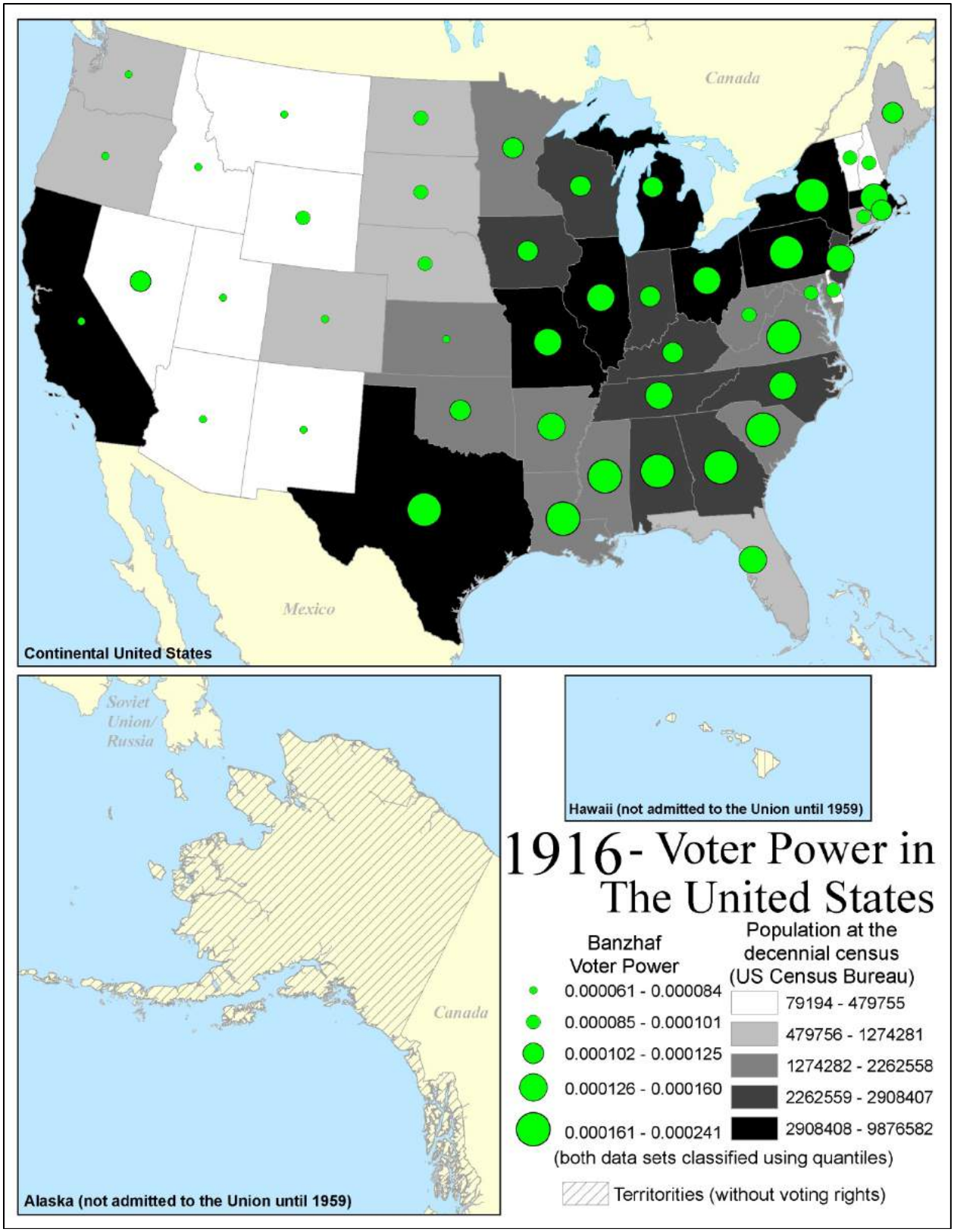
APPENDIX D: TOTAL POPULATION/VOTER POWER MAP SERIES

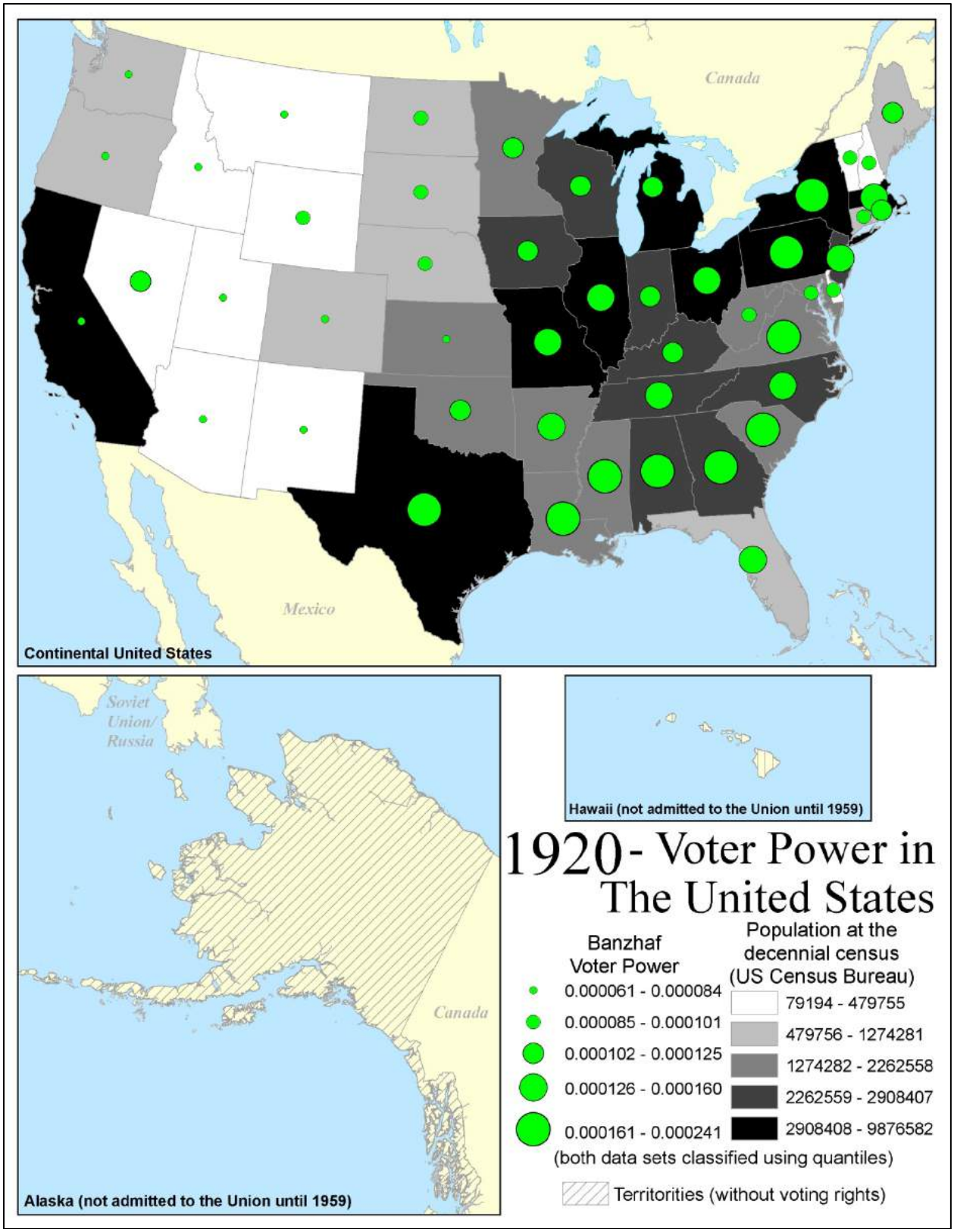


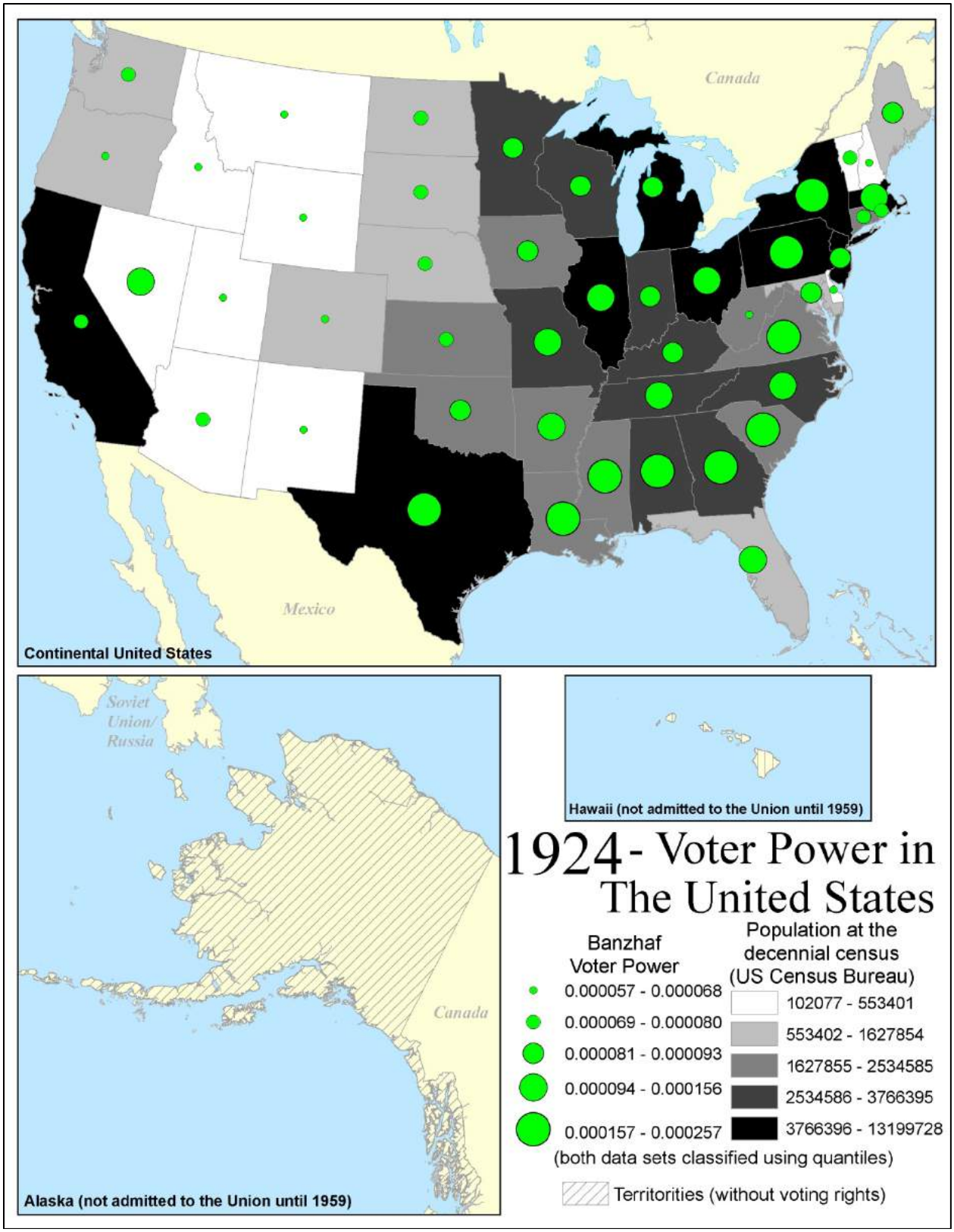

Canada
Mexico
Continental United States (Oklahoma not admitted to the Union until 1907; Arizona and New Mexico not until 1912)
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1904 - Voter Power in The United States
Banzhaf Voter Power
0.000066 - 0.000101
0.000102 - 0.000123
0.000124 - 0.000144
0.000145 - 0.000192
0.000193 - 0.000292
Population at the decennial census (US Census Bureau)
58151 - 422310
422311 - 1063728
1063729 - 1881120
1881121 - 2373447
2373448 - 8006782
(both data sets classified using quantiles)
Territorities (without voting rights)

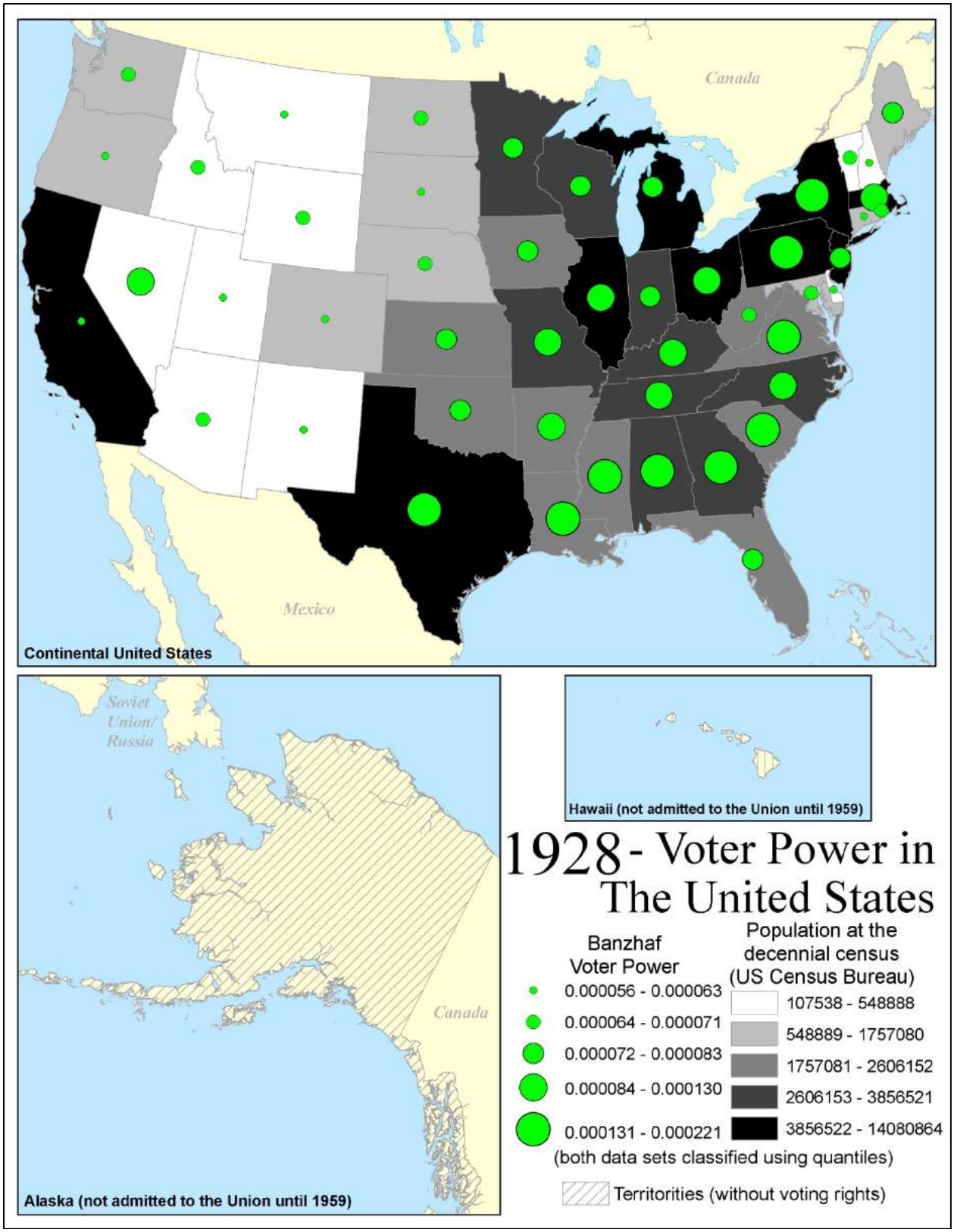

Canada
Mexico
Continental United States (Arizona and New Mexico not admitted to the Union until 1912)
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1908 - Voter Power in The United States
Banzhaf Voter Power
0.000064 - 0.000096
0.000097 - 0.000115
0.000116 - 0.000135
0.000136 - 0.000182
0.000183 - 0.000273
Population at the decennial census (US Census Bureau)
73967 - 525474
525475 - 1168656
1168657 - 2020127
2020128 - 2530563
2530564 - 8744670
(both data sets classified using quantiles)
Territorities (without voting rights)

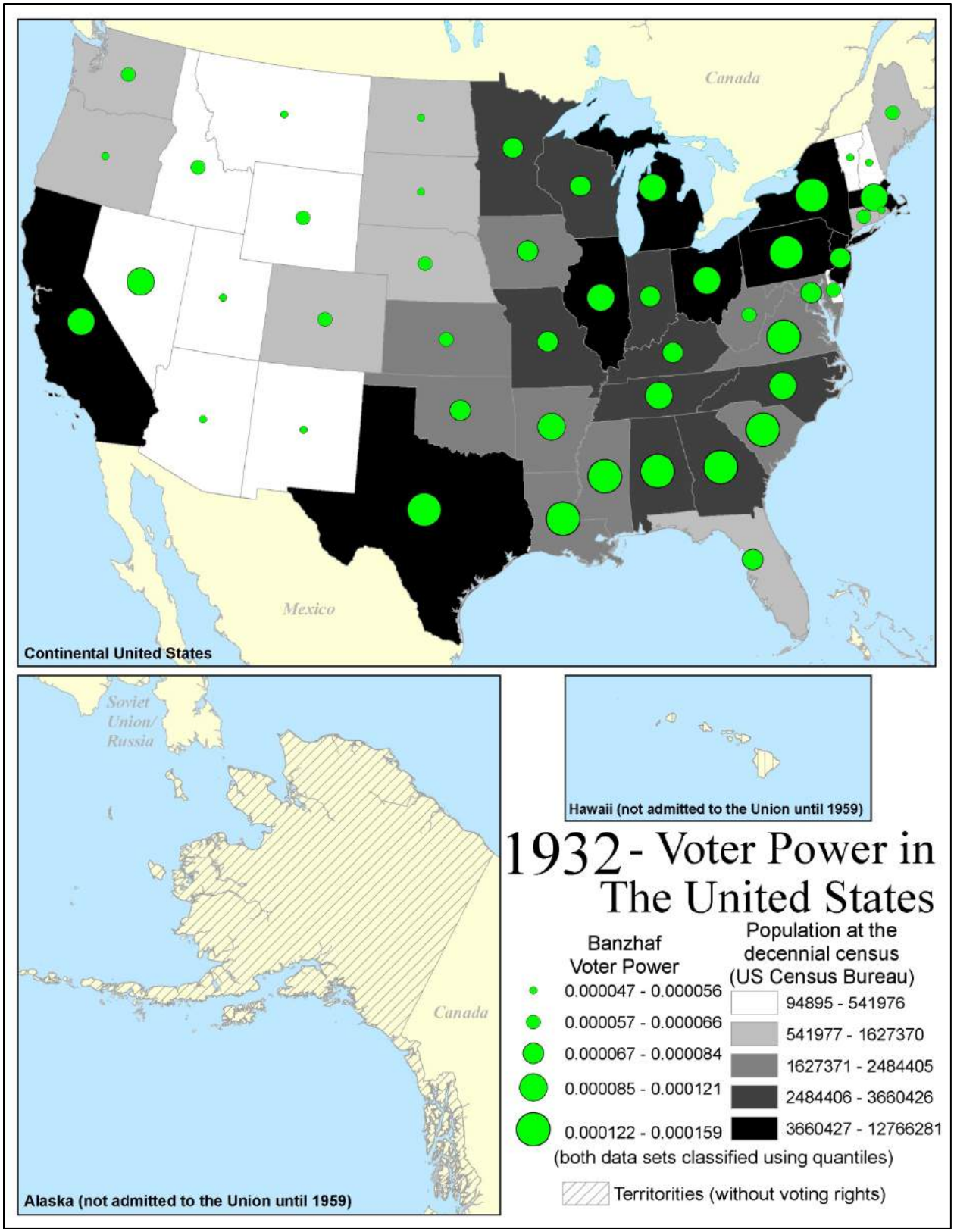

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1912 - Voter Power in The United States
Banzhaf Voter Power
0.000075 - 0.000094
0.000095 - 0.000109
0.000110 - 0.000136
0.000137 - 0.000179
0.000180 - 0.000259
Population at the decennial census (US Census Bureau)
80981 - 433074
433075 - 1213045
1213046 - 2137992
2137993 - 2666463
2666464 - 9367937
(both data sets classified using quantiles)
Territorities (without voting rights)

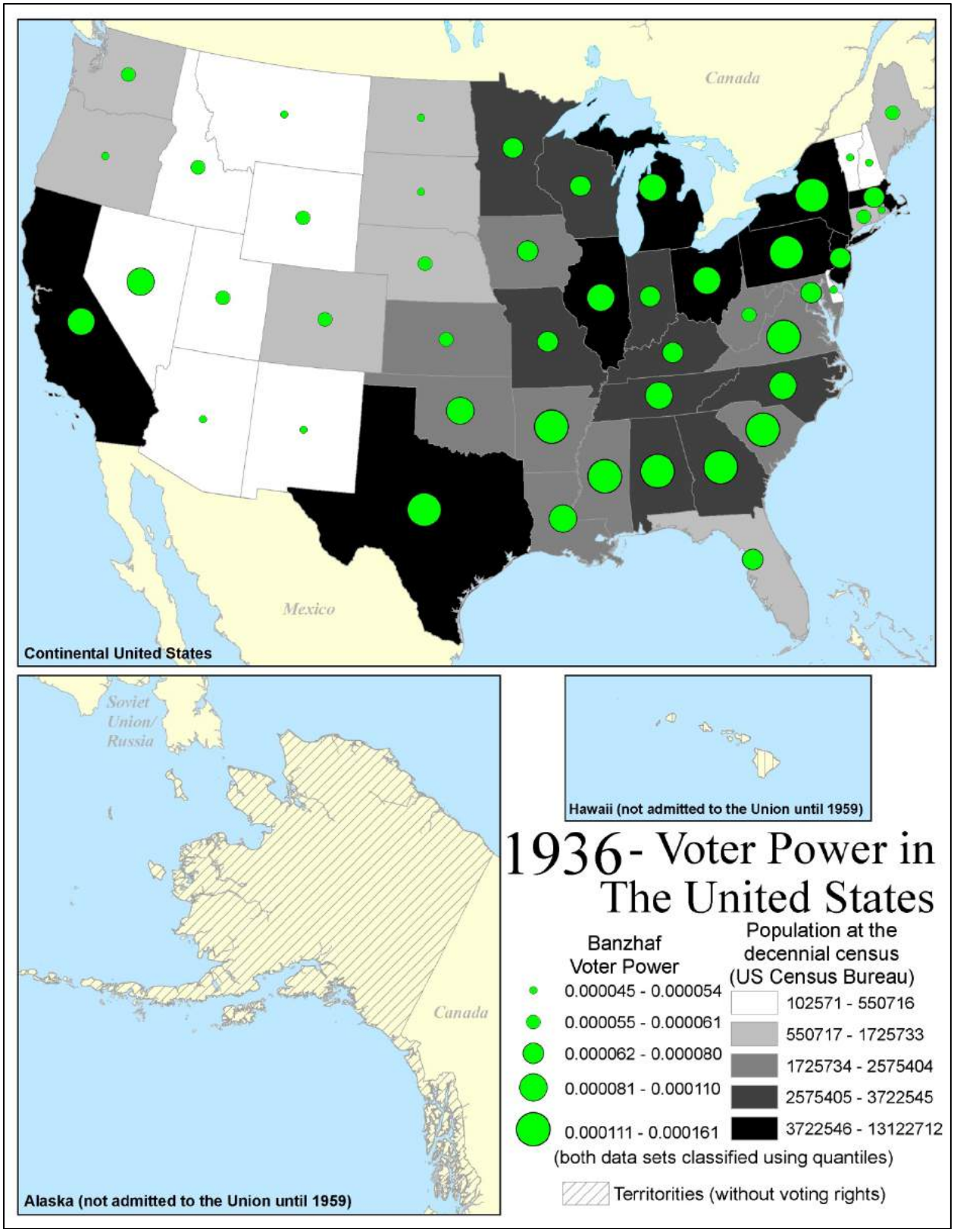

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1916- Voter Power in The United States
Banzhaf Voter Power
0.000061 - 0.000084
0.000085 - 0.000101
0.000102 - 0.000125
0.000126 - 0.000160
0.000161 - 0.000241
Population at the decennial census (US Census Bureau)
79194 - 479755
479756 - 1274281
1274282 - 2262558
2262559 - 2908407
2908408 - 9876582
(both data sets classified using quantiles)
Territorities (without voting rights)

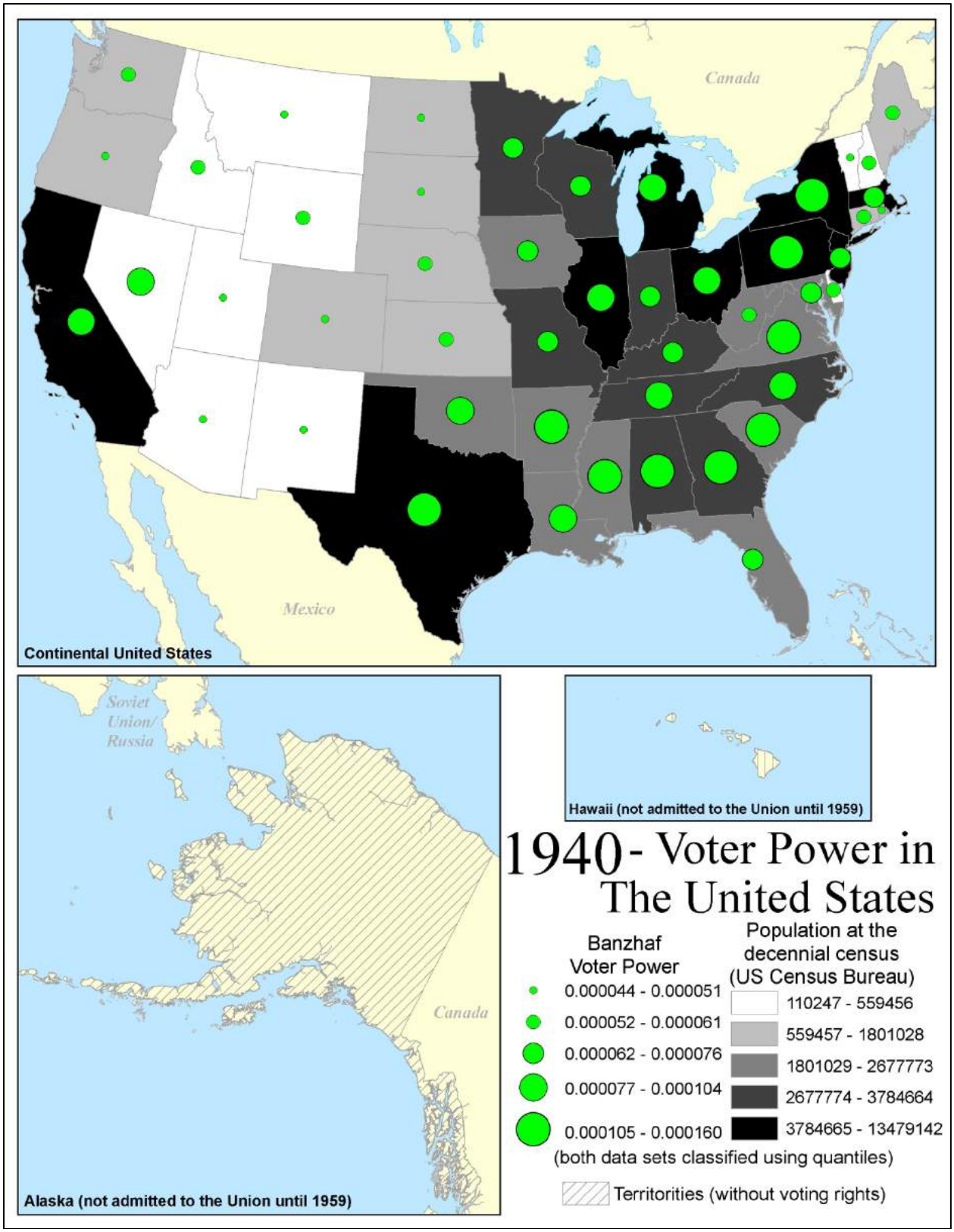

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1920- Voter Power in The United States
Banzhaf Voter Power
0.000061 - 0.000084
0.000085 - 0.000101
0.000102 - 0.000125
0.000126 - 0.000160
0.000161 - 0.000241
Population at the decennial census (US Census Bureau)
79194 - 479755
479756 - 1274281
1274282 - 2262558
2262559 - 2908407
2908408 - 9876582
(both data sets classified using quantiles)
Territorities (without voting rights)

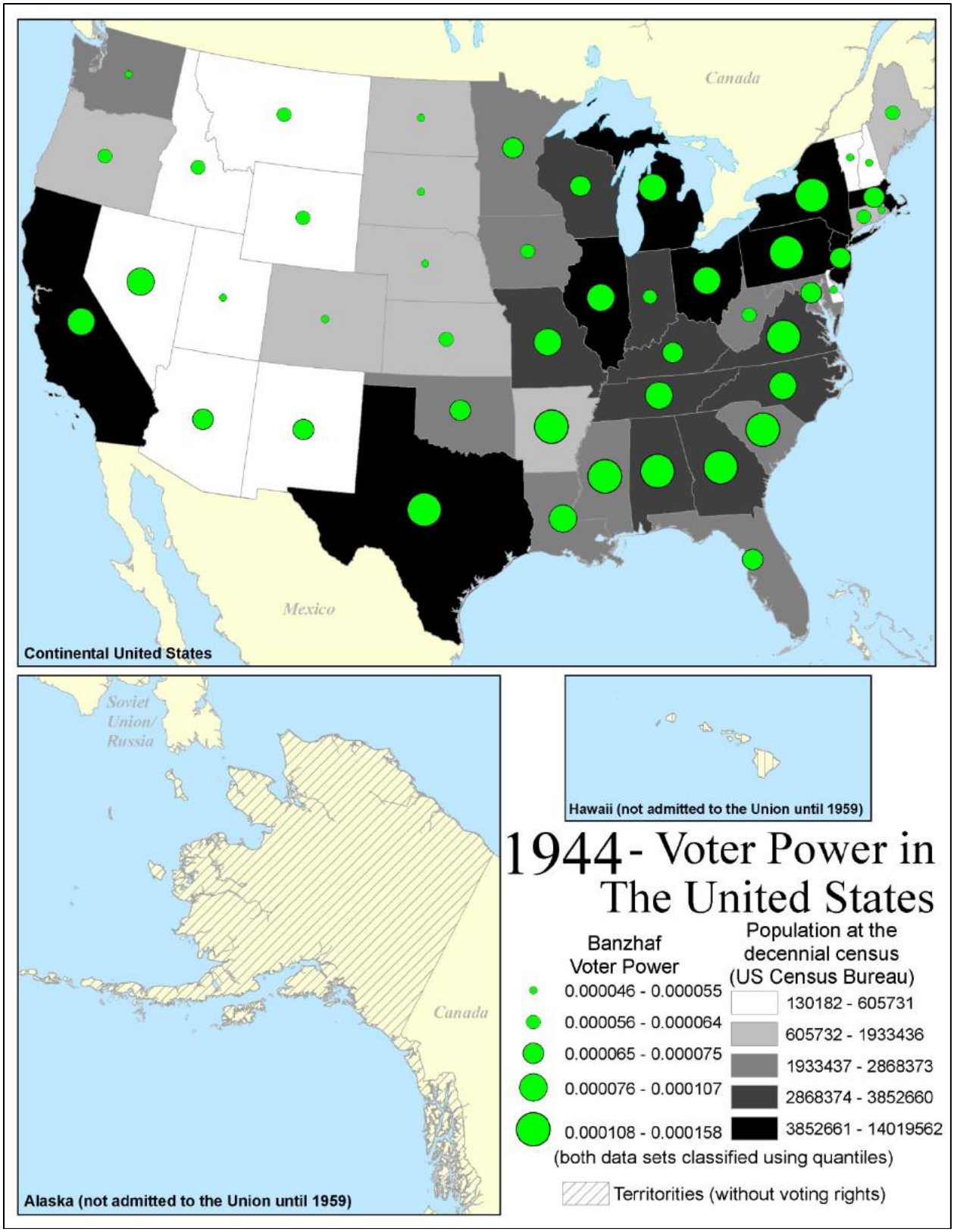

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1924- Voter Power in The United States
Banzhaf Voter Power
Population at the decennial census (US Census Bureau)
0.000057 - 0.000068
0.000069 - 0.000080
0.000081 - 0.000093
0.000094 - 0.000156
0.000157 - 0.000257
102077 - 553401
553402 - 1627854
1627855 - 2534585
2534586 - 3766395
3766396 - 13199728
(both data sets classified using quantiles)
Territorities (without voting rights)

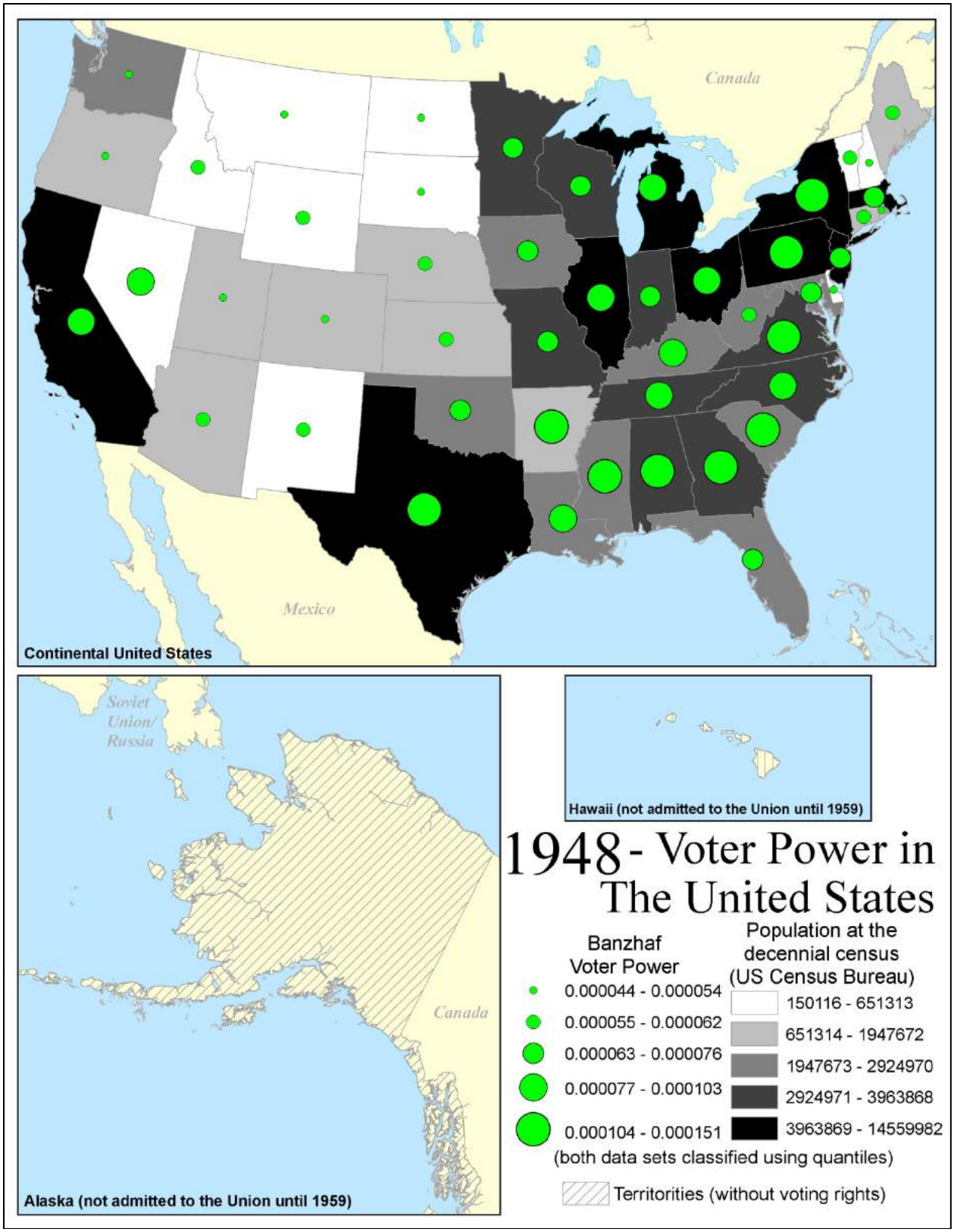

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1928 - Voter Power in The United States
Banzhaf Voter Power
0.000056 - 0.000063
0.000064 - 0.000071
0.000072 - 0.000083
0.000084 - 0.000130
0.000131 - 0.000221
Population at the decennial census (US Census Bureau)
107538 - 548888
548889 - 1757080
1757081 - 2606152
2606153 - 3856521
3856522 - 14080864
(both data sets classified using quantiles)
Territorities (without voting rights)

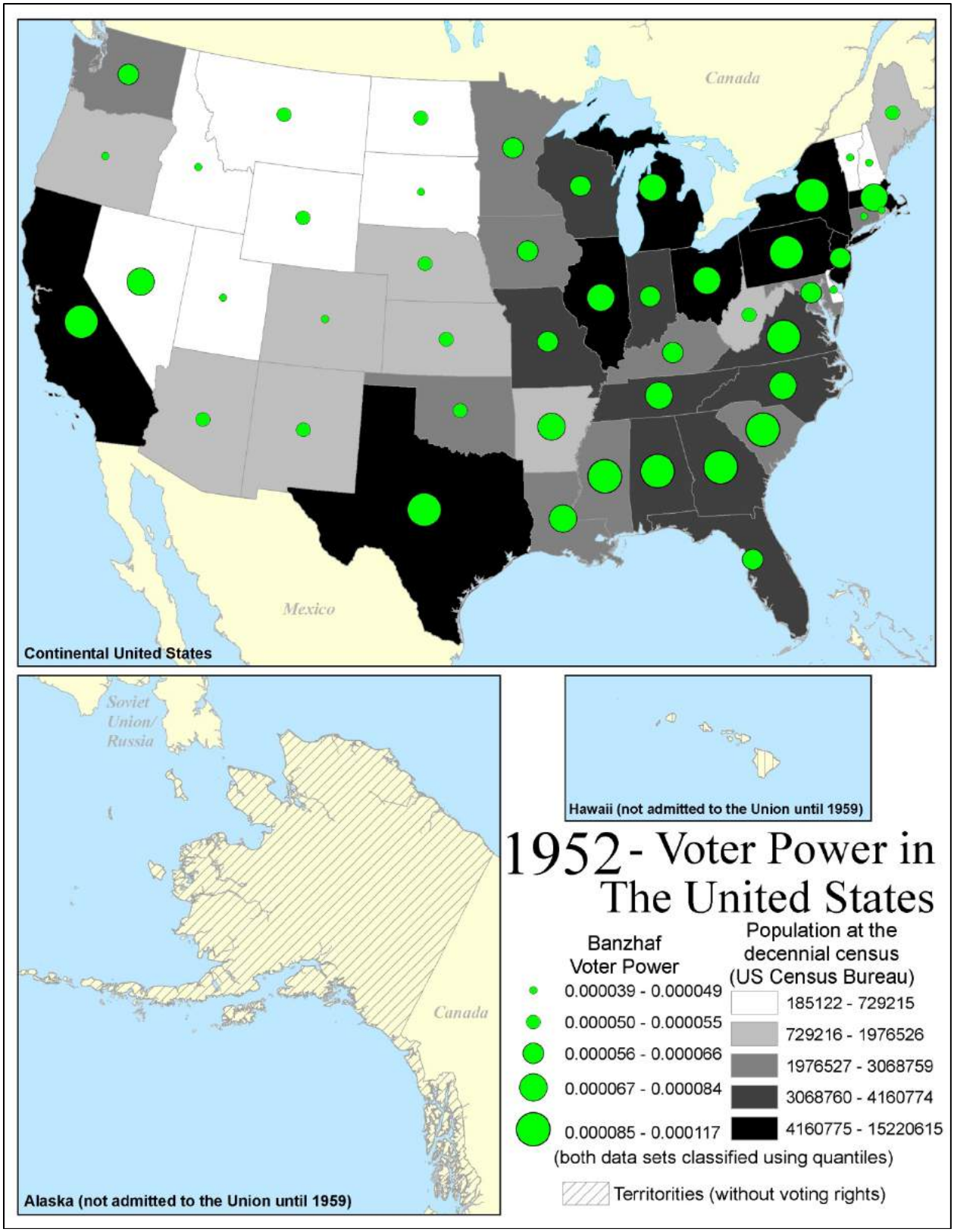

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1932 - Voter Power in The United States
Banzhaf Voter Power
0.000047 - 0.000056
0.000057 - 0.000066
0.000067 - 0.000084
0.000085 - 0.000121
0.000122 - 0.000159
Population at the decennial census (US Census Bureau)
94895 - 541976
541977 - 1627370
1627371 - 2484405
2484406 - 3660426
3660427 - 12766281
(both data sets classified using quantiles)
Territorities (without voting rights)

