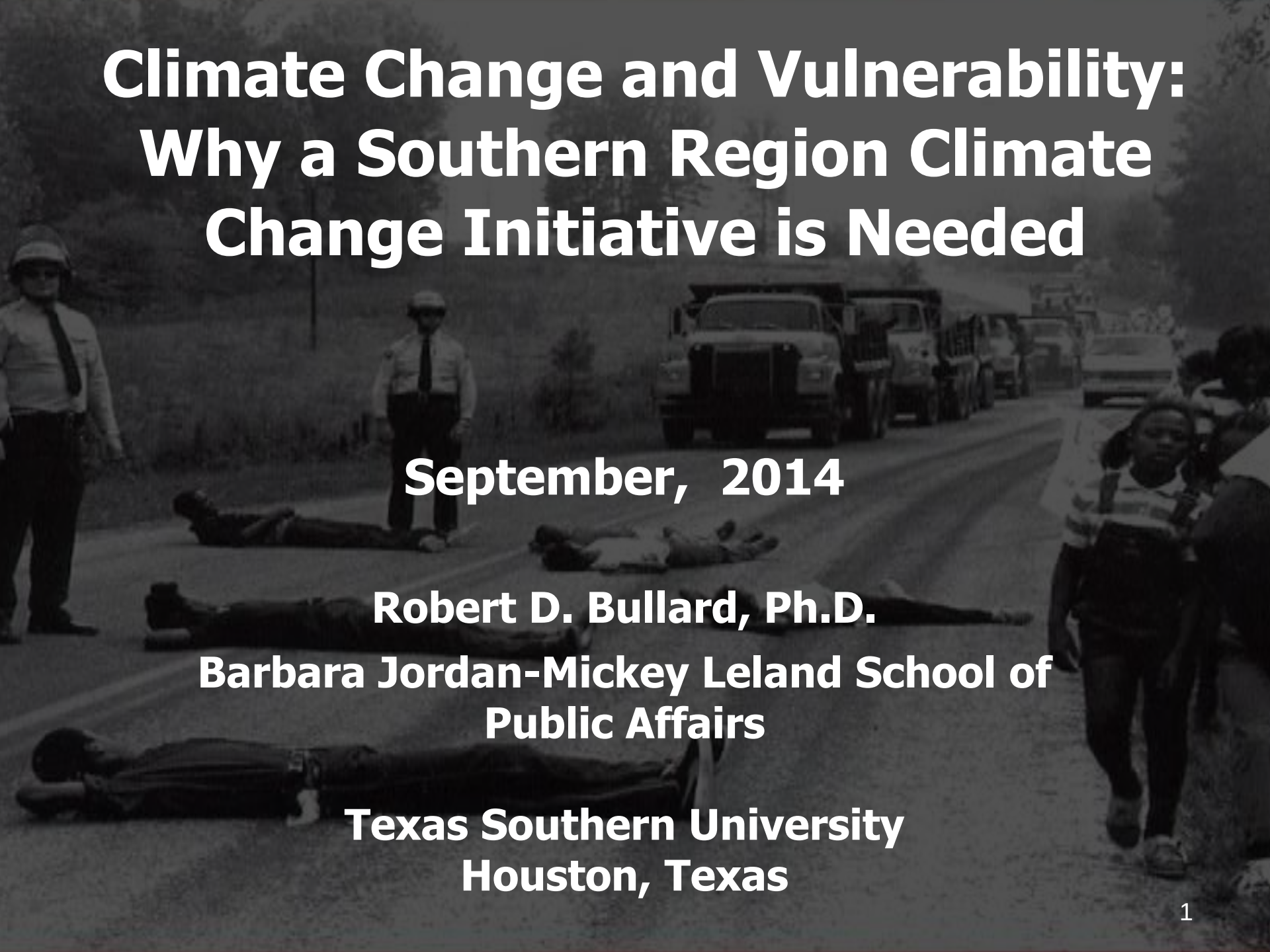
Climate Change and Vulnerability: Why a Southern Region Climate Change Initiative is Needed



September, 2014

Robert D. Bullard, Ph.D.

Barbara Jordan-Mickey Leland School of Public Affairs

Texas Southern University
Houston, Texas

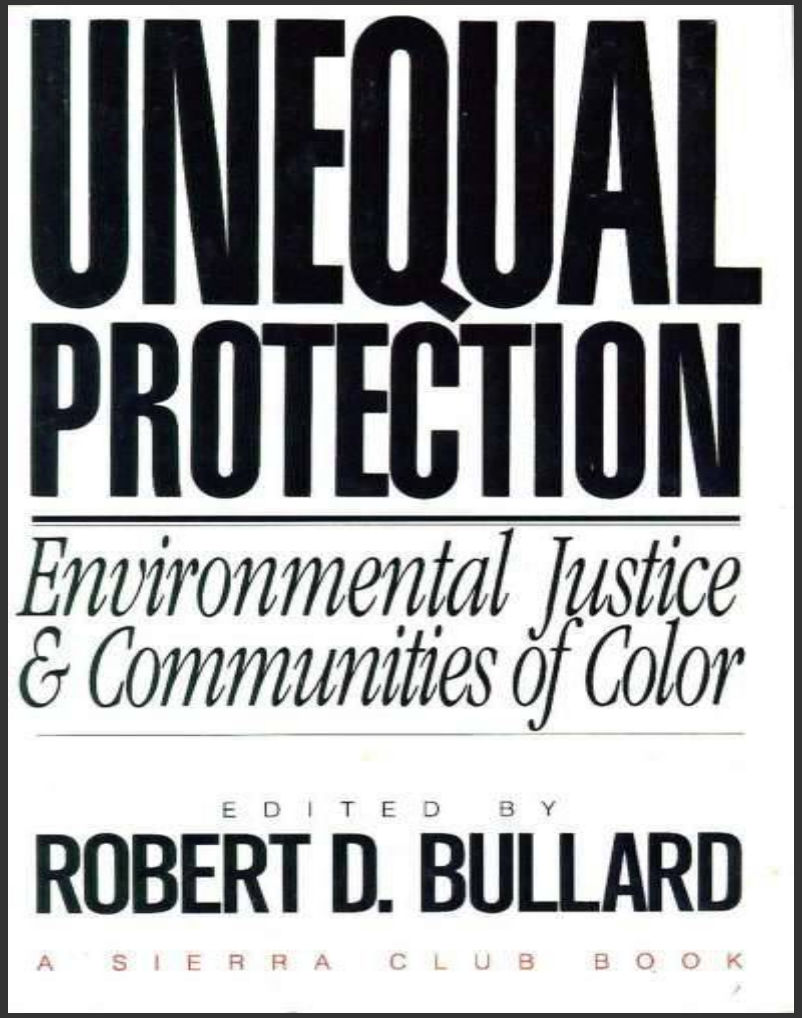
Connecting the dots…

Overview: This presentation provides empirical evidence through maps and charts that detail how the South's unique legacy, history, sociology, politics and geography present special challenges in addressing climate change and community resiliency.

Defining the Environment

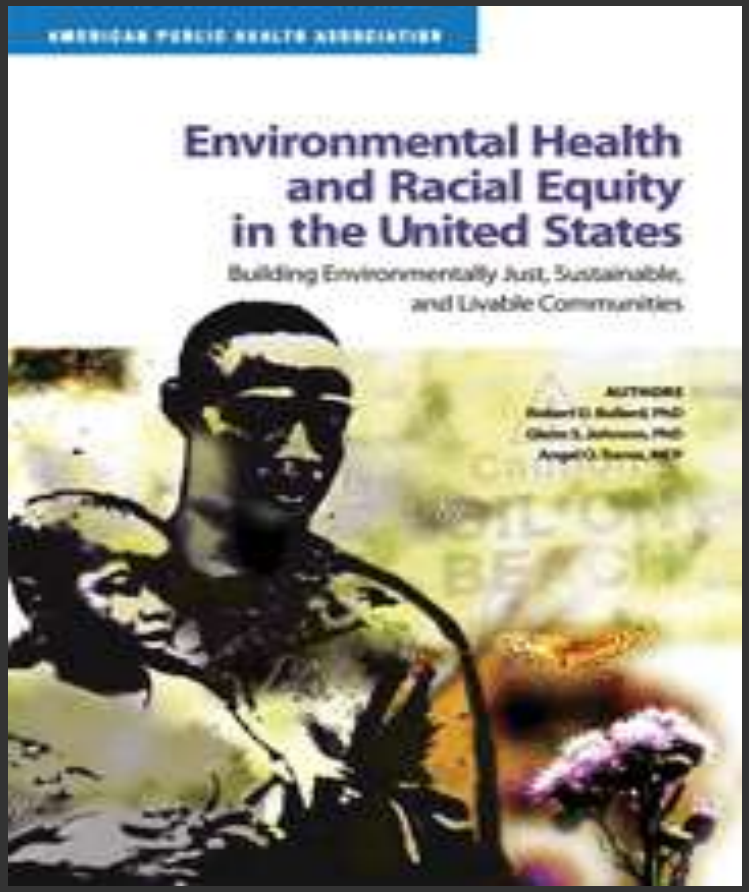
- Where We Live
- Where We Work
- Where We Play
- Where We Learn
- Physical and Natural World

Why Place Matters in the U.S.



- In the United States, all communities are not created equal
- If a community happens to be poor, working class or inhabited largely by people of color, it generally receives less protection
- Historically, exploitation of land and exploitation of people are highly correlated
- Vulnerability maps closely with both race and class

Healthy Places and Healthy People



- Where you live affects your health and chances of leading flourishing lives:
  - Important indicator of an individual's health: **Zip Code**
- Wealth and health are correlated:
  - The poorest people within the U.S. have the worst health and the most degraded environments

Rationale for HBCU Climate Education Community University Partnership (CECUP)

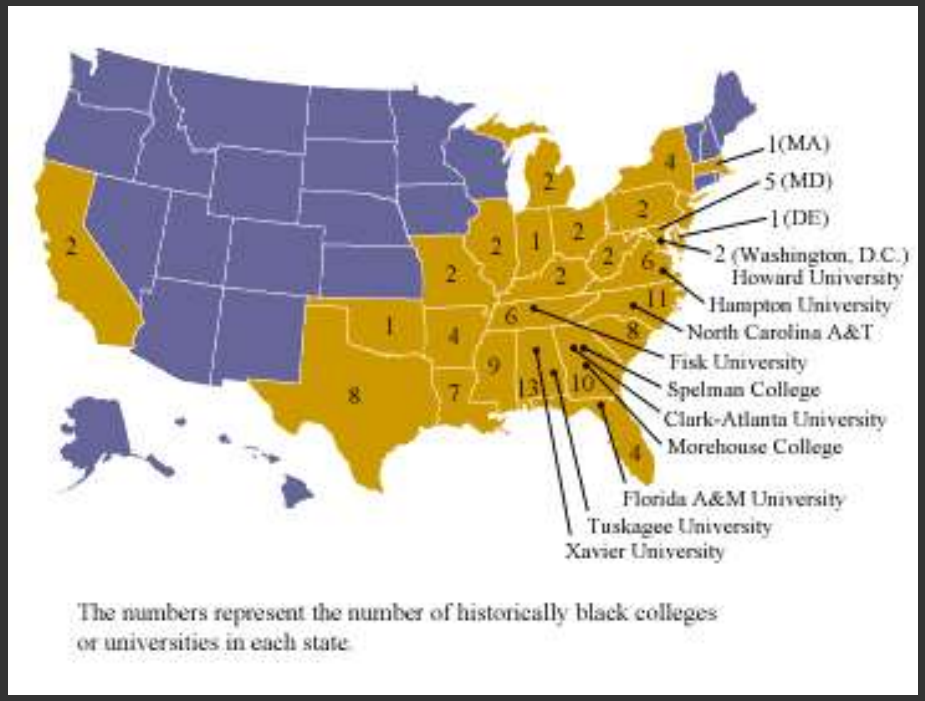
Partnership Objectives

- To facilitate cross-disciplinary climate education and training, community based participatory research (CBPR), public policy analysis, and field application;
- To increase student, faculty, and leaders from underserved communities involvement in climate education, climate change adaptation and mitigation, and regional climate-resilience planning and policy development and implementation;
- To assist community based organization (CBO) leaders in low-wealth and people of color communities build climate-resilience capacity and link them with appropriate institutions, professional associations, planning organizations, legal, media, and related resources and information systems;
- To facilitate the development of new leaders from underserved low-wealth and people of color communities to address urgent environmental, sustainability, health, and climate challenges, with emphasis on the most vulnerable populations in our society;
- To create and maintain an on-line information clearinghouse web portal to help disseminate research, policy, education and training, and other results in an easy to understand user-friendly format.