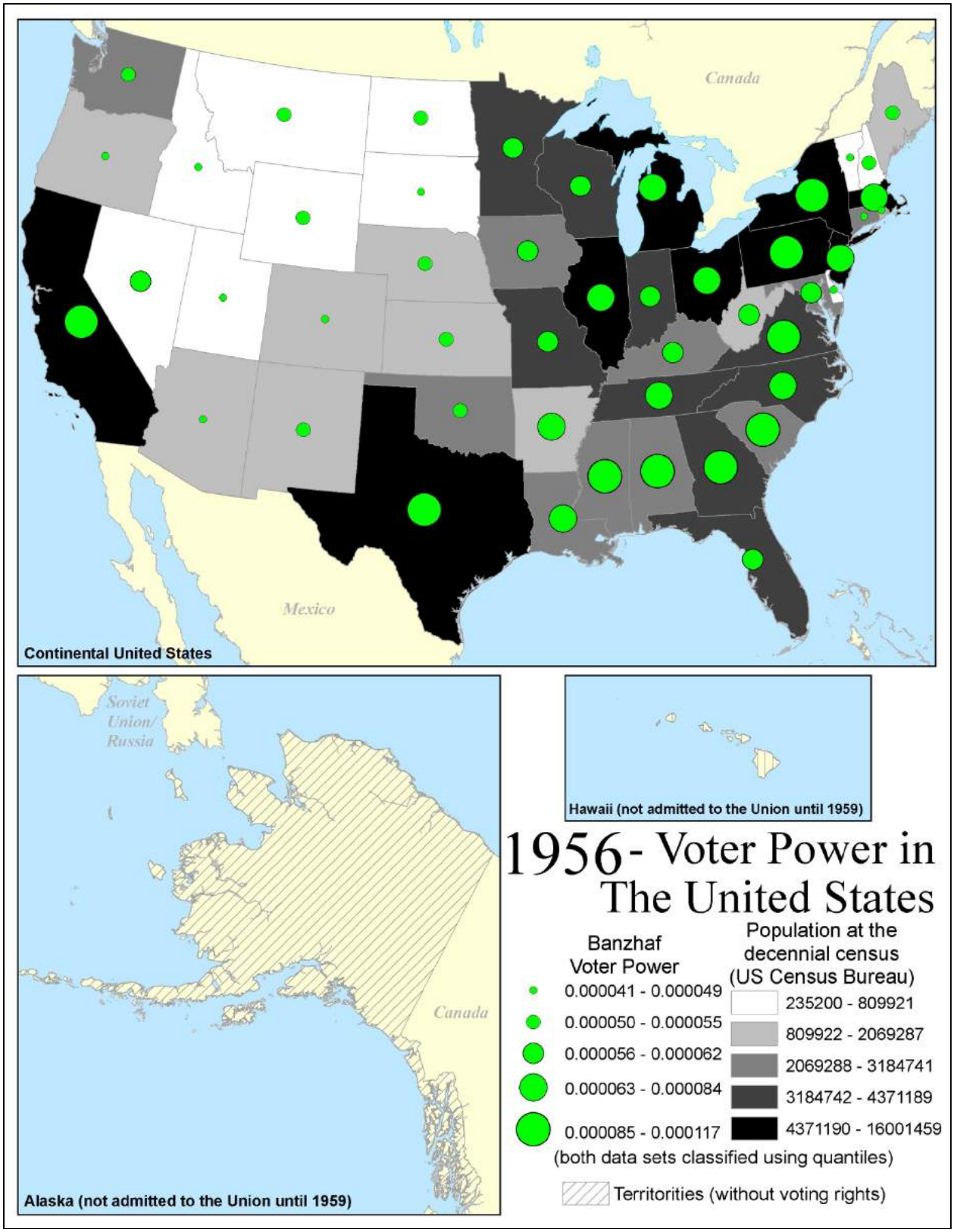

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1936- Voter Power in The United States
Banzhaf Voter Power
0.000045 - 0.000054
0.000055 - 0.000061
0.000062 - 0.000080
0.000081 - 0.000110
0.000111 - 0.000161
Population at the decennial census (US Census Bureau)
102571 - 550716
550717 - 1725733
1725734 - 2575404
2575405 - 3722545
3722546 - 13122712
(both data sets classified using quantiles)
Territorities (without voting rights)

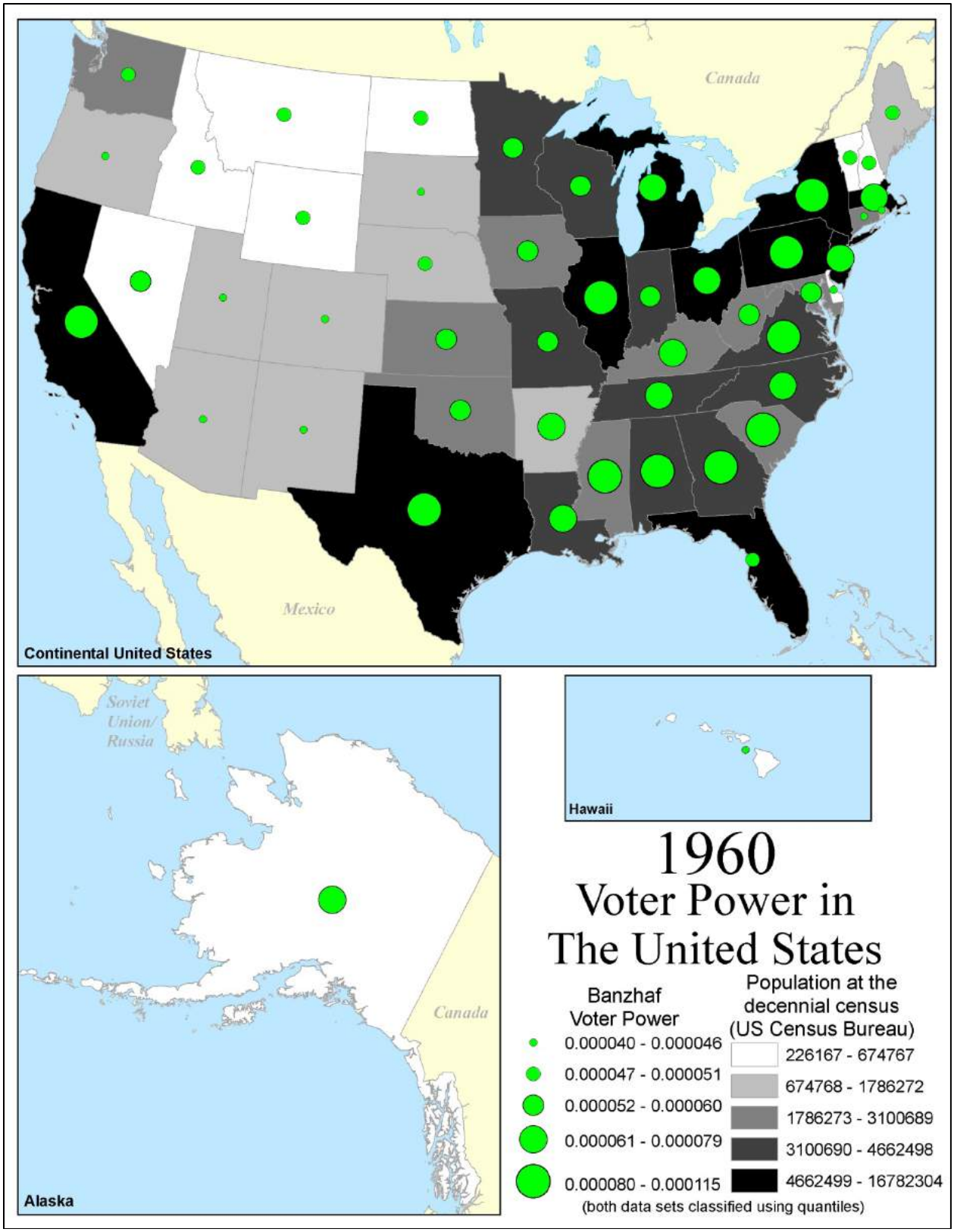

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1940 - Voter Power in The United States
Banzhaf Voter Power
0.000044 - 0.000051
0.000052 - 0.000061
0.000062 - 0.000076
0.000077 - 0.000104
0.000105 - 0.000160
(both data sets classified using quantiles)
Population at the decennial census (US Census Bureau)
110247 - 559456
559457 - 1801028
1801029 - 2677773
2677774 - 3784664
3784665 - 13479142
Territorities (without voting rights)

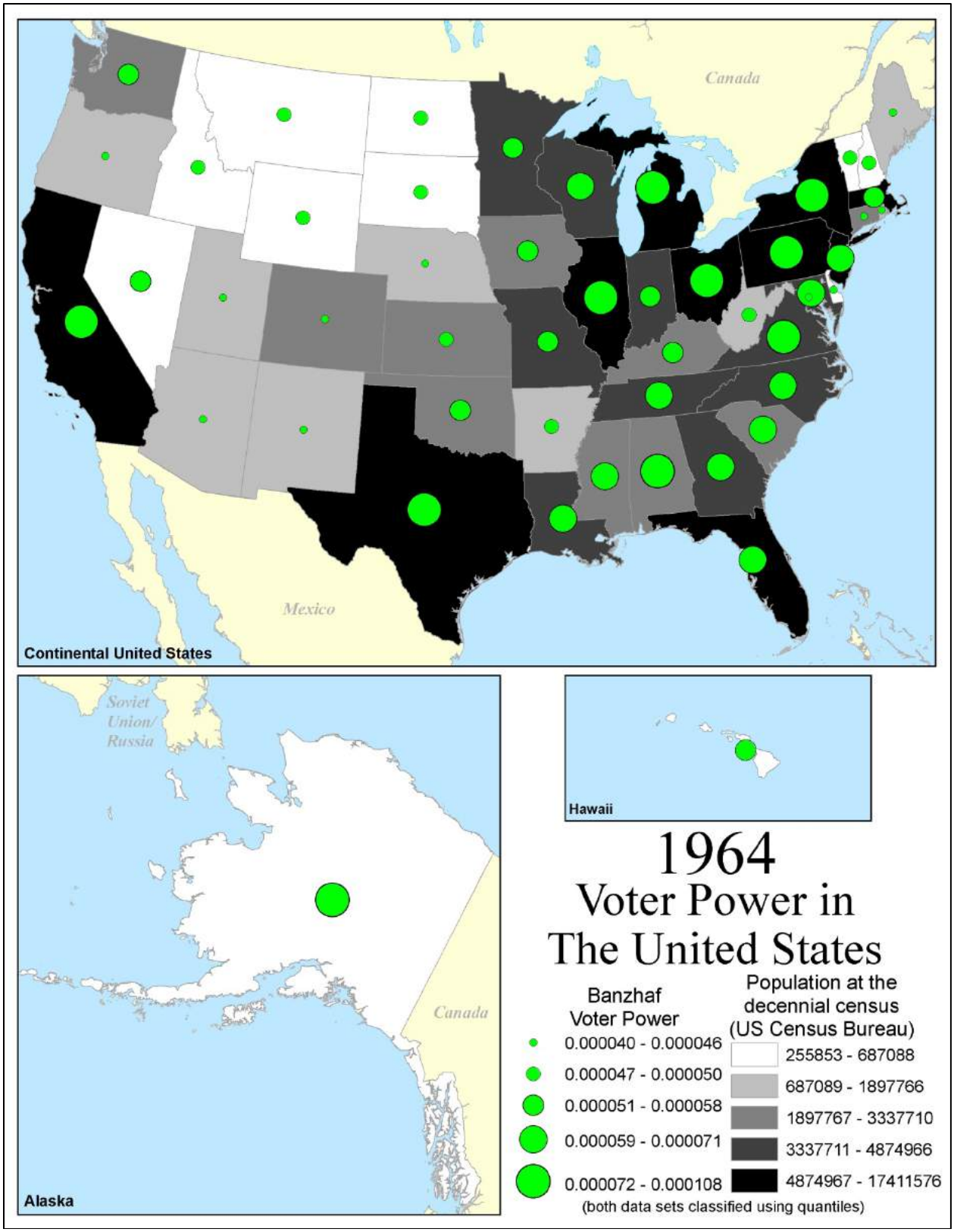

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1944 - Voter Power in The United States
Banzhaf Voter Power
0.000046 - 0.000055
0.000056 - 0.000064
0.000065 - 0.000075
0.000076 - 0.000107
0.000108 - 0.000158
(both data sets classified using quantiles)
Population at the decennial census (US Census Bureau)
130182 - 605731
605732 - 1933436
1933437 - 2868373
2868374 - 3852660
3852661 - 14019562
Territorities (without voting rights)

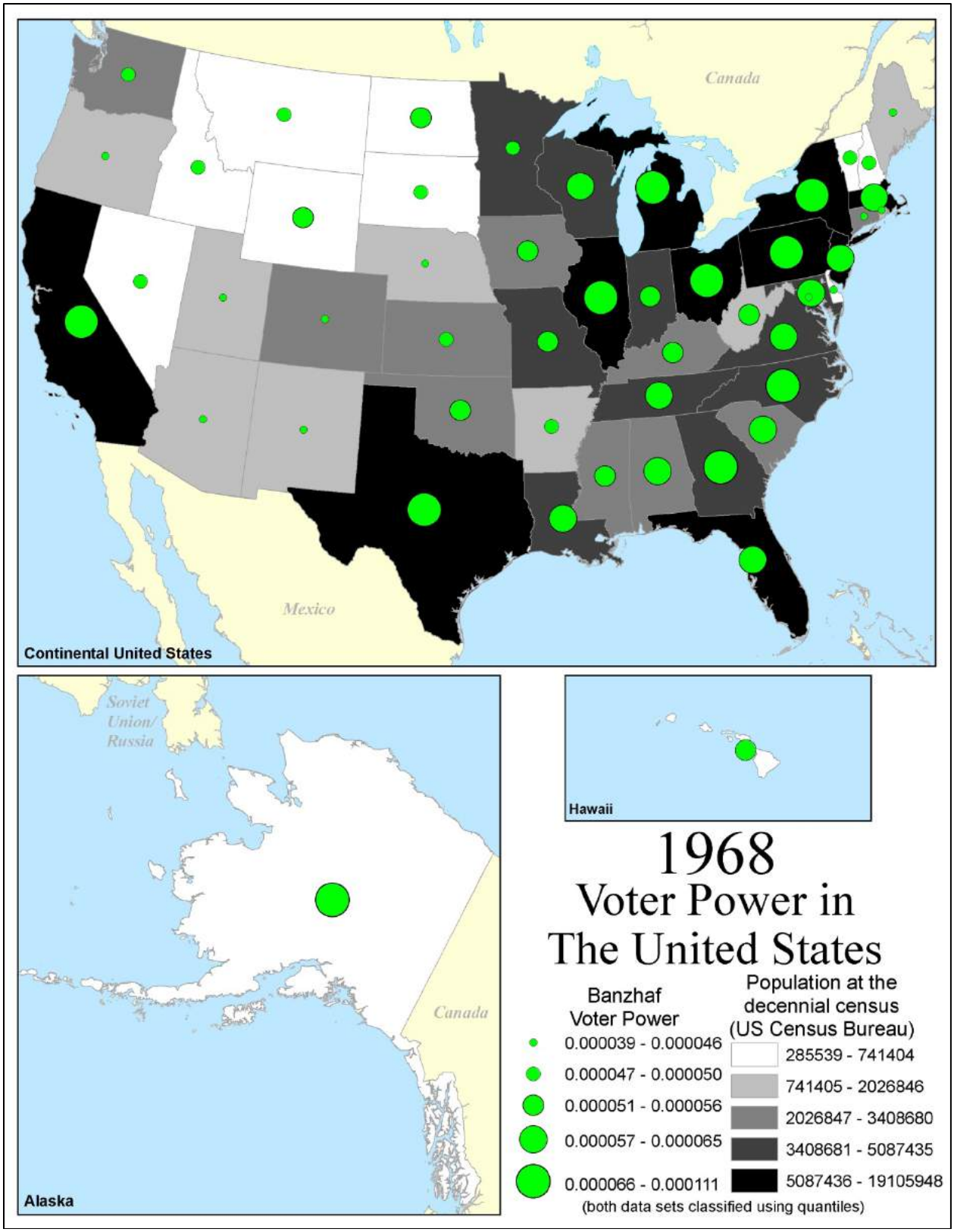

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1948 - Voter Power in The United States
Banzhaf Voter Power
0.000044 - 0.000054
0.000055 - 0.000062
0.000063 - 0.000076
0.000077 - 0.000103
0.000104 - 0.000151
(both data sets classified using quantiles)
Population at the decennial census (US Census Bureau)
150116 - 651313
651314 - 1947672
1947673 - 2924970
2924971 - 3963868
3963869 - 14559982
Territorities (without voting rights)

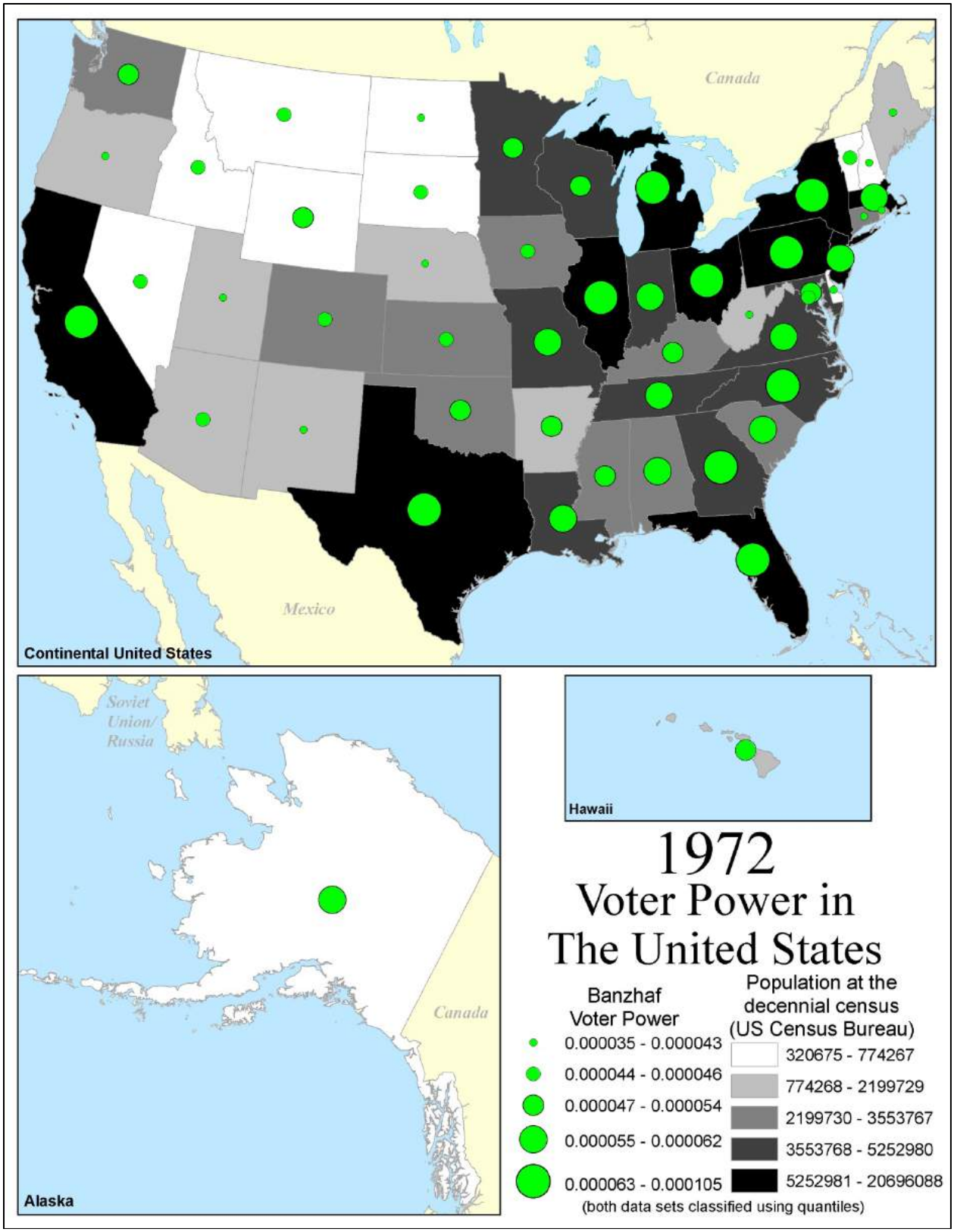

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1952 - Voter Power in The United States
Banzhaf Voter Power
0.000039 - 0.000049
0.000050 - 0.000055
0.000056 - 0.000066
0.000067 - 0.000084
0.000085 - 0.000117
(both data sets classified using quantiles)
Population at the decennial census (US Census Bureau)
185122 - 729215
729216 - 1976526
1976527 - 3068759
3068760 - 4160774
4160775 - 15220615
Territorities (without voting rights)

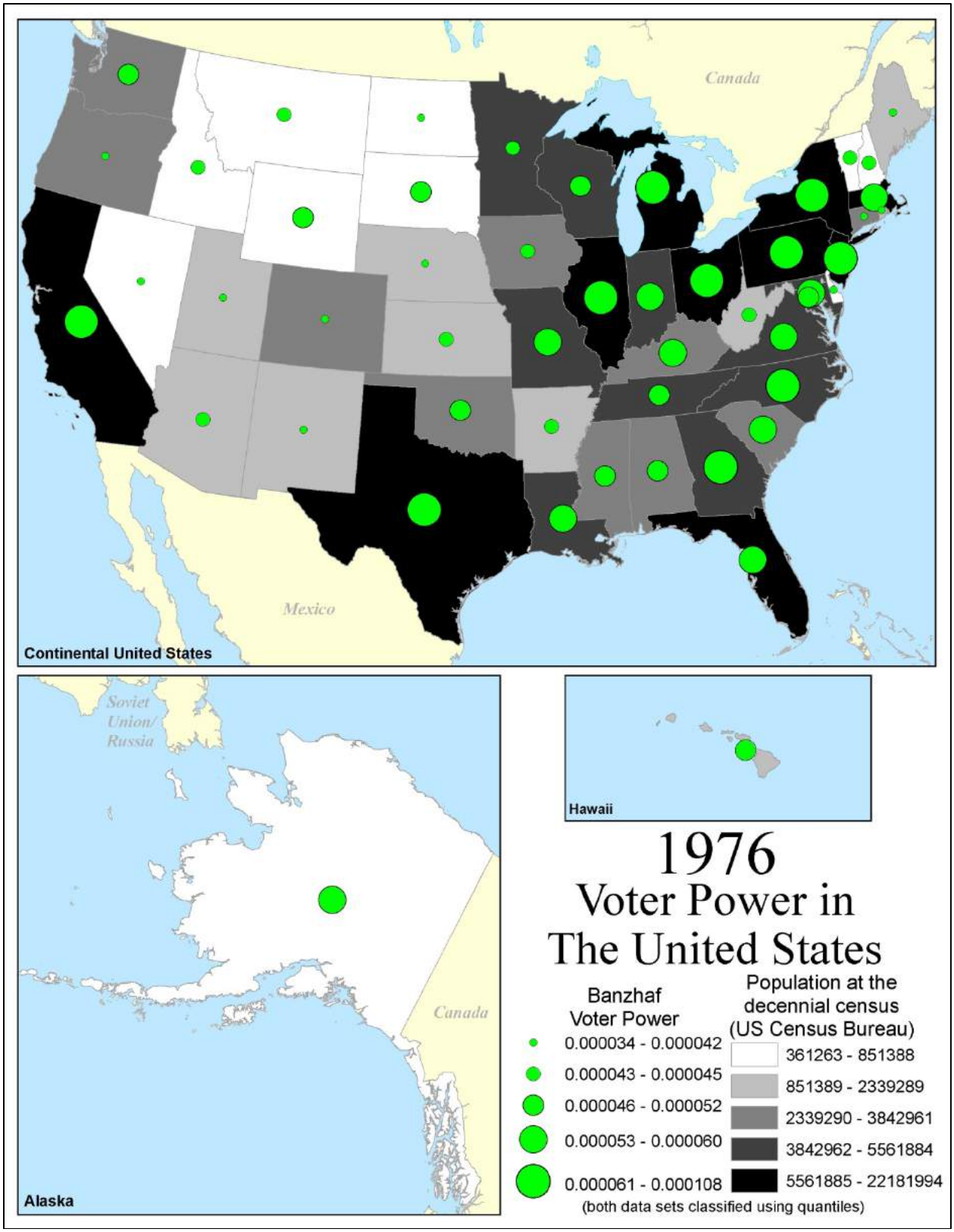

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska (not admitted to the Union until 1959)
Hawaii (not admitted to the Union until 1959)
1956- Voter Power in The United States
Banzhaf Voter Power
0.000041 - 0.000049
0.000050 - 0.000055
0.000056 - 0.000062
0.000063 - 0.000084
0.000085 - 0.000117
Population at the decennial census (US Census Bureau)
235200 - 809921
809922 - 2069287
2069288 - 3184741
3184742 - 4371189
4371190 - 16001459
(both data sets classified using quantiles)
Territorities (without voting rights)

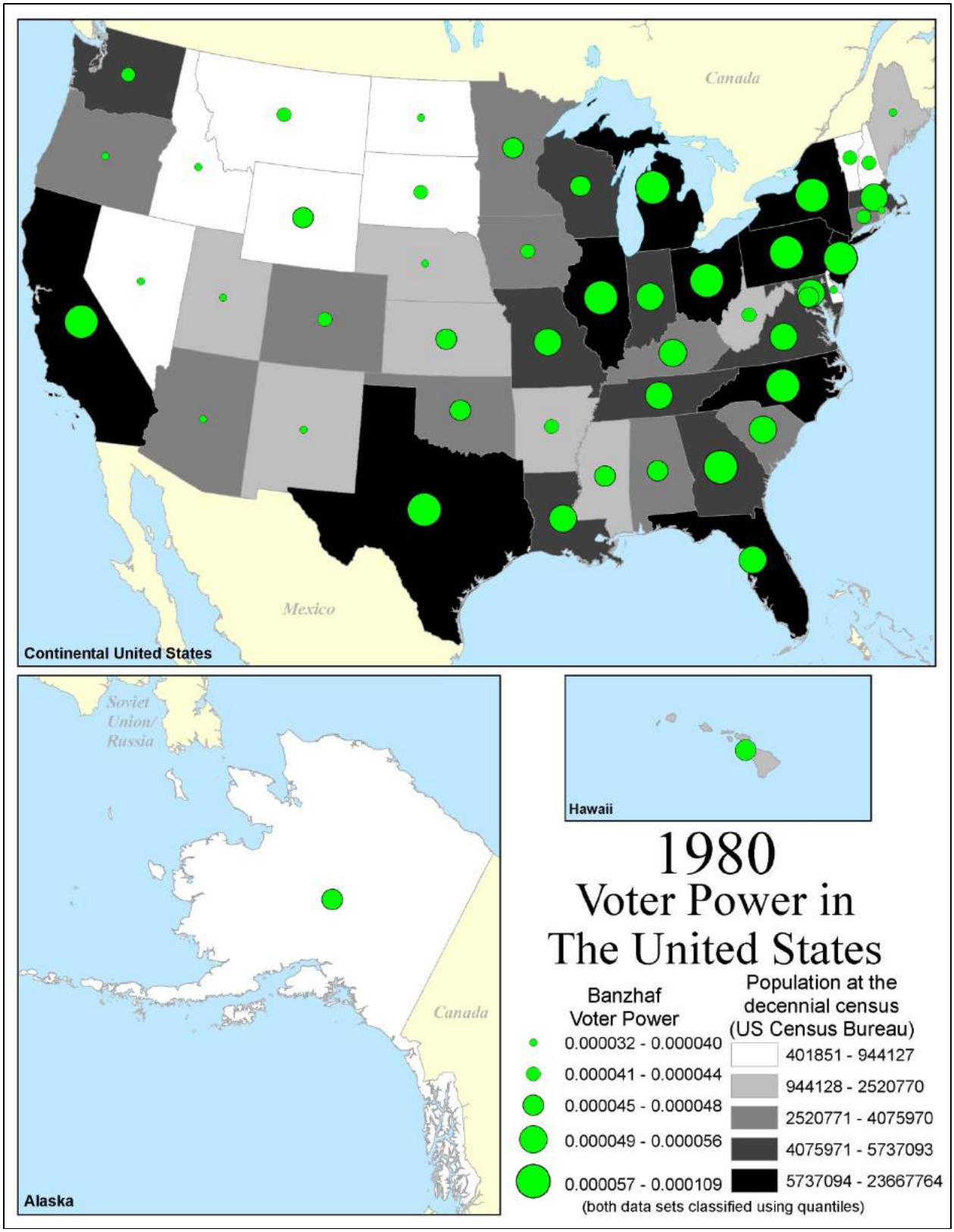

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1960
Voter Power in The United States
Banzhaf Voter Power
0.000040 - 0.000046
0.000047 - 0.000051
0.000052 - 0.000060
0.000061 - 0.000079
0.000080 - 0.000115
Population at the decennial census (US Census Bureau)
226167 - 674767
674768 - 1786272
1786273 - 3100689
3100690 - 4662498
4662499 - 16782304
(both data sets classified using quantiles)

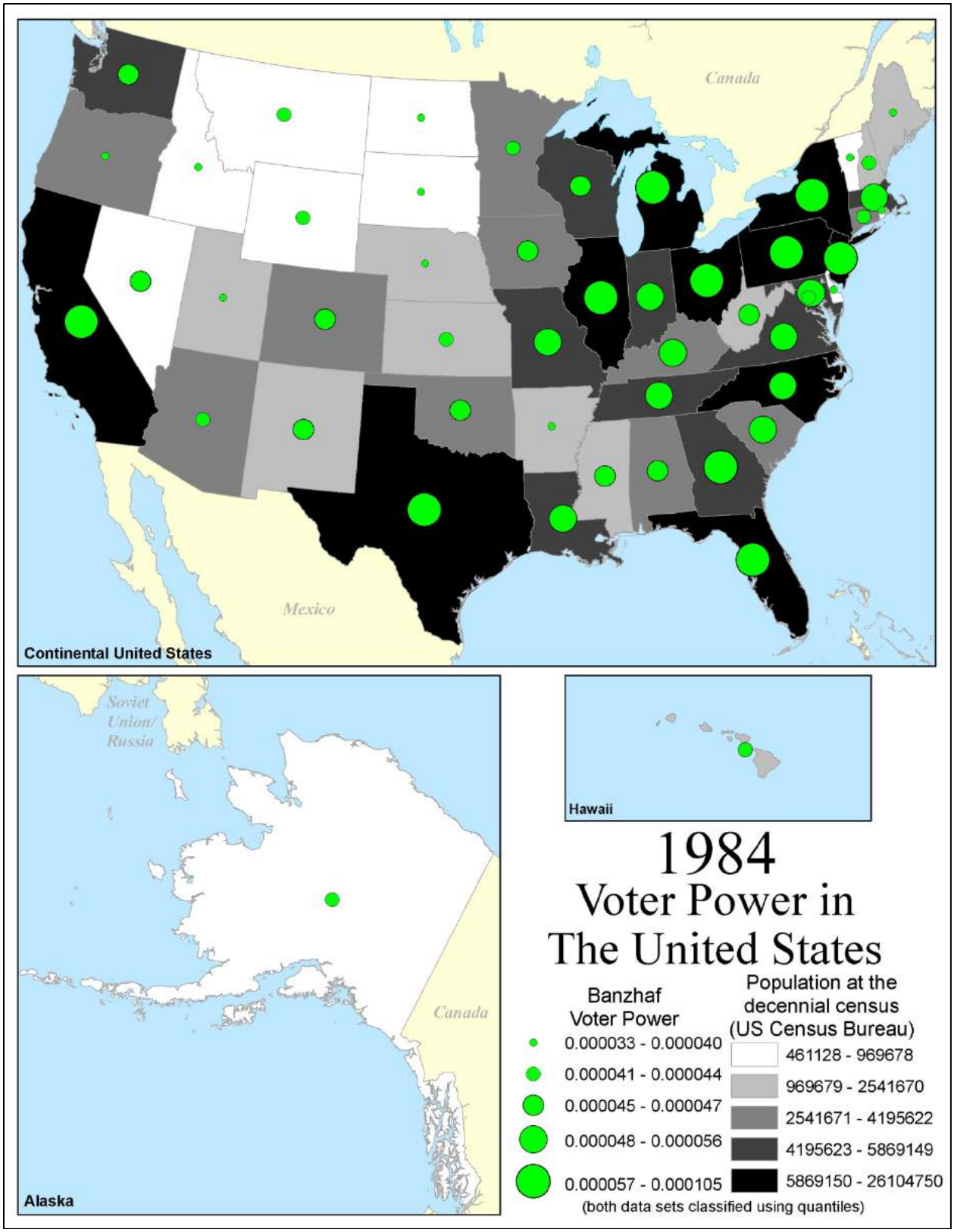

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1964
Voter Power in The United States
Banzhaf Voter Power
0.000040 - 0.000046
0.000047 - 0.000050
0.000051 - 0.000058
0.000059 - 0.000071
0.000072 - 0.000108
Population at the decennial census (US Census Bureau)
255853 - 687088
687089 - 1897766
1897767 - 3337710
3337711 - 4874966
4874967 - 17411576
(both data sets classified using quantiles)

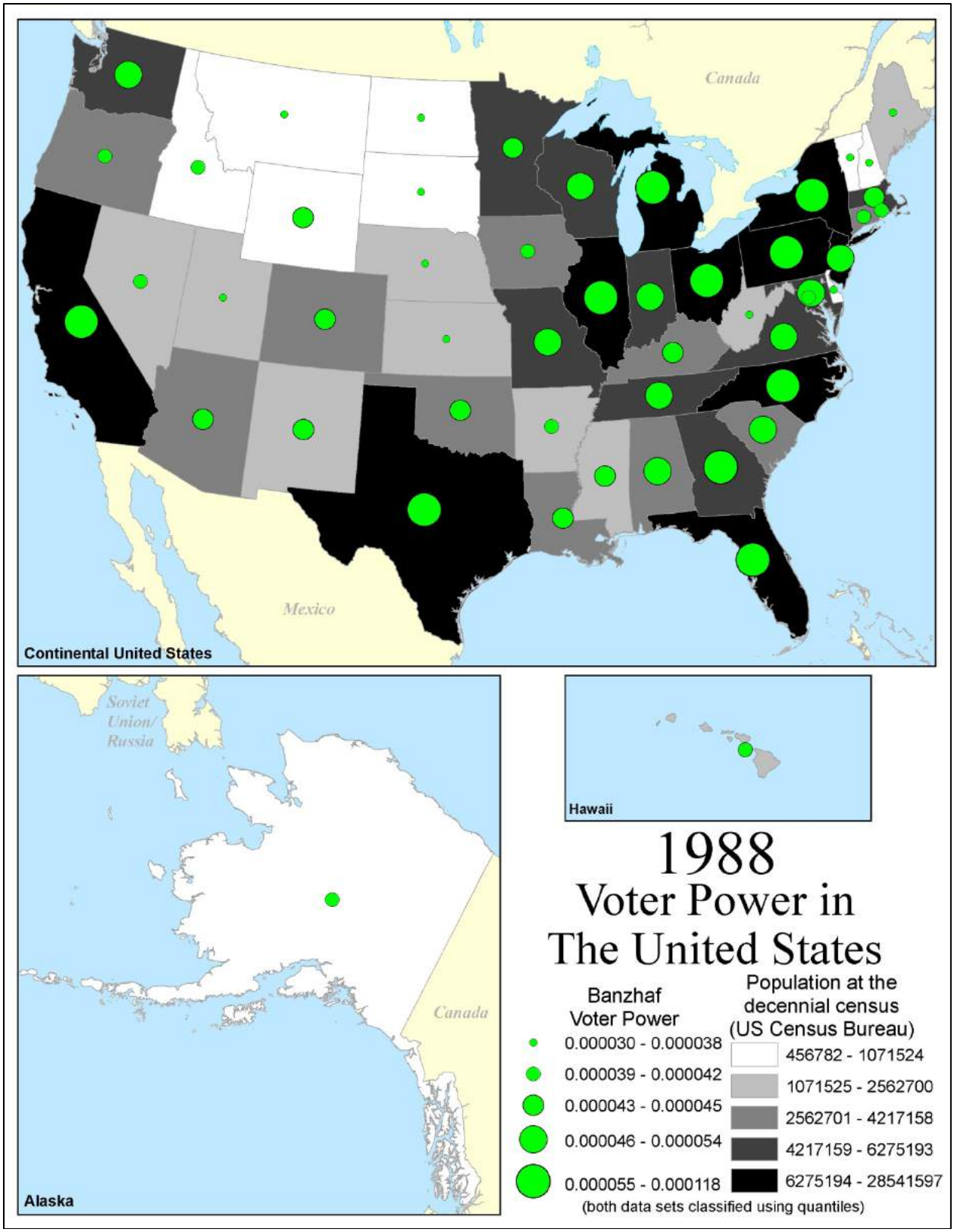

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1968
Voter Power in The United States
Banzhaf Voter Power
0.000039 - 0.000046
0.000047 - 0.000050
0.000051 - 0.000056
0.000057 - 0.000065
0.000066 - 0.000111
Population at the decennial census (US Census Bureau)
285539 - 741404
741405 - 2026846
2026847 - 3408680
3408681 - 5087435
5087436 - 19105948
(both data sets classified using quantiles)

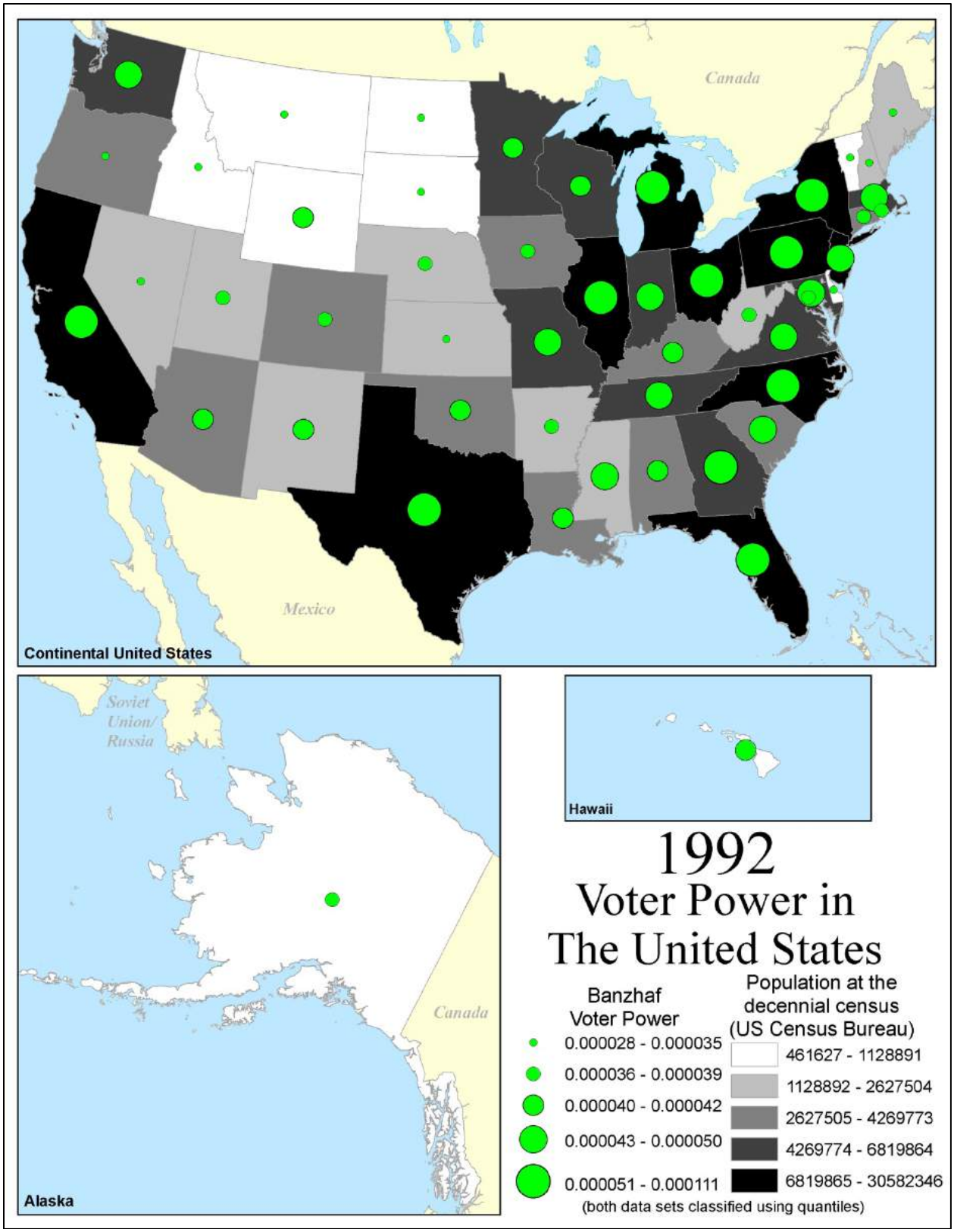

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1972
Voter Power in The United States
Banzhaf Voter Power
0.000035 - 0.000043
0.000044 - 0.000046
0.000047 - 0.000054
0.000055 - 0.000062
0.000063 - 0.000105
Population at the decennial census (US Census Bureau)
320675 - 774267
774268 - 2199729
2199730 - 3553767
3553768 - 5252980
5252981 - 20696088
(both data sets classified using quantiles)

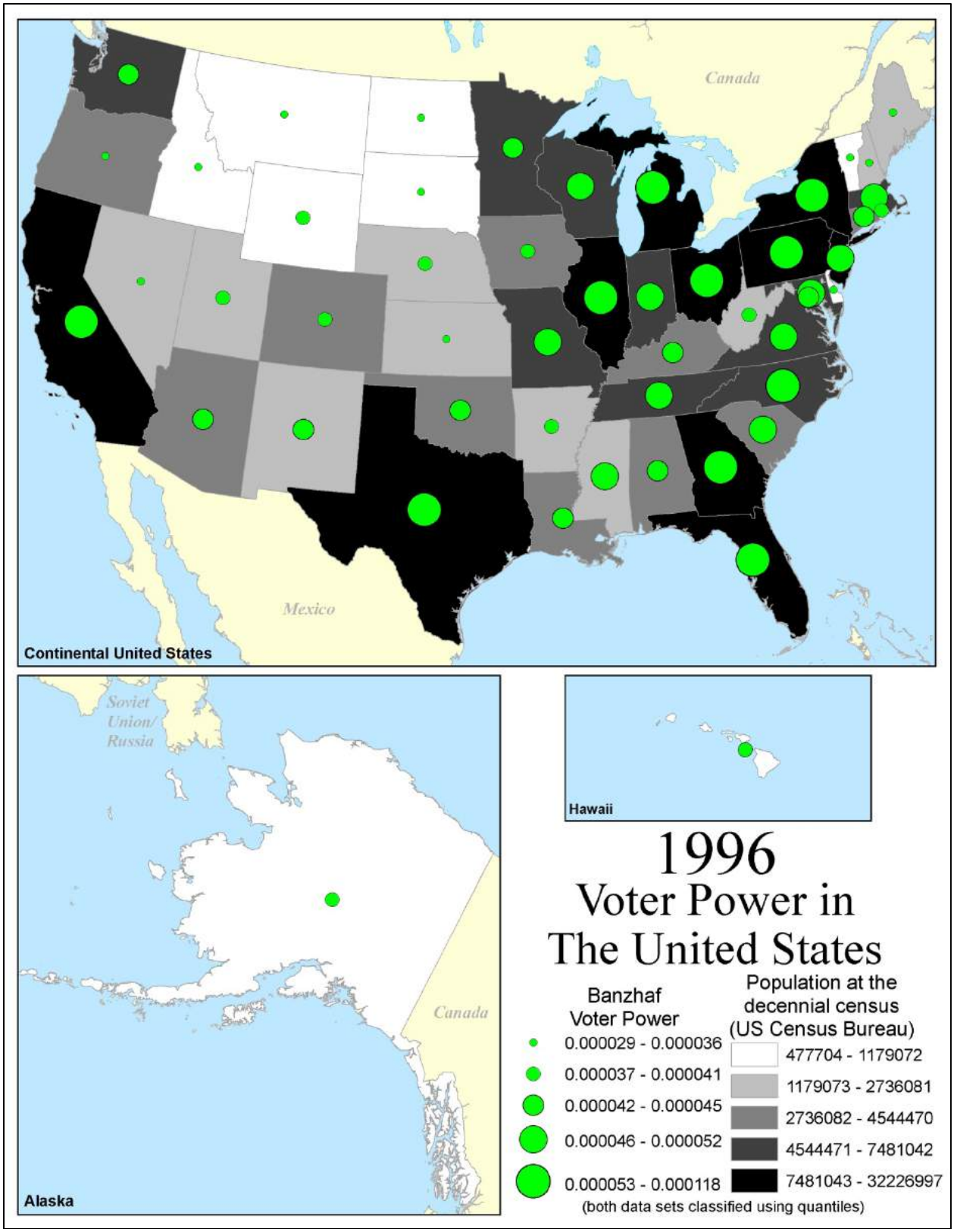

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1976
Voter Power in The United States
Banzhaf Voter Power
0.000034 - 0.000042
0.000043 - 0.000045
0.000046 - 0.000052
0.000053 - 0.000060
0.000061 - 0.000108
Population at the decennial census (US Census Bureau)
361263 - 851388
851389 - 2339289
2339290 - 3842961
3842962 - 5561884
5561885 - 22181994
(both data sets classified using quantiles)

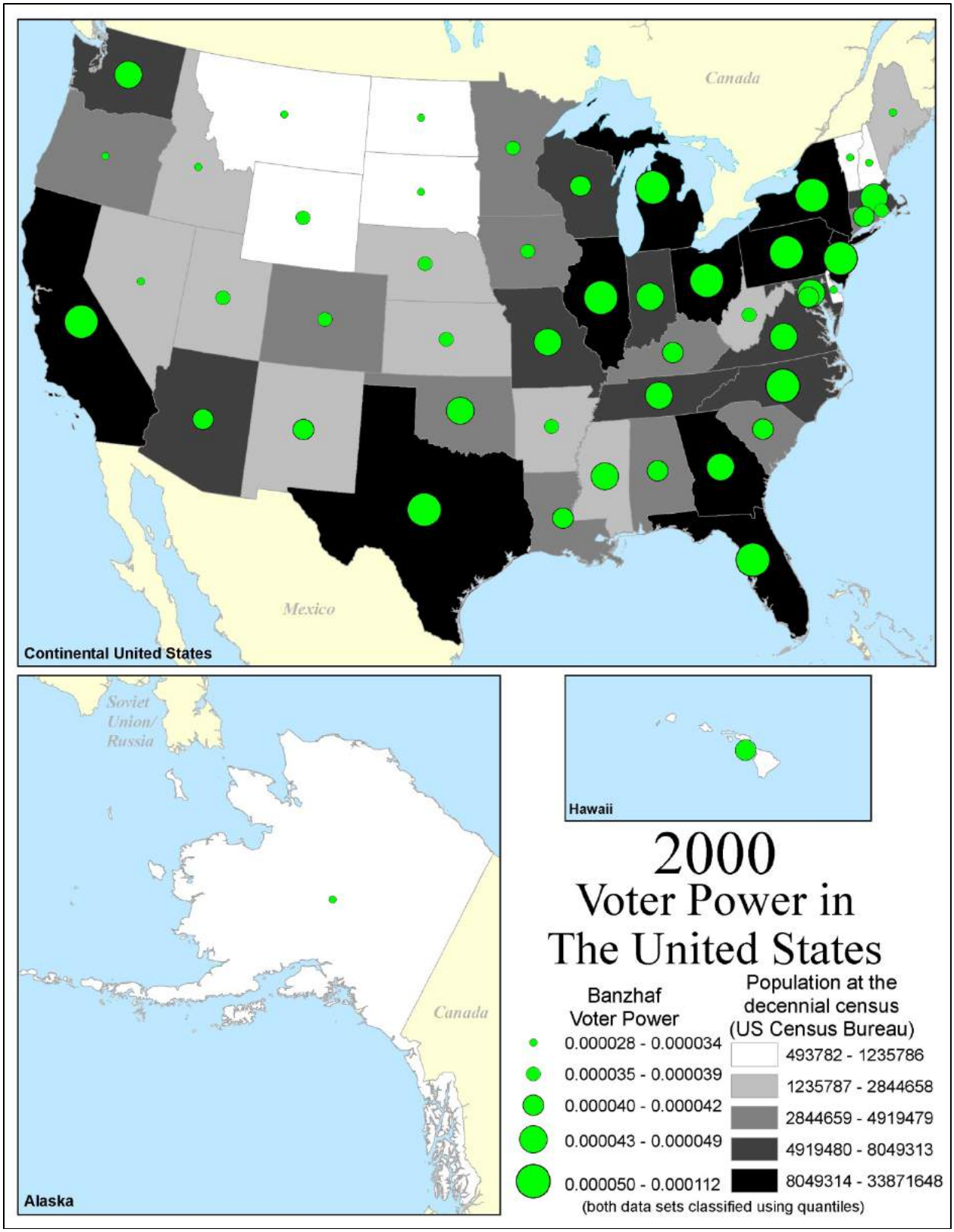

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1980
Voter Power in The United States
Banzhaf Voter Power
0.000032 - 0.000040
0.000041 - 0.000044
0.000045 - 0.000048
0.000049 - 0.000056
0.000057 - 0.000109
Population at the decennial census (US Census Bureau)
401851 - 944127
944128 - 2520770
2520771 - 4075970
4075971 - 5737093
5737094 - 23667764
(both data sets classified using quantiles)

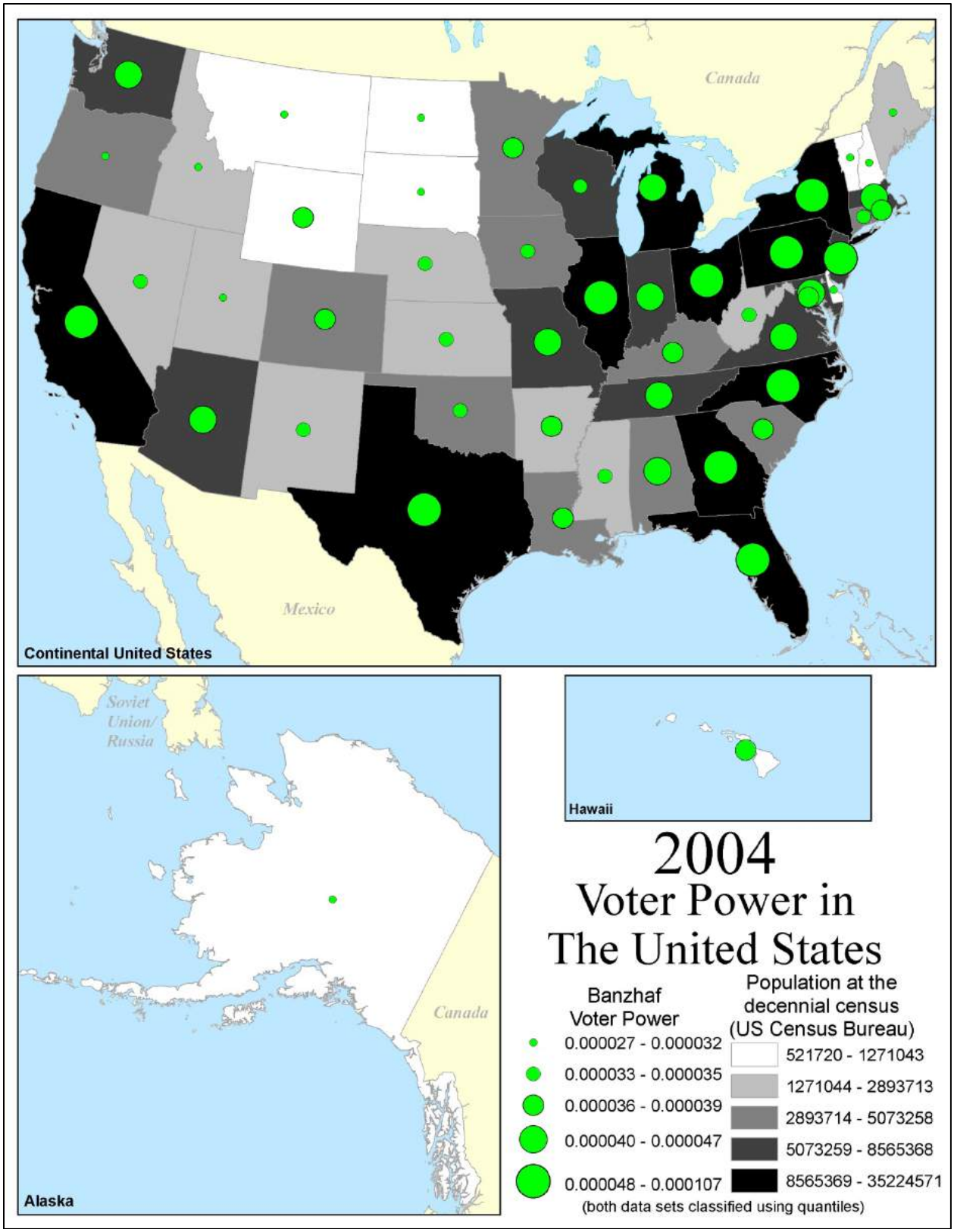

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1984
Voter Power in The United States
Banzhaf Voter Power
0.000033 - 0.000040
0.000041 - 0.000044
0.000045 - 0.000047
0.000048 - 0.000056
0.000057 - 0.000105
Population at the decennial census (US Census Bureau)
461128 - 969678
969679 - 2541670
2541671 - 4195622
4195623 - 5869149
5869150 - 26104750
(both data sets classified using quantiles)

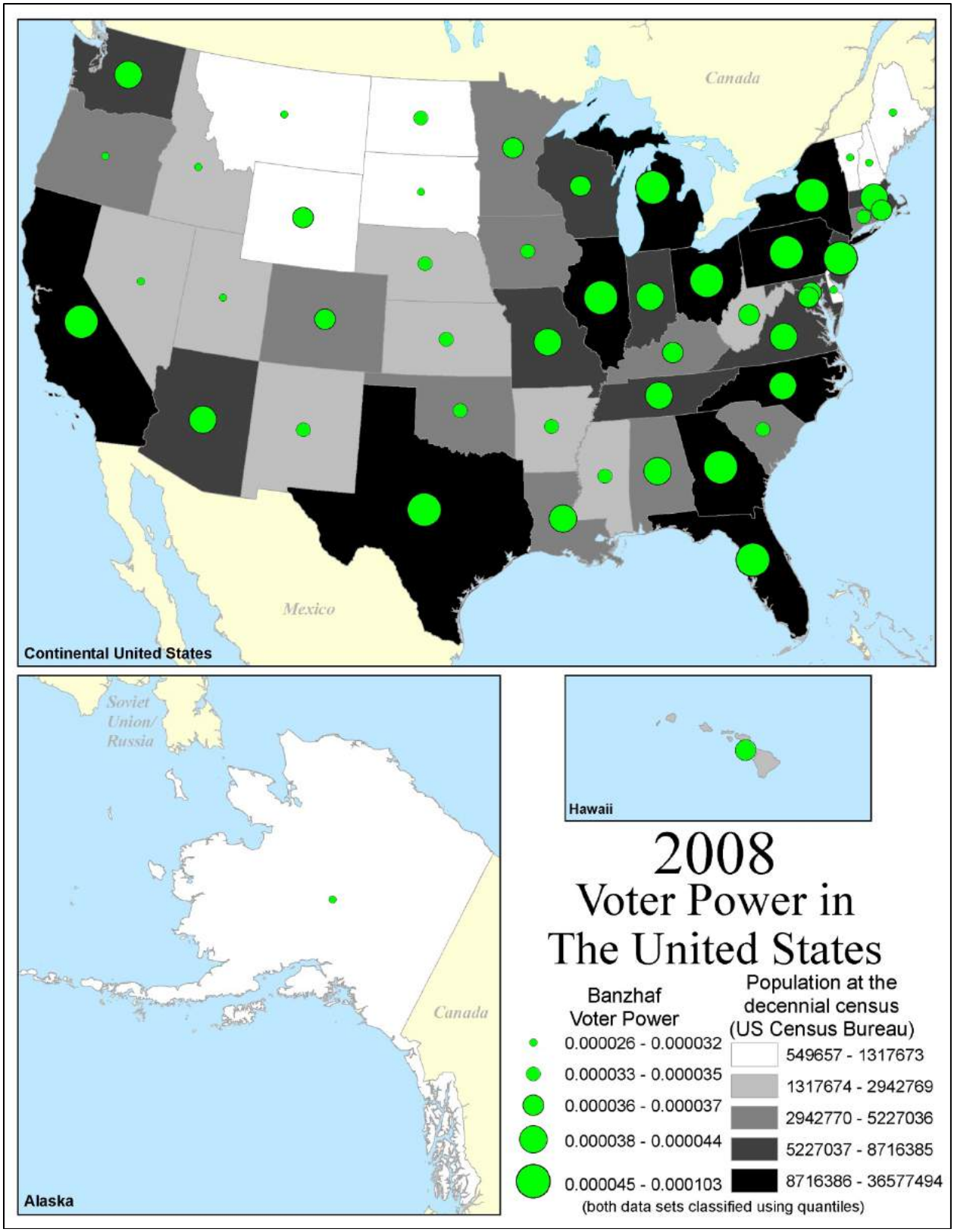

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1988
Voter Power in The United States
Banzhaf Voter Power
0.000030 - 0.000038
0.000039 - 0.000042
0.000043 - 0.000045
0.000046 - 0.000054
0.000055 - 0.000118
Population at the decennial census (US Census Bureau)
456782 - 1071524
1071525 - 2562700
2562701 - 4217158
4217159 - 6275193
6275194 - 28541597
(both data sets classified using quantiles)

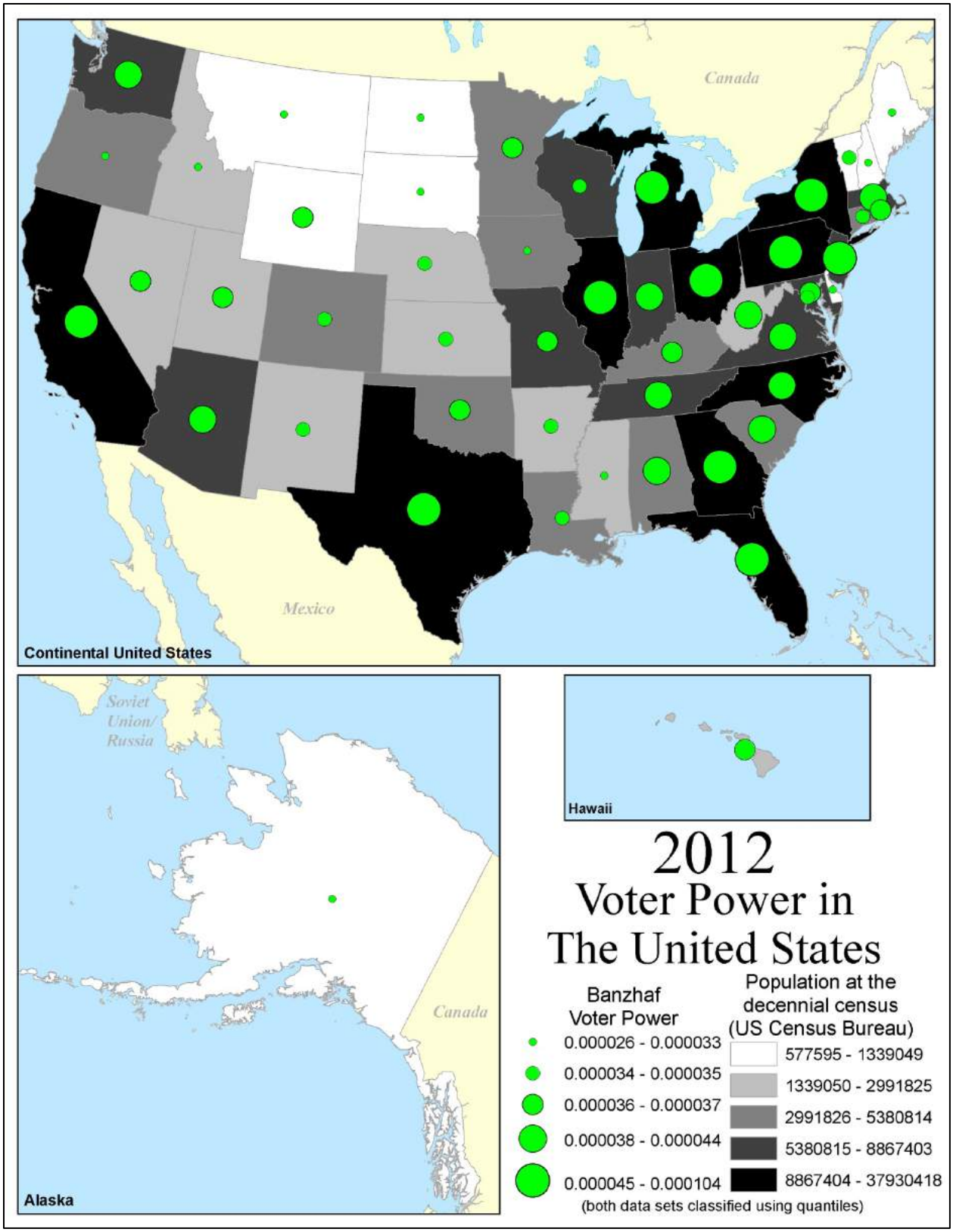

Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1992
Voter Power in The United States
Banzhaf Voter Power
0.000028 - 0.000035
0.000036 - 0.000039
0.000040 - 0.000042
0.000043 - 0.000050
0.000051 - 0.000111
Population at the decennial census (US Census Bureau)
461627 - 1128891
1128892 - 2627504
2627505 - 4269773
4269774 - 6819864
6819865 - 30582346
(both data sets classified using quantiles)


Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
1996
Voter Power in The United States
Banzhaf Voter Power
0.000029 - 0.000036
0.000037 - 0.000041
0.000042 - 0.000045
0.000046 - 0.000052
0.000053 - 0.000118
Population at the decennial census (US Census Bureau)
477704 - 1179072
1179073 - 2736081
2736082 - 4544470
4544471 - 7481042
7481043 - 32226997
(both data sets classified using quantiles)


Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
2000
Voter Power in The United States
Banzhaf Voter Power
0.000028 - 0.000034
0.000035 - 0.000039
0.000040 - 0.000042
0.000043 - 0.000049
0.000050 - 0.000112
Population at the decennial census (US Census Bureau)
493782 - 1235786
1235787 - 2844658
2844659 - 4919479
4919480 - 8049313
8049314 - 33871648
(both data sets classified using quantiles)


Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
2004
Voter Power in The United States
Banzhaf Voter Power
0.000027 - 0.000032
0.000033 - 0.000035
0.000036 - 0.000039
0.000040 - 0.000047
0.000048 - 0.000107
Population at the decennial census (US Census Bureau)
521720 - 1271043
1271044 - 2893713
2893714 - 5073258
5073259 - 8565368
8565369 - 35224571
(both data sets classified using quantiles)


Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
2008
Voter Power in The United States
Banzhaf Voter Power
0.000026 - 0.000032
0.000033 - 0.000035
0.000036 - 0.000037
0.000038 - 0.000044
0.000045 - 0.000103
Population at the decennial census (US Census Bureau)
549657 - 1317673
1317674 - 2942769
2942770 - 5227036
5227037 - 8716385
8716386 - 36577494
(both data sets classified using quantiles)


Canada
Mexico
Continental United States
Soviet Union/ Russia
Canada
Alaska
Hawaii
2012
Voter Power in The United States
Banzhaf Voter Power
0.000026 - 0.000033
0.000034 - 0.000035
0.000036 - 0.000037
0.000038 - 0.000044
0.000045 - 0.000104
Population at the decennial census (US Census Bureau)
577595 - 1339049
1339050 - 2991825
2991826 - 5380814
5380815 - 8867403
8867404 - 37930418
(both data sets classified using quantiles)

APPENDIX E: VOTER POWER RANKINGS

* next to the state name indicates a state whose Banzhaf Voter Power was higher in the corresponding election cycle voting within the Electoral College than it would be had the election been a national popular vote

Presidential Election of 1900

State	*Voter Power Rank*	*Electoral Votes*	*Population*	*Counted Votes*	*Voter Power (Electoral College)*	*Voter Power (National Popular Vote)*
South Carolina*	1	9	1340316	50812	0.000302	0.000213
Georgia*	2	13	2216331	121410	0.000283	0.000213
Mississippi*	3	9	1551270	59055	0.000280	0.000213
Pennsylvania*	4	32	6302115	1173210	0.000235	0.000213
New York*	5	36	7268894	1548042	0.000234	0.000213
Louisiana*	6	8	1381625	67906	0.000232	0.000213
Nevada*	7	3	42335	10196	0.000224	0.000213
Alabama	8	11	1828697	159692	0.000208	0.000213
Massachusetts	9	15	2805346	414804	0.000177	0.000213
Virginia	10	12	1854184	264208	0.000177	0.000213
Texas	11	15	3048710	423706	0.000175	0.000213
Illinois	12	24	4821550	1131897	0.000175	0.000213
Ohio	13	23	4157545	1040073	0.000174	0.000213
Tennessee	14	12	2020616	273860	0.000174	0.000213
Arkansas	15	8	1311564	127866	0.000169	0.000213
Missouri	16	17	3106665	683656	0.000157	0.000213
North Carolina	17	11	1893810	292518	0.000154	0.000213
Florida	18	4	528542	39649	0.000151	0.000213
Kentucky	19	13	2147174	468265	0.000144	0.000213
Michigan	20	14	2420982	544379	0.000144	0.000213
Wyoming	21	3	92531	24687	0.000144	0.000213
Indiana	22	15	2516462	664094	0.000140	0.000213
Maine	23	6	694466	105693	0.000139	0.000213
Wisconsin	24	12	2069042	442501	0.000137	0.000213
Iowa	25	13	2231853	530355	0.000135	0.000213
Kansas	26	10	1470495	353766	0.000127	0.000213
Vermont	27	4	343641	56212	0.000127	0.000213
Rhode Island	28	4	428556	56548	0.000127	0.000213
California	29	9	1485053	302318	0.000124	0.000213
Nebraska	30	8	1066300	241430	0.000123	0.000213
Minnesota	31	9	1751394	316311	0.000121	0.000213
New Jersey	32	10	1883669	401050	0.000119	0.000213
Maryland	33	8	1188044	264434	0.000117	0.000213
Delaware	34	3	184735	41989	0.000110	0.000213
Connecticut	35	6	908420	180195	0.000107	0.000213
Oregon	36	4	413536	83251	0.000104	0.000213
New Hampshire	37	4	411588	92364	0.000099	0.000213
South Dakota	38	4	401570	96124	0.000097	0.000213
West Virginia	39	6	958800	220796	0.000096	0.000213
Idaho	40	3	161772	57914	0.000094	0.000213
Washington	41	4	518103	107524	0.000092	0.000213
Montana	42	3	243329	63856	0.000089	0.000213
North Dakota	43	3	319146	84216	0.000078	0.000213
Utah	44	3	276749	93189	0.000074	0.000213
Colorado	45	4	539700	221408	0.000064	0.000213

Presidential Election of 1904

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
Mississippi*	1	10	1649607	58721	0.000292	0.000217
Louisiana*	2	9	1491530	53908	0.000274	0.000217
South Carolina*	3	9	1410349	55118	0.000271	0.000217
Texas*	4	18	3387843	234008	0.000266	0.000217
Georgia*	5	13	2373447	130986	0.000255	0.000217
Alabama*	6	11	1952456	108785	0.000236	0.000217
Virginia*	7	12	1937155	130410	0.000236	0.000217
New York*	8	39	8006782	1617770	0.000233	0.000217
Pennsylvania*	9	34	6847314	1236738	0.000227	0.000217
Nevada	10	3	58151	12115	0.000192	0.000217
Illinois	11	27	5148367	1076499	0.000189	0.000217
North Carolina	12	12	2018801	207818	0.000187	0.000217
Arkansas	13	9	1416718	116421	0.000187	0.000217
Florida	14	5	618173	38705	0.000179	0.000217
Tennessee	15	12	2086285	242750	0.000173	0.000217
Massachusetts	16	16	3029774	445109	0.000171	0.000217
Ohio	17	23	4401375	1004393	0.000165	0.000217
Missouri	18	18	3181333	643861	0.000160	0.000217
Minnesota	19	11	1881120	292860	0.000144	0.000217
Kentucky	20	13	2204267	435946	0.000140	0.000217
Wisconsin	21	13	2174969	443441	0.000139	0.000217
Michigan	22	14	2576658	525027	0.000137	0.000217
Maine	23	6	713628	97023	0.000136	0.000217
Iowa	24	13	2229020	486093	0.000132	0.000217
New Jersey	25	12	2145068	432547	0.000129	0.000217
Indiana	26	15	2590227	682185	0.000129	0.000217
Vermont	27	4	348567	51888	0.000124	0.000217
Kansas	28	10	1558676	328561	0.000123	0.000217
California	29	10	1842052	331878	0.000123	0.000217
Wyoming	30	3	113905	30708	0.000121	0.000217
Maryland	31	8	1230964	224229	0.000119	0.000217
Nebraska	32	8	1116666	225732	0.000119	0.000217
Connecticut	33	7	990955	191128	0.000113	0.000217
Rhode Island	34	4	474178	68656	0.000108	0.000217
North Dakota	35	4	422310	70014	0.000107	0.000217
Delaware	36	3	191770	43856	0.000101	0.000217
West Virginia	37	7	1063728	239986	0.000101	0.000217
New Hampshire	38	4	419182	90161	0.000094	0.000217
Oregon	38	4	517228	90154	0.000094	0.000217
Washington	40	5	767658	145151	0.000093	0.000217
South Dakota	41	4	474497	101395	0.000089	0.000217
Montana	42	3	296418	64444	0.000083	0.000217
Idaho	43	3	227301	72578	0.000079	0.000217
Colorado	44	5	643429	243667	0.000071	0.000217
Utah	45	3	315390	101672	0.000066	0.000217

Presidential Election of 1908

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
Mississippi*	1	10	1747945	66904	0.000273	0.000207
Georgia*	2	13	2530563	132504	0.000253	0.000207
South Carolina*	3	9	1480383	66379	0.000246	0.000207
Alabama*	4	11	2076214	105152	0.000240	0.000207
Texas*	5	18	3726976	293757	0.000237	0.000207
Louisiana*	6	9	1601435	75117	0.000232	0.000207
New York*	7	39	8744670	1638350	0.000231	0.000207
Virginia*	8	12	2020127	137065	0.000229	0.000207
Pennsylvania*	9	34	7392512	1267450	0.000224	0.000207
Illinois	10	27	5475183	1155254	0.000182	0.000207
North Carolina	11	12	2143791	252554	0.000169	0.000207
Massachusetts	12	16	3254202	456919	0.000168	0.000207
Tennessee	13	12	2151955	257180	0.000167	0.000207
Arkansas	14	9	1521872	151822	0.000163	0.000207
Florida	15	5	707803	49360	0.000158	0.000207
Ohio	16	23	4645206	1121552	0.000156	0.000207
Missouri	17	18	3256001	715927	0.000152	0.000207
Wisconsin	18	13	2280897	454441	0.000137	0.000207
Minnesota	19	11	2010845	331304	0.000135	0.000207
Michigan	20	14	2732335	541830	0.000135	0.000207
Nevada	21	3	73967	24526	0.000135	0.000207
Kentucky	22	13	2261359	490719	0.000131	0.000207
Iowa	23	13	2226187	494769	0.000131	0.000207
Maine	24	6	732790	106336	0.000130	0.000207
Indiana	25	15	2663993	721126	0.000125	0.000207
New Jersey	26	12	2406467	467111	0.000124	0.000207
Vermont	27	4	353493	52680	0.000123	0.000207
Maryland	28	8	1273886	238531	0.000115	0.000207
Kansas	29	10	1646858	375946	0.000115	0.000207
California	30	10	2199050	386597	0.000113	0.000207
Connecticut	31	7	1073489	190003	0.000113	0.000207
Nebraska	32	8	1167031	266799	0.000109	0.000207
Wyoming	33	3	135278	37609	0.000109	0.000207
Rhode Island	34	4	519800	72317	0.000105	0.000207
Oklahoma	35	7	1483802	254983	0.000098	0.000207
West Virginia	36	7	1168656	258105	0.000097	0.000207
Delaware	37	3	198804	48007	0.000096	0.000207
New Hampshire	38	4	426776	89600	0.000094	0.000207
North Dakota	39	4	525474	94525	0.000092	0.000207
Oregon	40	4	620919	110889	0.000084	0.000207
South Dakota	41	4	547424	114775	0.000083	0.000207
Washington	42	5	1017212	183879	0.000082	0.000207
Montana	43	3	349508	68822	0.000080	0.000207
Colorado	44	5	747159	263858	0.000068	0.000207
Idaho	45	3	292830	97293	0.000068	0.000207
Utah	46	3	354031	108613	0.000064	0.000207

Presidential Election of 1912

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
Georgia*	1	14	2666463	121470	0.000259	0.000206
South Carolina*	2	9	1549065	50405	0.000258	0.000206
Mississippi*	3	10	1795815	64483	0.000253	0.000206
New York*	4	45	9367937	1588315	0.000249	0.000206
Texas*	5	20	4049879	305120	0.000235	0.000206
Pennsylvania*	6	38	7876092	1217736	0.000233	0.000206
Louisiana*	7	10	1684812	79248	0.000229	0.000206
Alabama*	8	12	2180109	117959	0.000225	0.000206
Virginia*	9	12	2111127	136975	0.000209	0.000206
Illinois	10	29	5807928	1146173	0.000179	0.000206
Florida	11	6	795789	50837	0.000171	0.000206
Massachusetts	12	18	3463604	488057	0.000167	0.000206
Arkansas	13	9	1610000	125104	0.000164	0.000206
North Carolina	14	12	2276854	243776	0.000157	0.000206
Tennessee	15	12	2215408	251933	0.000154	0.000206
Ohio	16	24	4965576	1037094	0.000154	0.000206
Missouri	17	18	3315479	698566	0.000140	0.000206
New Jersey	18	14	2660914	432739	0.000137	0.000206
Nevada	19	3	80981	20115	0.000136	0.000206
Minnesota	20	12	2137992	334219	0.000134	0.000206
Wisconsin	21	13	2393502	399975	0.000133	0.000206
Michigan	22	15	2981821	550976	0.000131	0.000206
Oklahoma	23	10	1731380	253801	0.000128	0.000206
Arizona	24	3	230316	23722	0.000125	0.000206
Kentucky	25	13	2315250	452714	0.000125	0.000206
Indiana	26	15	2746779	654474	0.000120	0.000206
Iowa	27	13	2260621	492356	0.000119	0.000206
Rhode Island	28	5	554968	77894	0.000115	0.000206
North Dakota	29	5	591020	86580	0.000109	0.000206
Maine	30	6	747499	129640	0.000107	0.000206
Maryland	31	8	1326209	231981	0.000107	0.000206
Kansas	32	10	1706611	365560	0.000106	0.000206
Connecticut	33	7	1167931	190404	0.000103	0.000206
Nebraska	34	8	1213045	249483	0.000103	0.000206
Vermont	35	4	355251	62841	0.000102	0.000206
California	36	13	2587411	677944	0.000102	0.000206
West Virginia	37	8	1269635	268828	0.000099	0.000206
South Dakota	38	5	594420	116325	0.000094	0.000206
Wyoming	39	3	155653	42296	0.000094	0.000206
Montana	40	4	410620	79826	0.000091	0.000206
Delaware	41	3	206458	48694	0.000087	0.000206
Oregon	42	5	694890	137040	0.000087	0.000206
New Mexico	43	3	333911	49376	0.000087	0.000206
New Hampshire	44	4	433074	87961	0.000087	0.000206
Washington	45	7	1184916	322799	0.000079	0.000206
Idaho	46	4	346849	105754	0.000079	0.000206
Utah	47	4	388560	112386	0.000077	0.000206
Colorado	48	6	827145	266880	0.000075	0.000206

Presidential Election of 1916

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
New York*	1	45	9876582	1706305	0.000241	0.000185
South Carolina*	2	9	1616394	63952	0.000229	0.000185
Pennsylvania*	3	38	8298054	1297189	0.000226	0.000185
Georgia*	4	14	2781147	160681	0.000225	0.000185
Mississippi*	5	10	1793216	86679	0.000219	0.000185
Alabama*	6	12	2264142	130728	0.000214	0.000185
Texas*	7	20	4356554	372467	0.000213	0.000185
Louisiana*	8	10	1741660	92982	0.000211	0.000185
Virginia*	9	12	2210157	152025	0.000198	0.000185
Massachusetts	10	18	3657980	531823	0.000160	0.000185
Tennessee	11	12	2276647	272190	0.000148	0.000185
Ohio	12	24	5362485	1165086	0.000145	0.000185
North Carolina	13	12	2417989	289837	0.000144	0.000185
Arkansas	14	9	1681102	170104	0.000140	0.000185
Florida	15	6	882130	80734	0.000136	0.000185
Missouri	16	18	3359767	786769	0.000132	0.000185
Illinois	17	29	6146604	2192707	0.000129	0.000185
New Jersey	18	14	2908407	494442	0.000129	0.000185
Wisconsin	19	13	2512784	447134	0.000125	0.000185
Minnesota	20	12	2262558	387364	0.000124	0.000185
Michigan	21	15	3325117	650973	0.000120	0.000185
Oklahoma	22	10	1879832	292753	0.000119	0.000185
Iowa	23	13	2332321	513942	0.000117	0.000185
Kentucky	24	13	2365940	520078	0.000116	0.000185
Indiana	25	15	2838584	718848	0.000114	0.000185
Rhode Island	26	5	579682	87816	0.000108	0.000185
Nevada	27	3	79194	33316	0.000105	0.000185
Maine	28	6	757757	136314	0.000104	0.000185
Vermont	29	4	353839	64475	0.000101	0.000185
Maryland	30	8	1387935	262039	0.000100	0.000185
Connecticut	31	7	1274281	213874	0.000097	0.000185
Nebraska	32	8	1254709	287315	0.000096	0.000185
West Virginia	33	8	1366668	289852	0.000095	0.000185
North Dakota	34	5	618946	115390	0.000094	0.000185
South Dakota	35	5	615484	128942	0.000089	0.000185
New Hampshire	36	4	438079	89127	0.000086	0.000185
Delaware	37	3	214730	51810	0.000085	0.000185
Wyoming	38	3	175027	51840	0.000085	0.000185
California	39	13	3007136	999603	0.000084	0.000185
Kansas	40	10	1737934	629813	0.000081	0.000185
Arizona	41	3	282239	58021	0.000080	0.000185
New Mexico	42	3	347130	66787	0.000074	0.000185
Washington	43	7	1270769	380994	0.000073	0.000185
Colorado	44	6	883387	294375	0.000071	0.000185
Idaho	45	4	389357	134615	0.000070	0.000185
Utah	46	4	418978	143146	0.000068	0.000185
Oregon	47	5	739140	261650	0.000063	0.000185
Montana	48	4	479755	177679	0.000061	0.000185