Texas Southern University

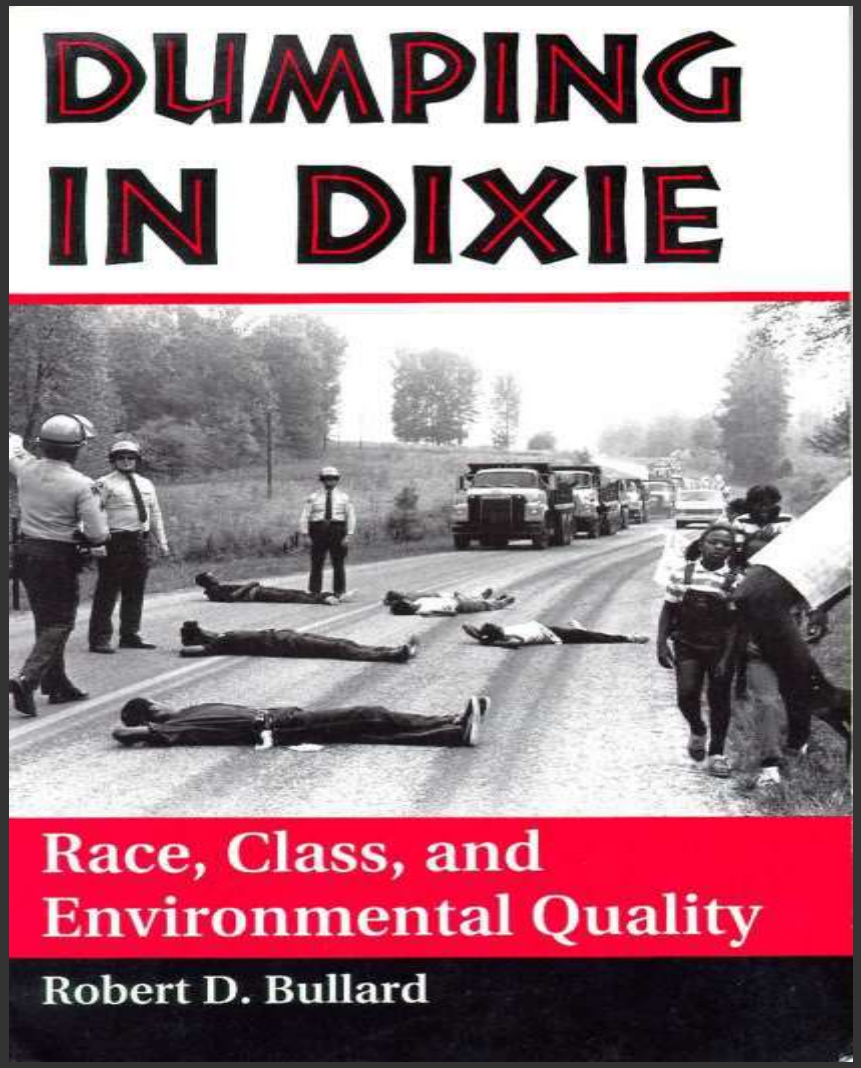
- Texas Southern University (TSU) is located in Houston and is the fourth largest public HBCU in the nation.
- The Barbara Jordan-Mickey Leland School of Public Affairs at Texas Southern University is taking the lead in developing a multi-state consortium of HBCUs and community based organizations (CBOs) in the Gulf Coast and South Atlantic region of the United States to address climate-related challenges facing low-wealth and people of color communities.

Location of Black Colleges



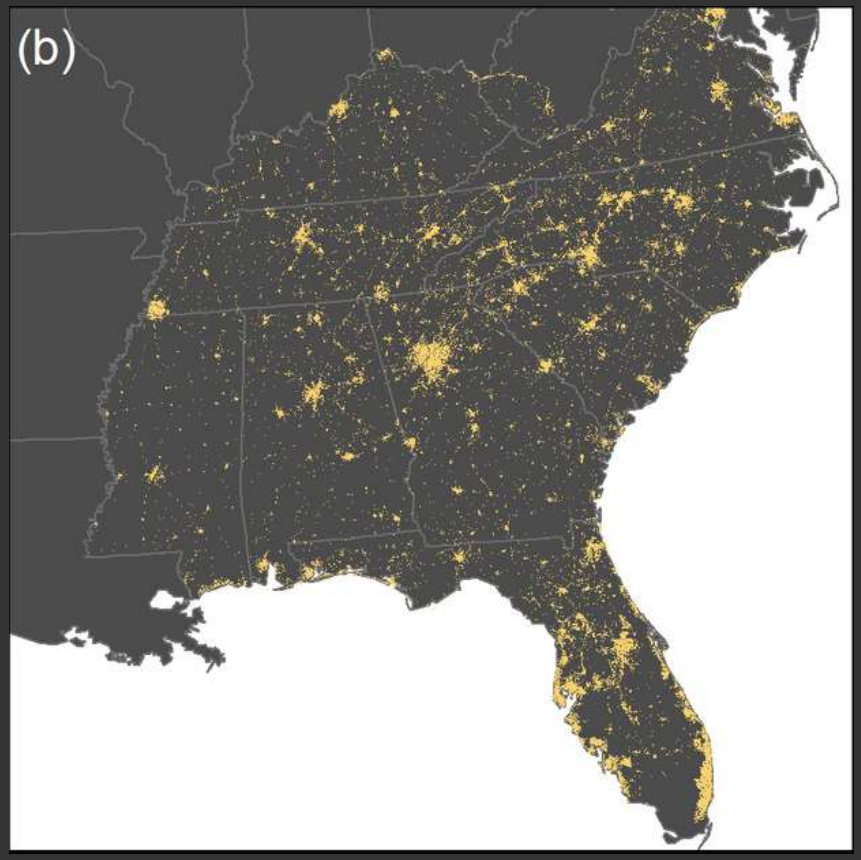
- There are 104 historically black colleges and universities (HBCUs) in the United States
- Most HBCUs are located in former slave states that formed the Confederacy
- 83 of the 104 (80%) HBCUs are located in the Gulf Coast and South Atlantic region
- HBCUs are often located in communities that are on the frontline of climate change and other natural and man-made disasters

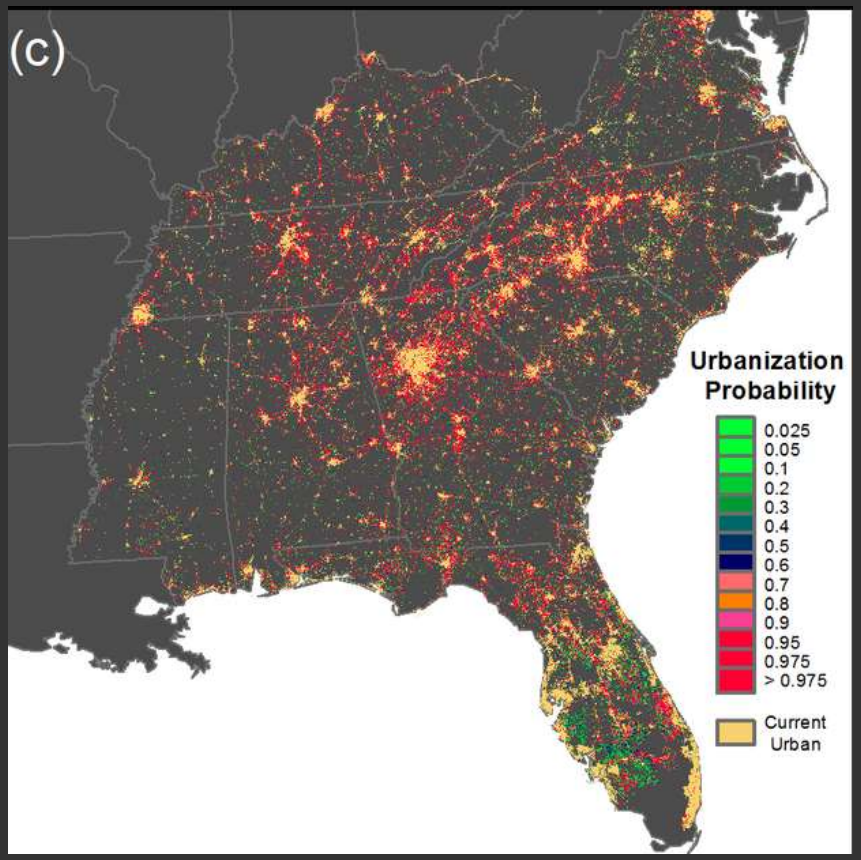
Southern Legacy of Inequality



- The South has a unique legacy of slavery, "Jim Crow" racial segregation and resistance to equal justice for all of its citizens
- The South is the most environmentally degraded region of the nation
- It is no accident that the modern civil rights and environmental justice movements were born there

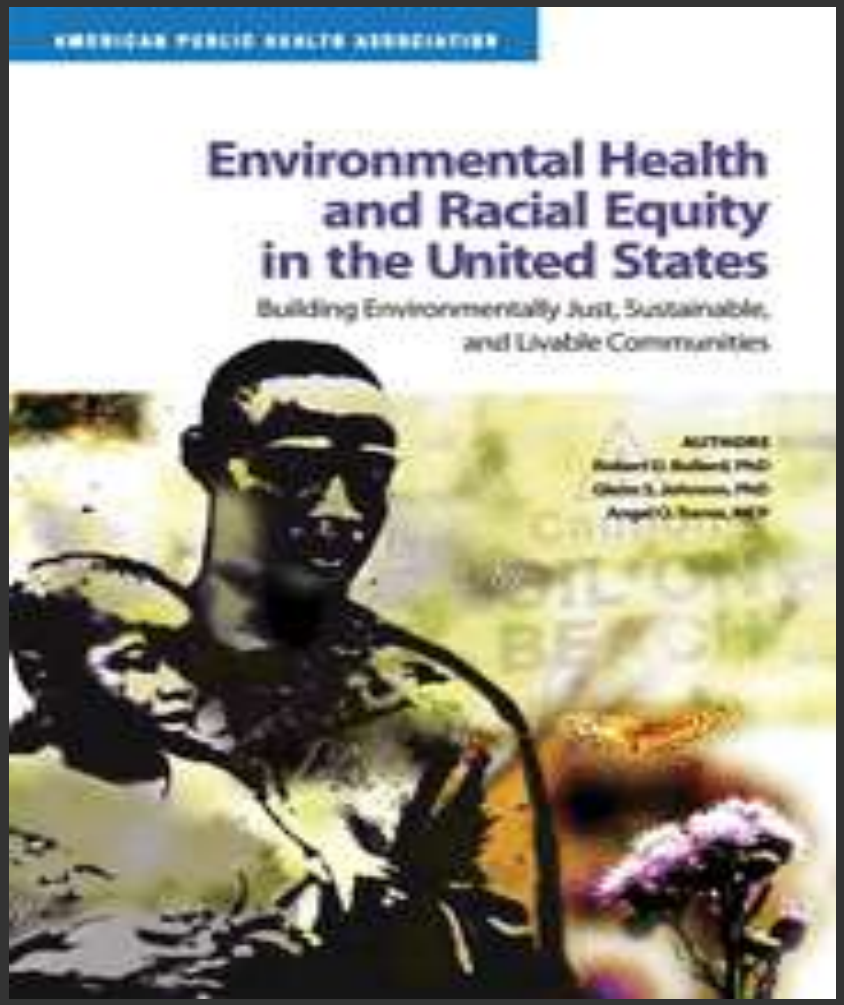
Urbanized American South by 2060





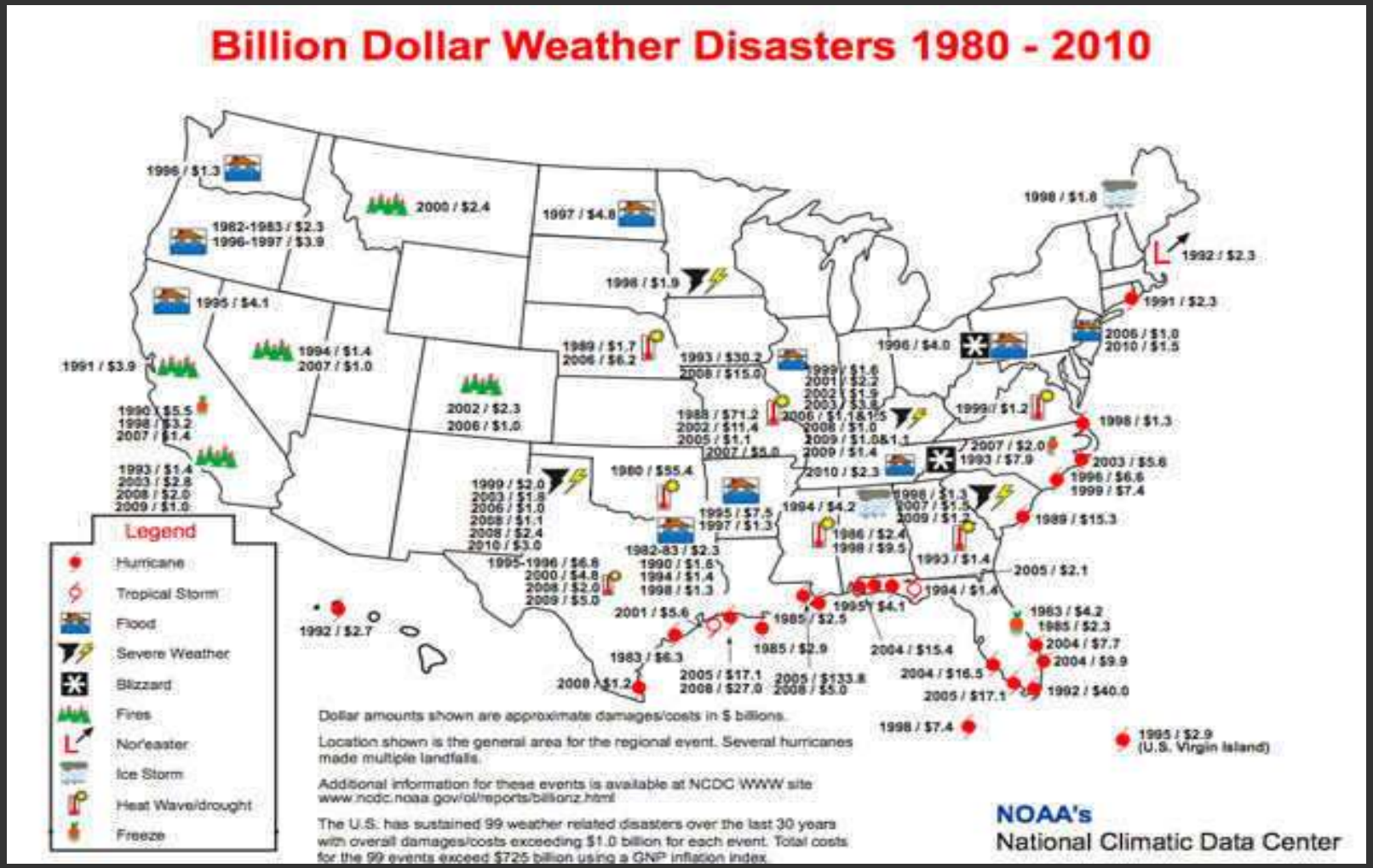
Source: Terando et al. (2014)