Presidential Election of 1920

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
Georgia*	1	14	2895832	148251	0.000235	0.000154
Mississippi*	2	10	1790618	82492	0.000224	0.000154
South Carolina*	3	9	1683724	66808	0.000224	0.000154
Pennsylvania*	4	38	8720017	1852616	0.000189	0.000154
Texas*	5	20	4663228	486641	0.000186	0.000154
New York*	6	45	10385227	2898513	0.000185	0.000154
Louisiana*	7	10	1798509	126396	0.000181	0.000154
Virginia*	8	12	2309187	231033	0.000161	0.000154
Alabama*	9	12	2348174	237638	0.000159	0.000154
Arkansas	10	9	1752204	183637	0.000135	0.000154
Illinois	11	29	6485280	2094714	0.000132	0.000154
Tennessee	12	12	2337885	428626	0.000118	0.000154
Massachusetts	13	18	3852356	993718	0.000117	0.000154
Nevada	14	3	77407	27194	0.000117	0.000154
Ohio	15	24	5759394	2021653	0.000110	0.000154
North Carolina	16	12	2559123	538741	0.000105	0.000154
Missouri	17	18	3404055	1332800	0.000101	0.000154
Florida	18	6	968470	145681	0.000101	0.000154
Wisconsin	19	13	2632067	701280	0.000100	0.000154
New Jersey	20	14	3155900	903943	0.000095	0.000154
Michigan	21	15	3668412	1048411	0.000095	0.000154
Oklahoma	22	10	2028283	486610	0.000092	0.000154
Minnesota	23	12	2387125	735838	0.000090	0.000154
Iowa	24	13	2404021	895082	0.000089	0.000154
Kentucky	25	13	2416630	918708	0.000087	0.000154
Maine	26	6	768014	197840	0.000087	0.000154
California	27	13	3426861	944050	0.000086	0.000154
Indiana	28	15	2930390	1262964	0.000086	0.000154
Vermont	29	4	352428	89961	0.000086	0.000154
Kansas	30	10	1769257	570318	0.000085	0.000154
Nebraska	31	8	1296372	382743	0.000083	0.000154
Wyoming	32	3	194402	54700	0.000082	0.000154
Maryland	33	8	1449661	428443	0.000079	0.000154
Rhode Island	34	5	604397	167981	0.000078	0.000154
South Dakota	35	5	636547	182237	0.000075	0.000154
Arizona	36	3	334162	66562	0.000075	0.000154
Connecticut	37	7	1380631	365518	0.000074	0.000154
West Virginia	38	8	1463701	509942	0.000072	0.000154
Colorado	39	6	939629	292053	0.000071	0.000154
Washington	40	7	1356621	398715	0.000071	0.000154
North Dakota	41	5	646872	205776	0.000071	0.000154
Idaho	42	4	431866	135624	0.000070	0.000154
Utah	43	4	449396	145828	0.000067	0.000154
Oregon	44	5	783389	238522	0.000066	0.000154
New Hampshire	45	4	443083	159092	0.000064	0.000154
Delaware	46	3	223003	94875	0.000062	0.000154
Montana	47	4	548889	179006	0.000061	0.000154
New Mexico	48	3	360350	105406	0.000059	0.000154

Presidential Election of 1924

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
South Carolina*	1	9	1782833	50752	0.000257	0.000148
Georgia*	2	14	3068534	166577	0.000221	0.000148
Mississippi*	3	10	1977029	112462	0.000192	0.000148
Alabama*	4	12	2702359	166593	0.000189	0.000148
Louisiana*	5	10	2125112	121951	0.000184	0.000148
Pennsylvania*	6	38	9945608	2144850	0.000176	0.000148
New York*	7	45	13199728	3263939	0.000174	0.000148
Virginia*	8	12	2465805	223602	0.000163	0.000148
Texas*	9	20	6004482	657509	0.000160	0.000148
Arkansas*	10	9	1885496	138532	0.000156	0.000148
Tennessee	11	12	2734666	300275	0.000141	0.000148
Illinois	12	29	8175480	2470067	0.000122	0.000148
Nevada	13	3	102077	26921	0.000117	0.000148
Florida	14	6	1574629	109154	0.000117	0.000148
North Carolina	15	12	3123061	482687	0.000111	0.000148
Ohio	16	24	6944550	2016237	0.000111	0.000148
Massachusetts	17	18	4373769	1129837	0.000110	0.000148
Missouri	18	18	3766395	1307958	0.000102	0.000148
Kentucky	19	13	2661296	815332	0.000093	0.000148
Wisconsin	20	13	3063828	840826	0.000091	0.000148
Michigan	21	15	5198492	1160419	0.000090	0.000148
Oklahoma	22	10	2459050	528415	0.000089	0.000148
Maine	23	6	801715	192192	0.000088	0.000148
New Jersey	24	14	4326883	1086079	0.000087	0.000148
Indiana	25	15	3366672	1272390	0.000086	0.000148
Maryland	26	8	1627854	358630	0.000086	0.000148
Minnesota	27	12	2663879	822146	0.000085	0.000148
Iowa	28	13	2534585	976960	0.000085	0.000148
Vermont	29	4	364091	102917	0.000080	0.000148
Kansas	30	10	1927303	662454	0.000079	0.000148
Nebraska	31	8	1409823	464173	0.000075	0.000148
California	32	13	6160654	1281900	0.000074	0.000148
North Dakota	33	5	685528	199081	0.000072	0.000148
South Dakota	34	5	688103	203868	0.000071	0.000148
Connecticut	35	7	1666570	400295	0.000071	0.000148
Arizona	36	3	403794	73961	0.000071	0.000148
Rhode Island	37	5	717920	210115	0.000070	0.000148
Washington	38	7	1581069	421549	0.000069	0.000148
Wyoming	39	3	219869	79900	0.000068	0.000148
West Virginia	40	8	1692400	583662	0.000067	0.000148
Idaho	41	4	447602	148295	0.000067	0.000148
Colorado	42	6	1044717	342260	0.000066	0.000148
Utah	43	4	523456	156990	0.000065	0.000148
Delaware	44	3	231533	90885	0.000064	0.000148
New Hampshire	45	4	474608	164769	0.000063	0.000148
Montana	46	4	553401	174423	0.000061	0.000148
Oregon	47	5	950948	279488	0.000061	0.000148
New Mexico	48	3	427392	112830	0.000057	0.000148

Presidential Election of 1928

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
South Carolina*	1	9	1804849	68605	0.000221	0.000132
Georgia*	2	14	3073604	229159	0.000189	0.000132
Mississippi*	3	10	2064709	151692	0.000165	0.000132
Alabama*	4	12	2821589	248982	0.000155	0.000132
Texas*	5	20	6469076	708999	0.000154	0.000132
New York*	6	45	14080864	4405626	0.000150	0.000132
Pennsylvania*	7	38	10310141	3150610	0.000145	0.000132
Virginia*	8	12	2510871	305358	0.000140	0.000132
Louisiana*	9	10	2246345	215833	0.000138	0.000132
Arkansas	10	9	1926408	197693	0.000130	0.000132
Tennessee	11	12	2846134	363473	0.000128	0.000132
Illinois	12	29	8633629	3107489	0.000109	0.000132
Nevada	13	3	107538	32417	0.000107	0.000132
Ohio	14	24	7299471	2508346	0.000099	0.000132
North Carolina	15	12	3367523	635150	0.000097	0.000132
Missouri	16	18	3856521	1500721	0.000095	0.000132
Massachusetts	17	18	4532672	1577823	0.000093	0.000132
Kentucky	18	13	2740480	940604	0.000086	0.000132
Iowa	19	13	2561353	1009489	0.000083	0.000132
Wisconsin	20	13	3186603	1016831	0.000083	0.000132
Michigan	21	15	5668057	1372082	0.000083	0.000132
Oklahoma	22	10	2606152	618427	0.000082	0.000132
Indiana	23	15	3489918	1421314	0.000081	0.000132
Minnesota	24	12	2734610	970976	0.000078	0.000132
Florida	25	6	1774525	253672	0.000076	0.000132
Kansas	26	10	1971999	713200	0.000076	0.000132
Maine	27	6	813479	262171	0.000075	0.000132
New Jersey	28	14	4681056	1548195	0.000073	0.000132
Maryland	29	8	1700600	528348	0.000071	0.000132
Vermont	30	4	366964	135191	0.000070	0.000132
Nebraska	31	8	1442459	547144	0.000070	0.000132
Wyoming	32	3	232335	82835	0.000067	0.000132
Idaho	33	4	452869	151541	0.000066	0.000132
Rhode Island	34	5	751160	237194	0.000066	0.000132
North Dakota	35	5	699118	239867	0.000066	0.000132
West Virginia	36	8	1798602	642752	0.000064	0.000132
Arizona	37	3	444358	91254	0.000064	0.000132
Washington	38	7	1663779	500840	0.000064	0.000132
South Dakota	39	5	710624	261865	0.000063	0.000132
California	40	13	7060810	1796656	0.000063	0.000132
Colorado	41	6	1083181	392242	0.000062	0.000132
Utah	42	4	546837	176603	0.000061	0.000132
Connecticut	43	7	1757080	553031	0.000060	0.000132
Delaware	44	3	237683	105891	0.000059	0.000132
Montana	45	4	548888	194108	0.000058	0.000132
New Hampshire	46	4	483492	196757	0.000058	0.000132
Oregon	47	5	1019107	319942	0.000057	0.000132
New Mexico	48	3	452580	118014	0.000056	0.000132

Presidential Election of 1932

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
Texas*	1	23	5942737	863426	0.000159	0.000127
South Carolina*	2	8	1770973	104407	0.000156	0.000127
Georgia*	3	12	2951549	255590	0.000150	0.000127
New York*	4	47	12766281	4688614	0.000150	0.000127
Mississippi*	5	9	2044616	146034	0.000149	0.000127
Alabama*	6	11	2683591	245354	0.000140	0.000127
Pennsylvania*	7	36	9685116	2859177	0.000140	0.000127
Virginia*	8	11	2473036	297942	0.000127	0.000127
Louisiana	9	10	2154050	268804	0.000122	0.000127
Arkansas	10	9	1873463	220562	0.000121	0.000127
Tennessee	11	11	2676413	390256	0.000111	0.000127
Ohio	12	26	6698880	2609728	0.000104	0.000127
Illinois	13	29	7683972	3407926	0.000102	0.000127
North Carolina	14	13	3250546	711501	0.000098	0.000127
Michigan	15	19	4925081	1664765	0.000094	0.000127
California	16	22	5923278	2267966	0.000094	0.000127
Nevada	17	3	94895	41430	0.000093	0.000127
Massachusetts	18	17	4263035	1580114	0.000086	0.000127
Florida	19	7	1554052	276252	0.000084	0.000127
Oklahoma	20	11	2384118	704633	0.000083	0.000127
New Jersey	21	16	4065100	1629507	0.000080	0.000127
Missouri	22	15	3660426	1609894	0.000075	0.000127
Wisconsin	23	12	2978722	1114808	0.000072	0.000127
Maryland	24	8	1669469	511054	0.000071	0.000127
Indiana	25	14	3276362	1576927	0.000071	0.000127
Kentucky	26	11	2660796	983063	0.000070	0.000127
Minnesota	27	11	2609622	1002843	0.000069	0.000127
Iowa	28	11	2484405	1036687	0.000068	0.000127
Connecticut	29	8	1627370	594183	0.000066	0.000127
Washington	30	8	1597955	614814	0.000064	0.000127
Kansas	31	9	1865004	791978	0.000064	0.000127
Wyoming	32	3	230600	96962	0.000061	0.000127
West Virginia	33	8	1763759	743774	0.000059	0.000127
Nebraska	34	7	1365537	570137	0.000059	0.000127
Idaho	35	4	461000	186625	0.000058	0.000127
Maine	36	5	807383	298444	0.000058	0.000127
Delaware	37	3	244005	112901	0.000056	0.000127
Colorado	38	6	1053292	457696	0.000056	0.000127
New Hampshire	39	4	470539	205520	0.000056	0.000127
Utah	40	4	516340	206578	0.000055	0.000127
Arizona	41	3	448311	118251	0.000055	0.000127
Montana	42	4	541976	216479	0.000054	0.000127
Oregon	43	5	980966	368808	0.000052	0.000127
Vermont	44	3	359535	136980	0.000051	0.000127
North Dakota	45	4	673063	256290	0.000050	0.000127
Rhode Island	46	4	692667	266170	0.000049	0.000127
New Mexico	47	3	445017	151606	0.000049	0.000127
South Dakota	48	4	682871	288438	0.000047	0.000127

Presidential Election of 1936

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
Texas*	1	23	6178781	843482	0.000161	0.000118
South Carolina*	2	8	1835389	115437	0.000149	0.000118
Mississippi*	3	9	2114206	162090	0.000141	0.000118
Georgia*	4	12	3037637	293175	0.000140	0.000118
New York*	5	47	13122712	5596398	0.000137	0.000118
Arkansas*	6	9	1911425	179423	0.000134	0.000118
Alabama*	7	11	2758276	275744	0.000132	0.000118
Virginia*	8	11	2575404	334590	0.000120	0.000118
Pennsylvania	9	36	9792648	4138426	0.000117	0.000118
Louisiana	10	10	2258965	329778	0.000110	0.000118
Tennessee	11	11	2796127	476538	0.000101	0.000118
Ohio	12	26	6803246	3012589	0.000097	0.000118
Illinois	13	29	7790606	3956522	0.000094	0.000118
Nevada	14	3	102571	43848	0.000090	0.000118
Michigan	15	19	5090593	1805098	0.000090	0.000118
North Carolina	16	13	3411084	839464	0.000090	0.000118
California	17	22	6415332	2638882	0.000087	0.000118
Oklahoma	18	11	2360276	749740	0.000080	0.000118
Massachusetts	19	17	4289878	1840357	0.000080	0.000118
Florida	20	7	1725733	327365	0.000077	0.000118
New Jersey	21	16	4112632	1819127	0.000075	0.000118
Kentucky	22	11	2753212	926203	0.000072	0.000118
Missouri	23	15	3722545	1828635	0.000070	0.000118
Indiana	24	14	3352079	1650897	0.000069	0.000118
Wisconsin	25	12	3058155	1258560	0.000068	0.000118
Minnesota	26	11	2700961	1129975	0.000065	0.000118
Iowa	27	11	2511336	1142733	0.000065	0.000118
Maryland	28	8	1745357	624896	0.000064	0.000118
Kansas	29	9	1833016	865514	0.000061	0.000118
Connecticut	30	8	1668306	690723	0.000061	0.000118
Washington	31	8	1667073	692338	0.000061	0.000118
Wyoming	32	3	240671	103382	0.000059	0.000118
Maine	33	5	827305	304240	0.000057	0.000118
Nebraska	34	7	1340686	608023	0.000057	0.000118
Idaho	35	4	492937	199617	0.000056	0.000118
West Virginia	36	8	1832867	829945	0.000055	0.000118
Utah	37	4	533324	216677	0.000054	0.000118
Colorado	38	6	1088294	488684	0.000054	0.000118
New Hampshire	39	4	481032	218114	0.000054	0.000118
Arizona	40	3	473786	124163	0.000054	0.000118
Delaware	41	3	255255	127603	0.000053	0.000118
Montana	42	4	550716	230512	0.000053	0.000118
Vermont	43	3	359383	143689	0.000050	0.000118
Oregon	44	5	1035324	414021	0.000049	0.000118
North Dakota	45	4	657499	273716	0.000048	0.000118
South Dakota	46	4	662916	296452	0.000046	0.000118
New Mexico	47	3	488418	169136	0.000046	0.000118
Rhode Island	48	4	703006	311178	0.000045	0.000118

Presidential Election of 1940

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
South Carolina*	1	8	1899804	99832	0.000160	0.000113
Texas*	2	23	6414824	1124531	0.000139	0.000113
Georgia*	3	12	3123723	312551	0.000136	0.000113
Mississippi*	4	9	2183796	175824	0.000136	0.000113
New York*	5	47	13479142	6301596	0.000129	0.000113
Alabama*	6	11	2832961	294219	0.000128	0.000113
Arkansas*	7	9	1949387	200743	0.000127	0.000113
Virginia*	8	11	2677773	346607	0.000118	0.000113
Pennsylvania*	9	36	9900180	4078714	0.000117	0.000113
Louisiana	10	10	2363880	372305	0.000104	0.000113
Tennessee	11	11	2915841	522823	0.000096	0.000113
Ohio	12	26	6907612	3319912	0.000092	0.000113
Illinois	13	29	7897241	4217935	0.000091	0.000113
North Carolina	14	13	3571623	822648	0.000091	0.000113
Michigan	15	19	5256106	2085929	0.000084	0.000113
Nevada	16	3	110247	53174	0.000082	0.000113
California	17	22	6907387	3268791	0.000078	0.000113
Oklahoma	18	11	2336434	826212	0.000077	0.000113
Massachusetts	19	17	4316721	2026993	0.000076	0.000113
New Jersey	20	16	4160165	1974214	0.000072	0.000113
Kentucky	21	11	2845627	970063	0.000071	0.000113
Missouri	22	15	3784664	1833729	0.000070	0.000113
Indiana	23	14	3427796	1782747	0.000067	0.000113
Wisconsin	24	12	3137587	1405522	0.000064	0.000113
Florida	25	7	1897414	485492	0.000063	0.000113
Iowa	26	11	2538268	1215430	0.000063	0.000113
Minnesota	27	11	2792300	1251188	0.000062	0.000113
Maryland	28	8	1821244	660117	0.000062	0.000113
Kansas	29	9	1801028	860297	0.000061	0.000113
Connecticut	30	8	1709242	781502	0.000057	0.000113
Washington	31	8	1736191	793833	0.000057	0.000113
Wyoming	32	3	250742	112240	0.000056	0.000113
Nebraska	33	7	1315834	615878	0.000056	0.000113
Maine	34	5	847226	320840	0.000056	0.000113
West Virginia	35	8	1901974	868076	0.000054	0.000113
Idaho	36	4	524873	235168	0.000052	0.000113
New Hampshire	37	4	491524	235419	0.000052	0.000113
Delaware	38	3	266505	136374	0.000051	0.000113
Colorado	39	6	1123296	549004	0.000051	0.000113
Montana	40	4	559456	247873	0.000051	0.000113
Utah	40	4	550310	247819	0.000051	0.000113
Vermont	42	3	359231	143062	0.000050	0.000113
Arizona	43	3	499261	150039	0.000049	0.000113
North Dakota	44	4	641935	280775	0.000048	0.000113
Oregon	45	5	1089684	481240	0.000045	0.000113
South Dakota	46	4	642961	308427	0.000045	0.000113
Rhode Island	47	4	713346	321148	0.000044	0.000113
New Mexico	48	3	531818	183258	0.000044	0.000113

Presidential Election of 1944

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
South Carolina*	1	8	1986693	103375	0.000158	0.000115
Alabama*	2	11	2924473	244743	0.000141	0.000115
Texas*	3	23	6933372	1150331	0.000138	0.000115
Mississippi*	4	9	2181843	180080	0.000134	0.000115
Georgia*	5	12	3252065	328109	0.000133	0.000115
New York*	6	47	14019562	6316790	0.000130	0.000115
Arkansas*	7	9	1933436	212954	0.000124	0.000115
Pennsylvania*	8	35	10139313	3794793	0.000119	0.000115
Virginia	9	11	2934136	388485	0.000112	0.000115
Louisiana	10	10	2491735	349383	0.000107	0.000115
Tennessee	11	12	3066191	510692	0.000107	0.000115
North Carolina	12	14	3767745	790554	0.000100	0.000115
Ohio	13	25	7323218	3153056	0.000091	0.000115
Illinois	14	28	8223215	4036061	0.000090	0.000115
California	15	25	8378921	3520875	0.000086	0.000115
Michigan	16	19	5702370	2205223	0.000082	0.000115
Nevada	17	3	130182	54234	0.000082	0.000115
Missouri	18	15	3852660	1572474	0.000076	0.000115
Kentucky	19	11	2885298	867921	0.000075	0.000115
Oklahoma	20	10	2295201	722636	0.000075	0.000115
Florida	21	8	2246971	482592	0.000073	0.000115
Massachusetts	22	16	4466238	1960665	0.000073	0.000115
New Jersey	23	16	4430231	1963761	0.000073	0.000115
Arizona	24	4	599392	137634	0.000068	0.000115
Wisconsin	25	12	3256383	1339152	0.000066	0.000115
Minnesota	26	11	2868373	1125529	0.000066	0.000115
Maryland	27	8	2029946	608439	0.000065	0.000115
New Mexico	28	4	591565	152225	0.000065	0.000115
Indiana	29	13	3630368	1672091	0.000064	0.000115
Iowa	30	10	2571390	1052599	0.000062	0.000115
West Virginia	31	8	1943405	715596	0.000060	0.000115
Wyoming	32	3	266656	101340	0.000060	0.000115
Kansas	33	8	1842737	733776	0.000059	0.000115
Maine	34	5	873845	296400	0.000058	0.000115
Connecticut	35	8	1828457	831990	0.000056	0.000115
Montana	36	4	572084	207355	0.000056	0.000115
Idaho	37	4	550378	208321	0.000055	0.000115
Oregon	38	6	1262347	480147	0.000055	0.000115
Washington	39	8	1993300	856328	0.000055	0.000115
North Dakota	40	4	633016	220171	0.000054	0.000115
Delaware	41	3	287137	125361	0.000054	0.000115
Vermont	41	3	366637	125361	0.000054	0.000115
Colorado	43	6	1204013	505039	0.000053	0.000115
New Hampshire	44	4	508211	229625	0.000053	0.000115
South Dakota	45	4	646872	232076	0.000053	0.000115
Utah	46	4	605731	248319	0.000051	0.000115
Nebraska	47	6	1319705	563126	0.000051	0.000115
Rhode Island	48	4	744766	299276	0.000046	0.000115

Presidential Election of 1948

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
Alabama*	1	11	3015987	214980	0.000151	0.000114
South Carolina*	2	8	2073582	142571	0.000134	0.000114
Texas*	3	23	7451920	1249577	0.000132	0.000114
New York*	4	47	14559982	6177337	0.000131	0.000114
Mississippi*	5	9	2179890	192190	0.000130	0.000114
Pennsylvania*	6	35	10378445	3735148	0.000120	0.000114
Georgia*	7	12	3380407	418764	0.000118	0.000114
Arkansas*	8	9	1917486	242475	0.000116	0.000114
Virginia	9	11	3190499	419256	0.000108	0.000114
Tennessee	10	12	3216543	550283	0.000103	0.000114
North Carolina	11	14	3963868	791209	0.000100	0.000114
Louisiana	12	10	2619589	416336	0.000098	0.000114
Ohio	13	25	7738824	2936071	0.000094	0.000114
Illinois	14	28	8549189	3984046	0.000091	0.000114
Michigan	15	19	6148634	2109609	0.000084	0.000114
California	16	25	9850456	4021538	0.000081	0.000114
Kentucky	17	11	2924970	822658	0.000077	0.000114
Nevada	18	3	150116	62117	0.000076	0.000114
Missouri	19	15	3920655	1578628	0.000076	0.000114
Oklahoma	20	10	2253967	721599	0.000075	0.000114
New Jersey	21	16	4700296	1949555	0.000073	0.000114
Massachusetts	22	16	4615755	2107146	0.000070	0.000114
Wisconsin	23	12	3375177	1276800	0.000067	0.000114
Florida	24	8	2596527	577643	0.000067	0.000114
Maryland	25	8	2238650	596735	0.000066	0.000114
Indiana	26	13	3832938	1656214	0.000064	0.000114
Minnesota	27	11	2944447	1212226	0.000063	0.000114
Iowa	28	10	2604512	1038264	0.000062	0.000114
Maine	29	5	900464	264787	0.000062	0.000114
Arizona	30	4	699522	177065	0.000060	0.000114
Wyoming	31	3	282572	101425	0.000060	0.000114
West Virginia	32	8	1984836	748750	0.000059	0.000114
New Mexico	33	4	651313	187063	0.000059	0.000114
Kansas	34	8	1884445	788819	0.000057	0.000114
Idaho	35	4	575884	214816	0.000055	0.000114
Nebraska	36	6	1323575	488940	0.000054	0.000114
Vermont	37	3	374043	123382	0.000054	0.000114
Connecticut	38	8	1947672	883518	0.000054	0.000114
North Dakota	39	4	624096	220716	0.000054	0.000114
Montana	40	4	584710	224278	0.000053	0.000114
Washington	41	8	2250409	905059	0.000053	0.000114
Colorado	42	6	1284731	515237	0.000053	0.000114
New Hampshire	43	4	524899	231440	0.000053	0.000114
Oregon	44	6	1435009	524080	0.000052	0.000114
Delaware	45	3	307769	139073	0.000051	0.000114
South Dakota	46	4	650784	250105	0.000051	0.000114
Utah	47	4	661152	276305	0.000048	0.000114
Rhode Island	48	4	776186	327702	0.000044	0.000114

Presidential Election of 1952

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
New York*	1	45	15220615	7128241	0.000117	0.000102
Texas*	2	24	8084891	2075946	0.000108	0.000102
Alabama*	3	11	3102743	426120	0.000107	0.000102
Pennsylvania	4	32	10662283	4580969	0.000098	0.000102
Virginia	5	12	3448334	619689	0.000097	0.000102
Mississippi	6	8	2178760	285532	0.000095	0.000102
Georgia	7	12	3544286	655803	0.000095	0.000102
California	8	32	11612419	5341603	0.000091	0.000102
South Carolina	9	8	2170140	341086	0.000087	0.000102
Ohio	10	25	8298581	3700758	0.000084	0.000102
Illinois	11	27	8985973	4481058	0.000083	0.000102
North Carolina	12	14	4160774	1210910	0.000081	0.000102
Arkansas	13	8	1884863	404800	0.000080	0.000102
Louisiana	14	10	2798217	651952	0.000079	0.000102
Michigan	15	20	6662052	2798592	0.000077	0.000102
Tennessee	16	11	3346792	892553	0.000074	0.000102
Nevada	17	3	185122	82190	0.000066	0.000102
Massachusetts	18	16	4782127	2383398	0.000066	0.000102
New Jersey	19	16	5081619	2419554	0.000066	0.000102
Florida	20	10	3207356	989337	0.000064	0.000102
Kentucky	21	10	2963476	993148	0.000064	0.000102
Wisconsin	22	12	3538015	1607370	0.000060	0.000102
Missouri	23	13	4027685	1892062	0.000060	0.000102
Maryland	24	9	2494539	902074	0.000060	0.000102
Minnesota	25	11	3068759	1379483	0.000060	0.000102
Indiana	26	13	4079879	1955325	0.000059	0.000102
Iowa	27	10	2648366	1268773	0.000057	0.000102
Washington	28	9	2473814	1102708	0.000055	0.000102
West Virginia	29	8	1976526	873548	0.000055	0.000102
Kansas	30	8	1959961	896166	0.000054	0.000102
Maine	31	5	924872	351786	0.000054	0.000102
Wyoming	32	3	298437	129251	0.000053	0.000102
Oklahoma	33	8	2252338	948984	0.000052	0.000102
New Mexico	34	4	735154	238608	0.000052	0.000102
Arizona	35	4	860102	260570	0.000050	0.000102
Montana	36	4	607773	265037	0.000049	0.000102
North Dakota	37	4	622198	270127	0.000049	0.000102
Nebraska	38	6	1342674	609660	0.000049	0.000102
New Hampshire	39	4	547978	272950	0.000049	0.000102
Vermont	40	3	380174	153557	0.000049	0.000102
Connecticut	41	8	2112871	1096911	0.000049	0.000102
Idaho	42	4	604348	276231	0.000048	0.000102
Colorado	43	6	1410860	630103	0.000048	0.000102
South Dakota	44	4	658295	294283	0.000047	0.000102
Oregon	45	6	1570810	695059	0.000046	0.000102
Delaware	46	3	343726	174025	0.000046	0.000102
Utah	47	4	729215	329554	0.000044	0.000102
Rhode Island	48	4	805414	414498	0.000039	0.000102

Presidential Election of 1956

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
New York*	1	45	16001459	7092860	0.000117	0.000101
Texas*	2	24	8832284	1955545	0.000111	0.000101
Mississippi*	3	8	2178450	248149	0.000102	0.000101
Alabama	4	11	3184741	496698	0.000100	0.000101
Pennsylvania	5	32	10990824	4576503	0.000098	0.000101
Georgia	6	12	3743700	663480	0.000094	0.000101
South Carolina	7	8	2276367	300583	0.000093	0.000101
Virginia	8	12	3707642	697978	0.000092	0.000101
California	9	32	13664812	5466355	0.000090	0.000101
Ohio	10	25	9002489	3702265	0.000084	0.000101
Illinois	11	27	9533565	4407407	0.000084	0.000101
North Carolina	12	14	4358465	1165592	0.000083	0.000101
Louisiana	13	10	3027620	617544	0.000081	0.000101
Arkansas	14	8	1835567	406572	0.000080	0.000101
Michigan	15	20	7242623	3080468	0.000073	0.000101
Tennessee	16	11	3456941	939404	0.000072	0.000101
Massachusetts	17	16	4965353	2348506	0.000067	0.000101
New Jersey	18	16	5574201	2484312	0.000065	0.000101
Kentucky	19	10	3000816	1053805	0.000062	0.000101
Wisconsin	20	12	3744897	1550558	0.000062	0.000101
Nevada	21	3	235200	96689	0.000061	0.000101
Missouri	22	13	4173749	1832562	0.000061	0.000101
Minnesota	23	11	3241311	1340005	0.000061	0.000101
Florida	24	10	4079458	1124220	0.000060	0.000101
Maryland	25	9	2797614	932351	0.000059	0.000101
Indiana	26	13	4371189	1974607	0.000059	0.000101
Iowa	27	10	2702951	1234564	0.000057	0.000101
West Virginia	28	8	1918473	830831	0.000056	0.000101
Oklahoma	29	8	2290311	859350	0.000055	0.000101
Kansas	30	8	2069287	866243	0.000055	0.000101
Wyoming	31	3	314251	124127	0.000054	0.000101
Maine	32	5	947068	351706	0.000054	0.000101
Washington	33	9	2663514	1150889	0.000053	0.000101
New Mexico	34	4	843089	253926	0.000050	0.000101
North Dakota	34	4	627322	253991	0.000050	0.000101
Nebraska	36	6	1377002	577137	0.000050	0.000101
New Hampshire	37	4	577449	266994	0.000049	0.000101
Montana	38	4	641270	271171	0.000049	0.000101
Vermont	39	3	385027	152978	0.000049	0.000101
Idaho	40	4	635770	272989	0.000049	0.000101
Connecticut	41	8	2324052	1117121	0.000048	0.000101
Arizona	42	4	1081132	290173	0.000047	0.000101
South Dakota	43	4	669404	293857	0.000047	0.000101
Colorado	44	6	1582404	663074	0.000047	0.000101
Delaware	45	3	395010	177988	0.000045	0.000101
Oregon	46	6	1669748	735597	0.000044	0.000101
Utah	47	4	809921	333995	0.000044	0.000101
Rhode Island	48	4	832451	387609	0.000041	0.000101

Presidential Election of 1960

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
New York*	1	45	16782304	7291079	0.000115	0.000096
Texas*	2	24	9579677	2311084	0.000102	0.000096
Pennsylvania	3	32	11319366	5006541	0.000094	0.000096
Alabama	4	11	3266740	564478	0.000093	0.000096
Mississippi	5	8	2178141	298171	0.000093	0.000096
Georgia	6	12	3943116	733349	0.000089	0.000096
Virginia	7	12	3966949	771449	0.000087	0.000096
California	8	32	15717204	6506578	0.000083	0.000096
South Carolina	9	8	2382594	386688	0.000082	0.000096
Illinois	10	27	10081158	4757409	0.000081	0.000096
Ohio	11	25	9706397	4161859	0.000079	0.000096
Arkansas	12	8	1786272	428509	0.000078	0.000096
Alaska	13	3	226167	60762	0.000077	0.000096
North Carolina	14	14	4556155	1368556	0.000076	0.000096
Louisiana	15	10	3257022	807891	0.000071	0.000096
Michigan	16	20	7823194	3318097	0.000071	0.000096
Tennessee	17	11	3567089	1051792	0.000068	0.000096
Massachusetts	18	16	5148578	2469480	0.000065	0.000096
New Jersey	19	16	6066782	2773111	0.000061	0.000096
Kentucky	20	10	3038156	1124462	0.000060	0.000096
Missouri	21	13	4319813	1934422	0.000060	0.000096
Wisconsin	22	12	3951777	1729082	0.000058	0.000096
Nevada	23	3	285278	107267	0.000058	0.000096
Indiana	24	13	4662498	2135360	0.000057	0.000096
Minnesota	25	11	3413864	1541887	0.000056	0.000096
Iowa	26	10	2757537	1273810	0.000056	0.000096
Maryland	27	9	3100689	1055349	0.000056	0.000096
West Virginia	28	8	1860421	837781	0.000056	0.000096
Oklahoma	29	8	2328284	903150	0.000054	0.000096
Kansas	30	8	2178611	928825	0.000053	0.000096
Washington	31	9	2853214	1241572	0.000051	0.000096
Florida	32	10	4951560	1544176	0.000051	0.000096
Wyoming	33	3	330066	140782	0.000051	0.000096
Maine	34	5	969265	421767	0.000049	0.000096
Nebraska	35	6	1411330	613095	0.000049	0.000096
Montana	36	4	674767	277579	0.000048	0.000096
North Dakota	37	4	632446	278431	0.000048	0.000096
New Hampshire	38	4	606921	295761	0.000047	0.000096
Vermont	39	3	389881	167324	0.000047	0.000096
Idaho	40	4	667191	300450	0.000046	0.000096
Connecticut	41	8	2535234	1222883	0.000046	0.000096
South Dakota	42	4	680514	306487	0.000046	0.000096
New Mexico	43	4	951023	311107	0.000046	0.000096
Colorado	44	6	1753947	736246	0.000044	0.000096
Hawaii	45	3	632772	184705	0.000044	0.000096
Oregon	46	6	1768687	776421	0.000043	0.000096
Delaware	47	3	446292	196683	0.000043	0.000096
Utah	48	4	890627	374709	0.000041	0.000096
Arizona	49	4	1302161	398491	0.000040	0.000096
Rhode Island	50	4	859488	405535	0.000040	0.000096

Presidential Election of 1964

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
New York*	1	43	17364170	7166015	0.000108	0.000095
California*	2	40	17411576	7057586	0.000100	0.000095
Texas*	3	25	10226498	2626811	0.000099	0.000095
Pennsylvania	4	29	11509183	4822690	0.000085	0.000095
Ohio	5	26	10084645	3969196	0.000084	0.000095
Illinois	6	26	10494285	4702841	0.000077	0.000095
Alabama	7	10	3337710	689817	0.000076	0.000095
Michigan	8	21	8243949	3203102	0.000075	0.000095
Virginia	9	12	4239567	1042267	0.000074	0.000095
Alaska	10	3	255853	67259	0.000073	0.000095
Georgia	11	12	4201699	1139336	0.000071	0.000095
South Carolina	12	8	2465763	524756	0.000069	0.000095
Mississippi	13	7	2193650	409146	0.000069	0.000095
North Carolina	14	13	4766517	1424983	0.000069	0.000095
Louisiana	15	10	3410736	896293	0.000067	0.000095
Florida	16	14	5686713	1854481	0.000065	0.000095
Tennessee	17	11	3709728	1143946	0.000065	0.000095
New Jersey	18	17	6507334	2846770	0.000064	0.000095
Maryland	19	10	3429373	1116457	0.000060	0.000095
Wisconsin	20	12	4138159	1691815	0.000058	0.000095
Massachusetts	21	14	5364815	2344798	0.000058	0.000095
Indiana	22	13	4874966	2091606	0.000057	0.000095
Missouri	23	12	4462488	1817879	0.000056	0.000095
Kentucky	24	9	3110376	1046105	0.000055	0.000095
Hawaii	25	4	687088	207271	0.000055	0.000095
Oklahoma	26	8	2420662	932499	0.000052	0.000095
Iowa	27	9	2784272	1184539	0.000052	0.000095
Nevada	28	3	366662	135433	0.000051	0.000095
Minnesota	29	10	3570307	1554462	0.000051	0.000095
Washington	30	9	3075596	1258556	0.000051	0.000095
Arkansas	31	6	1841081	560426	0.000050	0.000095
Wyoming	32	3	331006	142716	0.000050	0.000095
West Virginia	33	7	1813948	792040	0.000050	0.000095
North Dakota	34	4	626572	258389	0.000049	0.000095
Montana	35	4	682624	278628	0.000048	0.000095
Kansas	36	7	2205798	857901	0.000048	0.000095
New Hampshire	37	4	659225	286094	0.000047	0.000095
Vermont	38	3	411660	163089	0.000047	0.000095
Idaho	39	4	685342	292477	0.000046	0.000095
South Dakota	40	4	674511	293118	0.000046	0.000095
Connecticut	41	8	2733824	1218578	0.000046	0.000095
Arizona	42	5	1489656	480770	0.000045	0.000095
New Mexico	43	4	977013	327615	0.000044	0.000095
Colorado	44	6	1935271	776986	0.000043	0.000095
Oregon	45	6	1897766	786305	0.000043	0.000095
District of Columbia	46	3	760978	198597	0.000042	0.000095
Delaware	47	3	487016	201320	0.000042	0.000095
Nebraska	48	5	1440195	584154	0.000041	0.000095
Maine	49	4	978378	380965	0.000041	0.000095
Rhode Island	50	4	894383	390091	0.000040	0.000095
Utah	51	4	958086	400310	0.000040	0.000095

Presidential Election of 1968

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
New York*	1	43	17946034	6790066	0.000111	0.000093
California*	2	40	19105948	7251587	0.000099	0.000093
Texas	3	25	10873320	3079406	0.000091	0.000093
Pennsylvania	4	29	11699001	4747928	0.000086	0.000093
Ohio	5	26	10462893	3959698	0.000084	0.000093
Illinois	6	26	10907412	4619749	0.000078	0.000093
Michigan	7	21	8664705	3306250	0.000074	0.000093
Georgia	8	12	4460283	1250266	0.000068	0.000093
Alaska	9	3	285539	83035	0.000065	0.000093
North Carolina	10	13	4976878	1587493	0.000065	0.000093
Virginia	11	12	4512185	1361491	0.000065	0.000093
New Jersey	12	17	6947888	2875395	0.000064	0.000093
Tennessee	13	11	3852367	1248617	0.000062	0.000093
South Carolina	14	8	2548931	666982	0.000062	0.000093
Alabama	15	10	3408680	1049917	0.000062	0.000093
Louisiana	16	10	3564449	1097450	0.000060	0.000093
Florida	17	14	6421866	2187805	0.000060	0.000093
Wisconsin	18	12	4324540	1691538	0.000058	0.000093
Massachusetts	19	14	5581051	2331752	0.000058	0.000093
Maryland	20	10	3758057	1235039	0.000057	0.000093
Indiana	21	13	5087435	2123597	0.000056	0.000093
Missouri	22	12	4605163	1809502	0.000056	0.000093
Kentucky	23	9	3182596	1055893	0.000055	0.000093
Mississippi	24	7	2209158	654509	0.000054	0.000093
Wyoming	25	3	331946	127205	0.000053	0.000093
Iowa	26	9	2811008	1167931	0.000052	0.000093
Oklahoma	27	8	2513040	943086	0.000052	0.000093
Hawaii	28	4	741404	236218	0.000052	0.000093
West Virginia	29	7	1767474	754206	0.000051	0.000093
North Dakota	30	4	620698	247882	0.000051	0.000093
Minnesota	31	10	3726750	1588510	0.000050	0.000093
Washington	32	9	3297978	1304281	0.000050	0.000093
Arkansas	33	6	1895891	609590	0.000048	0.000093
Nevada	34	3	448046	154218	0.000048	0.000093
Montana	35	4	690480	274404	0.000048	0.000093
South Dakota	36	4	668508	281264	0.000047	0.000093
Kansas	37	7	2232984	872783	0.000047	0.000093
Vermont	38	3	433440	161404	0.000047	0.000093
Idaho	39	4	703492	291183	0.000047	0.000093
New Hampshire	40	4	711529	297298	0.000046	0.000093
District of Columbia	41	3	757999	170578	0.000046	0.000093
Arizona	42	5	1677152	486936	0.000045	0.000093
Connecticut	43	8	2932414	1256232	0.000045	0.000093
New Mexico	44	4	1003005	327281	0.000044	0.000093
Nebraska	45	5	1469060	536851	0.000043	0.000093
Colorado	46	6	2116597	811199	0.000042	0.000093
Oregon	47	6	2026846	819622	0.000042	0.000093
Delaware	48	3	527742	214367	0.000041	0.000093
Rhode Island	49	4	929277	385000	0.000041	0.000093
Maine	50	4	987491	392936	0.000040	0.000093
Utah	51	4	1025544	422568	0.000039	0.000093

Presidential Election of 1972

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
California*	1	45	20696088	8367862	0.000105	0.000090
New York*	2	41	18101188	7161830	0.000101	0.000090
Texas	3	26	11803222	3472714	0.000089	0.000090
Pennsylvania	4	27	11807906	4592105	0.000080	0.000090
Ohio	5	25	10681140	4094787	0.000078	0.000090
Illinois	6	26	11176485	4723236	0.000076	0.000090
Michigan	7	21	8952482	3490325	0.000071	0.000090
Georgia	8	12	4764281	1174772	0.000069	0.000090
Florida	9	17	7380819	2583283	0.000066	0.000090
North Carolina	10	13	5242000	1518612	0.000066	0.000090
Virginia	11	12	4788159	1457019	0.000062	0.000090
New Jersey	12	17	7207495	2997229	0.000062	0.000090
Louisiana	13	10	3754225	1051491	0.000061	0.000090
South Carolina	14	8	2696777	677880	0.000061	0.000090
Alaska	15	3	320675	95219	0.000061	0.000090
Tennessee	16	10	4057174	1201182	0.000057	0.000090
Alabama	17	9	3534110	1006093	0.000056	0.000090
Massachusetts	18	14	5698743	2458756	0.000056	0.000090
Indiana	19	13	5252980	2125529	0.000056	0.000090
Missouri	20	12	4724538	1852589	0.000055	0.000090
Kentucky	21	9	3307120	1067499	0.000054	0.000090
Mississippi	22	7	2277658	645963	0.000054	0.000090
Maryland	23	10	3981314	1353812	0.000054	0.000090
Wisconsin	24	11	4475338	1852890	0.000050	0.000090
Oklahoma	25	8	2652441	1029900	0.000049	0.000090
Wyoming	26	3	359845	145570	0.000049	0.000090
Hawaii	27	4	807787	270274	0.000048	0.000090
Minnesota	28	10	3859171	1741652	0.000047	0.000090
Arkansas	29	6	1995923	647666	0.000046	0.000090
Washington	30	9	3553767	1470847	0.000046	0.000090
Arizona	31	6	1960363	653505	0.000046	0.000090
District of Columbia	32	3	732875	163421	0.000046	0.000090
Kansas	33	7	2269998	916095	0.000046	0.000090
Iowa	34	8	2842262	1225944	0.000045	0.000090
South Dakota	35	4	670559	307415	0.000045	0.000090
Idaho	36	4	758841	310379	0.000045	0.000090
Colorado	37	7	2343800	953884	0.000045	0.000090
Montana	38	4	712865	317603	0.000044	0.000090
Nevada	39	3	551089	181766	0.000044	0.000090
Vermont	40	3	457755	186947	0.000043	0.000090
New Hampshire	41	4	774267	334055	0.000043	0.000090
West Virginia	42	6	1785319	762399	0.000043	0.000090
Connecticut	43	8	3046882	1384277	0.000042	0.000090
Nebraska	44	5	1500759	576289	0.000041	0.000090
New Mexico	45	4	1073379	385931	0.000040	0.000090
Oregon	46	6	2199729	927946	0.000039	0.000090
Rhode Island	47	4	946811	415808	0.000039	0.000090
Maine	48	4	1018570	417271	0.000039	0.000090
Delaware	49	3	557351	235516	0.000038	0.000090
Utah	50	4	1139626	478476	0.000036	0.000090
North Dakota	51	3	624753	280514	0.000035	0.000090

Presidential Election of 1976

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
California*	1	45	22181994	7867117	0.000108	0.000088
New York*	2	41	17829630	6525225	0.000106	0.000088
Texas	3	26	13016207	4071884	0.000082	0.000088
Pennsylvania	4	27	11835900	4620787	0.000080	0.000088
Ohio	5	25	10739384	4111873	0.000078	0.000088
Illinois	6	26	11301501	4718833	0.000076	0.000088
Michigan	7	21	9107280	3653749	0.000069	0.000088
North Carolina	8	13	5561884	1677906	0.000063	0.000088
Georgia	9	12	5113693	1467458	0.000062	0.000088
New Jersey	10	17	7286159	3014472	0.000062	0.000088
Florida	11	17	8563571	3150631	0.000060	0.000088
Virginia	12	12	5067489	1697094	0.000058	0.000088
South Carolina	13	8	2909299	802594	0.000056	0.000088
Louisiana	14	10	3980062	1278439	0.000055	0.000088
Massachusetts	15	14	5717890	2547557	0.000055	0.000088
Indiana	16	13	5371602	2220362	0.000055	0.000088
Missouri	17	12	4820612	1953600	0.000054	0.000088
Alaska	18	3	361263	123574	0.000053	0.000088
Maryland	19	10	4099145	1432273	0.000052	0.000088
Kentucky	20	9	3483949	1167142	0.000052	0.000088
Alabama	21	9	3713999	1182850	0.000052	0.000088
Tennessee	22	10	4324147	1476346	0.000051	0.000088
Mississippi	23	7	2399148	769360	0.000050	0.000088
Oklahoma	24	8	2838866	1092251	0.000048	0.000088
Wisconsin	25	11	4590552	2101336	0.000047	0.000088
Wyoming	26	3	414701	156343	0.000047	0.000088
Hawaii	27	4	886239	291301	0.000046	0.000088
District of Columbia	28	3	685604	168830	0.000045	0.000088
South Dakota	29	4	680663	300678	0.000045	0.000088
Washington	30	9	3842961	1555534	0.000045	0.000088
Minnesota	31	10	3967571	1949931	0.000045	0.000088
Kansas	32	7	2316838	957845	0.000045	0.000088
Iowa	33	8	2878035	1279306	0.000044	0.000088
Montana	34	4	749778	328734	0.000043	0.000088
Arizona	35	6	2339289	742719	0.000043	0.000088
West Virginia	36	6	1867481	750674	0.000043	0.000088
Vermont	37	3	484606	187855	0.000043	0.000088
New Hampshire	38	4	847438	339618	0.000043	0.000088
Idaho	39	4	851388	340932	0.000043	0.000088
Arkansas	40	6	2141179	769396	0.000043	0.000088
Connecticut	41	8	3077229	1381526	0.000042	0.000088
Colorado	42	7	2616882	1081135	0.000042	0.000088
Nevada	43	3	675791	201876	0.000042	0.000088
Nebraska	44	5	1535293	607668	0.000040	0.000088
Rhode Island	45	4	946982	411170	0.000039	0.000088
New Mexico	46	4	1188137	416590	0.000039	0.000088
Delaware	47	3	575844	235834	0.000038	0.000088
Oregon	48	6	2416417	1029876	0.000037	0.000088
Maine	49	4	1071615	483208	0.000036	0.000088
North Dakota	50	3	638735	297094	0.000034	0.000088
Utah	51	4	1300332	541198	0.000034	0.000088

Presidential Election of 1980

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
New York*	1	41	17558165	6201959	0.000109	0.000086
California*	2	45	23667764	8587063	0.000103	0.000086
Pennsylvania	3	27	11864720	4561501	0.000081	0.000086
Texas	4	26	14225513	4541637	0.000077	0.000086
Ohio	5	25	10797603	4283603	0.000077	0.000086
Illinois	6	26	11427409	4749721	0.000076	0.000086
Michigan	7	21	9262044	3909725	0.000067	0.000086
New Jersey	8	17	7365011	2975684	0.000062	0.000086
North Carolina	9	13	5880095	1855833	0.000060	0.000086
Georgia	10	12	5462982	1597467	0.000059	0.000086
Florida	11	17	9746961	3687026	0.000056	0.000086
Massachusetts	12	14	5737093	2524298	0.000055	0.000086
Virginia	13	12	5346797	1866032	0.000055	0.000086
Indiana	14	13	5490210	2242033	0.000054	0.000086
South Carolina	15	8	3120729	890083	0.000053	0.000086
Missouri	16	12	4916766	2099824	0.000052	0.000086
Maryland	17	10	4216933	1540496	0.000050	0.000086
Louisiana	18	10	4206116	1548591	0.000050	0.000086
Kentucky	19	9	3660324	1294627	0.000049	0.000086
Tennessee	20	10	4591023	1617616	0.000049	0.000086
Alabama	21	9	3894025	1341929	0.000048	0.000086
Alaska	22	3	401851	158445	0.000047	0.000086
Oklahoma	23	8	3025487	1149708	0.000046	0.000086
Mississippi	24	7	2520770	892620	0.000046	0.000086
Wisconsin	25	11	4705642	2273221	0.000046	0.000086
Hawaii	26	4	964691	303287	0.000045	0.000086
District of Columbia	27	3	638432	173889	0.000045	0.000086
Wyoming	28	3	469557	176713	0.000044	0.000086
Kansas	29	7	2364236	979795	0.000044	0.000086
Minnesota	30	10	4075970	2051953	0.000044	0.000086
West Virginia	31	6	1950186	737715	0.000044	0.000086
South Dakota	32	4	690768	327703	0.000043	0.000086
Iowa	33	8	2913808	1317661	0.000043	0.000086
Washington	34	9	4132353	1742394	0.000042	0.000086
Connecticut	35	8	3107564	1406285	0.000042	0.000086
Montana	36	4	786690	363952	0.000041	0.000086
Arkansas	37	6	2286357	837582	0.000041	0.000086
Vermont	38	3	511456	213207	0.000040	0.000086
New Hampshire	39	4	920610	383999	0.000040	0.000086
Colorado	40	7	2889735	1184415	0.000040	0.000086
Arizona	41	6	2716546	873945	0.000040	0.000086
Nebraska	42	5	1569825	640854	0.000039	0.000086
Rhode Island	43	4	947154	416072	0.000039	0.000086
Delaware	44	3	594338	235668	0.000038	0.000086
Idaho	45	4	944127	437431	0.000038	0.000086
Nevada	46	3	800508	247885	0.000038	0.000086
New Mexico	47	4	1303302	456237	0.000037	0.000086
Maine	48	4	1125043	523011	0.000034	0.000086
Oregon	49	6	2633156	1181516	0.000034	0.000086
North Dakota	50	3	652717	301545	0.000034	0.000086
Utah	51	4	1461037	604222	0.000032	0.000086

Presidential Election of 1984

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
California*	1	47	26104750	9505423	0.000105	0.000083
New York*	2	36	17731026	6806810	0.000091	0.000083
Texas	3	29	15332119	5397571	0.000081	0.000083
Pennsylvania	4	25	11870995	4844903	0.000073	0.000083
Illinois	5	24	11428151	4819088	0.000070	0.000083
Ohio	6	23	10817424	4547619	0.000069	0.000083
Florida	7	21	11022965	4180051	0.000065	0.000083
Michigan	8	20	9275365	3801658	0.000065	0.000083
Georgia	9	12	5869149	1776093	0.000057	0.000083
New Jersey	10	16	7510969	3217862	0.000057	0.000083
North Carolina	11	13	6180514	2175361	0.000056	0.000083
Tennessee	12	11	4705546	1711993	0.000053	0.000083
Virginia	13	12	5683034	2146635	0.000052	0.000083
Massachusetts	14	13	5848793	2559453	0.000051	0.000083
South Carolina	15	8	3267773	968540	0.000051	0.000083
Indiana	16	12	5511798	2233069	0.000051	0.000083
Maryland	17	10	4442773	1675873	0.000049	0.000083
Kentucky	18	9	3670585	1370461	0.000049	0.000083
Louisiana	19	10	4211529	1706822	0.000048	0.000083
Missouri	20	11	4996840	2122771	0.000048	0.000083
Alabama	21	9	3952567	1441713	0.000047	0.000083
Nevada	22	4	961029	286667	0.000047	0.000083
Wisconsin	23	11	4780168	2212016	0.000047	0.000083
Washington	24	10	4425971	1883910	0.000046	0.000083
Mississippi	25	7	2541670	940192	0.000045	0.000083
Oklahoma	26	8	3073408	1255676	0.000045	0.000083
Colorado	27	8	3051736	1295381	0.000044	0.000083
West Virginia	28	6	1887177	735742	0.000044	0.000083
Iowa	29	8	2858987	1319805	0.000044	0.000083
New Mexico	30	5	1387764	514370	0.000044	0.000083
Minnesota	31	10	4195622	2084449	0.000044	0.000083
Kansas	32	7	2409237	1021991	0.000044	0.000083
Arizona	33	7	3097020	1025897	0.000044	0.000083
Hawaii	34	4	1022107	335846	0.000043	0.000083
Wyoming	35	3	463169	188968	0.000043	0.000083
Connecticut	36	8	3179392	1466900	0.000042	0.000083
Alaska	37	3	461128	207605	0.000041	0.000083
District of Columbia	38	3	625760	211288	0.000041	0.000083
Montana	39	4	791640	384377	0.000041	0.000083
New Hampshire	40	4	996067	388954	0.000040	0.000083
Arkansas	41	6	2312151	884406	0.000040	0.000083
Oregon	42	7	2716792	1226527	0.000040	0.000083
Utah	43	5	1565762	629656	0.000040	0.000083
Rhode Island	44	4	969678	410492	0.000039	0.000083
Idaho	45	4	969061	411144	0.000039	0.000083
Nebraska	46	5	1573249	652090	0.000039	0.000083
Vermont	47	3	531977	234561	0.000039	0.000083
Delaware	48	3	623070	254572	0.000037	0.000083
North Dakota	49	3	647151	308971	0.000034	0.000083
Maine	50	4	1165967	553144	0.000034	0.000083
South Dakota	51	3	692862	317867	0.000033	0.000083

Presidential Election of 1988

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
California*	1	47	28541597	9887064	0.000118	0.000083
Texas*	2	29	16435046	5427410	0.000086	0.000083
New York	3	36	17903978	6485683	0.000081	0.000083
Florida	4	21	12299605	4302313	0.000075	0.000083
Pennsylvania	5	25	11878093	4536251	0.000067	0.000083
Illinois	6	24	11429785	4559120	0.000064	0.000083
Ohio	7	23	10837218	4393699	0.000062	0.000083
Georgia	8	12	6275193	1809672	0.000059	0.000083
North Carolina	9	13	6479263	2134370	0.000059	0.000083
Michigan	10	20	9288653	3669163	0.000058	0.000083
Virginia	11	12	6019250	2191609	0.000054	0.000083
Tennessee	12	11	4819972	1636250	0.000052	0.000083
New Jersey	13	16	7657115	3099553	0.000052	0.000083
Indiana	14	12	5533372	2168621	0.000050	0.000083
Washington	15	10	4719785	1865253	0.000049	0.000083
South Carolina	16	8	3413726	986009	0.000049	0.000083
Alabama	17	9	4011247	1378476	0.000047	0.000083
Maryland	18	10	4668569	1714358	0.000047	0.000083
Missouri	19	11	5076996	2093228	0.000046	0.000083
Wisconsin	20	11	4854568	2191608	0.000045	0.000083
Massachusetts	21	13	5960547	2632805	0.000045	0.000083
Arizona	22	7	3475825	1171873	0.000045	0.000083
Oklahoma	22	8	3121526	1171036	0.000045	0.000083
Mississippi	24	7	2562700	931527	0.000044	0.000083
Wyoming	25	3	456782	176551	0.000043	0.000083
Louisiana	26	10	4217158	1628202	0.000043	0.000083
Kentucky	27	9	3680393	1322517	0.000042	0.000083
New Mexico	28	5	1472634	521287	0.000042	0.000083
Minnesota	29	10	4315274	2096790	0.000042	0.000083
Colorado	30	8	3213508	1372394	0.000042	0.000083
District of Columbia	31	3	613187	192877	0.000042	0.000083
Nevada	32	4	1121565	350067	0.000041	0.000083
Hawaii	33	4	1079521	354461	0.000041	0.000083
Alaska	34	3	520404	200116	0.000041	0.000083
Connecticut	35	8	3251208	1443394	0.000041	0.000083
Arkansas	36	6	2337867	827738	0.000040	0.000083
Oregon	37	7	2800478	1201694	0.000039	0.000083
Iowa	38	8	2804165	1225614	0.000038	0.000083
Rhode Island	39	4	992202	404620	0.000038	0.000083
Idaho	40	4	994187	408968	0.000038	0.000083
Utah	41	5	1670488	647008	0.000038	0.000083
West Virginia	42	6	1824710	653311	0.000038	0.000083
Nebraska	43	5	1576673	662372	0.000037	0.000083
Vermont	44	3	552497	243333	0.000037	0.000083
Kansas	45	7	2454795	993044	0.000037	0.000083
Delaware	46	3	651802	249891	0.000036	0.000083
New Hampshire	47	4	1071524	450525	0.000036	0.000083
North Dakota	48	3	641583	297261	0.000033	0.000083
Maine	49	4	1207275	555035	0.000033	0.000083
South Dakota	50	3	694957	312991	0.000033	0.000083
Montana	51	4	796590	365674	0.000030	0.000083

Presidential Election of 1992

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
California*	1	54	30582346	11131721	0.000111	0.000078
Texas*	2	32	17759572	6154018	0.000081	0.000078
New York*	3	33	18187655	6926925	0.000079	0.000078
Florida	4	25	13546816	5314392	0.000067	0.000078
Pennsylvania	5	23	11961525	4959810	0.000064	0.000078
Illinois	6	22	11628341	5050157	0.000060	0.000078
Ohio	7	21	10948320	4939964	0.000058	0.000078
Michigan	8	18	9423926	4274673	0.000053	0.000078
North Carolina	9	14	6912772	2611850	0.000053	0.000078
Georgia	10	13	6819864	2321133	0.000052	0.000078
New Jersey	11	15	7867020	3343594	0.000050	0.000078
Virginia	12	13	6365589	2558665	0.000050	0.000078
Indiana	13	12	5651424	2305871	0.000048	0.000078
Tennessee	14	11	5039605	1982638	0.000048	0.000078
South Carolina	15	8	3591765	1202527	0.000044	0.000078
Washington	16	11	5072178	2287565	0.000044	0.000078
Massachusetts	17	12	6082960	2773574	0.000044	0.000078
Missouri	18	11	5212701	2391270	0.000043	0.000078
Maryland	19	10	4884472	1985046	0.000043	0.000078
Mississippi	20	7	2627504	981793	0.000043	0.000078
Wisconsin	21	11	4986150	2531114	0.000042	0.000078
Alabama	22	9	4121890	1688060	0.000042	0.000078
Oklahoma	23	8	3206599	1390359	0.000041	0.000078
Louisiana	24	9	4269773	1790017	0.000041	0.000078
Wyoming	25	3	461627	199884	0.000041	0.000078
New Mexico	26	5	1575864	569986	0.000040	0.000078
Arizona	27	8	3958308	1487006	0.000040	0.000078
Kentucky	28	8	3756591	1492900	0.000040	0.000078
Hawaii	29	4	1128891	372842	0.000040	0.000078
Minnesota	30	10	4483975	2347948	0.000040	0.000078
Colorado	31	8	3495768	1569180	0.000039	0.000078
Connecticut	32	8	3310806	1616332	0.000038	0.000078
District of Columbia	33	3	599932	227572	0.000038	0.000078
Arkansas	34	6	2415260	950653	0.000037	0.000078
West Virginia	35	5	1796450	683677	0.000037	0.000078
Iowa	36	7	2806668	1354607	0.000037	0.000078
Rhode Island	37	4	1012435	453477	0.000036	0.000078
Alaska	38	3	565420	258506	0.000036	0.000078
Nebraska	39	5	1604960	739283	0.000035	0.000078
Utah	40	5	1824914	743998	0.000035	0.000078
Oregon	41	7	2958137	1462643	0.000035	0.000078
Idaho	42	4	1064190	482114	0.000035	0.000078
Nevada	43	4	1361117	506318	0.000034	0.000078
Kansas	44	6	2519743	1157256	0.000034	0.000078
Delaware	45	3	689654	289620	0.000034	0.000078
Vermont	46	3	571972	289701	0.000034	0.000078
New Hampshire	47	4	1134559	537215	0.000033	0.000078
North Dakota	48	3	639480	308133	0.000033	0.000078
South Dakota	49	3	707772	336254	0.000031	0.000078
Maine	50	4	1237327	679499	0.000030	0.000078
Montana	51	3	819691	410583	0.000028	0.000078

Presidential Election of 1996

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
California*	1	54	32226997	10019484	0.000118	0.000081
Texas*	2	32	19305696	5611644	0.000085	0.000081
New York*	3	33	18582056	6316129	0.000082	0.000081
Florida	4	25	14764597	5303794	0.000067	0.000081
Pennsylvania	5	23	12121290	4506118	0.000067	0.000081
Illinois	6	22	12023817	4311391	0.000065	0.000081
Ohio	7	21	11150730	4534434	0.000061	0.000081
Michigan	8	18	9681185	3848844	0.000056	0.000081
North Carolina	9	14	7481042	2515807	0.000054	0.000081
Georgia	10	13	7503158	2299071	0.000052	0.000081
New Jersey	11	15	8140685	3075807	0.000052	0.000081
Virginia	12	13	6722052	2416642	0.000051	0.000081
Indiana	13	12	5865954	2135842	0.000050	0.000081
Tennessee	14	11	5364444	1894105	0.000049	0.000081
Massachusetts	15	12	6216028	2556785	0.000046	0.000081
Maryland	16	10	5090478	1780870	0.000046	0.000081
Missouri	17	11	5403956	2158065	0.000046	0.000081
South Carolina	18	8	3801889	1149457	0.000045	0.000081
Wisconsin	19	11	5174912	2196169	0.000045	0.000081
Mississippi	20	7	2736081	893857	0.000045	0.000081
Washington	21	11	5483150	2253837	0.000045	0.000081
Oklahoma	22	8	3328626	1206713	0.000044	0.000081
Alabama	23	9	4284494	1534349	0.000044	0.000081
District of Columbia	24	3	585995	185726	0.000042	0.000081
Kentucky	25	8	3899180	1388708	0.000041	0.000081
Connecticut	26	8	3358186	1392614	0.000041	0.000081
Minnesota	27	10	4701727	2192640	0.000041	0.000081
Arizona	28	8	4544470	1404405	0.000041	0.000081
Louisiana	29	9	4369375	1783959	0.000041	0.000081
New Mexico	30	5	1697455	556074	0.000041	0.000081
Hawaii	31	4	1170213	360120	0.000041	0.000081
Wyoming	32	3	477704	211571	0.000040	0.000081
Colorado	33	8	3898514	1510704	0.000040	0.000081
Rhode Island	34	4	1030377	390284	0.000039	0.000081
Arkansas	35	6	2544330	884262	0.000039	0.000081
Iowa	36	7	2866496	1234075	0.000038	0.000081
West Virginia	37	5	1802398	636459	0.000038	0.000081
Utah	38	5	2029042	665629	0.000037	0.000081
Alaska	39	3	596176	241620	0.000037	0.000081
Nebraska	40	5	1658112	677415	0.000037	0.000081
Oregon	41	7	3189768	1377760	0.000036	0.000081
Vermont	42	3	590399	258449	0.000036	0.000081
Nevada	43	4	1679687	464279	0.000036	0.000081
North Dakota	44	3	640840	266411	0.000035	0.000081
Kansas	45	6	2604080	1074300	0.000035	0.000081
Delaware	46	3	736627	270845	0.000035	0.000081
Idaho	47	4	1179072	491719	0.000035	0.000081
New Hampshire	48	4	1185172	499175	0.000034	0.000081
South Dakota	49	3	731308	323826	0.000032	0.000081
Maine	50	4	1256125	605897	0.000031	0.000081
Montana	51	3	860943	407261	0.000029	0.000081

Presidential Election of 2000

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
California*	1	54	33871648	10965856	0.000112	0.000078
New York*	2	33	18976457	6822668	0.000079	0.000078
Texas*	3	32	20851820	6407637	0.000079	0.000078
Pennsylvania	4	23	12281054	4913119	0.000064	0.000078
Florida	5	25	15982378	5963110	0.000063	0.000078
Illinois	6	22	12419293	4742123	0.000062	0.000078
Ohio	7	21	11353140	4705457	0.000060	0.000078
Michigan	8	18	9938444	4232711	0.000054	0.000078
New Jersey	9	15	8414350	3187226	0.000051	0.000078
North Carolina	10	14	8049313	2911262	0.000050	0.000078
Indiana	11	12	6080485	2199302	0.000049	0.000078
Georgia	12	13	8186453	2596804	0.000049	0.000078
Virginia	13	13	7078515	2739447	0.000048	0.000078
Tennessee	14	11	5689283	2076181	0.000047	0.000078
Massachusetts	15	12	6349097	2702984	0.000045	0.000078
Oklahoma	16	8	3450654	1234229	0.000044	0.000078
Missouri	17	11	5595211	2359892	0.000044	0.000078
Maryland	18	10	5296486	2025480	0.000043	0.000078
Mississippi	19	7	2844658	994926	0.000043	0.000078
Washington	20	11	5894121	2488745	0.000043	0.000078
Alabama	21	9	4447100	1672551	0.000042	0.000078
Wisconsin	22	11	5363675	2598607	0.000042	0.000078
South Carolina	23	8	4012012	1383777	0.000041	0.000078
Louisiana	24	9	4468976	1765656	0.000041	0.000078
District of Columbia	25	3	572059	201894	0.000041	0.000078
Connecticut	26	8	3405565	1459525	0.000040	0.000078
Hawaii	27	4	1211537	367951	0.000040	0.000078
Arizona	28	8	5130632	1534113	0.000039	0.000078
New Mexico	29	5	1819046	598605	0.000039	0.000078
Kentucky	30	8	4041769	1544187	0.000039	0.000078
Wyoming	31	3	493782	218351	0.000039	0.000078
Minnesota	32	10	4919479	2438685	0.000039	0.000078
Arkansas	33	6	2673400	921781	0.000038	0.000078
Rhode Island	34	4	1048319	409112	0.000038	0.000078
West Virginia	35	5	1808344	648124	0.000038	0.000078
Iowa	36	7	2926324	1315563	0.000037	0.000078
Colorado	37	8	4301261	1741365	0.000037	0.000078
Nebraska	38	5	1711263	697019	0.000036	0.000078
Kansas	39	6	2688418	1072216	0.000035	0.000078
Utah	40	5	2233169	770754	0.000035	0.000078
Oregon	41	7	3421399	1533968	0.000034	0.000078
Idaho	42	4	1293953	501621	0.000034	0.000078
Alaska	43	3	626932	285560	0.000034	0.000078
North Dakota	44	3	642200	288267	0.000034	0.000078
Vermont	45	3	608827	294308	0.000034	0.000078
South Dakota	46	3	754844	316269	0.000032	0.000078
New Hampshire	47	4	1235786	569081	0.000032	0.000078
Delaware	48	3	783600	327622	0.000032	0.000078
Nevada	49	4	1998257	608970	0.000031	0.000078
Maine	50	4	1274923	651817	0.000030	0.000078
Montana	51	3	902195	410997	0.000028	0.000078

Presidential Election of 2004

State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
California*	1	55	35224571	12421859	0.000107	0.000072
Texas*	2	34	22569316	7410765	0.000078	0.000072
New York	3	31	19137115	7391249	0.000071	0.000072
Florida	4	27	17109951	7609810	0.000060	0.000072
Illinois	5	21	12583828	5274322	0.000056	0.000072
Pennsylvania	6	21	12449584	5769590	0.000053	0.000072
Ohio	7	20	11426486	5627908	0.000051	0.000072
Georgia	8	15	8786933	3301875	0.000050	0.000072
North Carolina	9	15	8643781	3501007	0.000049	0.000072
New Jersey	10	15	8565368	3611691	0.000048	0.000072
Michigan	11	17	9916522	4839252	0.000047	0.000072
Virginia	12	13	7447519	3198367	0.000044	0.000072
Tennessee	13	11	5952012	2434949	0.000043	0.000072
Massachusetts	14	12	6428510	2912388	0.000043	0.000072
Arizona	15	10	5635186	2012585	0.000043	0.000072
Indiana	16	11	6241812	2468002	0.000042	0.000072
Missouri	17	11	5752698	2731364	0.000040	0.000072
Alabama	18	9	4580154	1883449	0.000040	0.000072
Washington	19	11	6226288	2859084	0.000039	0.000072
Maryland	20	10	5487312	2386678	0.000039	0.000072
Louisiana	21	9	4494734	1943106	0.000039	0.000072
South Carolina	22	8	4257353	1617730	0.000038	0.000072
District of Columbia	23	3	583925	227586	0.000038	0.000072
Colorado	24	9	4592435	2130325	0.000037	0.000072
Hawaii	25	4	1271043	429013	0.000037	0.000072
Wyoming	26	3	521720	243428	0.000037	0.000072
Rhode Island	27	4	1050018	437134	0.000037	0.000072
Kentucky	28	8	4160808	1795860	0.000036	0.000072
Minnesota	29	10	5073258	2828387	0.000036	0.000072
Arkansas	30	6	2770407	1054945	0.000035	0.000072
Wisconsin	31	10	5492999	2997007	0.000035	0.000072
Oklahoma	32	7	3570932	1463758	0.000035	0.000072
West Virginia	33	5	1826204	755887	0.000035	0.000072
New Mexico	34	5	1915099	756304	0.000035	0.000072
Iowa	35	7	2974337	1506908	0.000035	0.000072
Nebraska	36	5	1757294	778186	0.000034	0.000072
Mississippi	37	6	2893713	1152365	0.000034	0.000072
Connecticut	38	7	3472978	1578769	0.000034	0.000072
Kansas	39	6	2754298	1187756	0.000033	0.000072
Nevada	40	5	2279174	829587	0.000033	0.000072
Vermont	41	3	615593	312309	0.000032	0.000072
North Dakota	42	3	654357	312833	0.000032	0.000072
Alaska	42	3	660251	312598	0.000032	0.000072
Utah	44	5	2445455	927844	0.000031	0.000072
Oregon	45	7	3585269	1836782	0.000031	0.000072
Idaho	46	4	1403404	598447	0.000031	0.000072
Delaware	47	3	829333	375270	0.000030	0.000072
New Hampshire	48	4	1268060	677738	0.000029	0.000072
South Dakota	49	3	778578	388215	0.000029	0.000072
Maine	50	4	1296299	740752	0.000028	0.000072
Montana	51	3	937083	450445	0.000027	0.000072

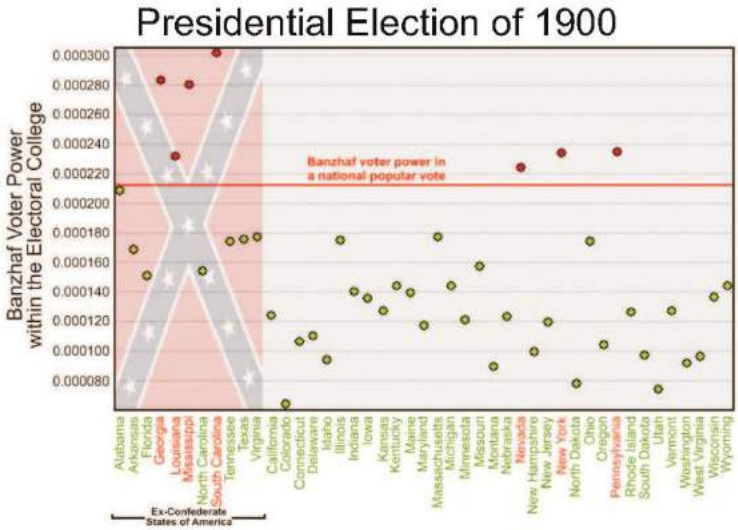
Presidential Election of 2008

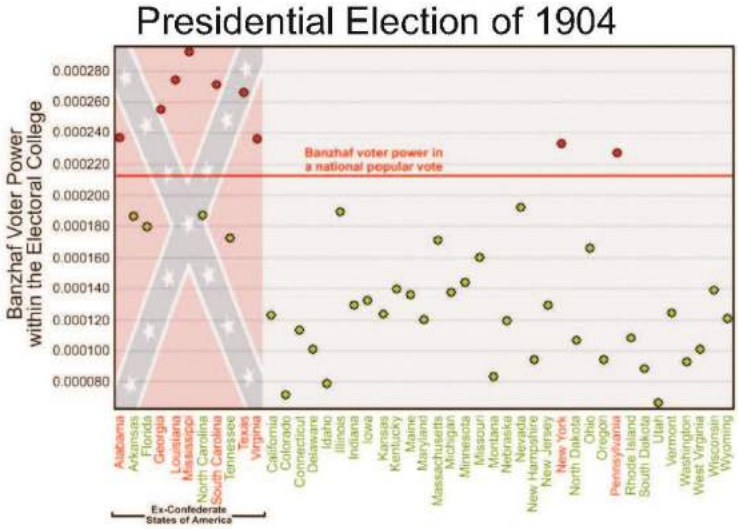
State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
California*	1	55	36577494	13577265	0.000103	0.000070
Texas*	2	34	24286812	8087402	0.000075	0.000070
New York*	3	31	19297773	7640948	0.000070	0.000070
Florida	4	27	18237523	8411861	0.000057	0.000070
Illinois	5	21	12748364	5528499	0.000055	0.000070
Pennsylvania	6	21	12618114	6015476	0.000052	0.000070
Ohio	7	20	11499831	5721815	0.000051	0.000070
New Jersey	8	15	8716385	3877407	0.000046	0.000070
Michigan	9	17	9894601	5010299	0.000046	0.000070
Georgia	10	15	9387413	3932158	0.000046	0.000070
North Carolina	11	15	9238249	4310789	0.000044	0.000070
Massachusetts	12	12	6507923	3081069	0.000042	0.000070
Tennessee	13	11	6214741	2601982	0.000041	0.000070
Virginia	14	13	7816522	3723260	0.000041	0.000070
Indiana	15	11	6403138	2756340	0.000040	0.000070
Arizona	16	10	6139740	2303838	0.000040	0.000070
Missouri	17	11	5910184	2929111	0.000039	0.000070
Louisiana	18	9	4520493	1960761	0.000039	0.000070
Washington	19	11	6558456	3053254	0.000038	0.000070
Alabama	20	9	4713209	2099819	0.000038	0.000070
Maryland	21	10	5678138	2631596	0.000037	0.000070
Wyoming	22	3	549657	254658	0.000036	0.000070
Hawaii	23	4	1330548	453568	0.000036	0.000070
Kentucky	24	8	4279847	1827587	0.000036	0.000070
West Virginia	25	5	1844064	714868	0.000036	0.000070
Minnesota	26	10	5227036	2910369	0.000036	0.000070
Rhode Island	27	4	1051718	471766	0.000035	0.000070
Colorado	28	9	4883609	2401462	0.000035	0.000070
District of Columbia	29	3	595790	265853	0.000035	0.000070
Wisconsin	30	10	5622324	2983417	0.000035	0.000070
Oklahoma	31	7	3691212	1462661	0.000035	0.000070
South Carolina	32	8	4502694	1920969	0.000035	0.000070
Arkansas	33	6	2867414	1086617	0.000035	0.000070
Iowa	34	7	3022349	1537123	0.000034	0.000070
Nebraska	35	5	1803326	801281	0.000034	0.000070
New Mexico	36	5	2011152	830158	0.000033	0.000070
Connecticut	37	7	3540390	1646793	0.000033	0.000070
Kansas	38	6	2820178	1238873	0.000033	0.000070
North Dakota	39	3	666513	317738	0.000032	0.000070
Mississippi	40	6	2942769	1289939	0.000032	0.000070
Vermont	41	3	622359	325046	0.000032	0.000070
Alaska	42	3	693571	326197	0.000032	0.000070
Oregon	43	7	3749139	1827864	0.000031	0.000070
Utah	44	5	2657742	957590	0.000031	0.000070
Nevada	45	5	2560092	967848	0.000031	0.000070
Idaho	46	4	1512856	658454	0.000030	0.000070
South Dakota	47	3	802313	381975	0.000029	0.000070
New Hampshire	48	4	1300334	710970	0.000029	0.000070
Maine	49	4	1317673	731163	0.000028	0.000070
Delaware	50	3	875067	412616	0.000028	0.000070
Montana	51	3	971971	492750	0.000026	0.000070

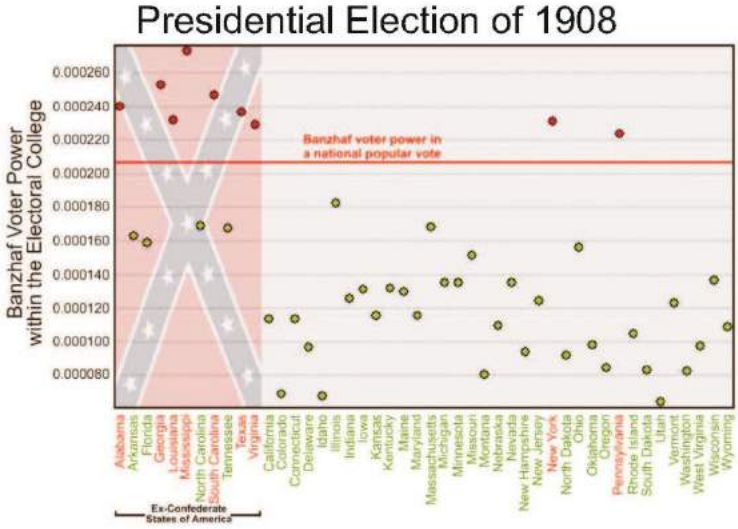
Presidential Election of 2012

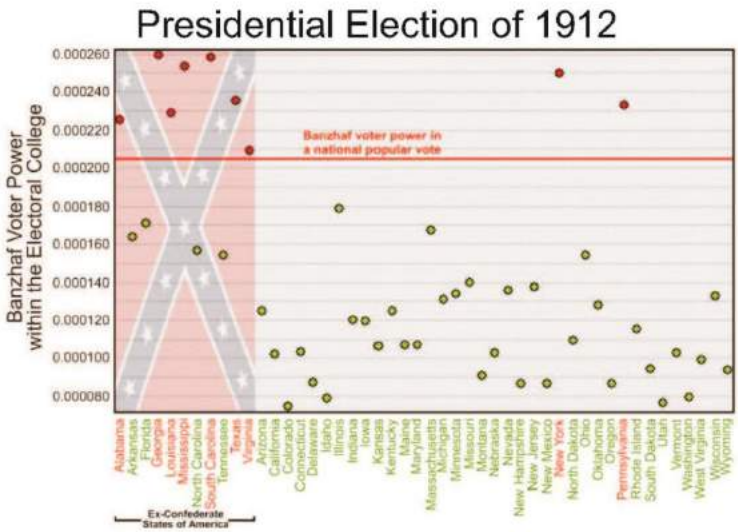
State	Voter Power Rank	Electoral Votes	Population	Counted Votes	Voter Power (Electoral College)	Voter Power (National Popular Vote)
California*	1	55	37930418	13054988	0.000104	0.000070
Texas*	2	38	26004310	7996107	0.000084	0.000070
New York	3	29	19458431	7081536	0.000067	0.000070
Florida	4	29	19365097	8492175	0.000061	0.000070
Illinois	5	20	12912900	5247172	0.000053	0.000070
Pennsylvania	6	20	12786644	5754857	0.000051	0.000070
Georgia	7	16	9987893	3908369	0.000049	0.000070
Ohio	8	18	11573177	5590931	0.000046	0.000070
Michigan	9	16	9872679	4741566	0.000044	0.000070
New Jersey	10	14	8867403	3651133	0.000044	0.000070
Arizona	11	11	6644294	2306559	0.000044	0.000070
North Carolina	12	15	9832717	4505372	0.000043	0.000070
Tennessee	13	11	6477469	2460904	0.000042	0.000070
Indiana	14	11	6564466	2629014	0.000041	0.000070
Washington	15	12	6890624	3145958	0.000041	0.000070
Virginia	16	13	8185526	3854489	0.000040	0.000070
South Carolina	17	9	4748034	1964118	0.000039	0.000070
Alabama	18	9	4846263	2074338	0.000038	0.000070
Massachusetts	19	11	6587335	3167767	0.000037	0.000070
West Virginia	20	5	1861924	670667	0.000037	0.000070
Maryland	21	10	5868966	2707326	0.000037	0.000070
Oklahoma	22	7	3811490	1334872	0.000037	0.000070
Hawaii	23	4	1390054	434697	0.000037	0.000070
Missouri	24	10	6067670	2762301	0.000036	0.000070
Wyoming	25	3	577595	249061	0.000036	0.000070
Rhode Island	26	4	1053416	446049	0.000036	0.000070
Kentucky	27	8	4398887	1797212	0.000036	0.000070
Nevada	28	6	2841010	1014918	0.000036	0.000070
Utah	29	6	2870028	1020647	0.000036	0.000070
Minnesota	30	10	5380814	2936561	0.000035	0.000070
Arkansas	31	6	2964422	1069468	0.000035	0.000070
Wisconsin	32	10	5751648	3068434	0.000034	0.000070
Louisiana	33	8	4546251	1994065	0.000034	0.000070
New Mexico	34	5	2107206	783757	0.000034	0.000070
Colorado	35	9	5174783	2571778	0.000034	0.000070
Connecticut	36	7	3607804	1558993	0.000034	0.000070
Nebraska	37	5	1849356	794379	0.000034	0.000070
Kansas	38	6	2886058	1156254	0.000034	0.000070
District of Columbia	39	3	607656	293764	0.000033	0.000070
Vermont	40	3	629123	299290	0.000033	0.000070
Alaska	41	3	726891	300495	0.000033	0.000070
Mississippi	42	6	2991825	1285584	0.000032	0.000070
North Dakota	43	3	678669	322932	0.000032	0.000070
Oregon	44	7	3913009	1789270	0.000031	0.000070
South Dakota	45	3	826047	363815	0.000030	0.000070
Idaho	46	4	1622308	656742	0.000030	0.000070
Iowa	47	6	3070361	1582180	0.000029	0.000070
New Hampshire	48	4	1332606	710972	0.000029	0.000070
Maine	49	4	1339049	713180	0.000029	0.000070
Delaware	50	3	920801	413921	0.000028	0.000070
Montana	51	3	1006859	484484	0.000026	0.000070