Mapping Vulnerability by Region

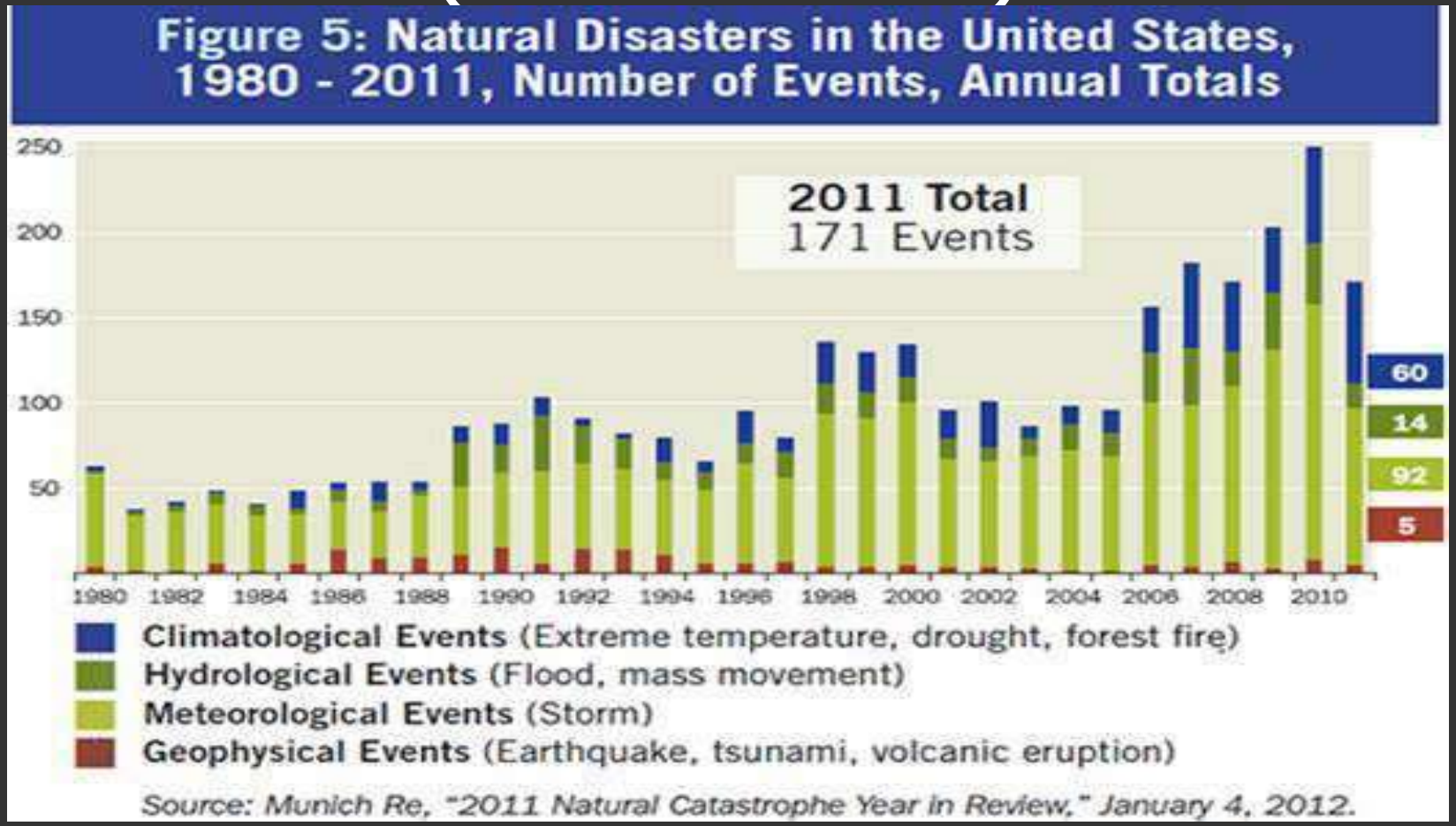


- Disaster Belt
- Black Belt
- Latino Belt
- Poverty Belt
- Uninsured Belt
- Bible Belt
- Fat Belt
- Food Desert Belt
- Diabetes Belt
- Stroke Belt
- Pollution Belt

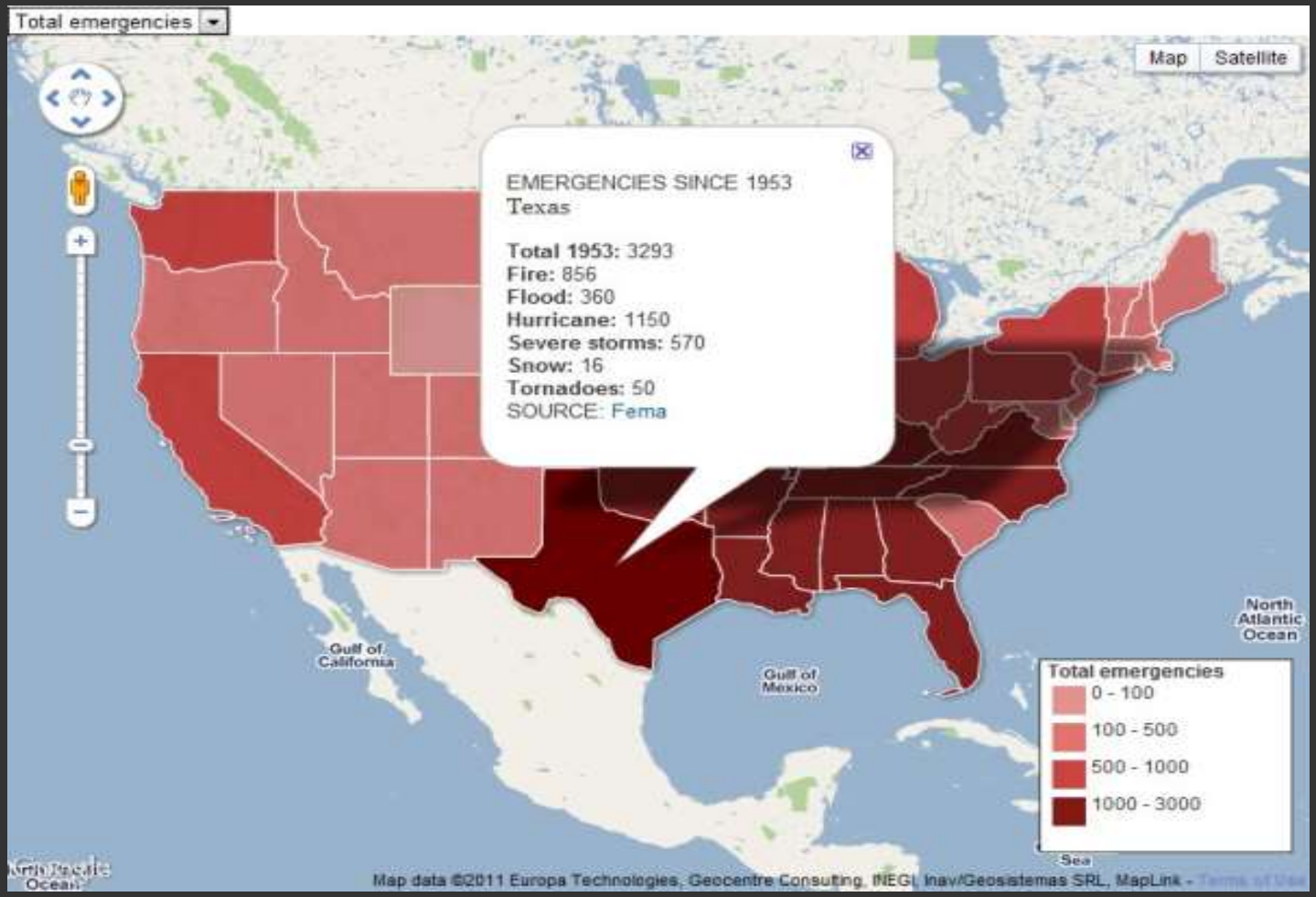
Geography of Disasters in the U.S. (1980 – 2010)



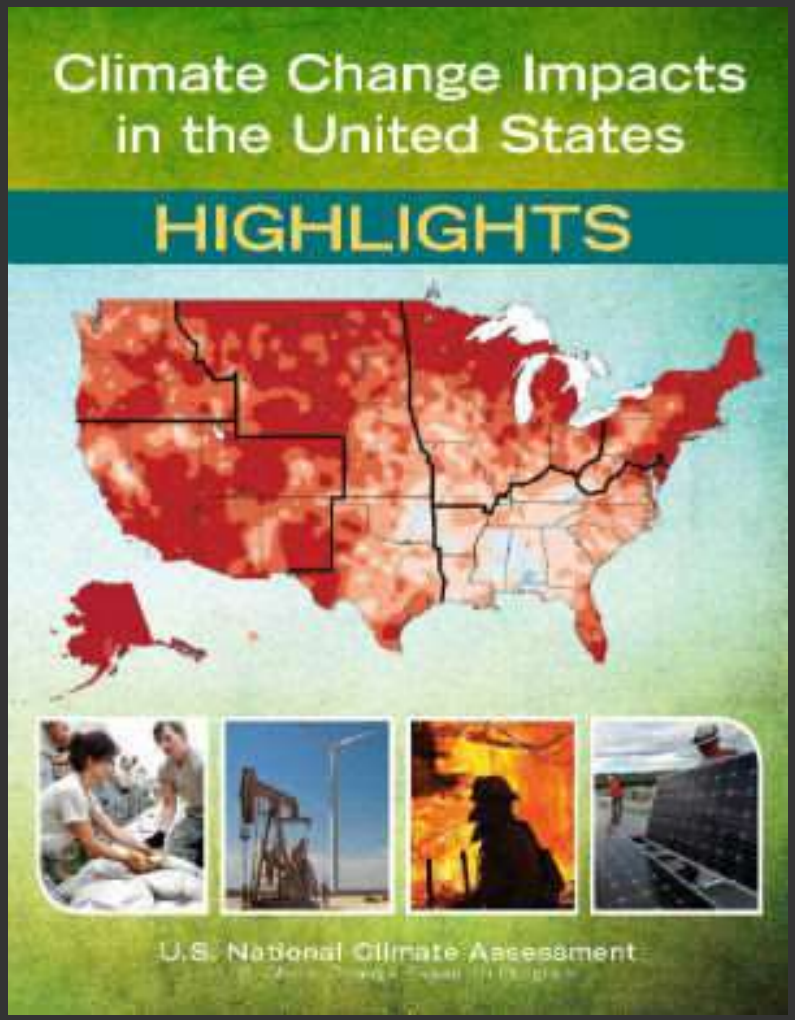
Natural Disasters in the U. S. (1980 – 2011)



Total Emergencies in Texas (1953 – 2011)

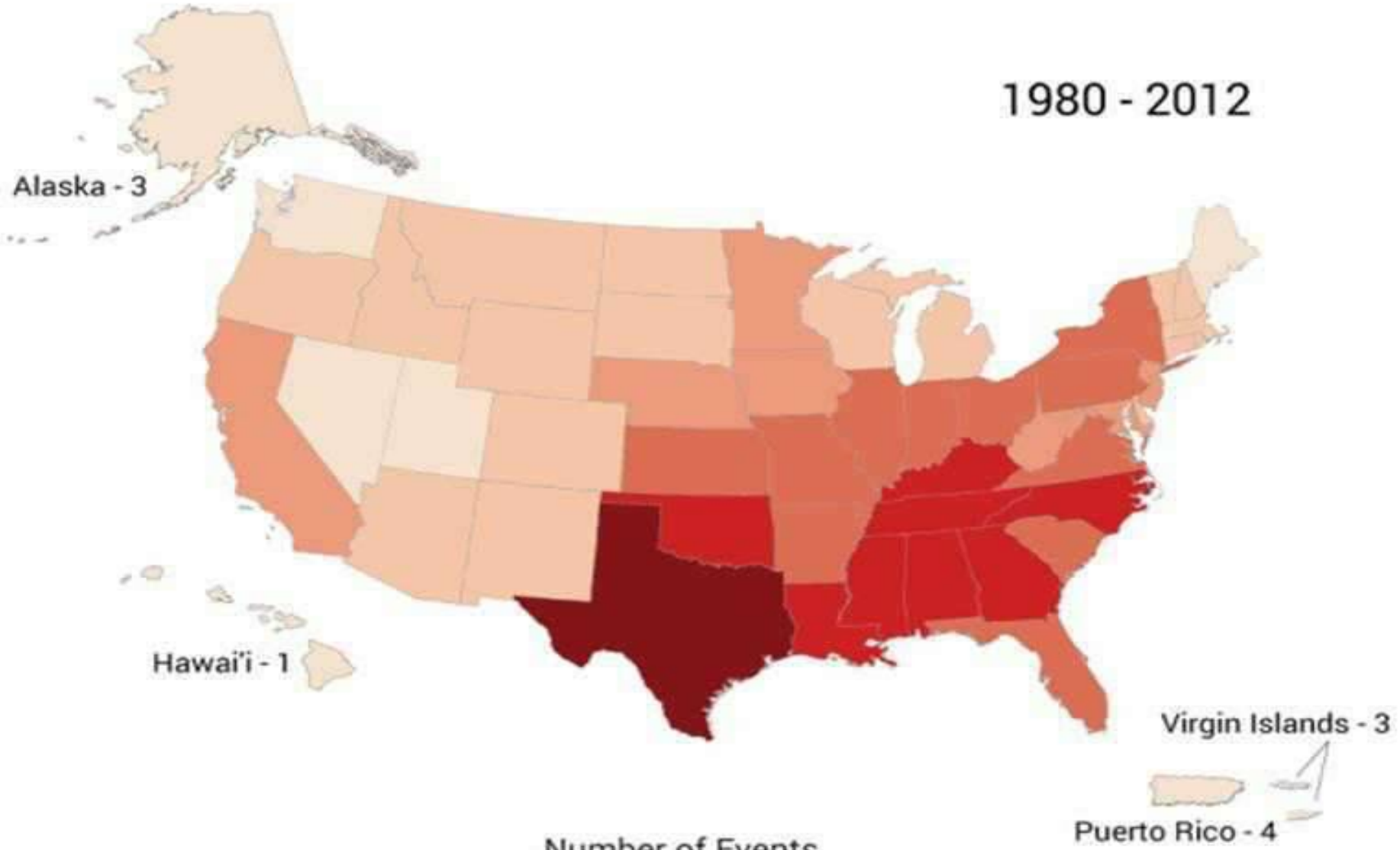


The Most Vulnerable Region in U.S.

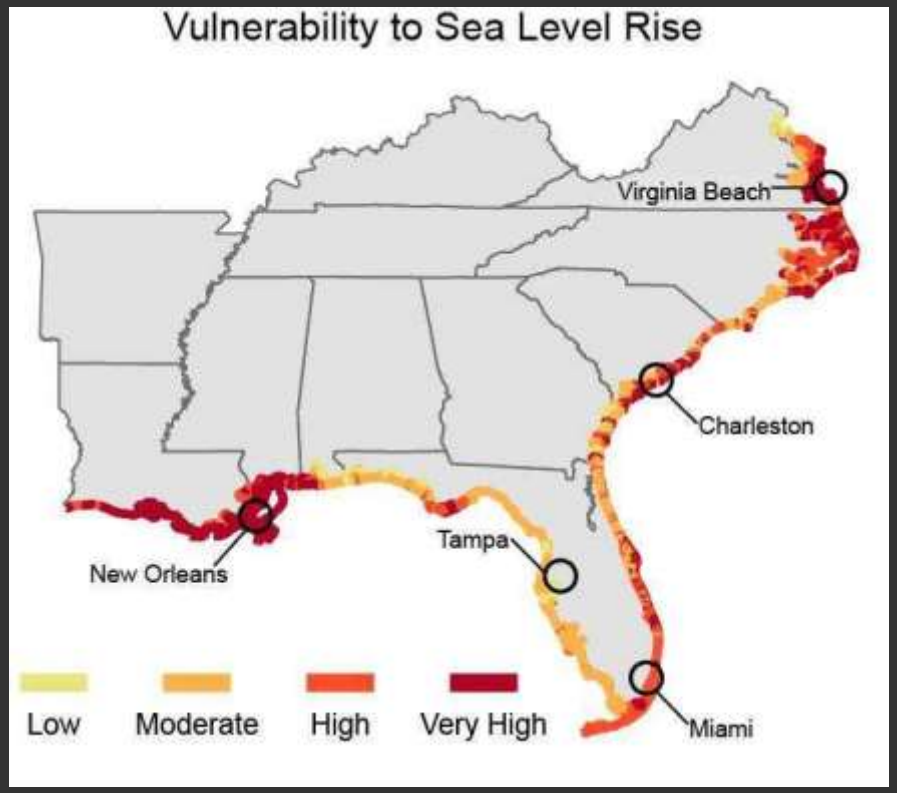


- The 2014 *National Climate Assessment* (NCA) described the Southeast U.S. as **"exceptionally vulnerable"** to sea level rise, extreme heat events, hurricanes, and decreased water availability."
- Severe weather events and climate-related disasters in the south have outnumbered similar events in other areas of the U.S. annually in both scale and magnitude by a **ratio of almost 4:1** during the past 10 years.
- The Southeast for the period 1980-2012 had more billion-dollar disasters than all other regions combined.

Billion Dollar Weather/Climate Disasters

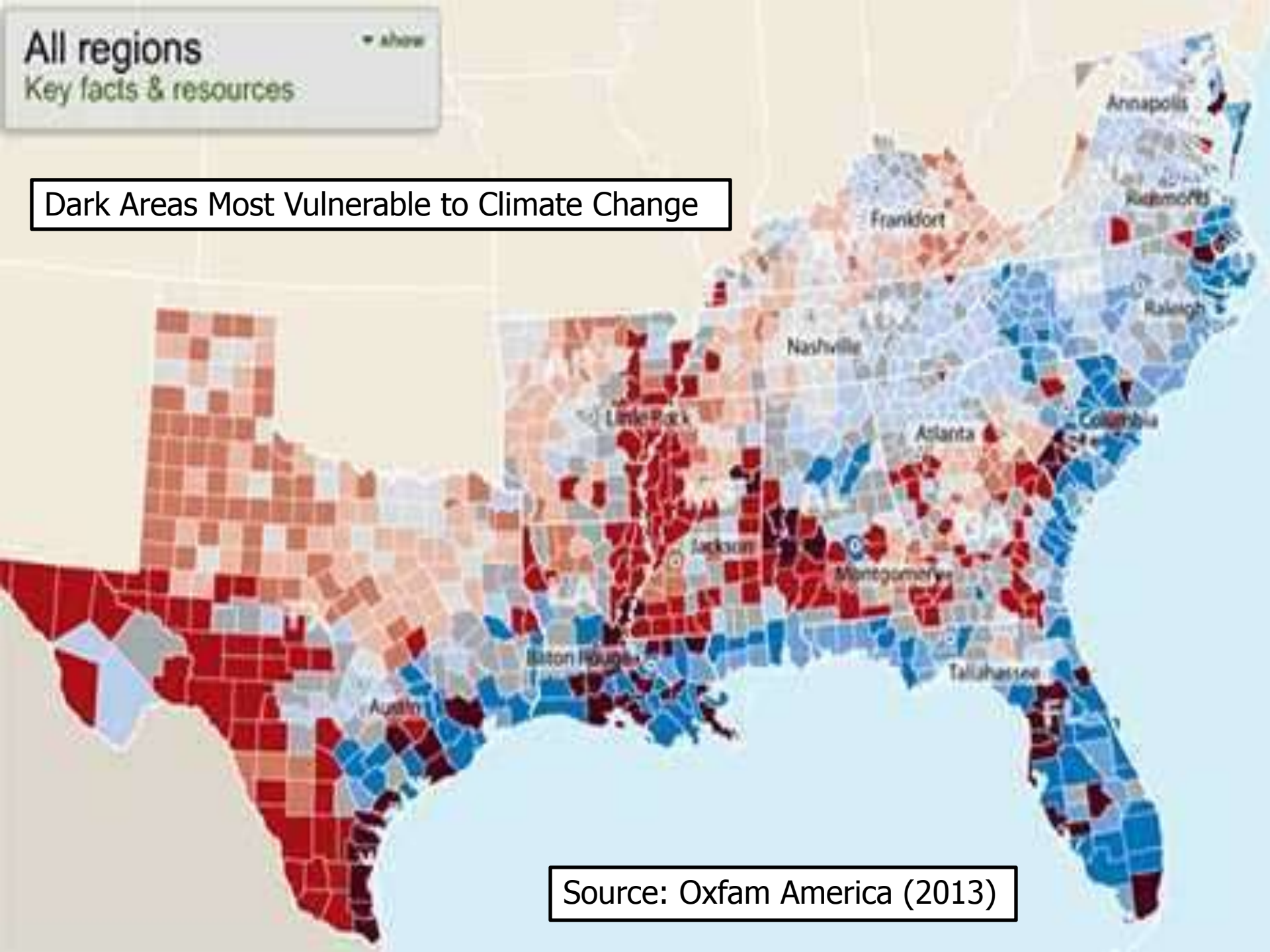


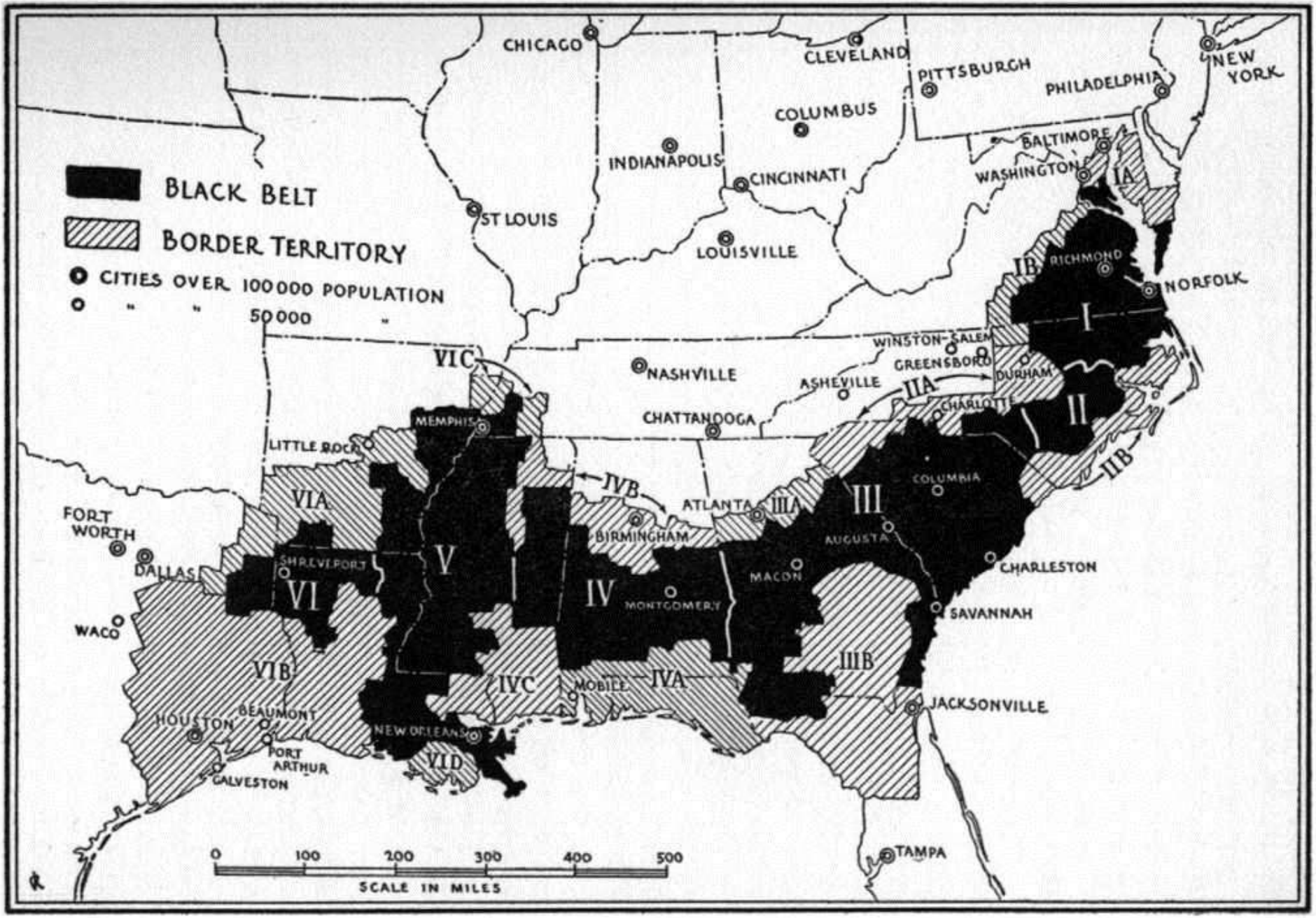
Southeast United States at Risk



- The **sea level rise could seriously threaten the Southeast's coastal infrastructure,** given that some of the regions major cities (e.g., New Orleans) are at or below sea level while others (e.g., Miami) are built on porous limestone that allows water inundation even in the presence of a sea wall.
- The Southeast will also likely be hit hardest by **heat impacts,** with an additional 48 to 130 days of 95 degrees F days per year by the end of the century.
- Will see an 11,000 to 36,000 additional **heat-related deaths** per year.