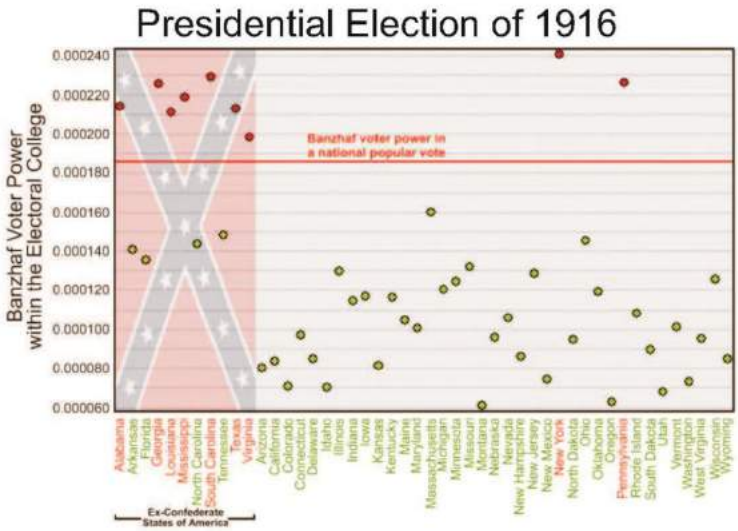
APPENDIX F: GREAT MIGRATION/JIM CROW SCATTERPLOT SERIES

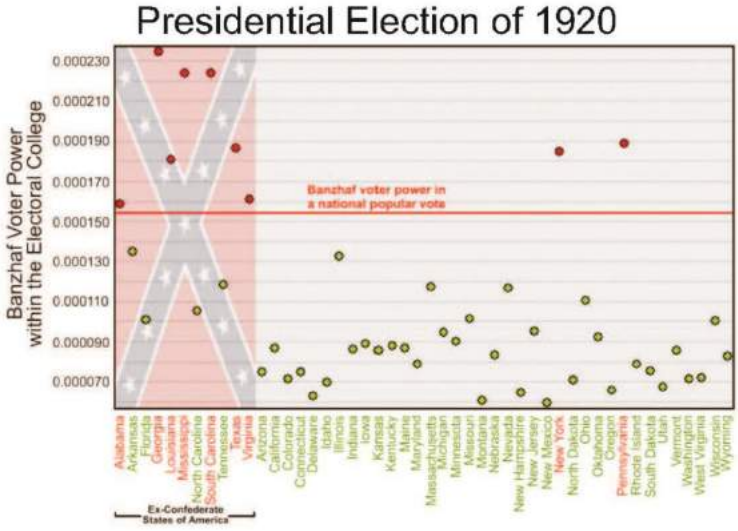


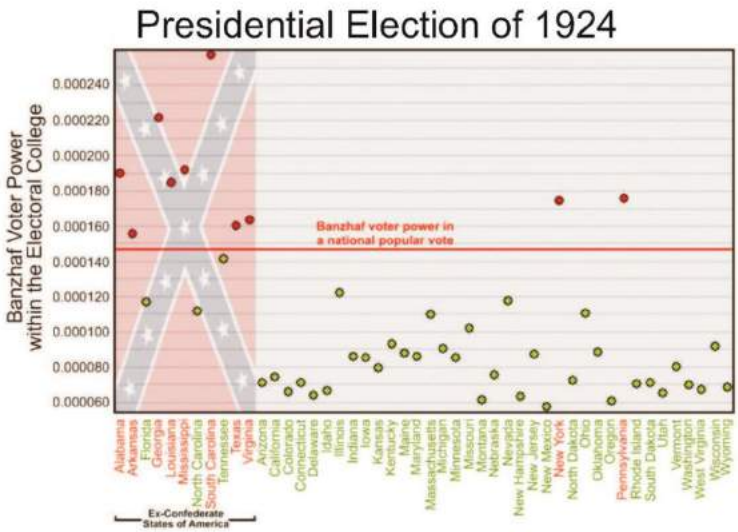


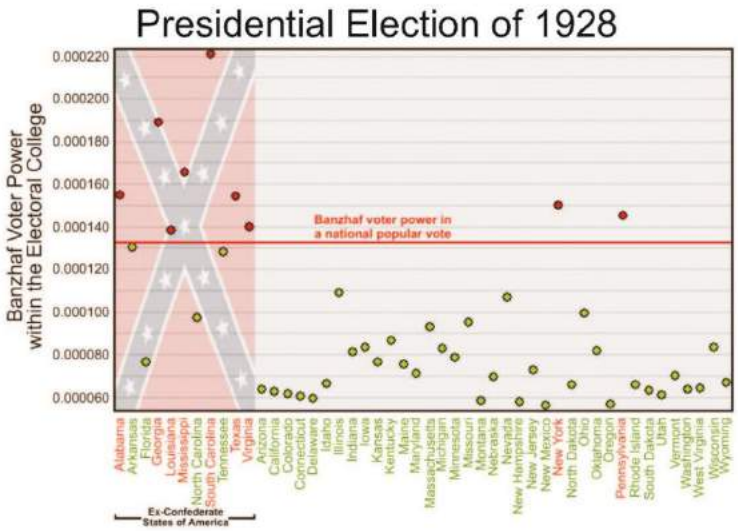


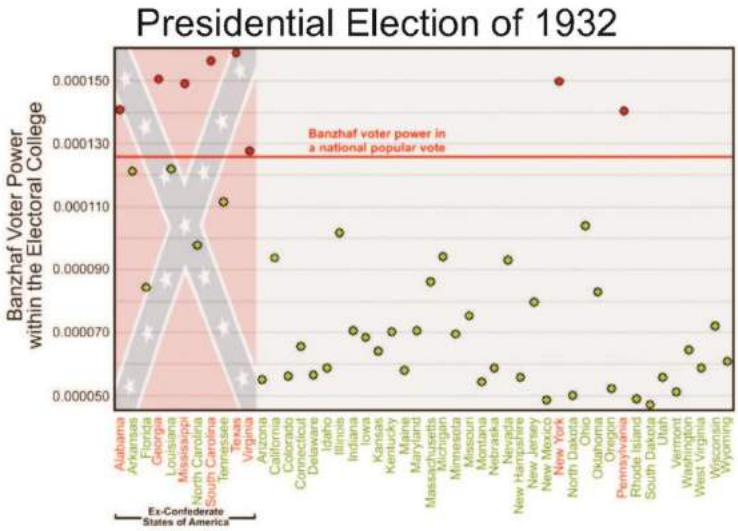

Presidential Election of 1912
Banzhaf Voter Power within the Electoral College
Banzhaf voter power in a national popular vote
Ex-Confederate States of America

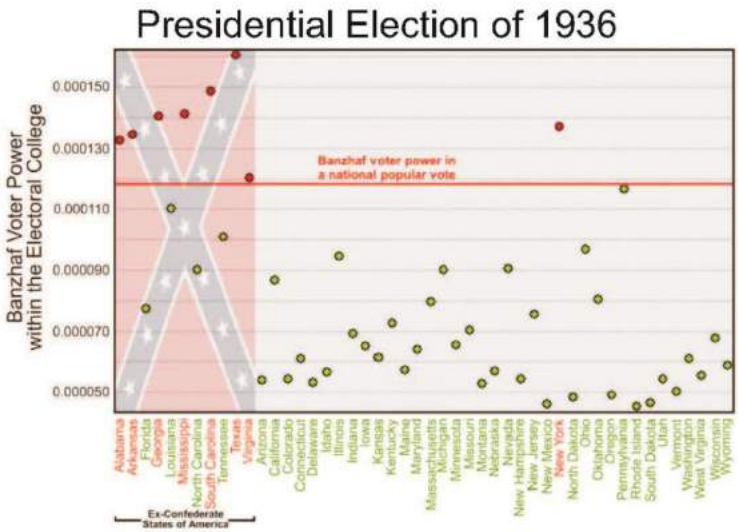

Presidential Election of 1916
Banzhaf Voter Power within the Electoral College
Banzhaf voter power in a national popular vote
Ex-Confederate States of America

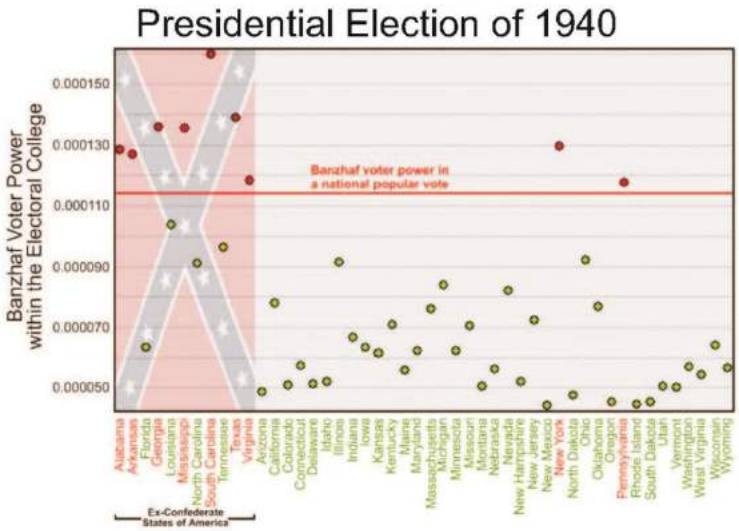

Presidential Election of 1920
Banzhaf Voter Power within the Electoral College
Banzhaf voter power in a national popular vote
Ex-Confederate States of America

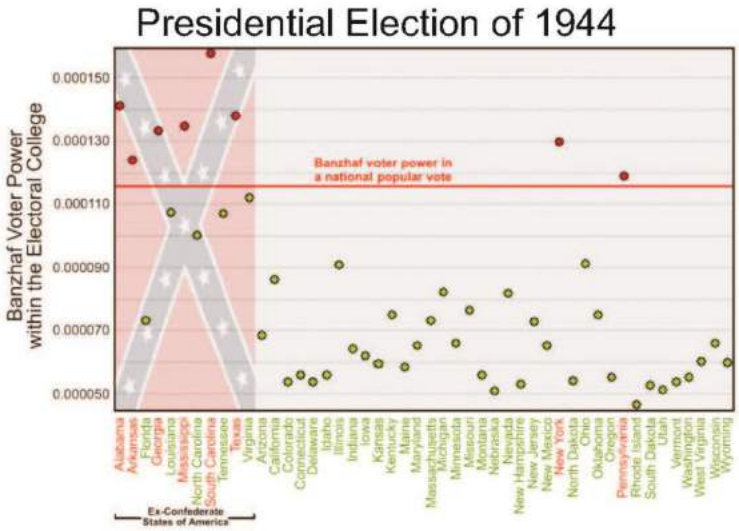

Presidential Election of 1924
Banzhaf Voter Power within the Electoral College
0.000240
0.000220
0.000200
0.000180
0.000160
0.000140
0.000120
0.000100
0.000080
0.000060
Banzhaf voter power in a national popular vote
Alabama Arkansas Florida Georgia Louisiana Mississippi North Carolina South Carolina Tennessee Texas Virginia Arizona California Colorado Connecticut Delaware Idaho Illinois Indiana Iowa Kansas Kentucky Maine Maryland Massachusetts Michigan Minnesota Missouri Montana Nebraska Nevada New Hampshire New Jersey New Mexico New York North Dakota Ohio Oklahoma Oregon Pennsylvania Rhode Island South Dakota Utah Vermont Washington West Virginia Wisconsin Wyoming
Ex-Confederate States of America

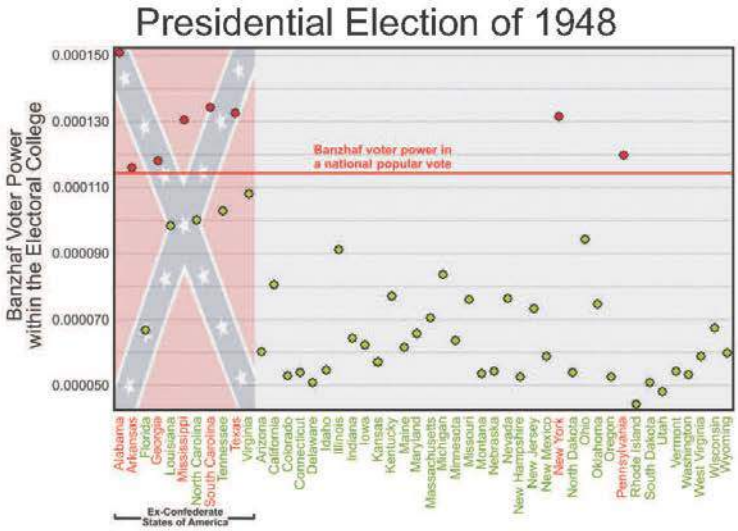

Presidential Election of 1928
Banzhaf Voter Power within the Electoral College
0.000220
0.000200
0.000180
0.000160
0.000140
0.000120
0.000100
0.000080
0.000060
Banzhaf voter power in a national popular vote
Alabama Arkansas Florida Georgia Louisiana Mississippi North Carolina South Carolina Tennessee Texas Virginia Arizona California Colorado Connecticut Delaware Idaho Illinois Indiana Iowa Kansas Kentucky Maine Maryland Massachusetts Michigan Minnesota Missouri Montana Nebraska Nevada New Hampshire New Jersey New Mexico New York North Dakota Ohio Oklahoma Oregon Pennsylvania Rhode Island South Dakota Utah Vermont Washington West Virginia Wisconsin Wyoming
Ex-Confederate States of America

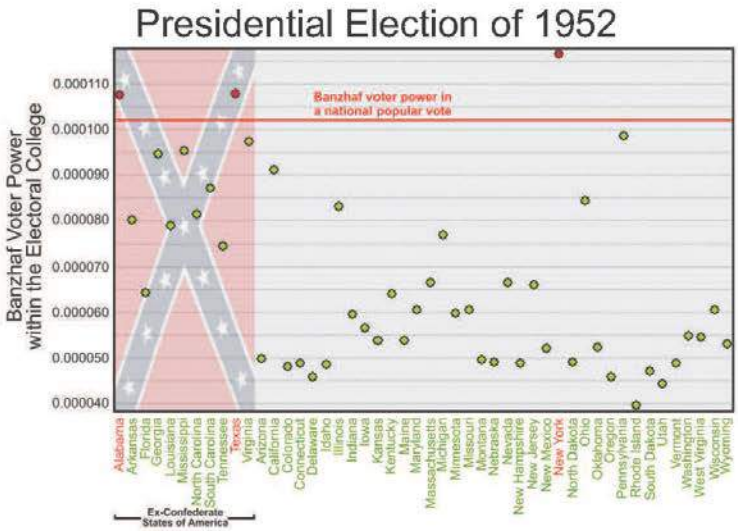

Presidential Election of 1932
Banzhaf Voter Power within the Electoral College
0.000150
0.000130
0.000110
0.000090
0.000070
0.000050
Banzhaf voter power in a national popular vote
Alabama Arkansas Florida Georgia Louisiana Mississippi North Carolina South Carolina Tennessee Texas Virginia Arizona California Colorado Connecticut Delaware Idaho Illinois Indiana Iowa Kansas Kentucky Maine Maryland Massachusetts Michigan Minnesota Missouri Montana Nebraska Nevada New Hampshire New Jersey New Mexico New York North Dakota Ohio Oklahoma Oregon Pennsylvania Rhode Island South Dakota Utah Vermont Washington West Virginia Wisconsin Wyoming
Ex-Confederate States of America

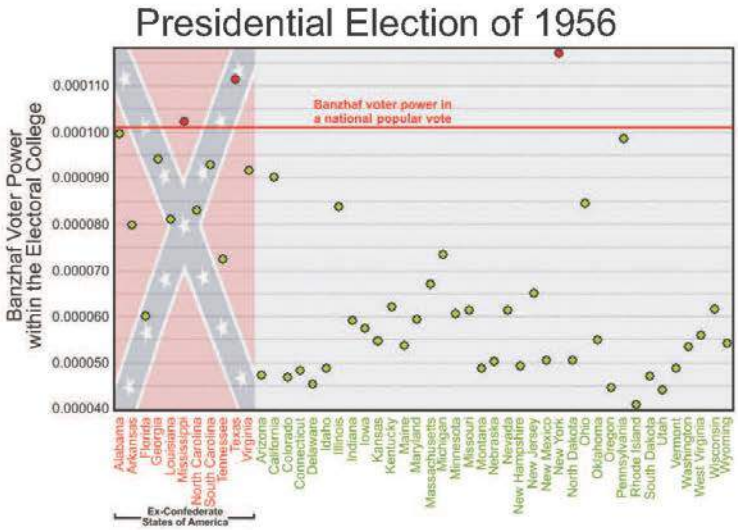

Presidential Election of 1936
Banzhaf Voter Power within the Electoral College
0.000150
0.000130
0.000110
0.000090
0.000070
0.000050
Banzhaf voter power in a national popular vote
Alabama Arkansas Florida Georgia Louisiana Mississippi North Carolina South Carolina Tennessee Texas Virginia Arizona California Colorado Connecticut Delaware Idaho Illinois Indiana Iowa Kansas Kentucky Maine Maryland Massachusetts Michigan Minnesota Missouri Montana Nebraska Nevada New Hampshire New Jersey New Mexico New York North Dakota Ohio Oklahoma Oregon Pennsylvania Rhode Island South Dakota Utah Vermont Washington West Virginia Wisconsin Wyoming
Ex-Confederate States of America

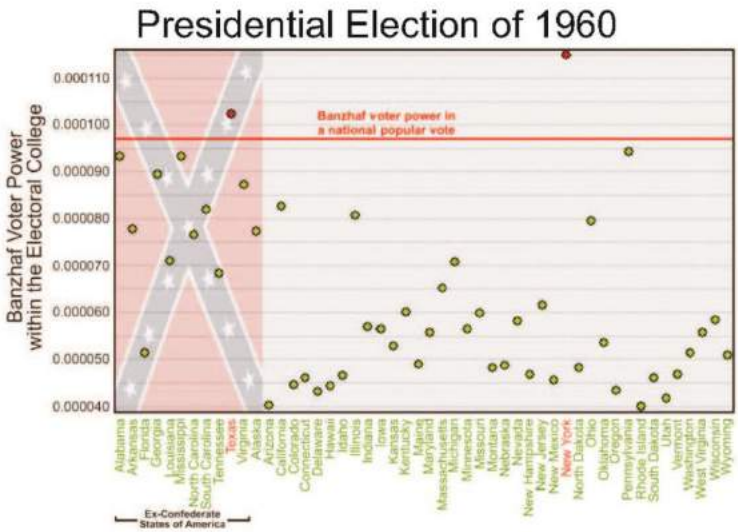

Presidential Election of 1940
Banzhaf Voter Power within the Electoral College
0.000150
0.000130
0.000110
0.000090
0.000070
0.000050
Banzhaf voter power in a national popular vote
Alabama Arkansas Florida Georgia Louisiana Mississippi North Carolina South Carolina Tennessee Texas Virginia Arizona California Colorado Connecticut Delaware Idaho Illinois Indiana Iowa Kansas Kentucky Maine Maryland Massachusetts Michigan Minnesota Missouri Montana Nebraska Nevada New Hampshire New Jersey New Mexico New York North Dakota Ohio Oklahoma Oregon Pennsylvania Rhode Island South Dakota Utah Vermont Washington West Virginia Wisconsin Wyoming
Ex-Confederate States of America

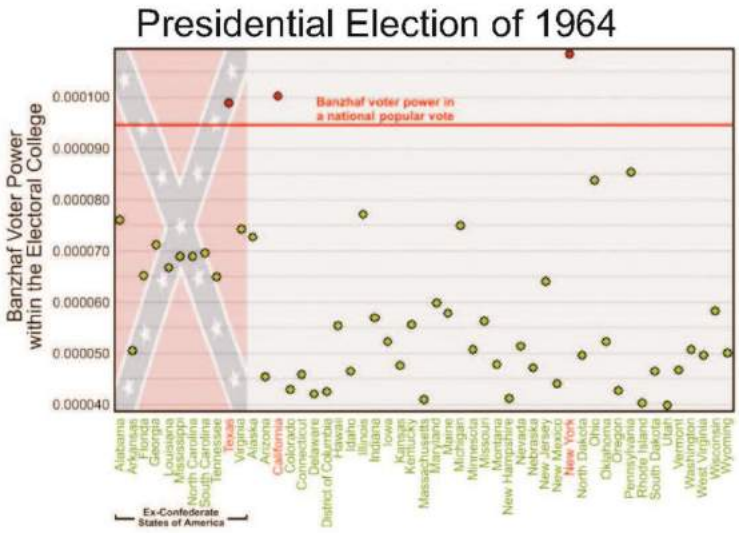

Presidential Election of 1944
Banzhaf Voter Power within the Electoral College
0.000150
0.000130
0.000110
0.000090
0.000070
0.000050
Banzhaf voter power in a national popular vote
Alabama Arkansas Florida Georgia Louisiana Mississippi North Carolina South Carolina Tennessee Texas Virginia Arizona California Colorado Connecticut Delaware Idaho Illinois Indiana Iowa Kansas Kentucky Maine Maryland Massachusetts Michigan Minnesota Missouri Montana Nebraska Nevada New Hampshire New Jersey New Mexico New York North Dakota Ohio Oklahoma Oregon Pennsylvania Rhode Island South Dakota Utah Vermont Washington West Virginia Wisconsin Wyoming
Ex-Confederate States of America

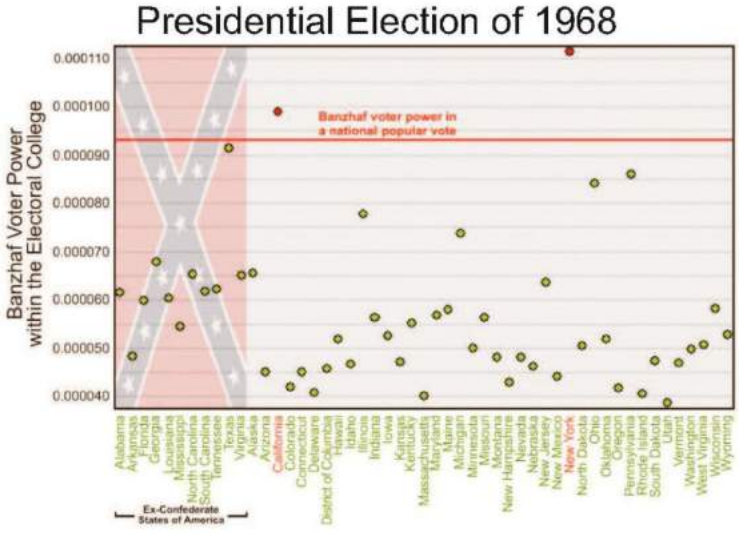

Presidential Election of 1948
Banzhaf Voter Power within the Electoral College
0.000150
0.000130
0.000110
0.000090
0.000070
0.000050
Banzhaf voter power in a national popular vote
Alabama Arkansas Florida Georgia Louisiana Mississippi North Carolina South Carolina Tennessee Texas Virginia Arizona California Colorado Connecticut Delaware Idaho Illinois Indiana Iowa Kansas Kentucky Maine Maryland Massachusetts Michigan Minnesota Missouri Montana Nebraska Nevada New Hampshire New Jersey New Mexico New York North Dakota Ohio Oklahoma Oregon Pennsylvania Rhode Island South Dakota Utah Vermont Washington West Virginia Wisconsin Wyoming
Ex-Confederate States of America

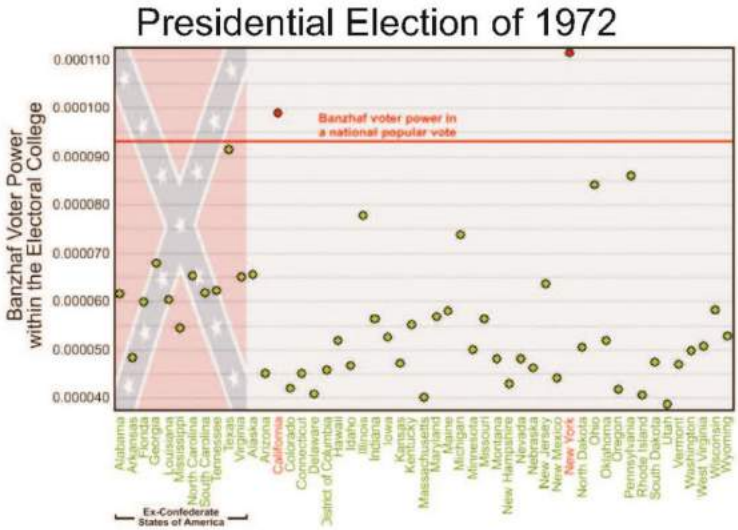

Presidential Election of 1952
Banzhaf Voter Power within the Electoral College
0.000110
0.000100
0.000090
0.000080
0.000070
0.000060
0.000050
0.000040
Banzhaf voter power in a national popular vote
Alabama Arkansas Florida Georgia Louisiana Mississippi North Carolina South Carolina Tennessee Texas Virginia Arizona California Colorado Connecticut Delaware Idaho Illinois Indiana Iowa Kansas Kentucky Maine Maryland Massachusetts Michigan Minnesota Missouri Montana Nebraska Nevada New Hampshire New Jersey New Mexico New York North Dakota Ohio Oklahoma Oregon Pennsylvania Rhode Island South Dakota Utah Vermont Washington West Virginia Wisconsin Wyoming
Ex-Confederate States of America


Presidential Election of 1956
Banzhaf Voter Power within the Electoral College
0.000110
0.000100
0.000090
0.000080
0.000070
0.000060
0.000050
0.000040
Banzhaf voter power in a national popular vote
Alabama Arkansas Florida Georgia Louisiana Mississippi North Carolina South Carolina Tennessee Texas Virginia Arizona California Colorado Connecticut Delaware Idaho Illinois Indiana Iowa Kansas Kentucky Maine Maryland Massachusetts Michigan Minnesota Missouri Montana Nebraska Nevada New Hampshire New Jersey New Mexico New York North Dakota Ohio Oklahoma Oregon Pennsylvania Rhode Island South Dakota Utah Vermont Washington West Virginia Wisconsin Wyoming
Ex-Confederate States of America


Presidential Election of 1960
Banzhaf Voter Power within the Electoral College
Banzhaf voter power in a national popular vote
Ex-Confederate States of America

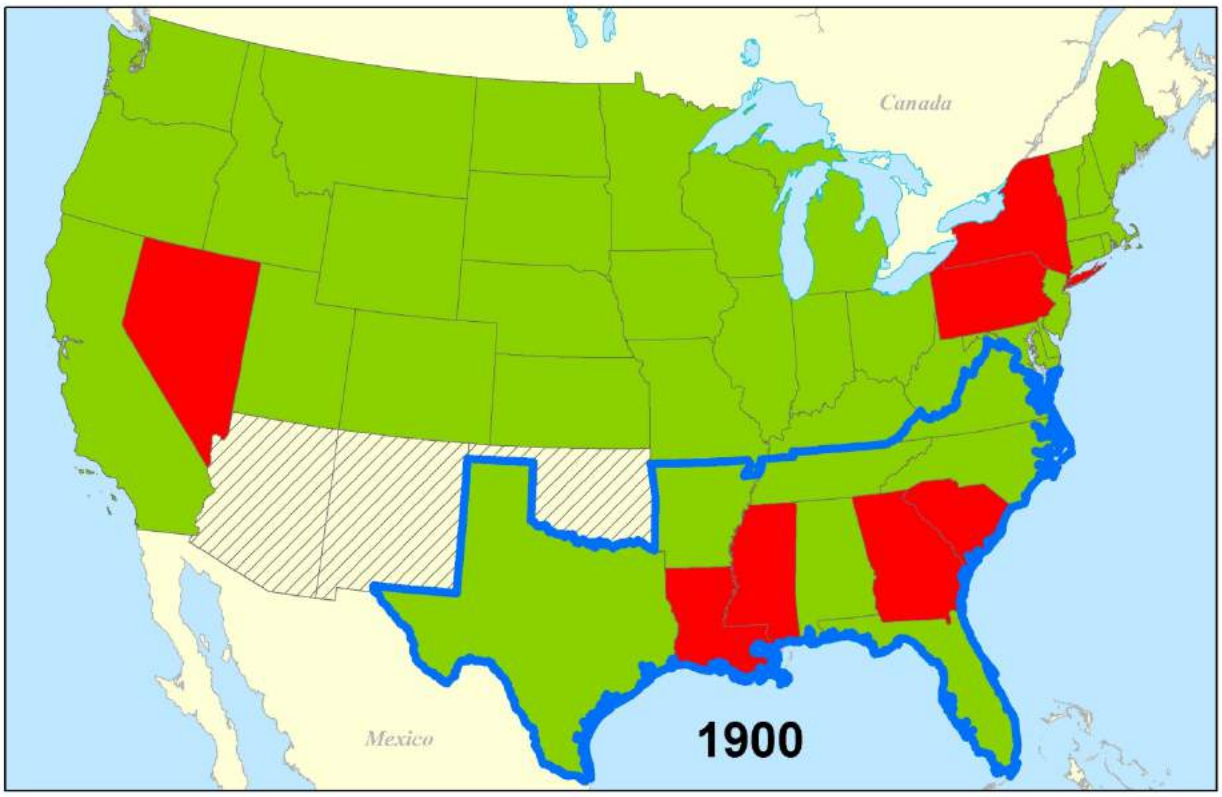

Presidential Election of 1964
Banzhaf Voter Power within the Electoral College
Banzhaf voter power in a national popular vote
Ex-Confederate States of America

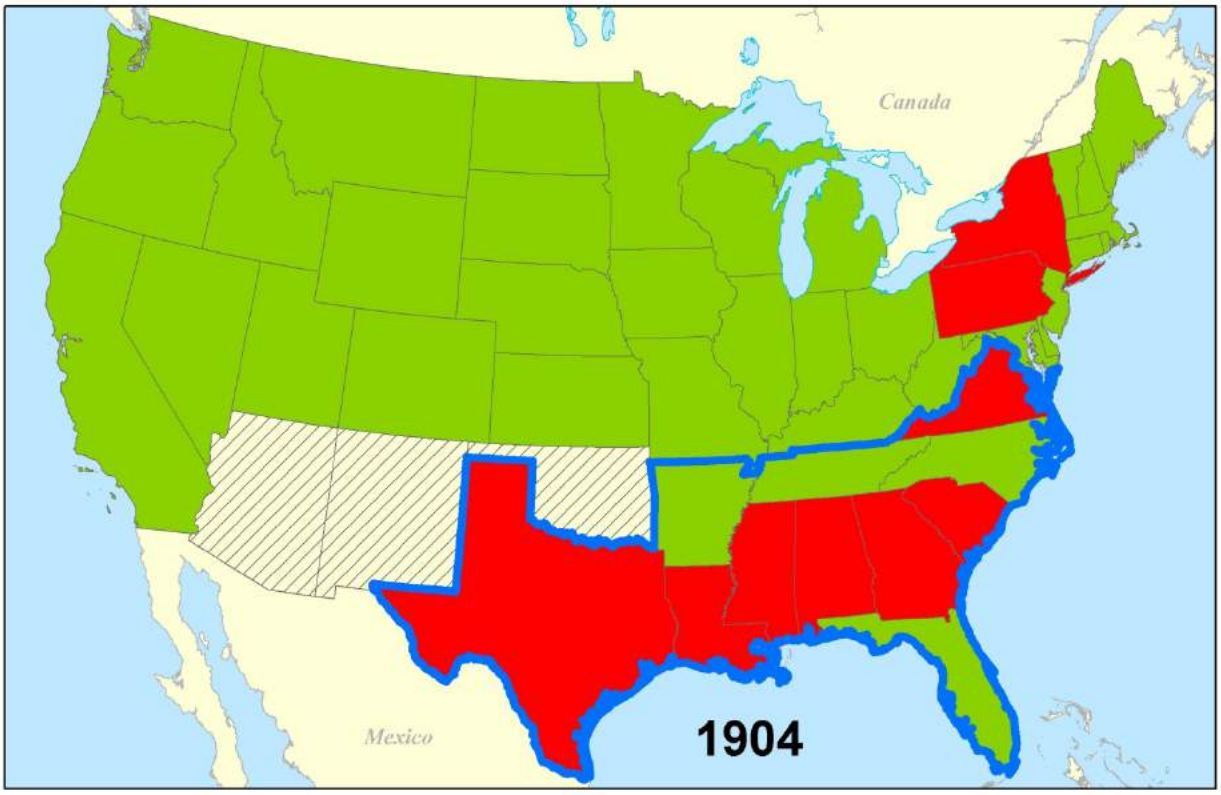

Presidential Election of 1968
Banzhaf Voter Power within the Electoral College
Banzhaf voter power in a national popular vote
Ex-Confederate States of America

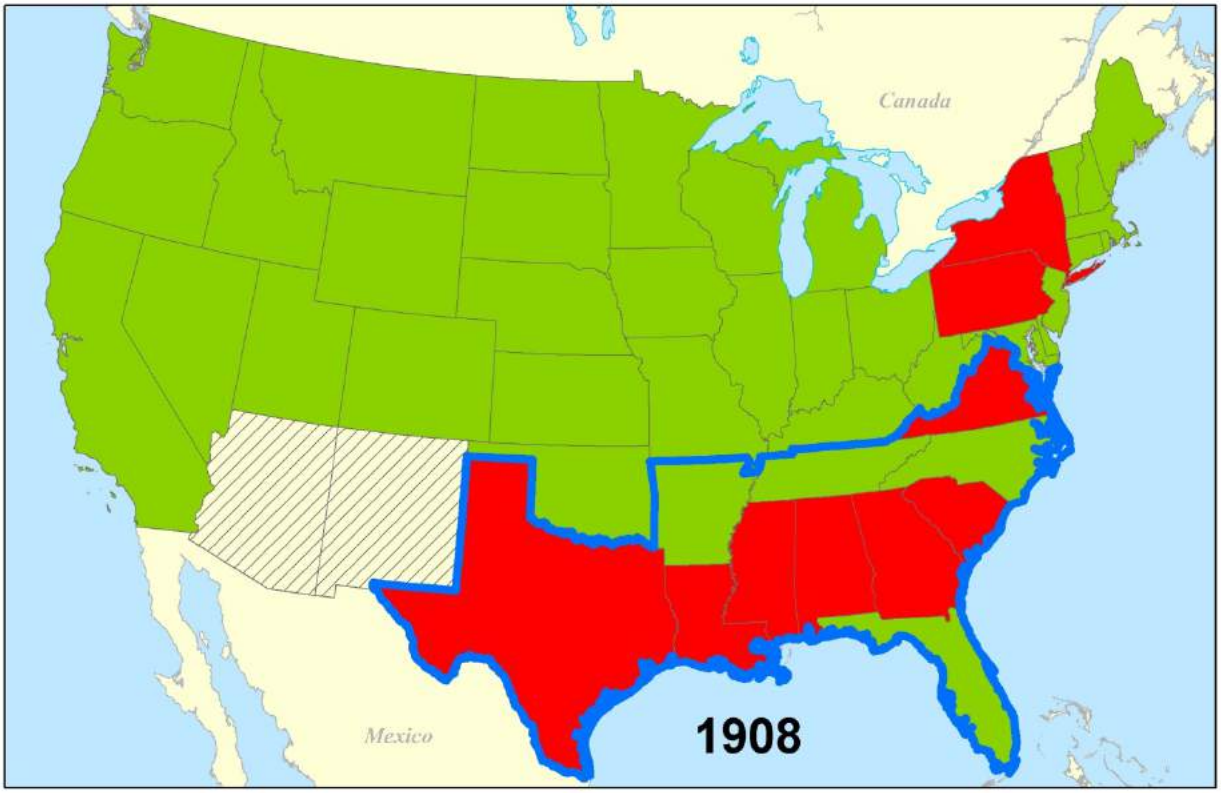

Presidential Election of 1972
Banzhaf Voter Power within the Electoral College
0.000110
0.000100
0.000090
0.000080
0.000070
0.000060
0.000050
0.000040
Banzhaf voter power in a national popular vote
Ex-Confederate States of America
Alabama
Arkansas
Florida
Georgia
Louisiana
Mississippi
North Carolina
South Carolina
Tennessee
Texas
Virginia
Alaska
Arizona
California
Colorado
Connecticut
Delaware
District of Columbia
Hawaii
Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Massachusetts
Maryland
Maine
Michigan
Minnesota
Missouri
Montana
New Hampshire
Nevada
Nebraska
New Jersey
New Mexico
New York
North Dakota
Ohio
Oklahoma
Oregon
Pennsylvania
Rhode Island
South Dakota
Utah
Vermont
Washington
West Virginia
Wisconsin
Wyoming

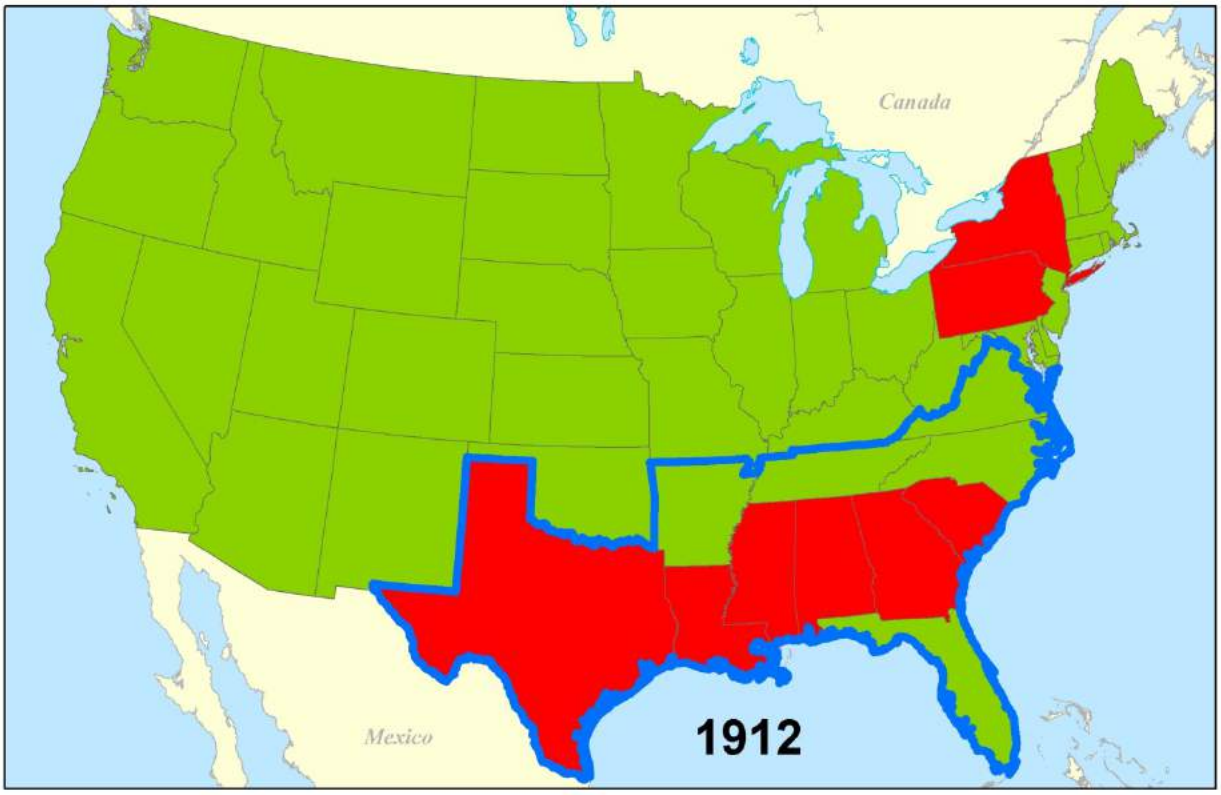
APPENDIX G: COUNTERFACTUAL ANALYSES VOTER POWER MAP SERIES

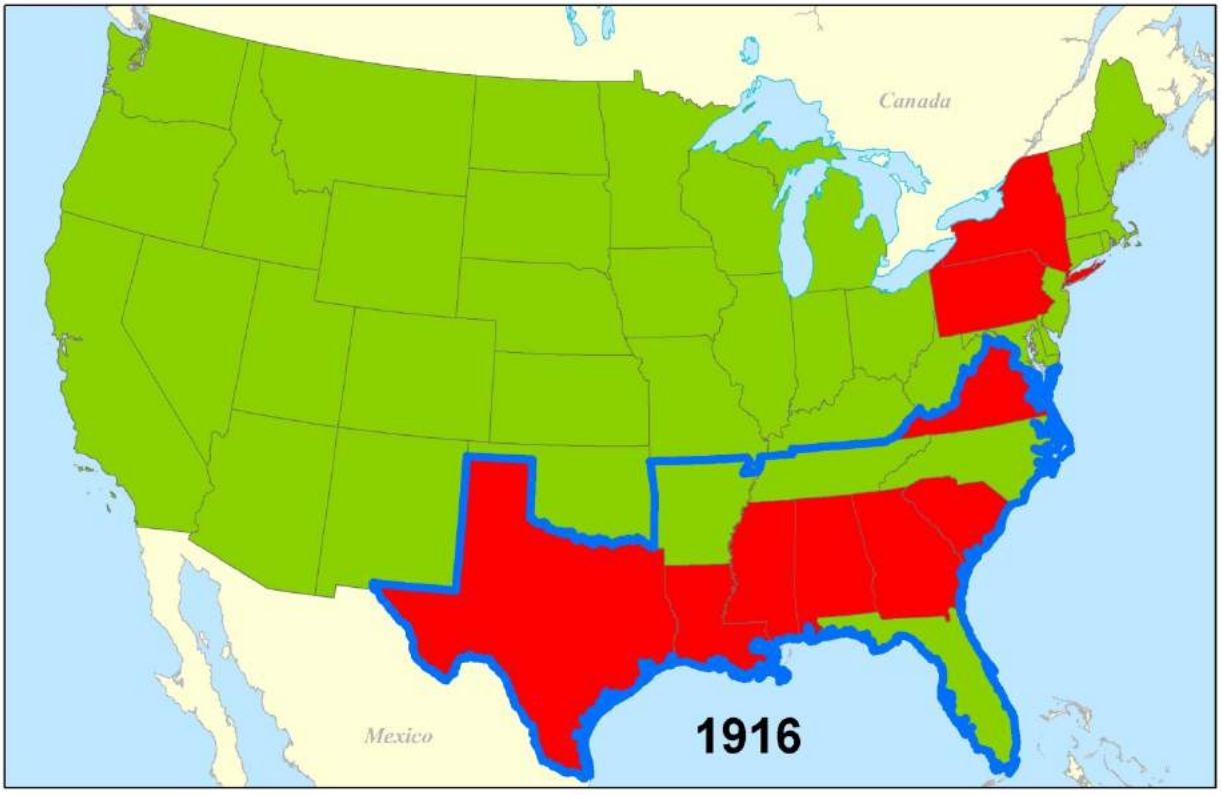
In these maps voters in red states had HIGHER voter power measures voting within the Electoral College than they would had the election been a national popular vote and voters in green states had LOWER voter power measures voting within the Electoral College than they would had the election been a national popular vote. States symbolized with the crosshatch pattern were territories and had not been given their statehood yet at the time of the election the map depicts. Also, for reference to the historical narrative of this study the blue border around the Southern states represents the borders of the ex-Confederate States of America; states within it were part of the CSA and are ex-slave states.