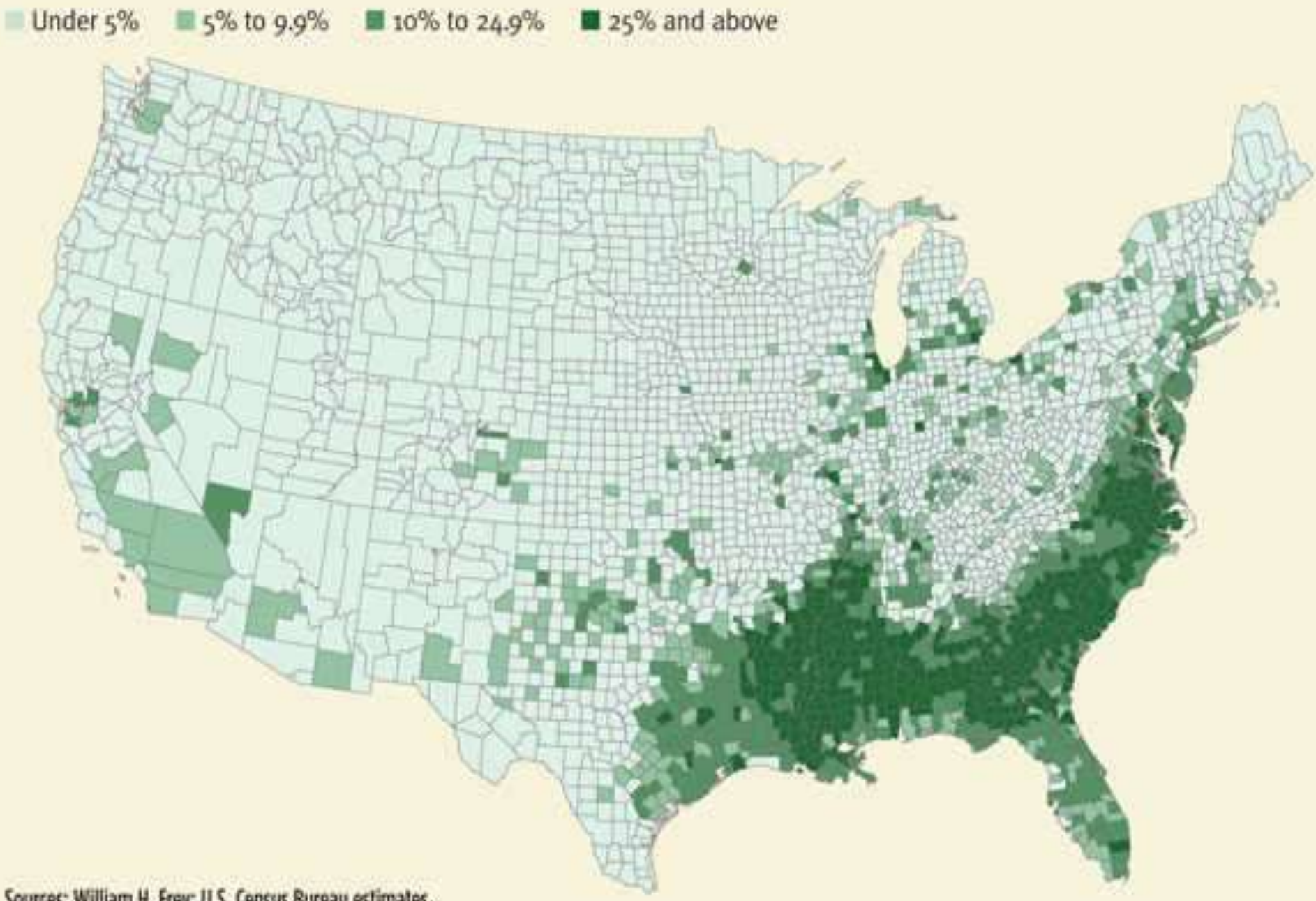
Vulnerability to Sea Level Rise


All regions
Key facts & resources
Dark Areas Most Vulnerable to Climate Change
Annapolis
Frankfort
Raleigh
Nashville
Atlanta
Source: Oxfam America (2013)



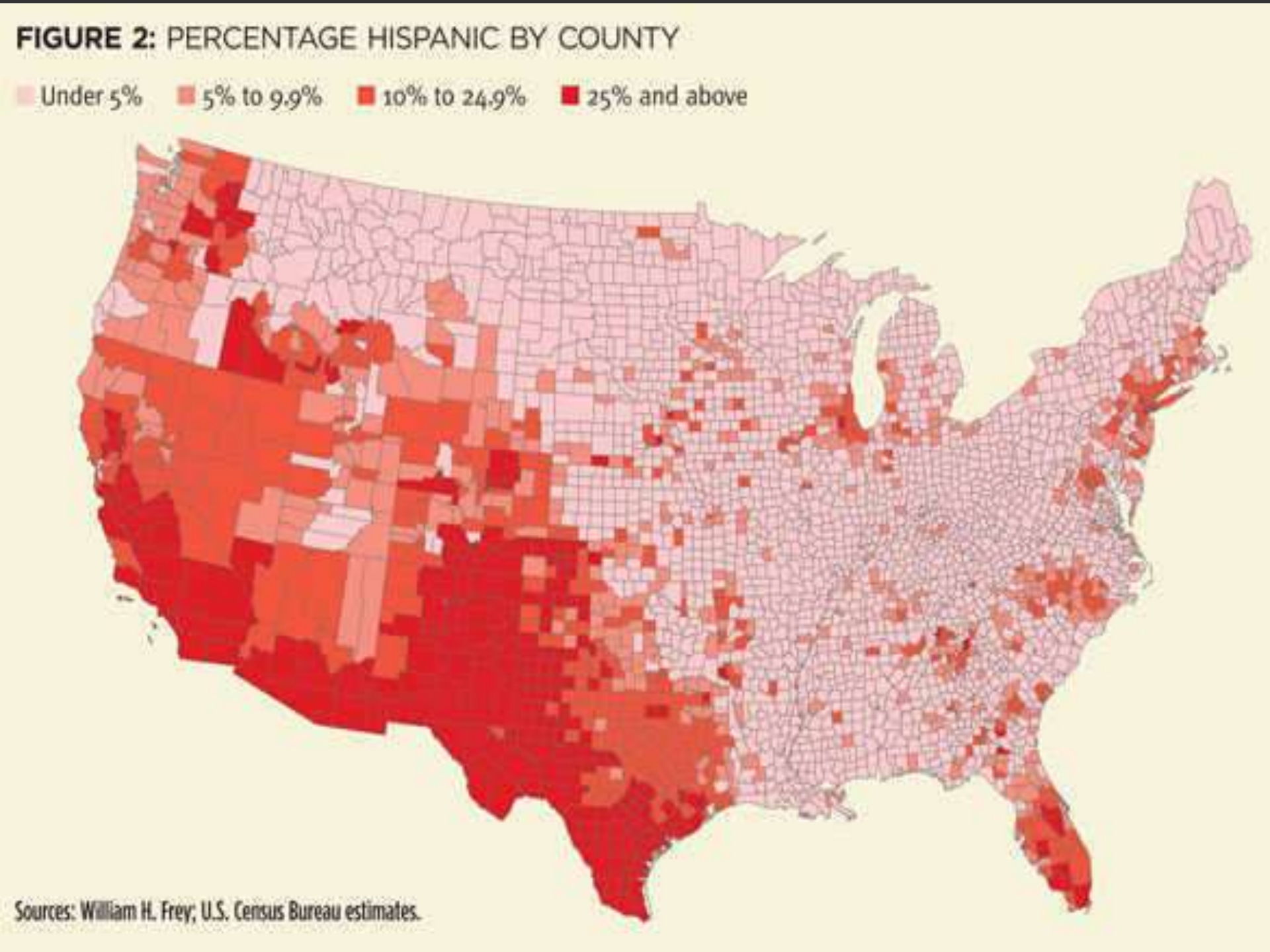
Black Belt and Border Territory

FIGURE 3: PERCENTAGE AFRICAN AMERICAN BY COUNTY



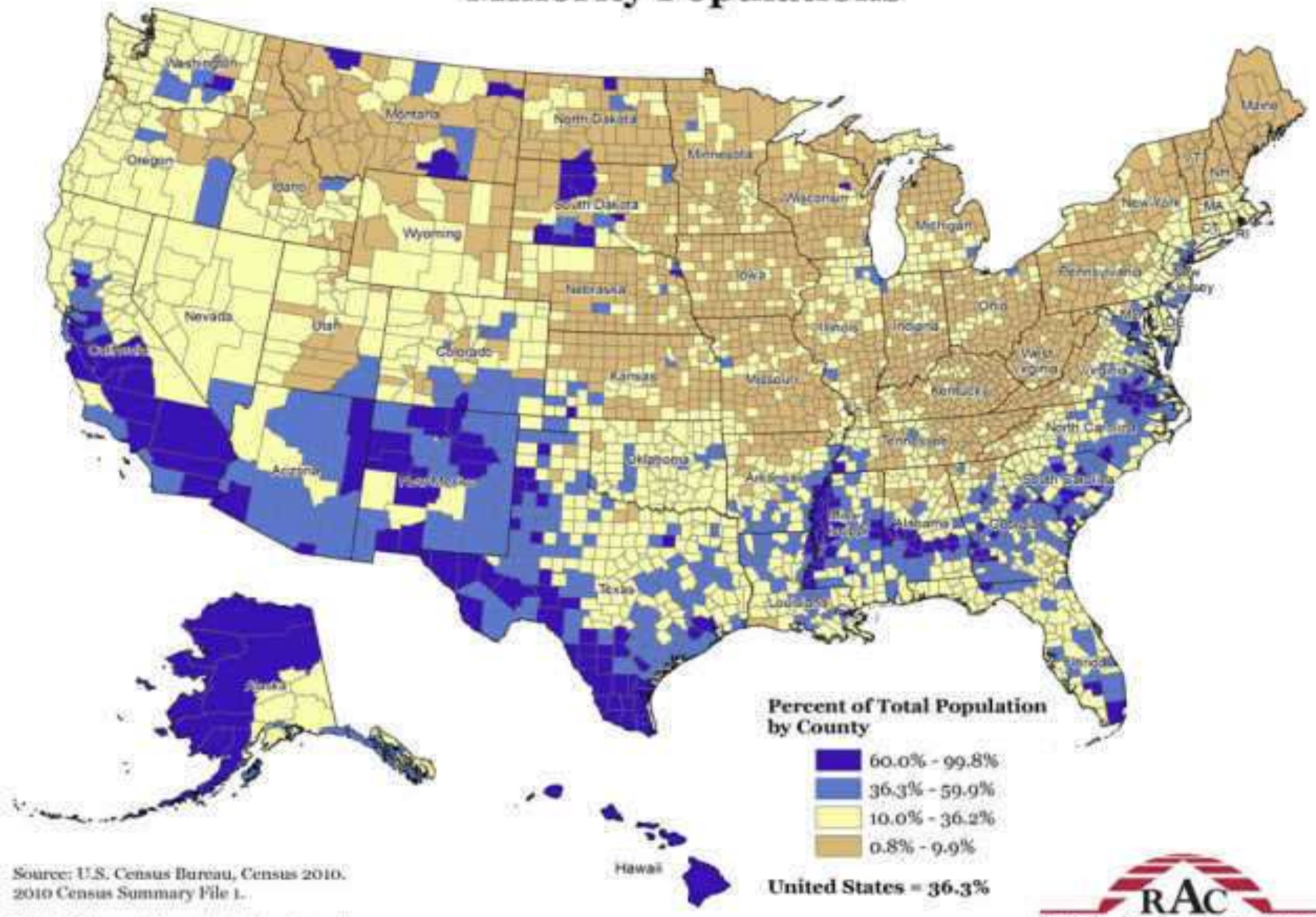
Sources: William H. Frey; U.S. Census Bureau estimates.