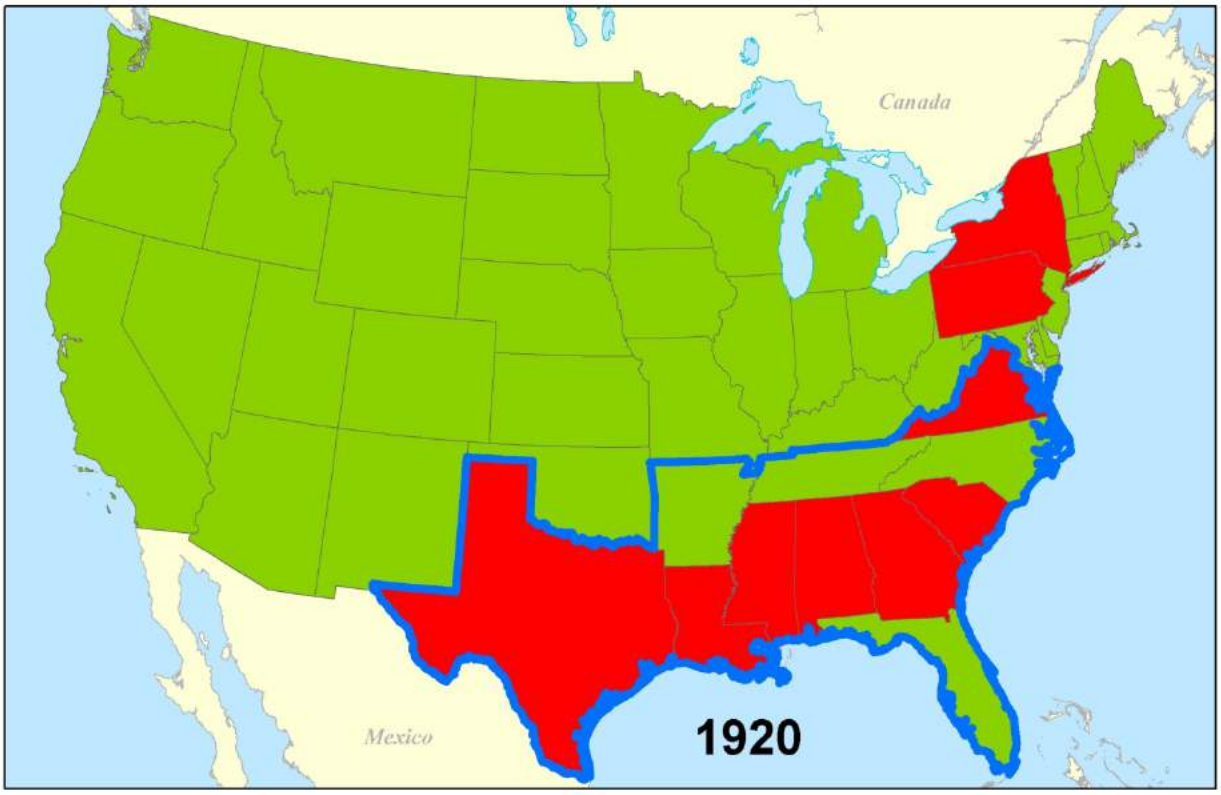


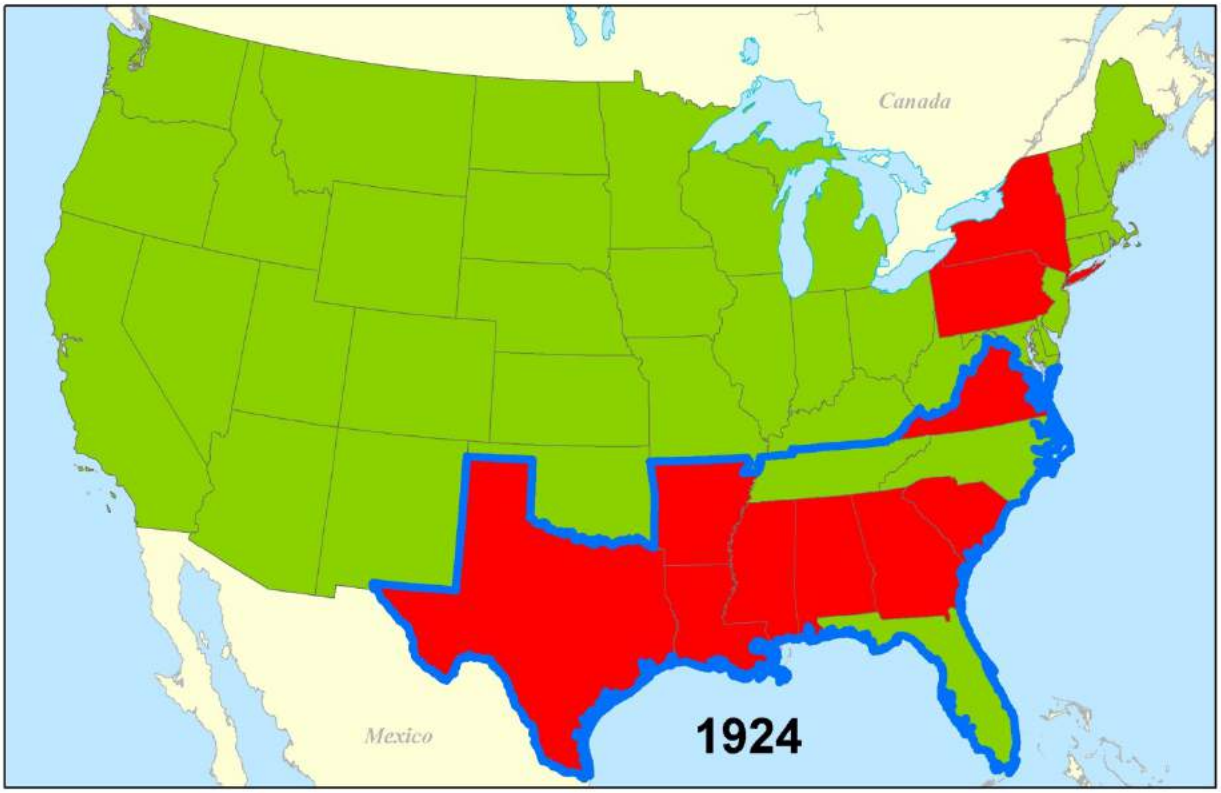

Canada
Mexico
1904

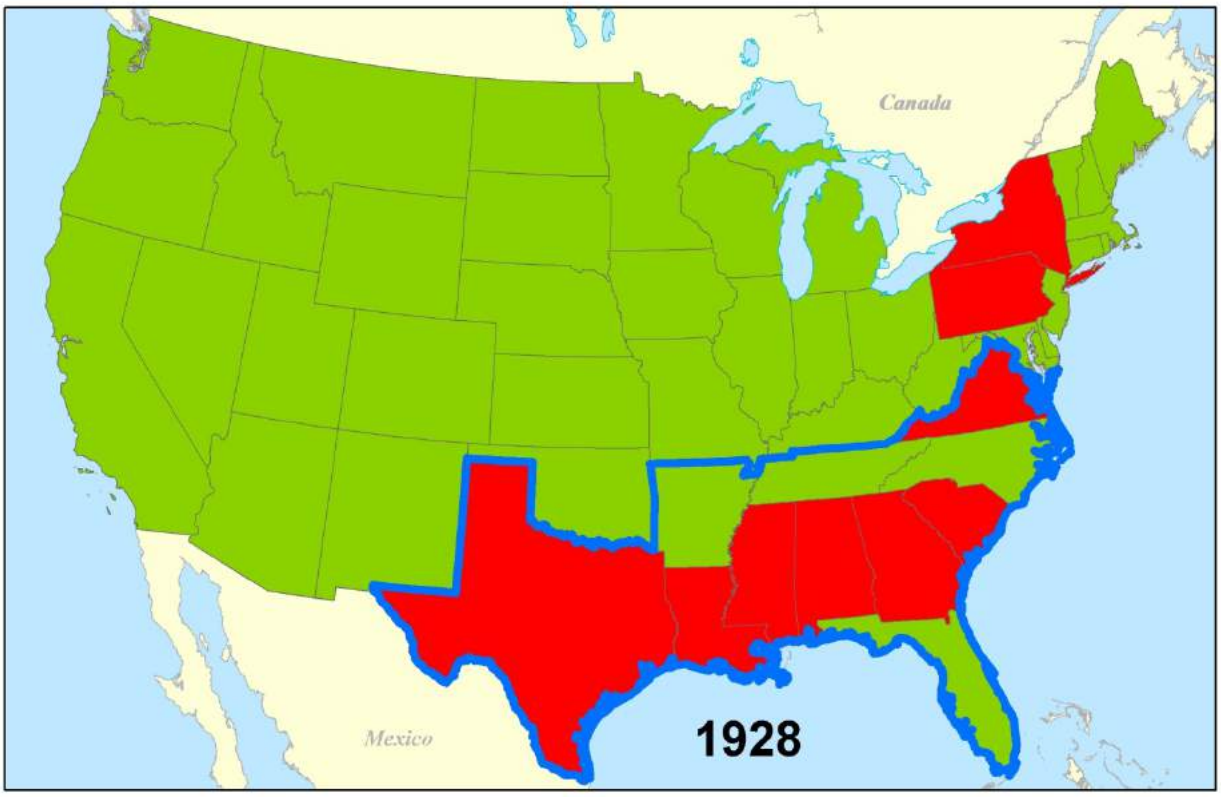

Canada
Mexico
1908

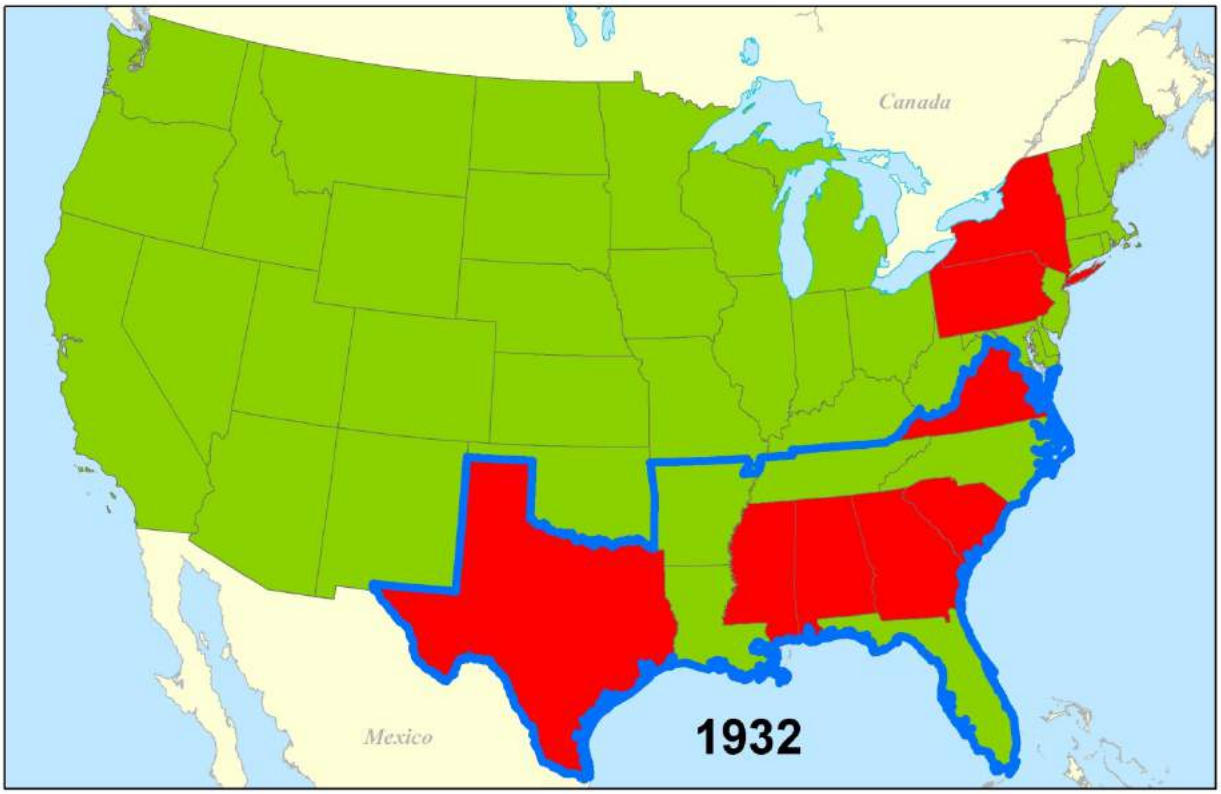

Canada
Mexico
1912

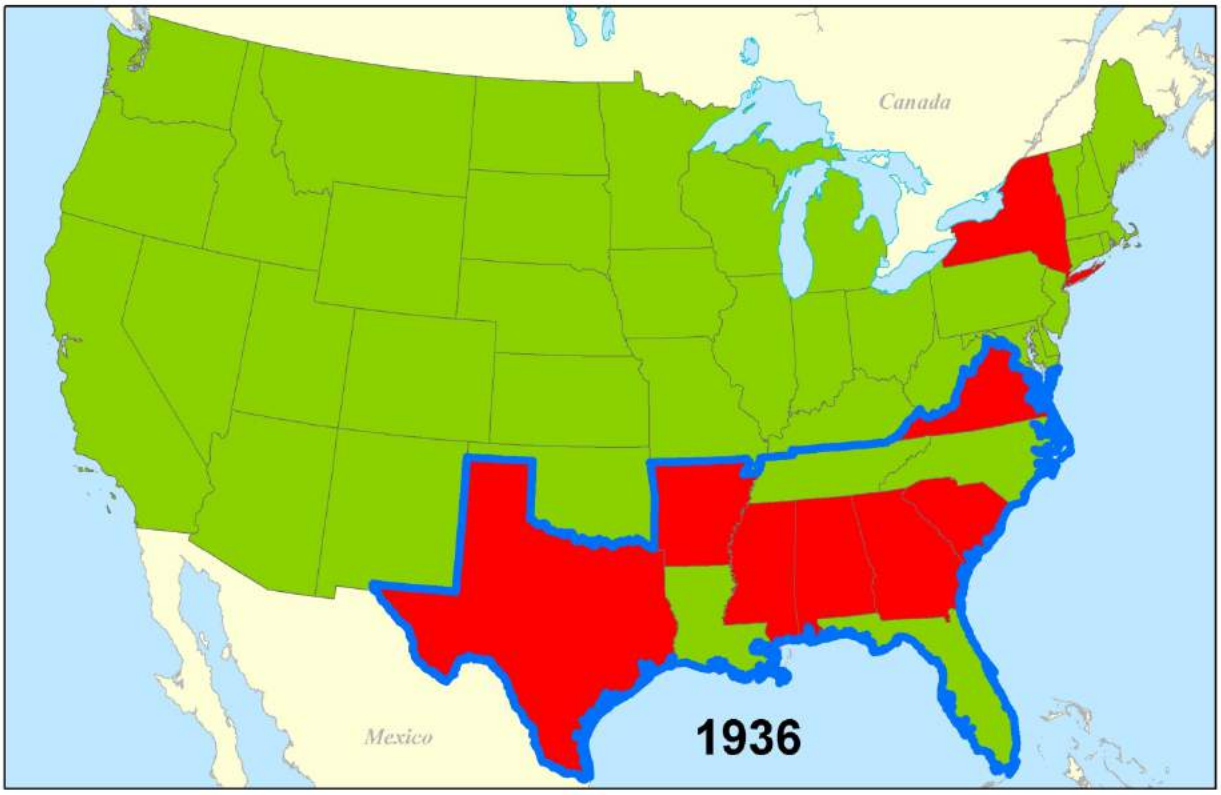

Canada
Mexico
1916

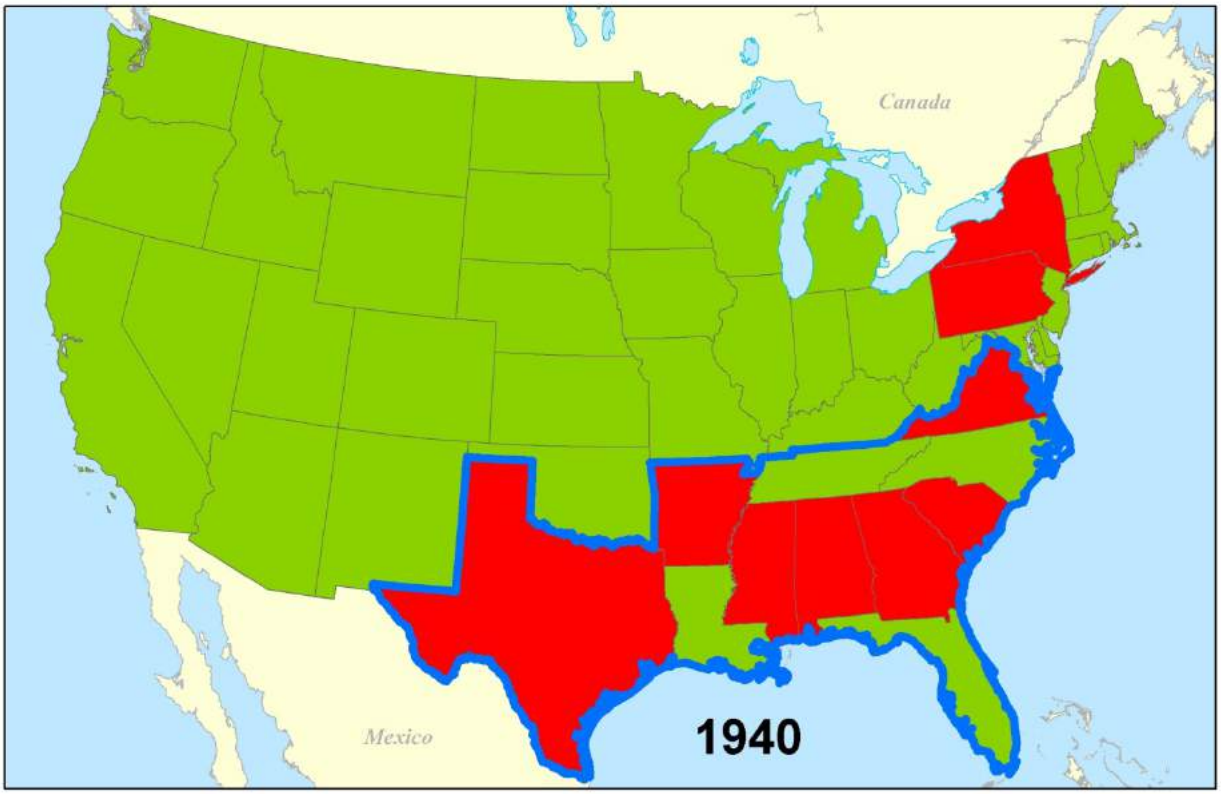

Canada
Mexico
1920

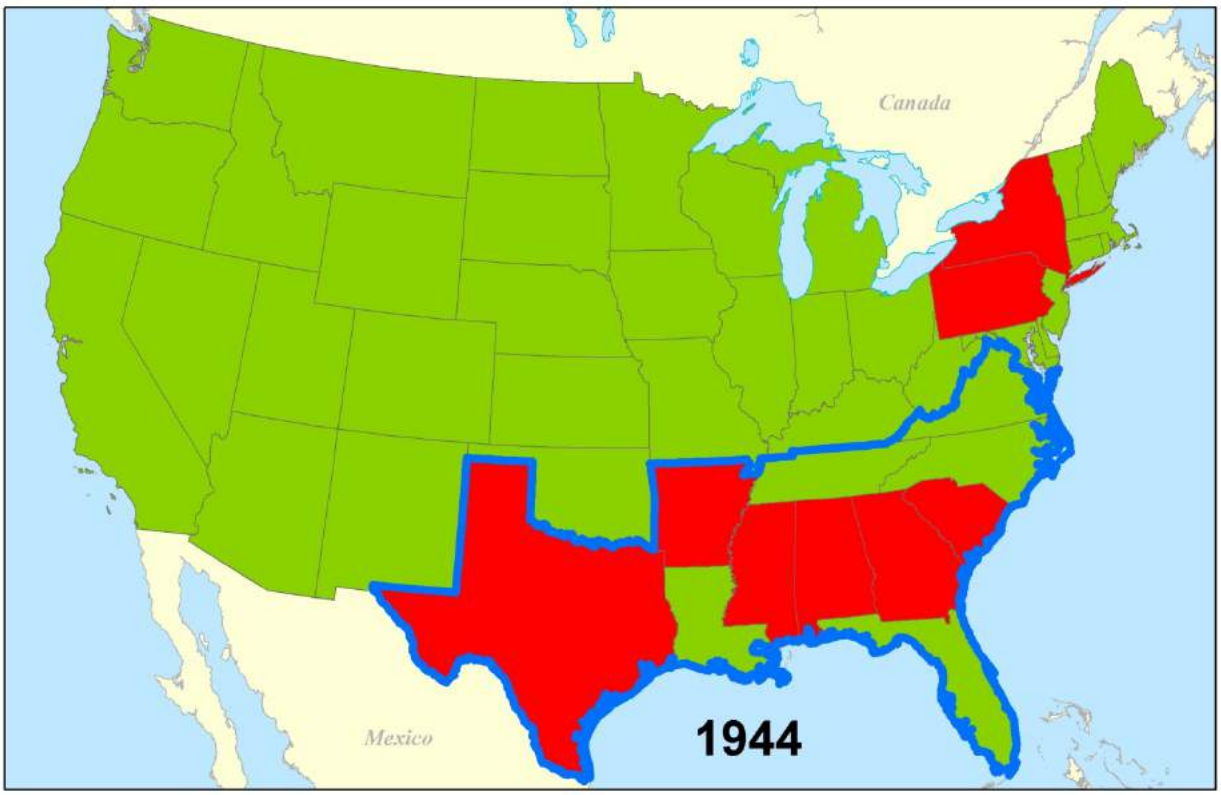

Canada
Mexico
1924

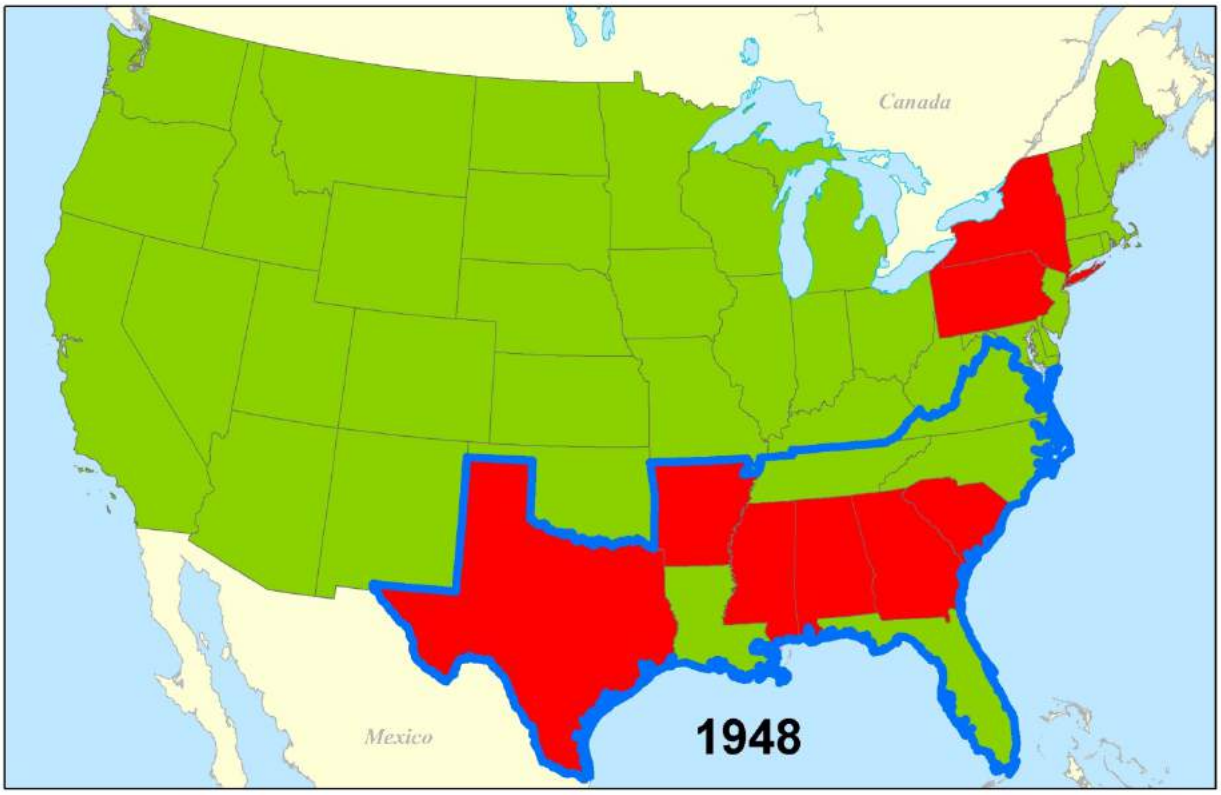

Canada
Mexico
1928

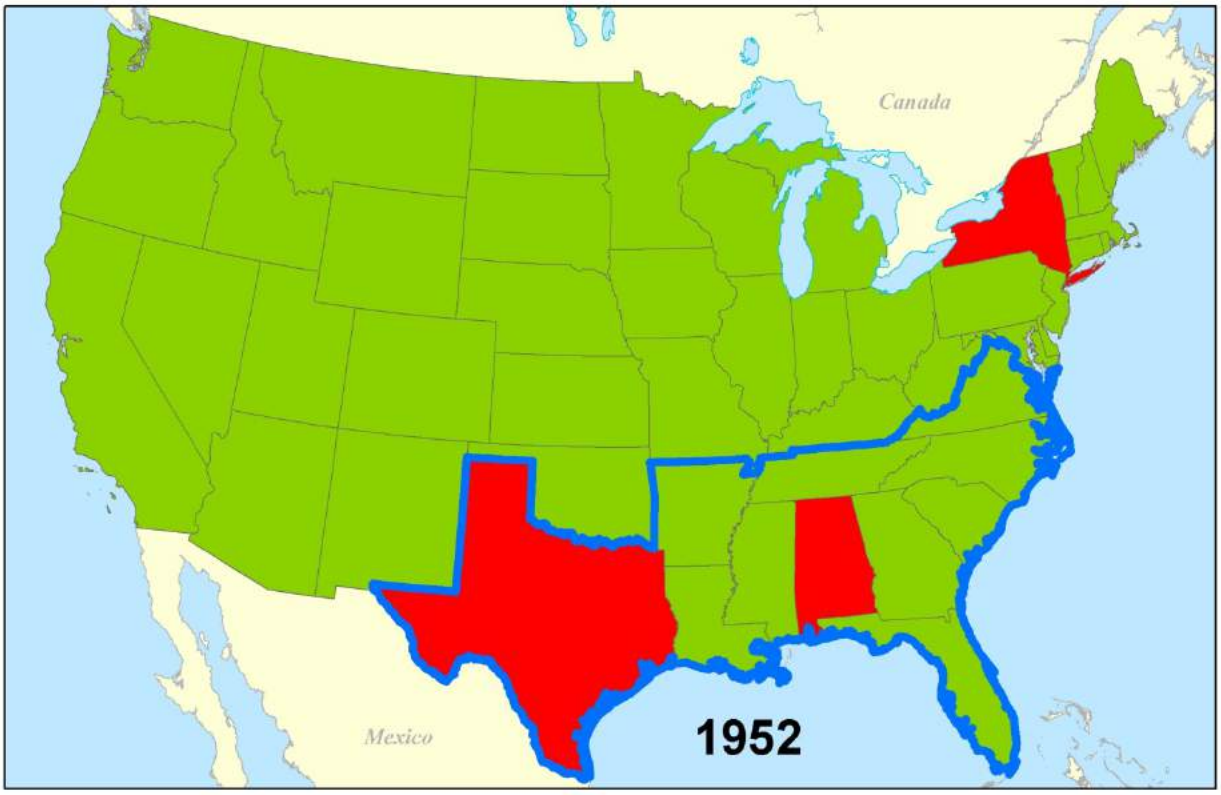

Canada
Mexico
1932

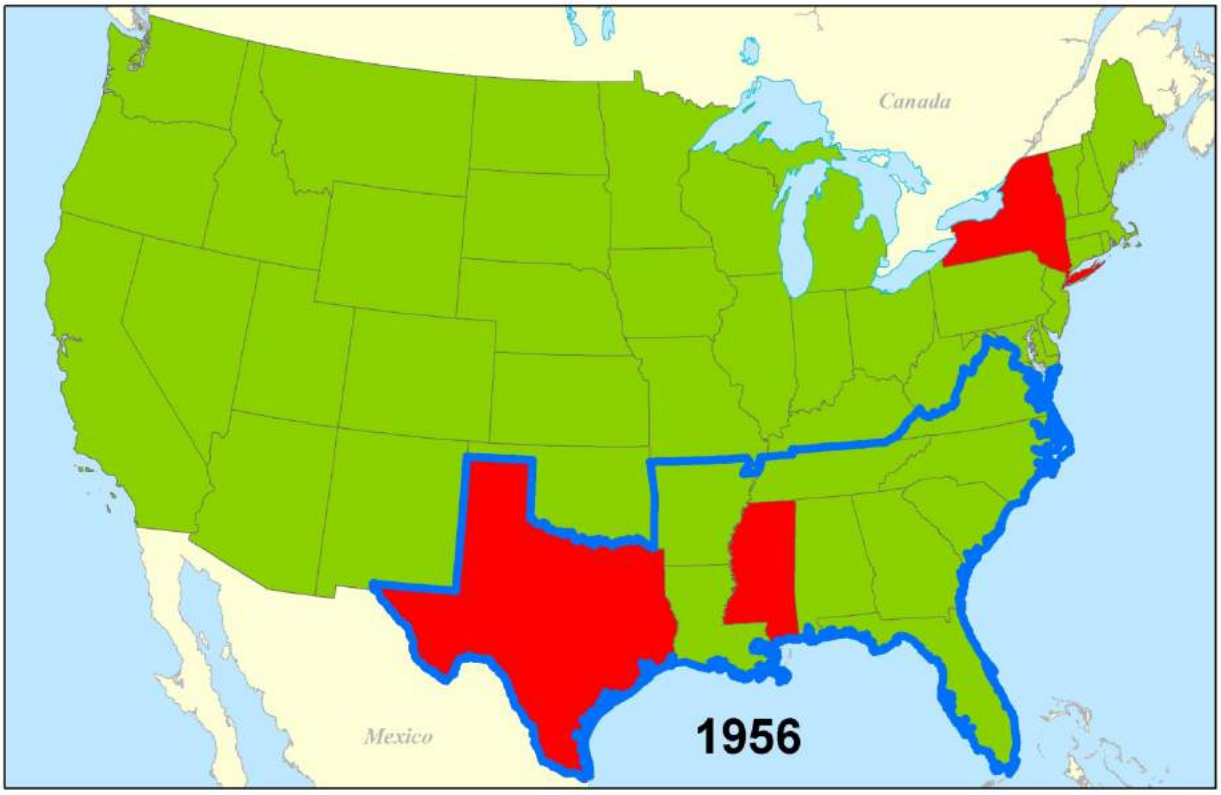

Canada
Mexico
1936

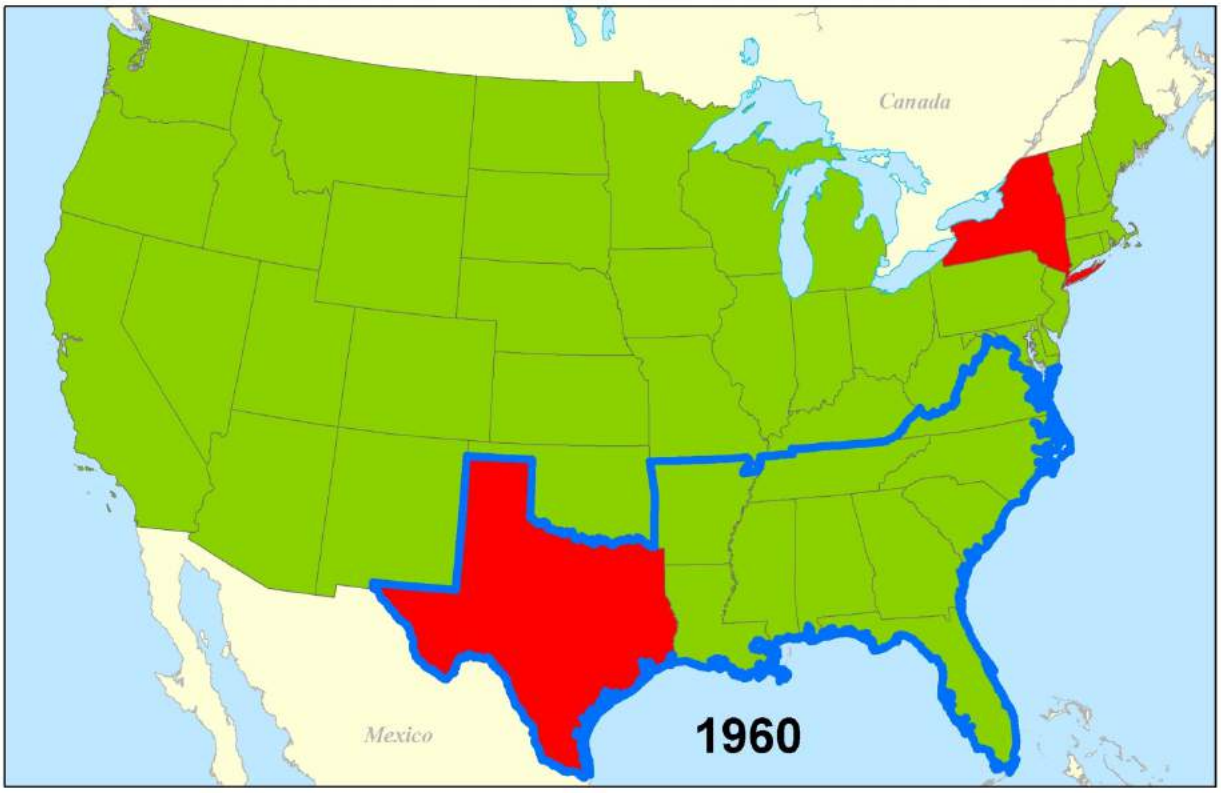

Canada
Mexico
1940

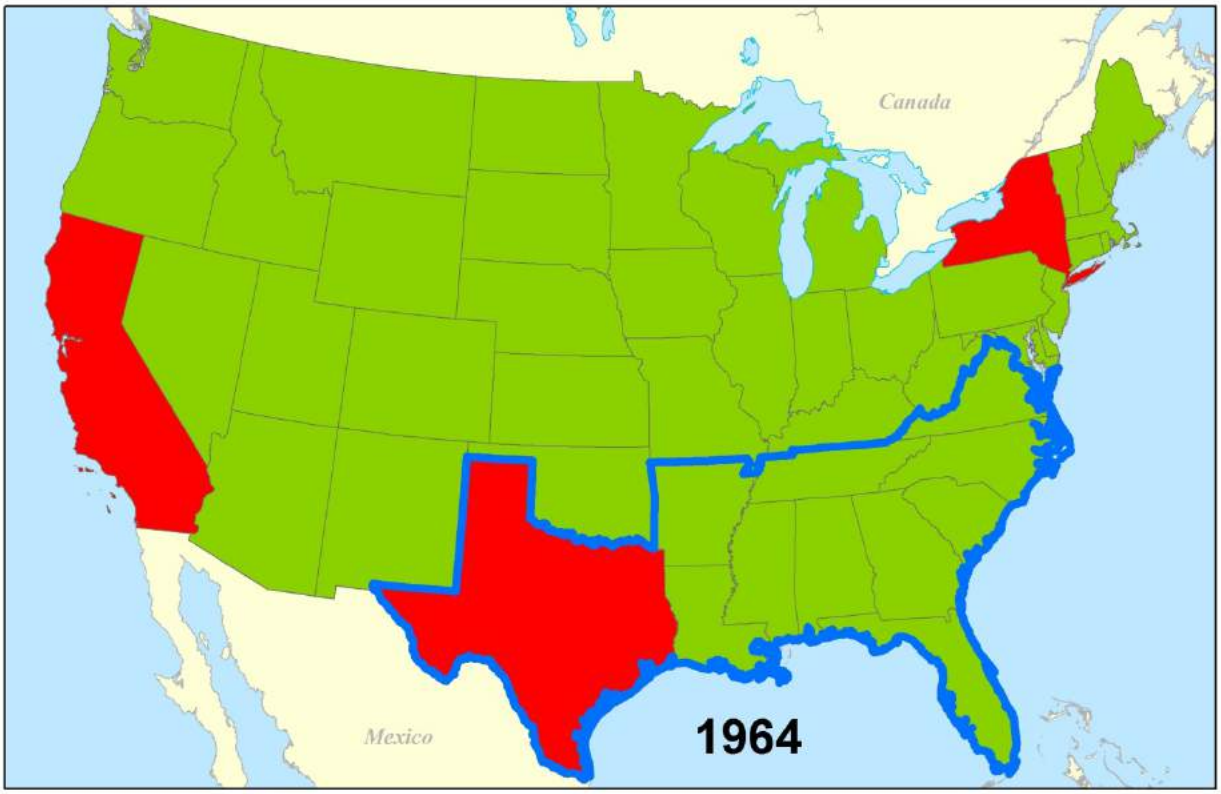

Canada
Mexico
1944

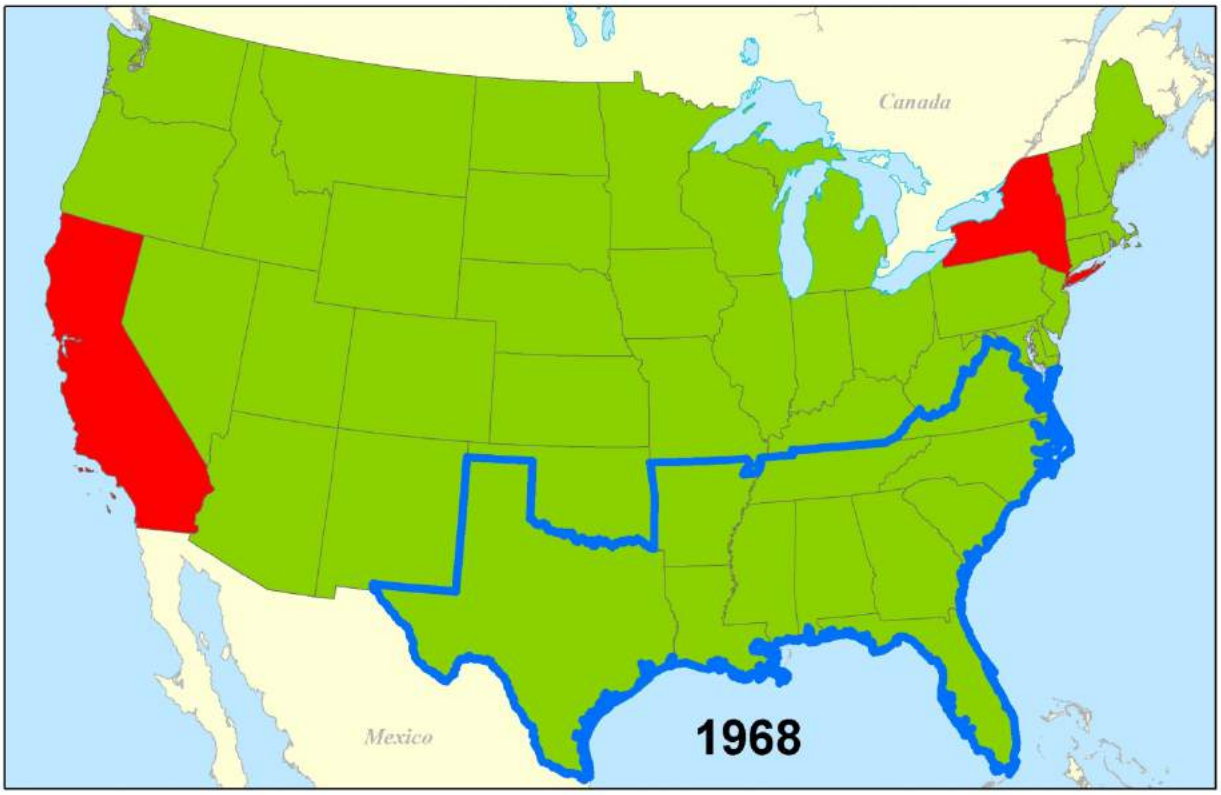

Canada
Mexico
1948

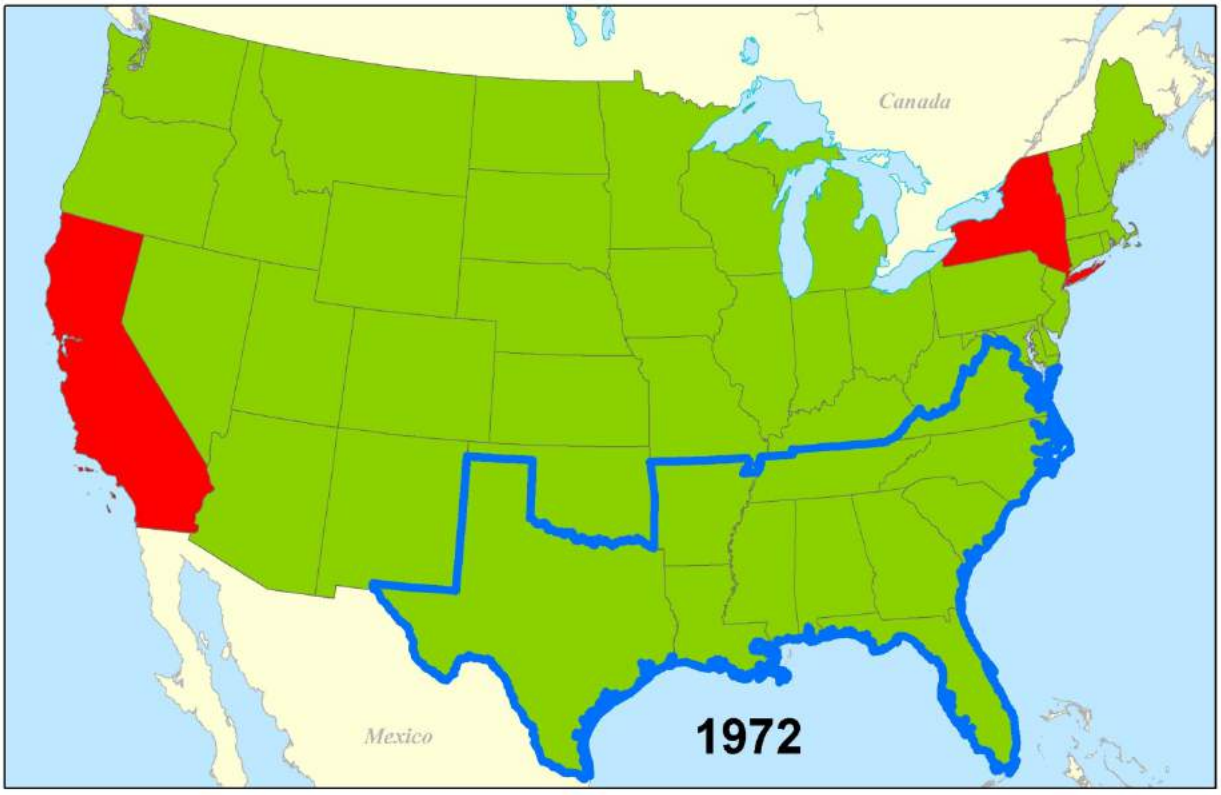

Canada
Mexico
1952

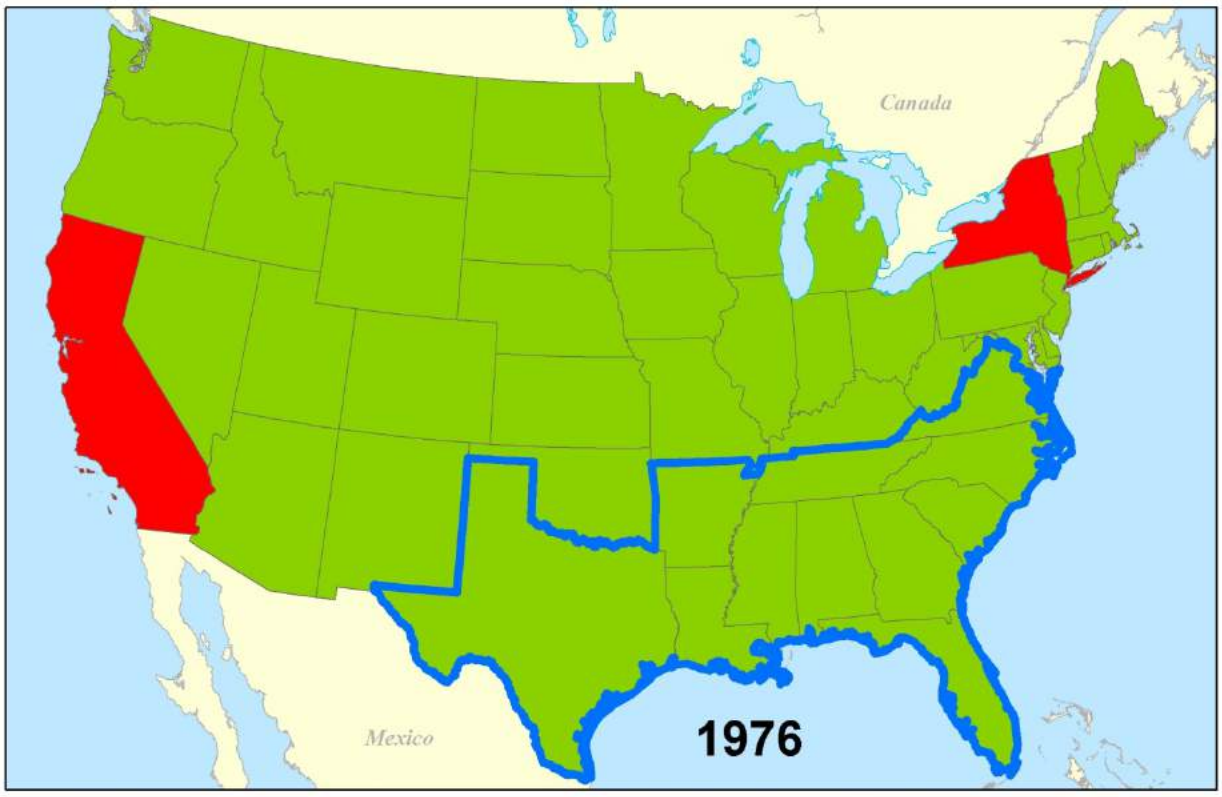

Canada
Mexico
1956

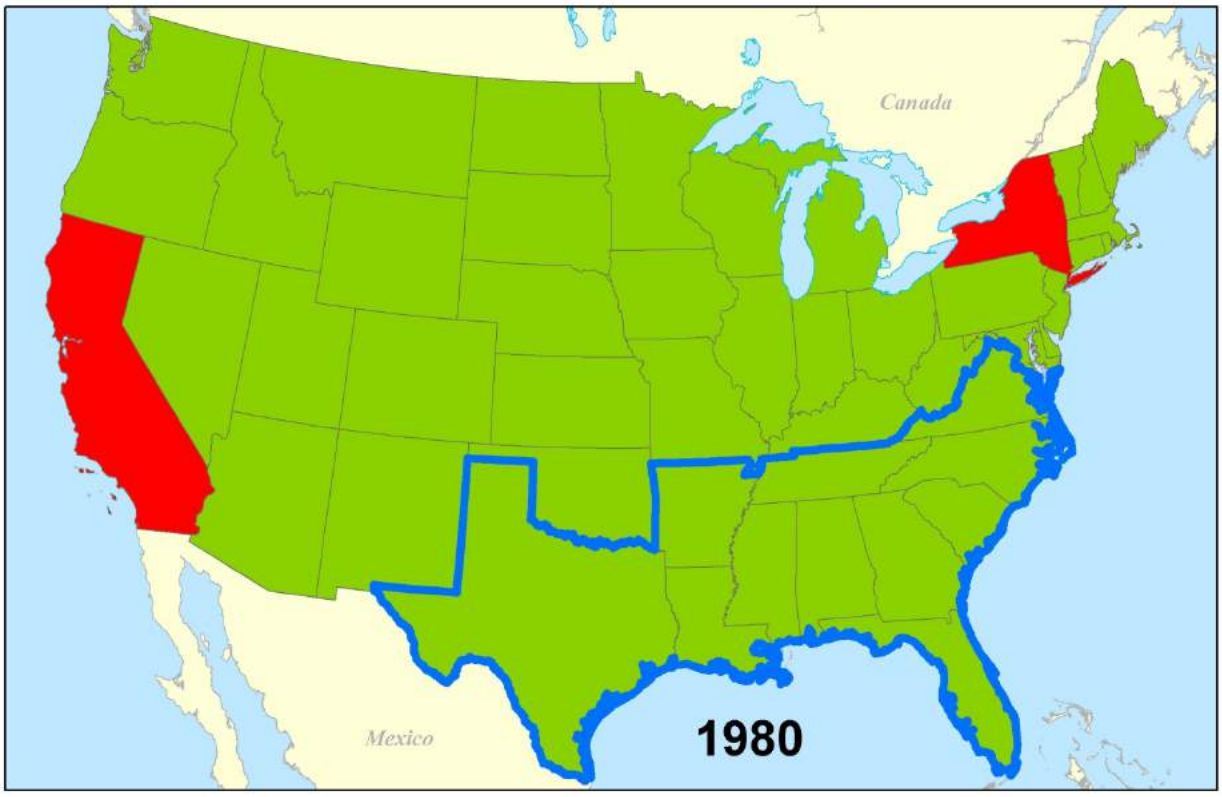

Canada
Mexico
1960

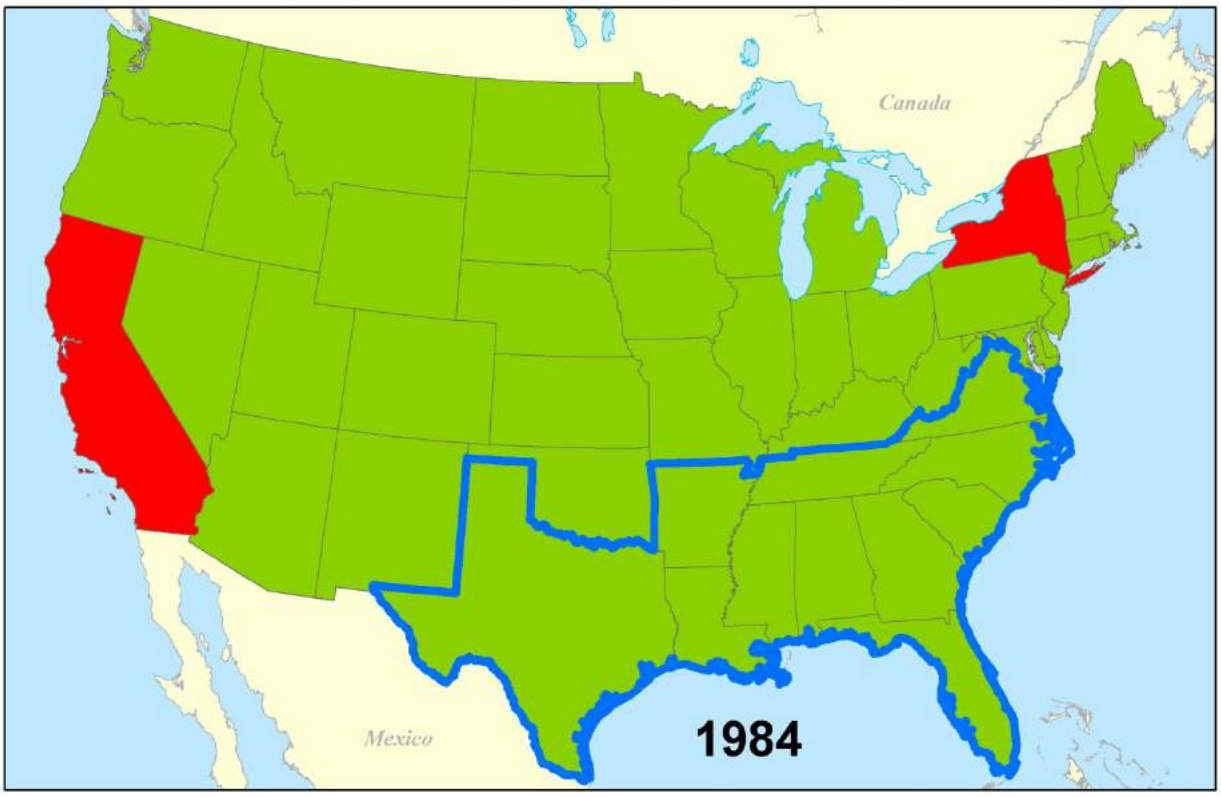

Canada
Mexico
1964

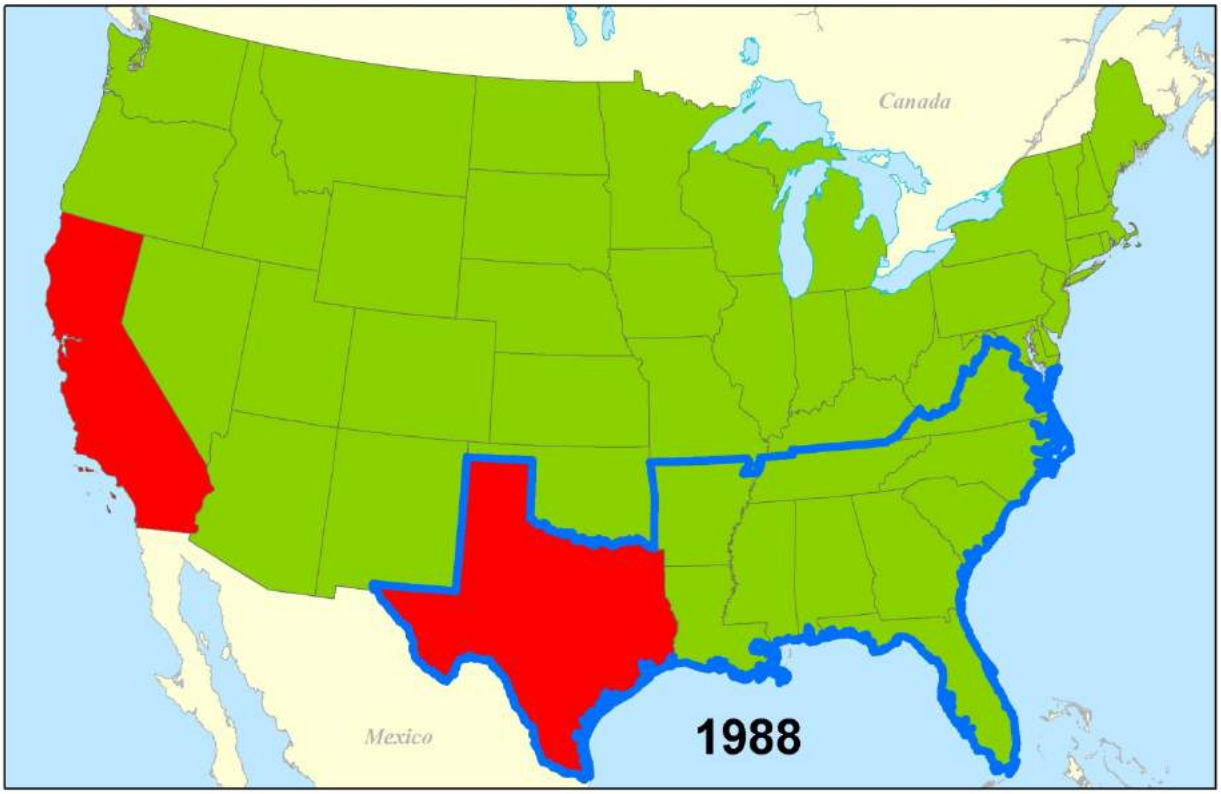

Canada
Mexico
1968

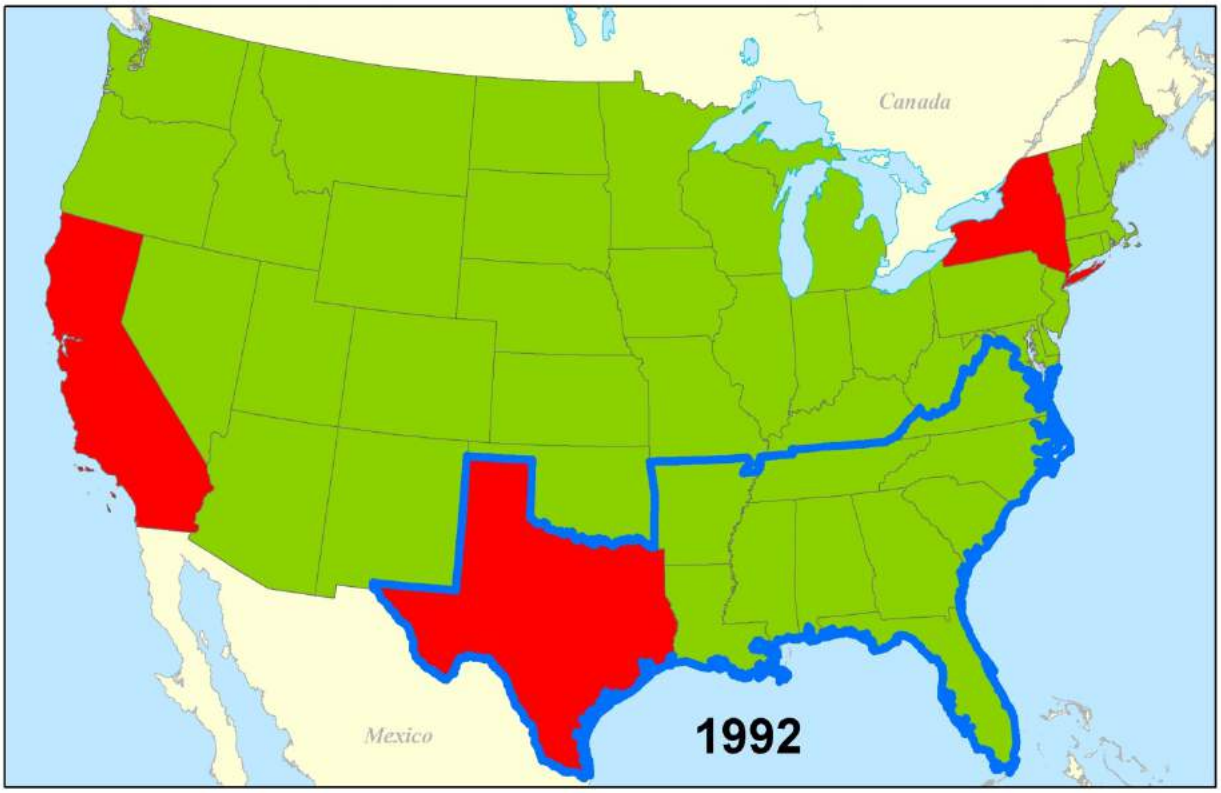

Canada
Mexico
1972


Canada
Mexico
1976


Canada
Mexico
1980


Canada
Mexico
1984


Canada
Mexico
1988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Mexico
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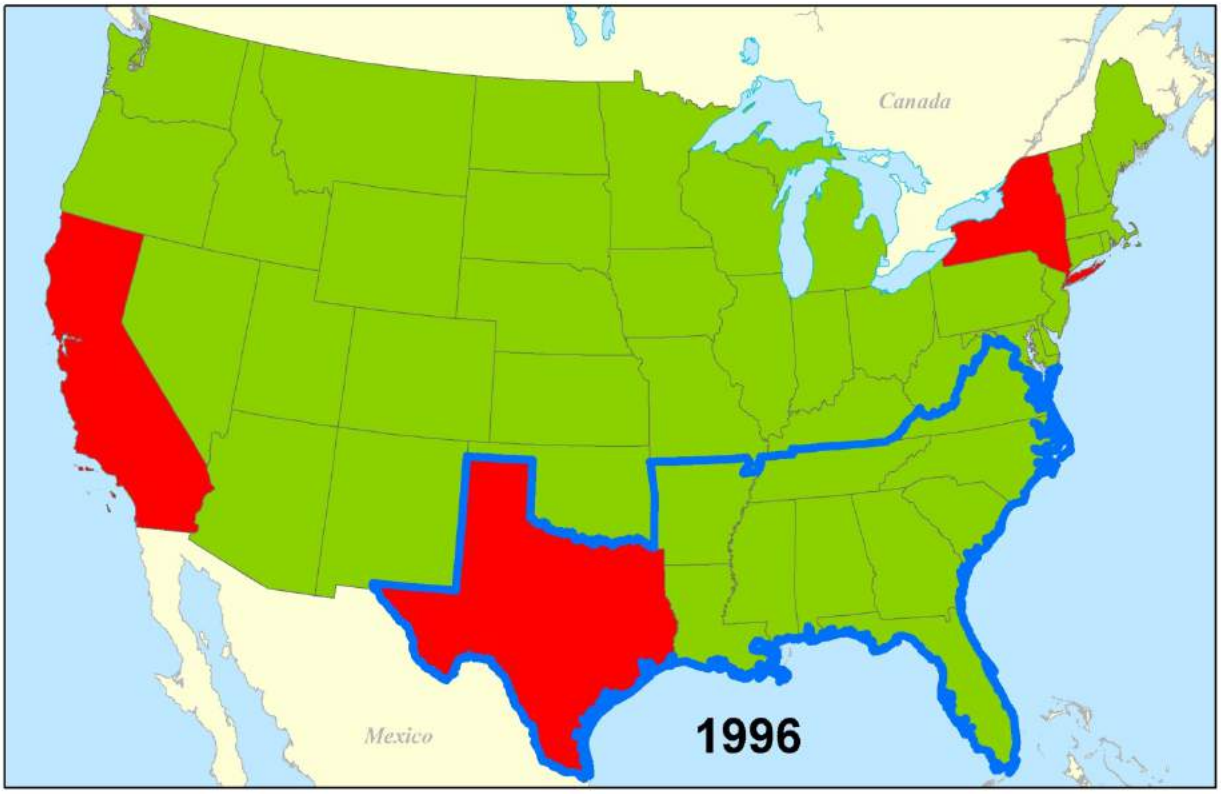
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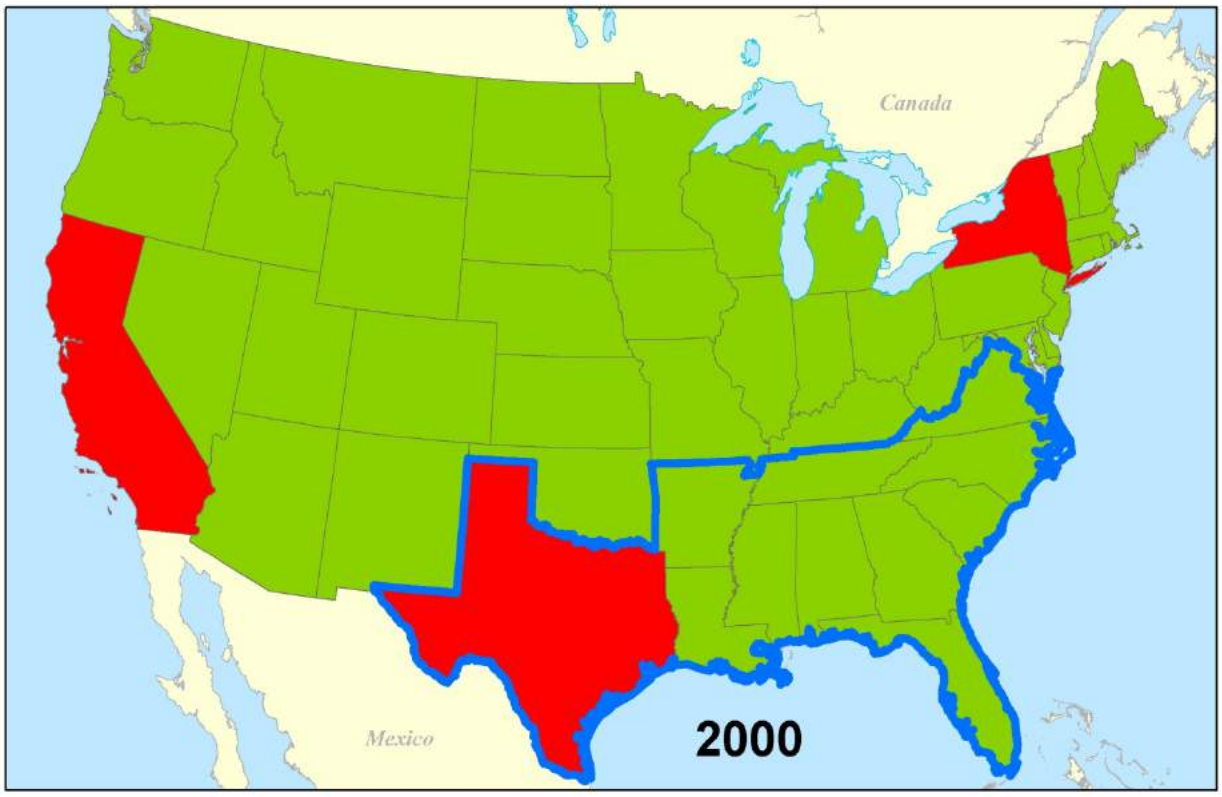
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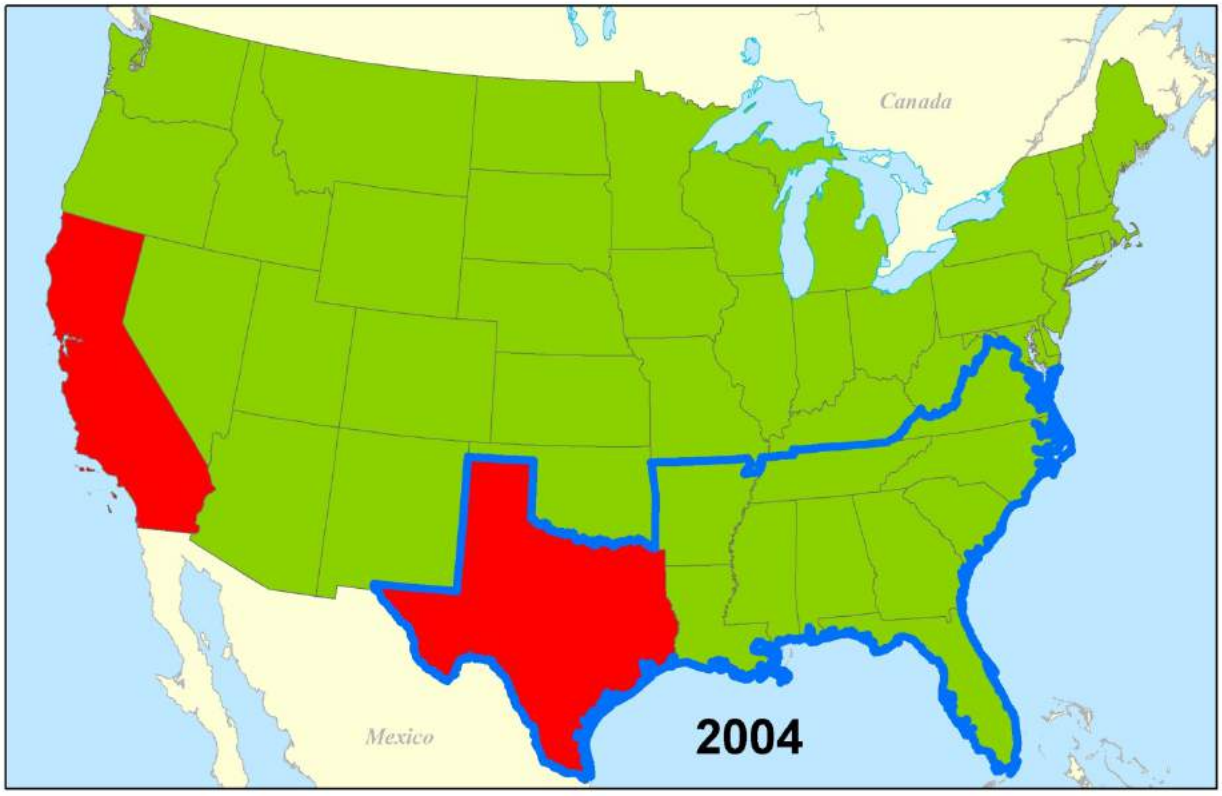
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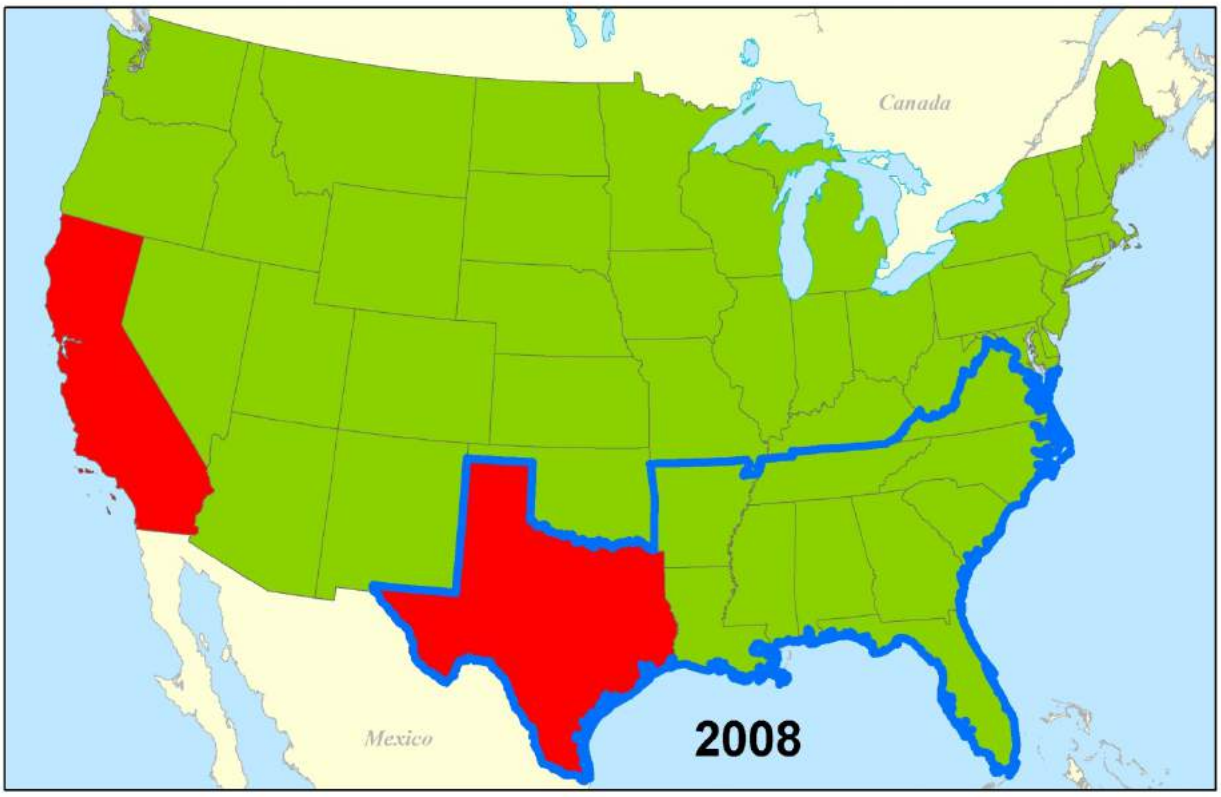
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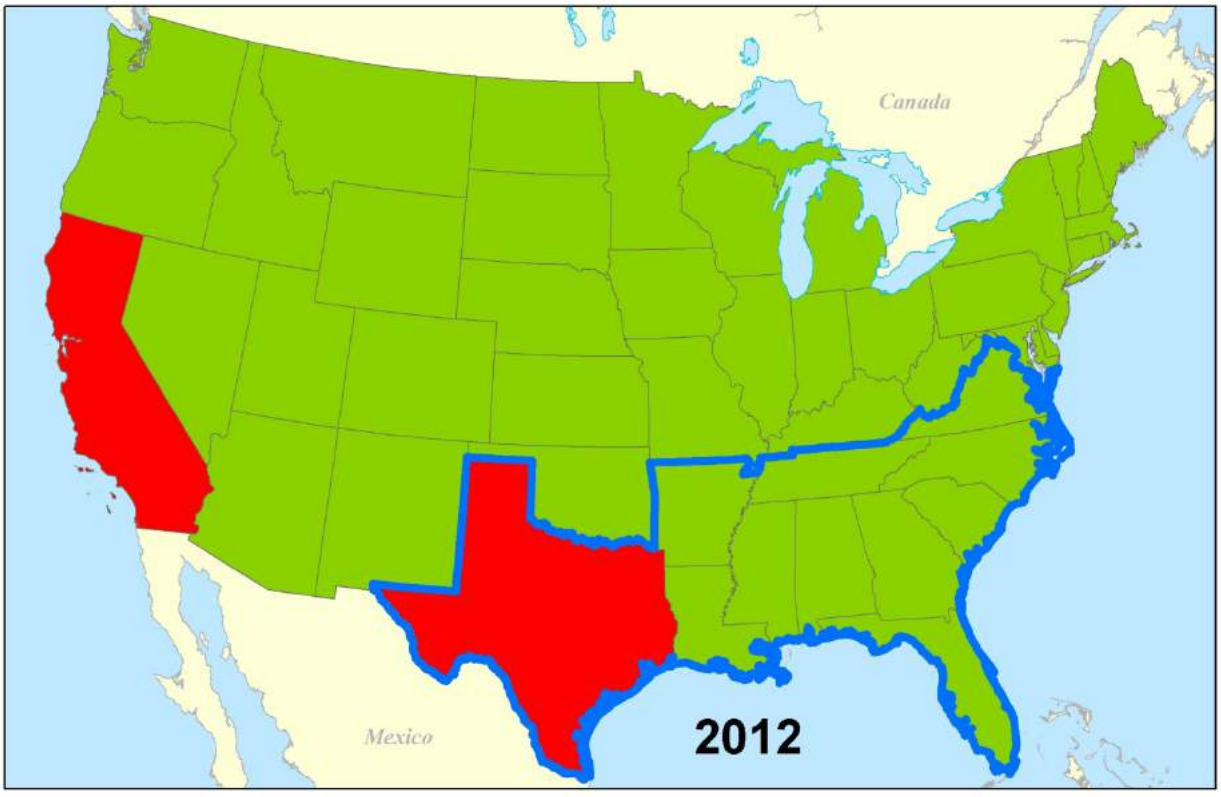
Canada
Mexico
2012