FIGURE 2: PERCENTAGE HISPANIC BY COUNTY

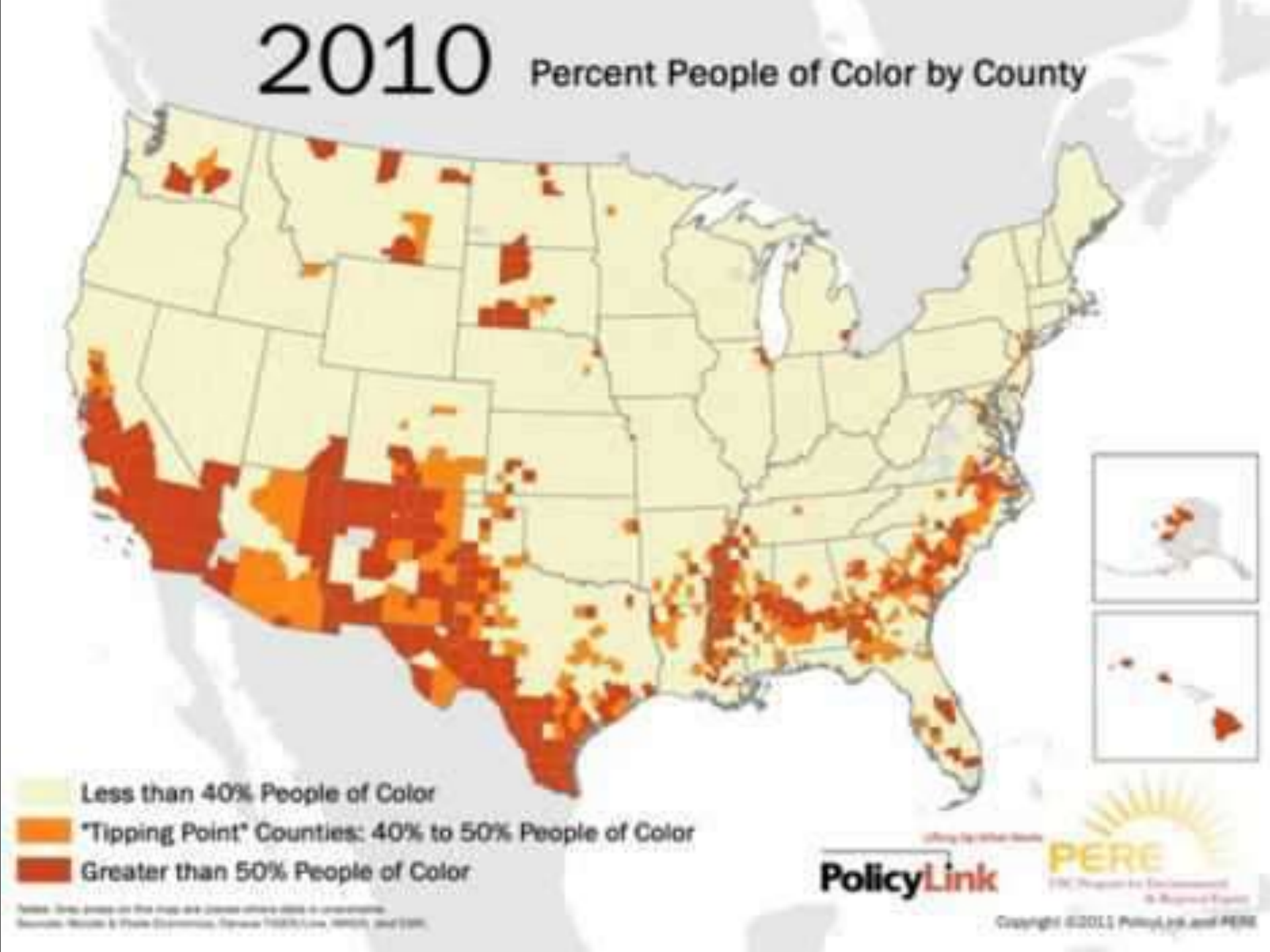


Sources: William H. Frey; U.S. Census Bureau estimates.

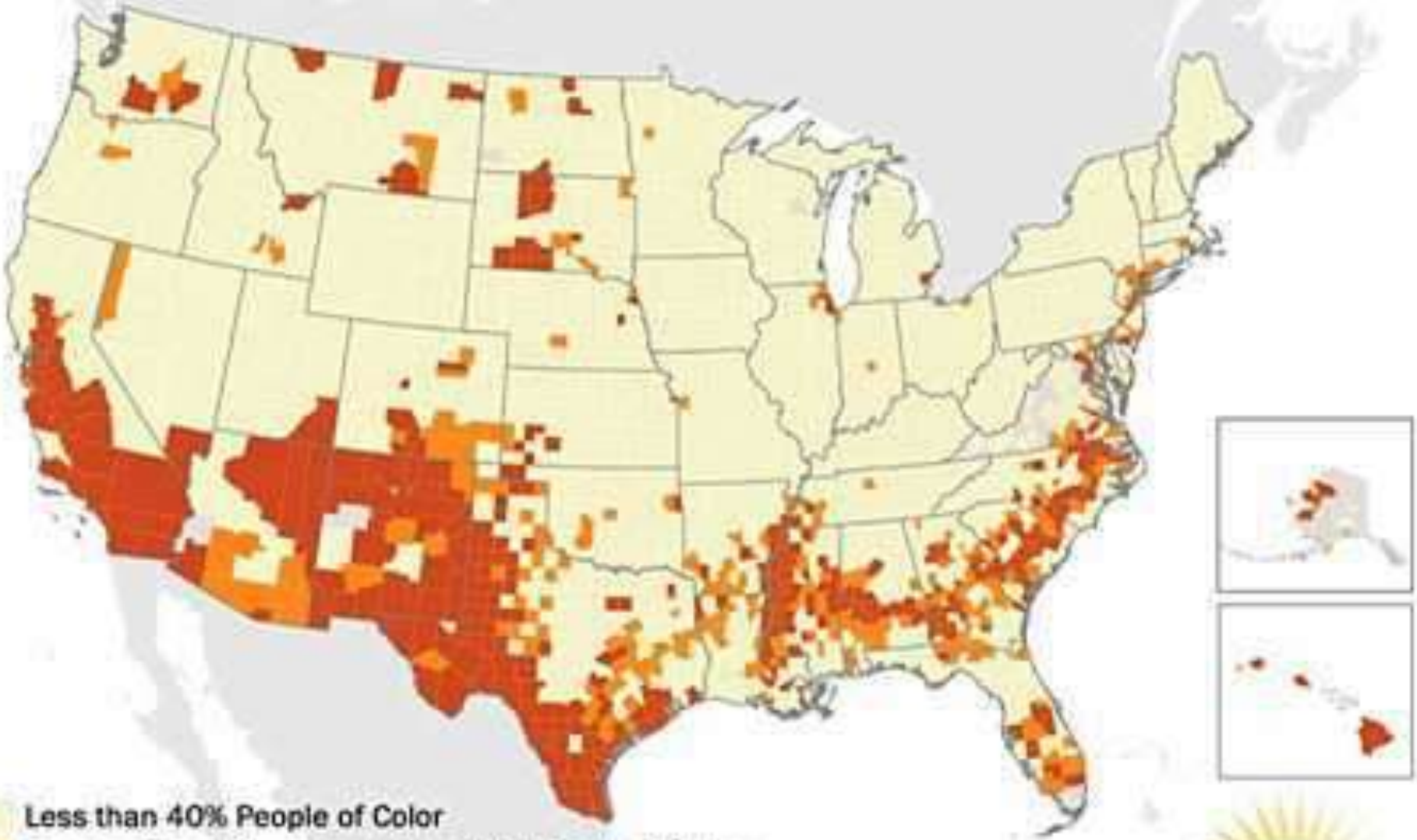
Minority Populations



Embracing (or Not) Demographic Transformation of the United States


2010
Percent People of Color by County
Less than 40% People of Color
"Tipping Point" Counties: 40% to 50% People of Color
Greater than 50% People of Color
PolicyLink
PERE

2020 Percent People of Color by County



Less than 40% People of Color

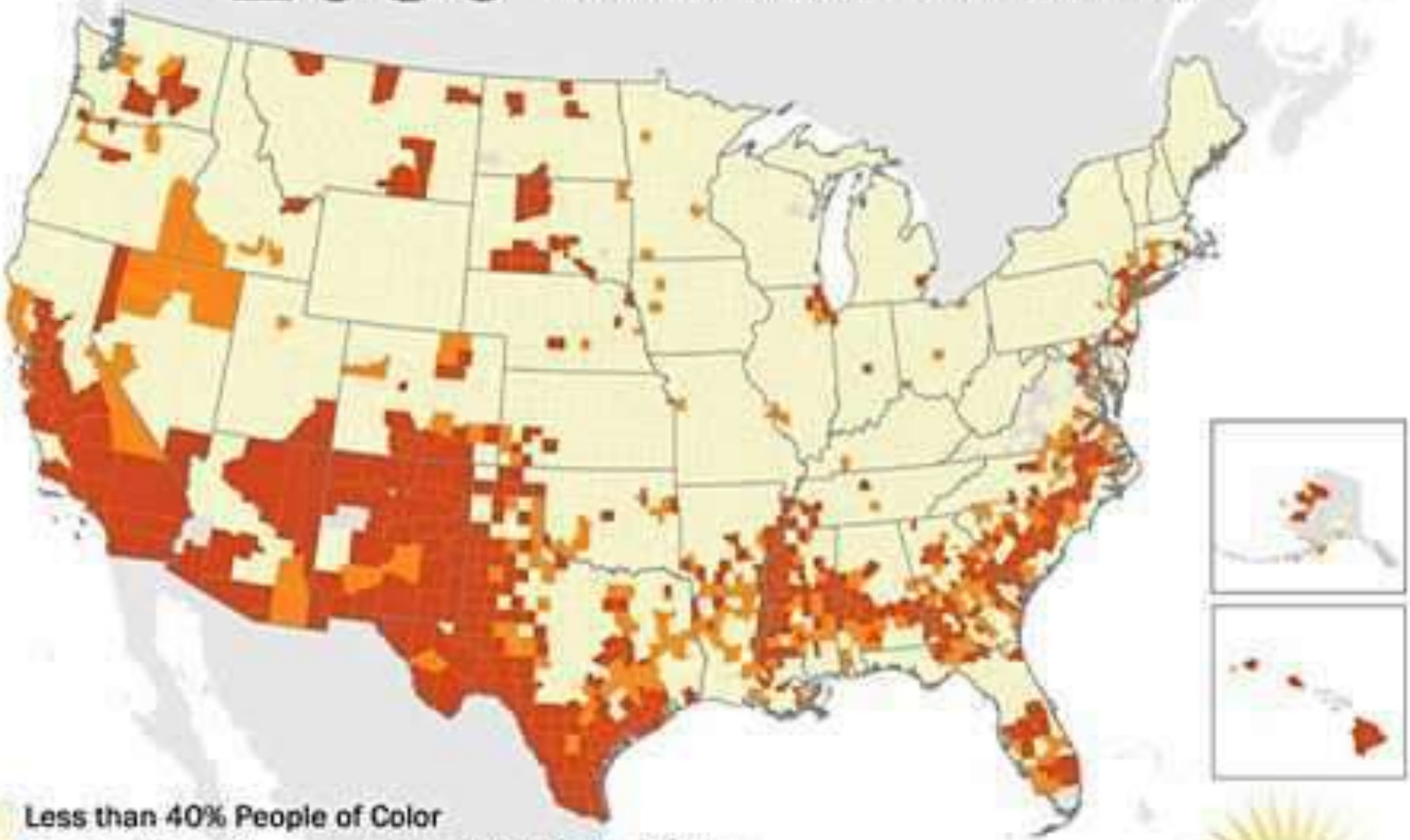
"Tipping Point" Counties: 40% to 50% People of Color

Greater than 50% People of Color

PolicyLink

PERE

2030 Percent People of Color by County



Less than 40% People of Color

"Tipping Point" Counties: 40% to 50% People of Color

Greater than 50% People of Color

PolicyLink

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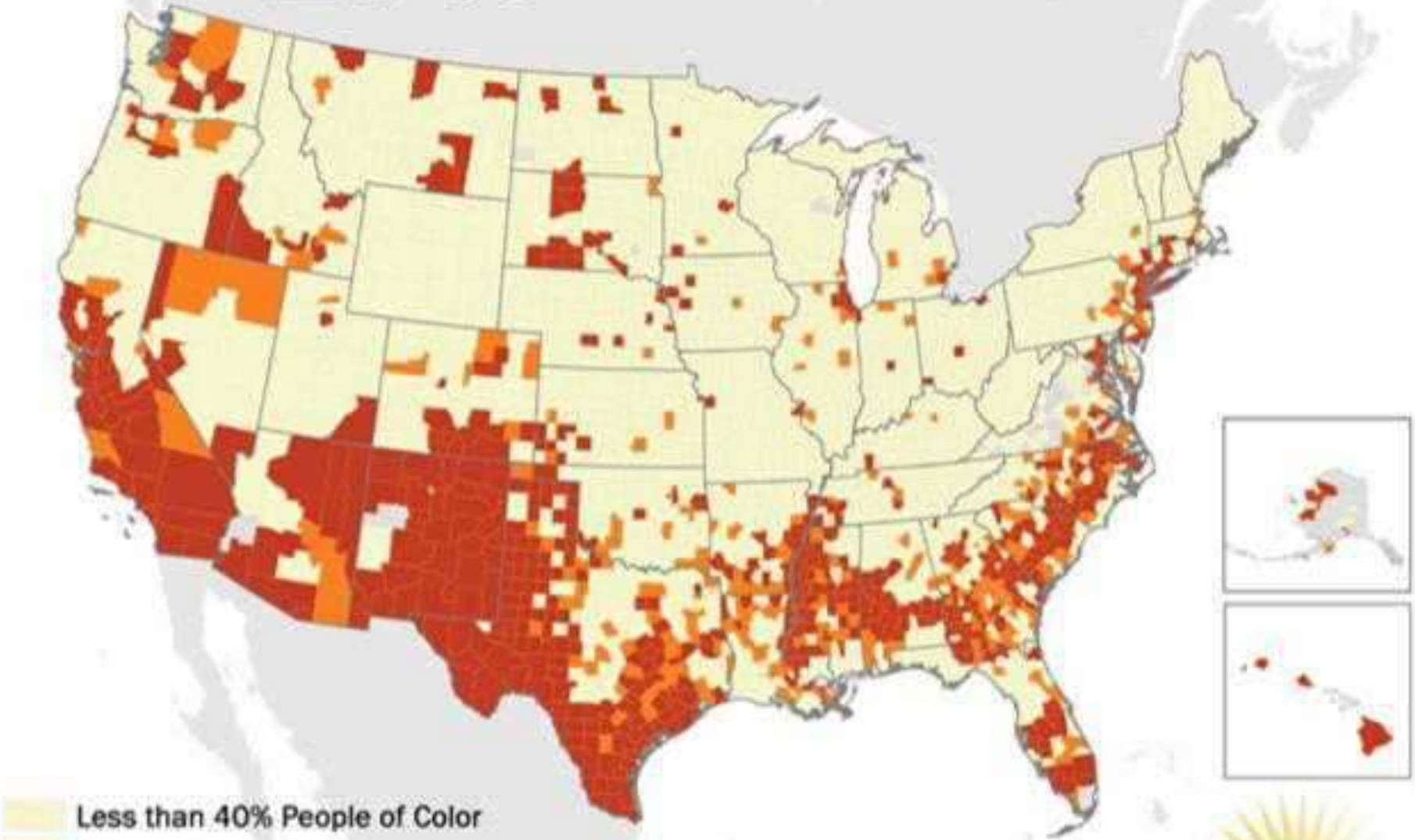
2040 Percent People of Color by County



Less than 40% People of Color

"Tipping Point" Counties: 40% to 50% People of Color

Greater than 50% People of Color

Notes: Grey areas on the map are places where data is unavailable.
Sources: Woods & Poole Economics, Census TIGER/Line, NHGIS, and ESRI

PolicyLink

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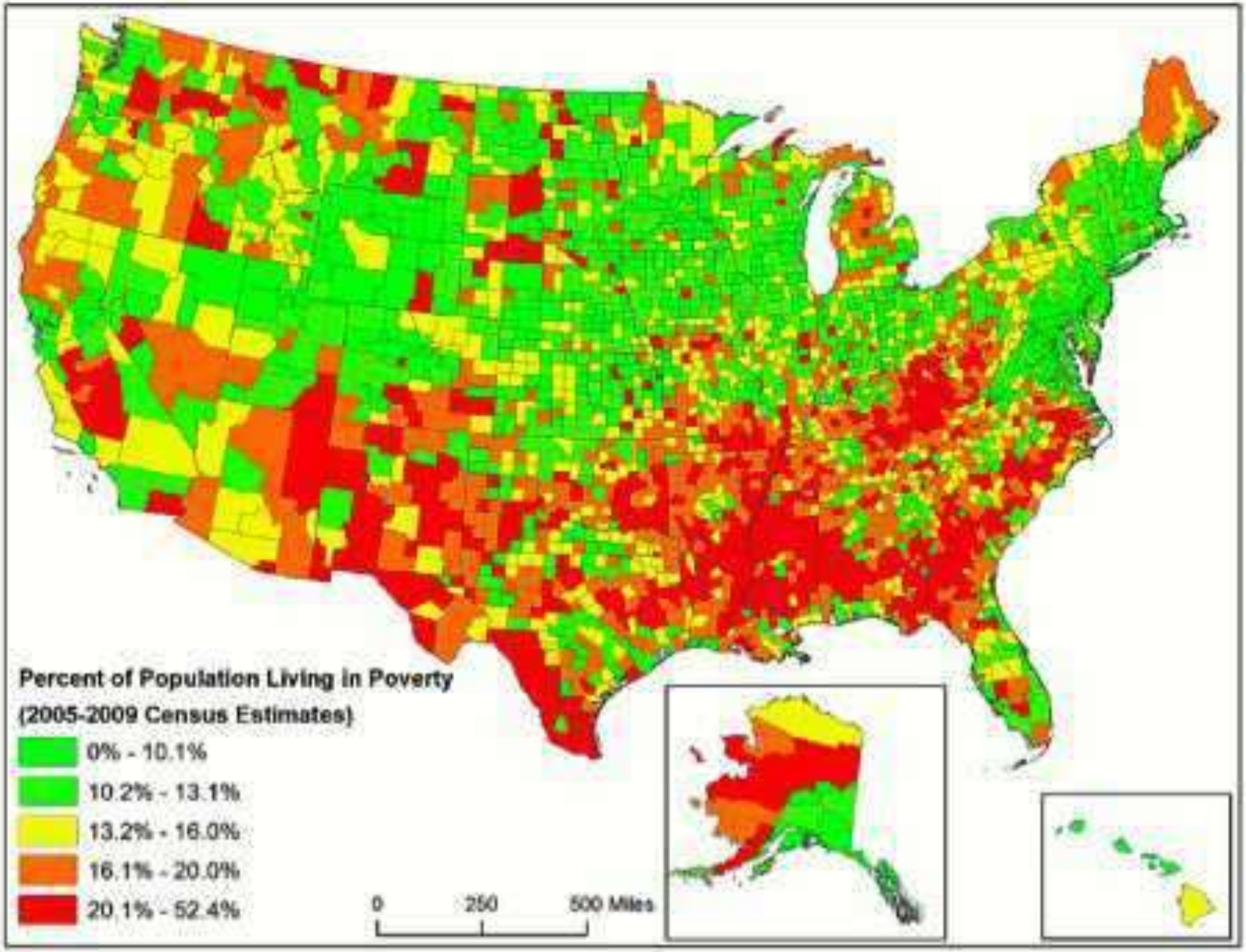
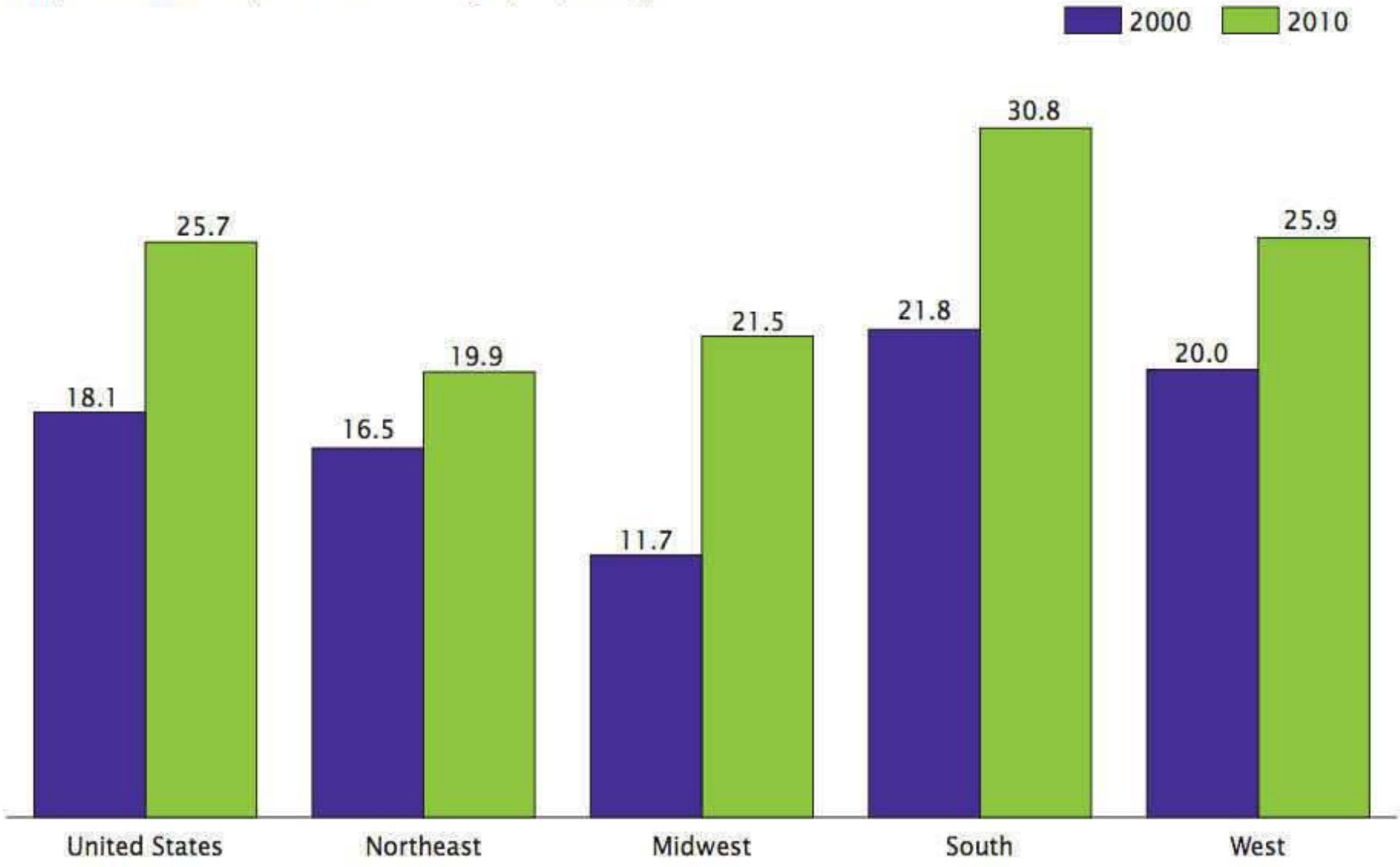

Percent of Population Living in Poverty
(2005-2009 Census Estimates)
0% - 10.1%
10.2% - 13.1%
13.2% - 16.0%
16.1% - 20.0%
20.1% - 52.4%
0
250
500 Miles

Figure 1.

People Living in Poverty Areas by Region: 2000 and 2010

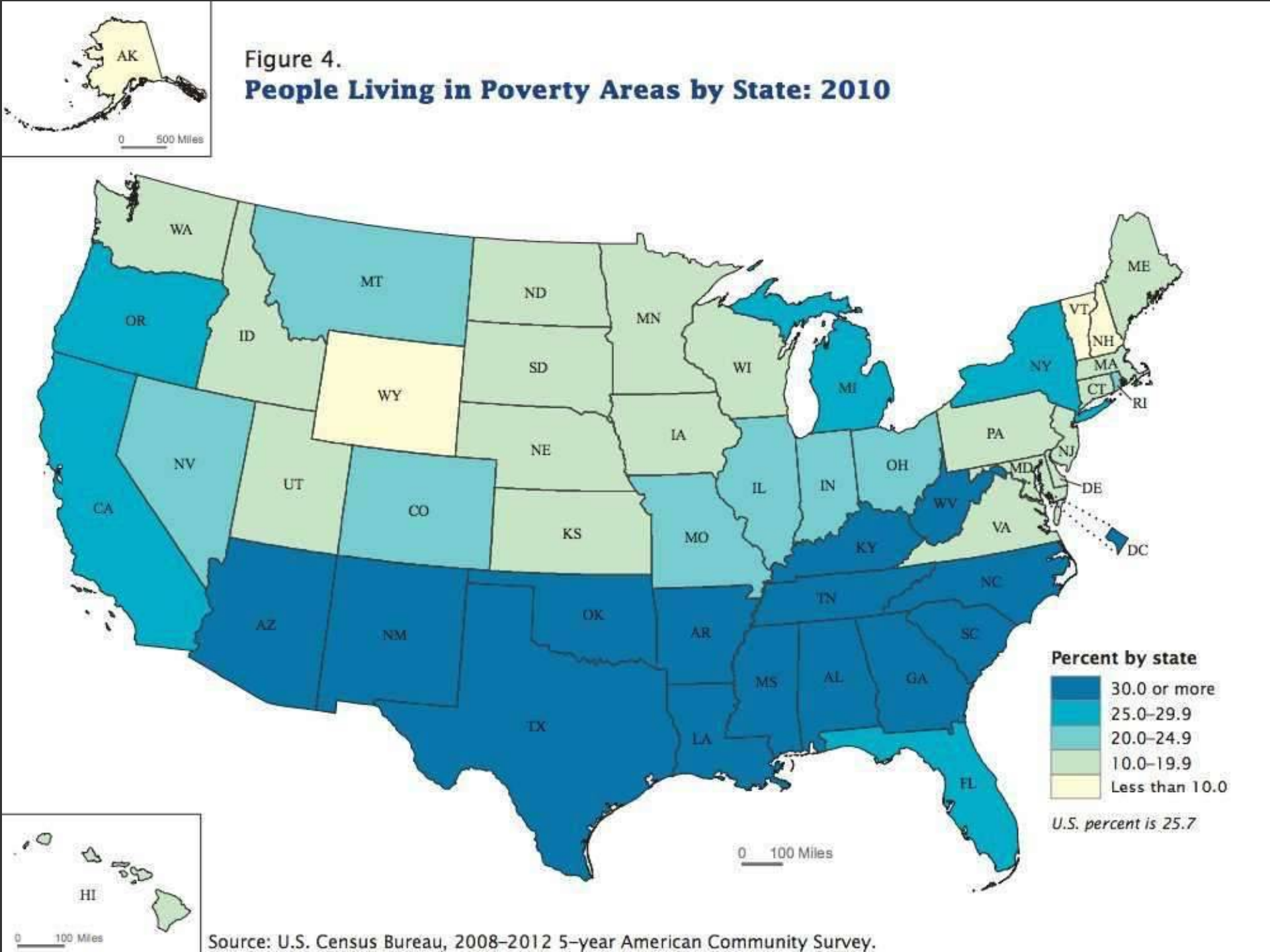
(In percent. Data based on sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see *www.census.gov/acs/www/*)



Source: U.S. Census Bureau, Census 2000 and 2008–2012 5-year American Community Survey data.

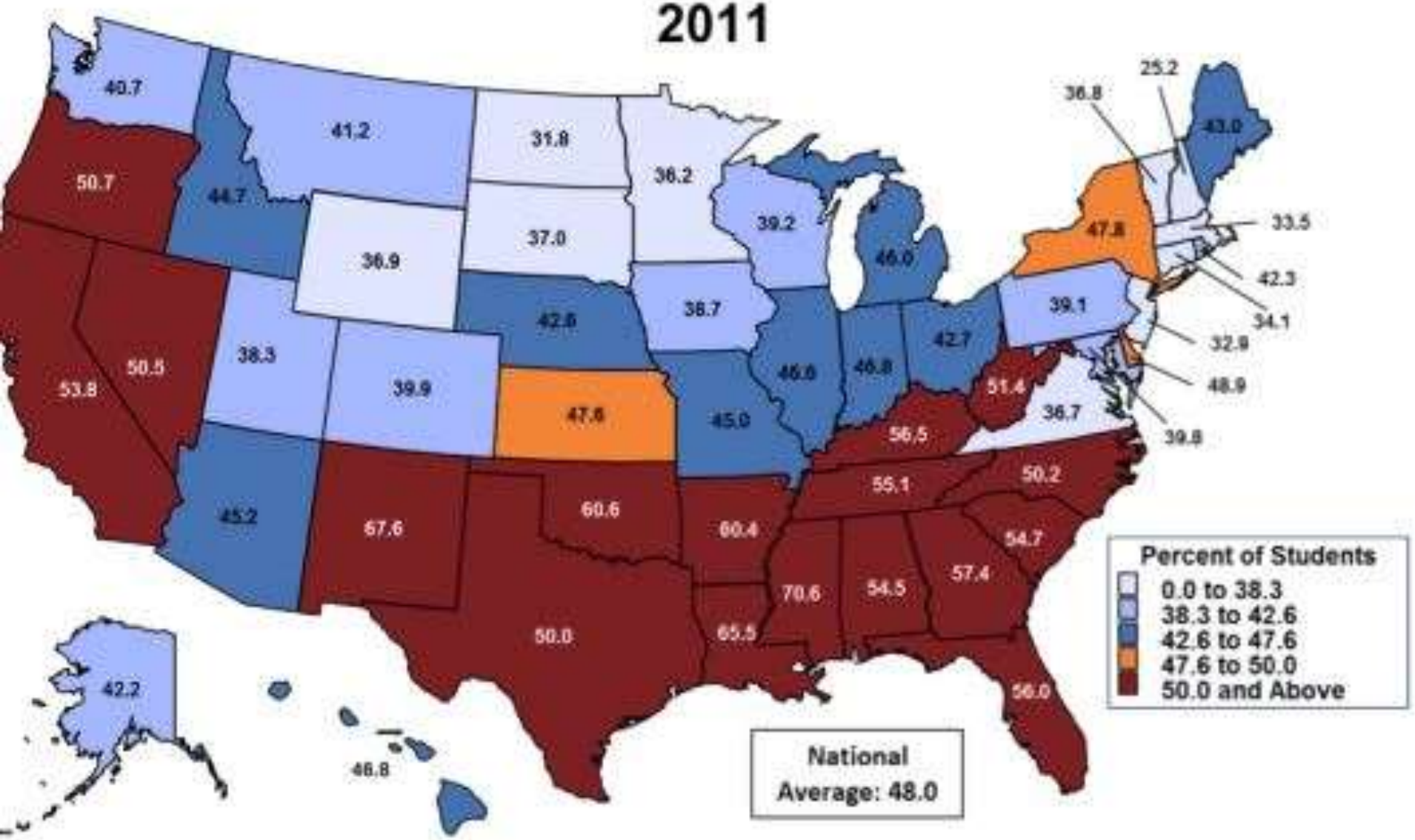
Figure 4.

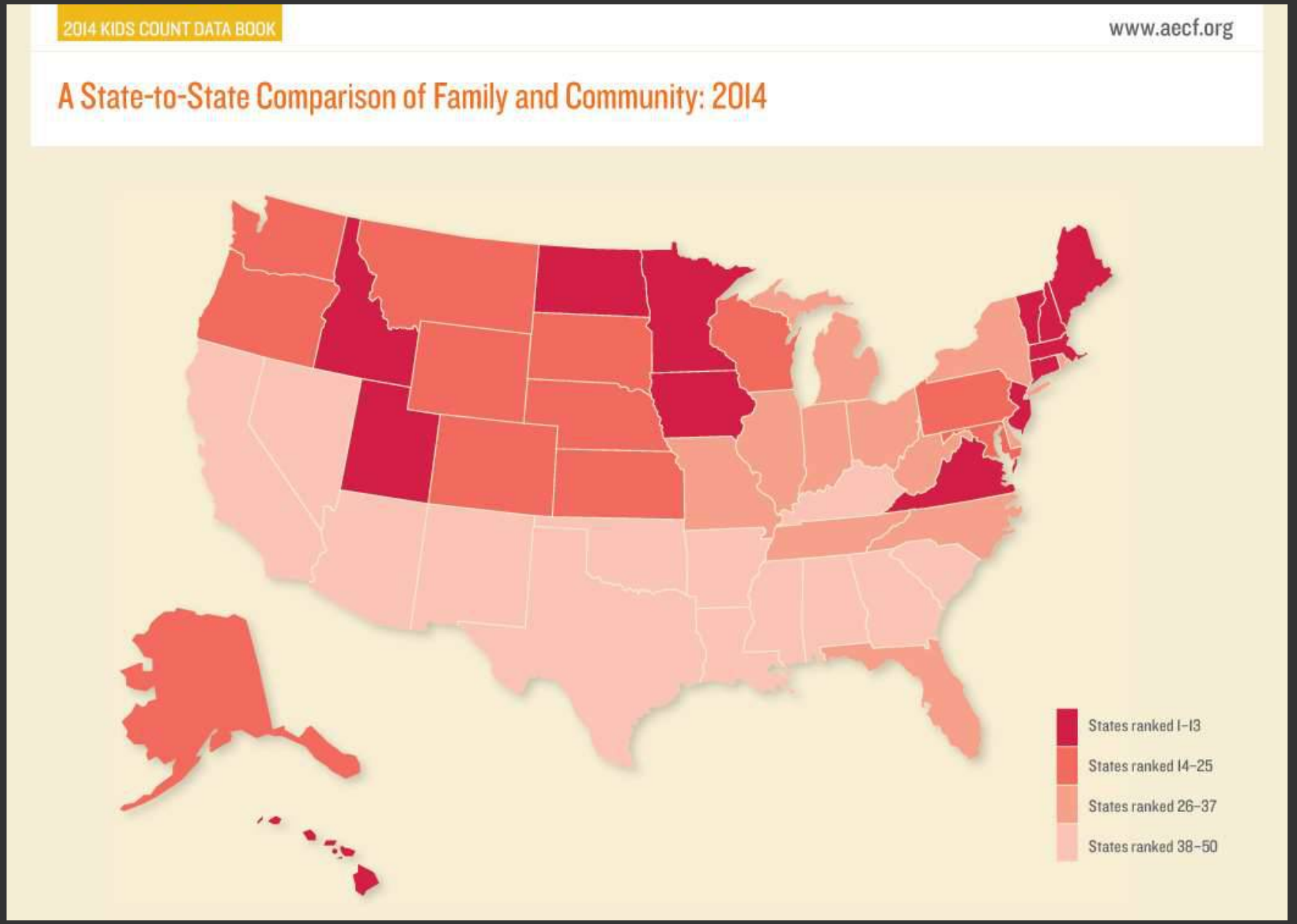
People Living in Poverty Areas by State: 2010



Source: U.S. Census Bureau, 2008–2012 5-year American Community Survey.

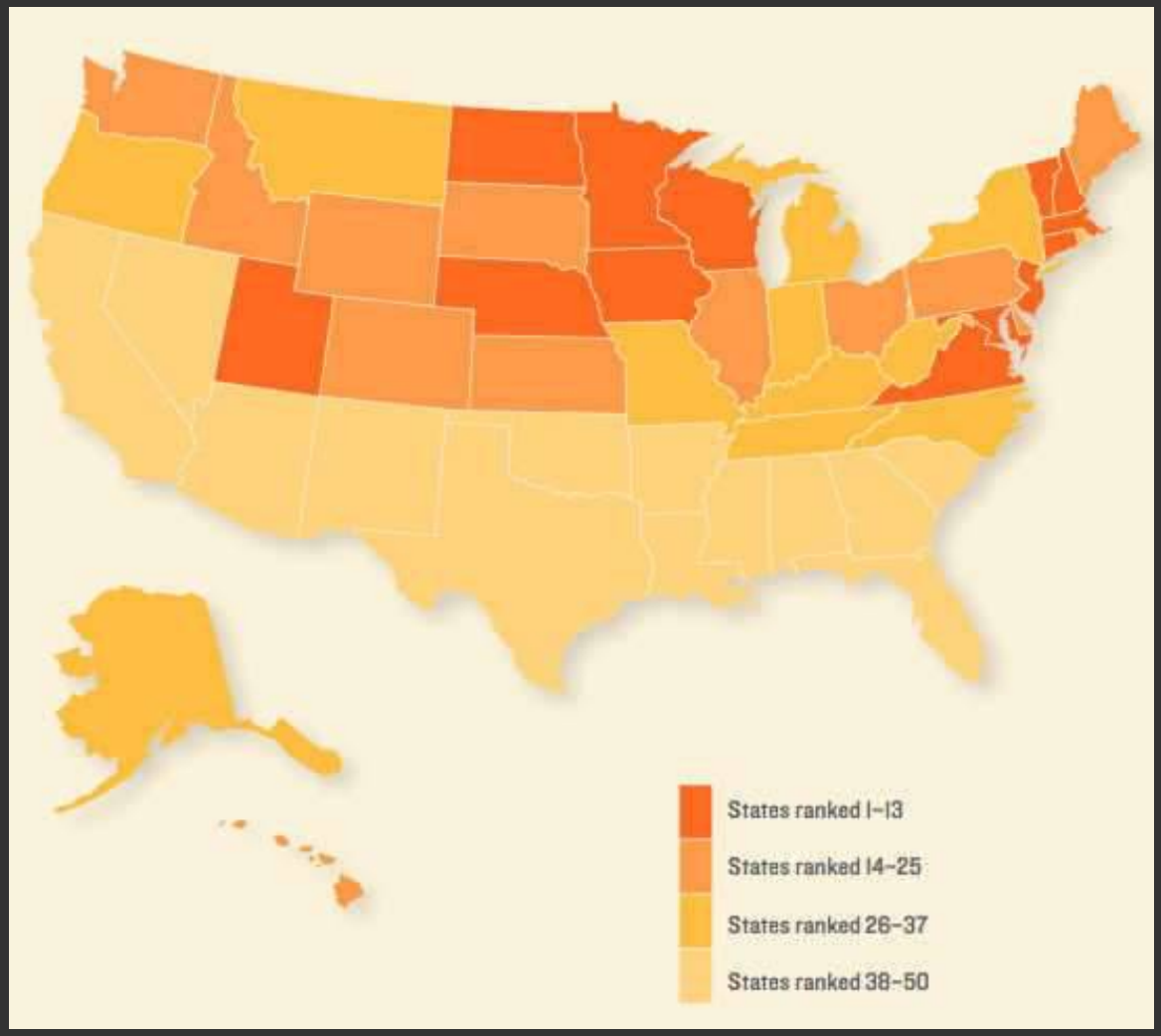
Percent of Low Income Students in All Public Schools 2011





Source: Annie E. Casey Foundation (2014)

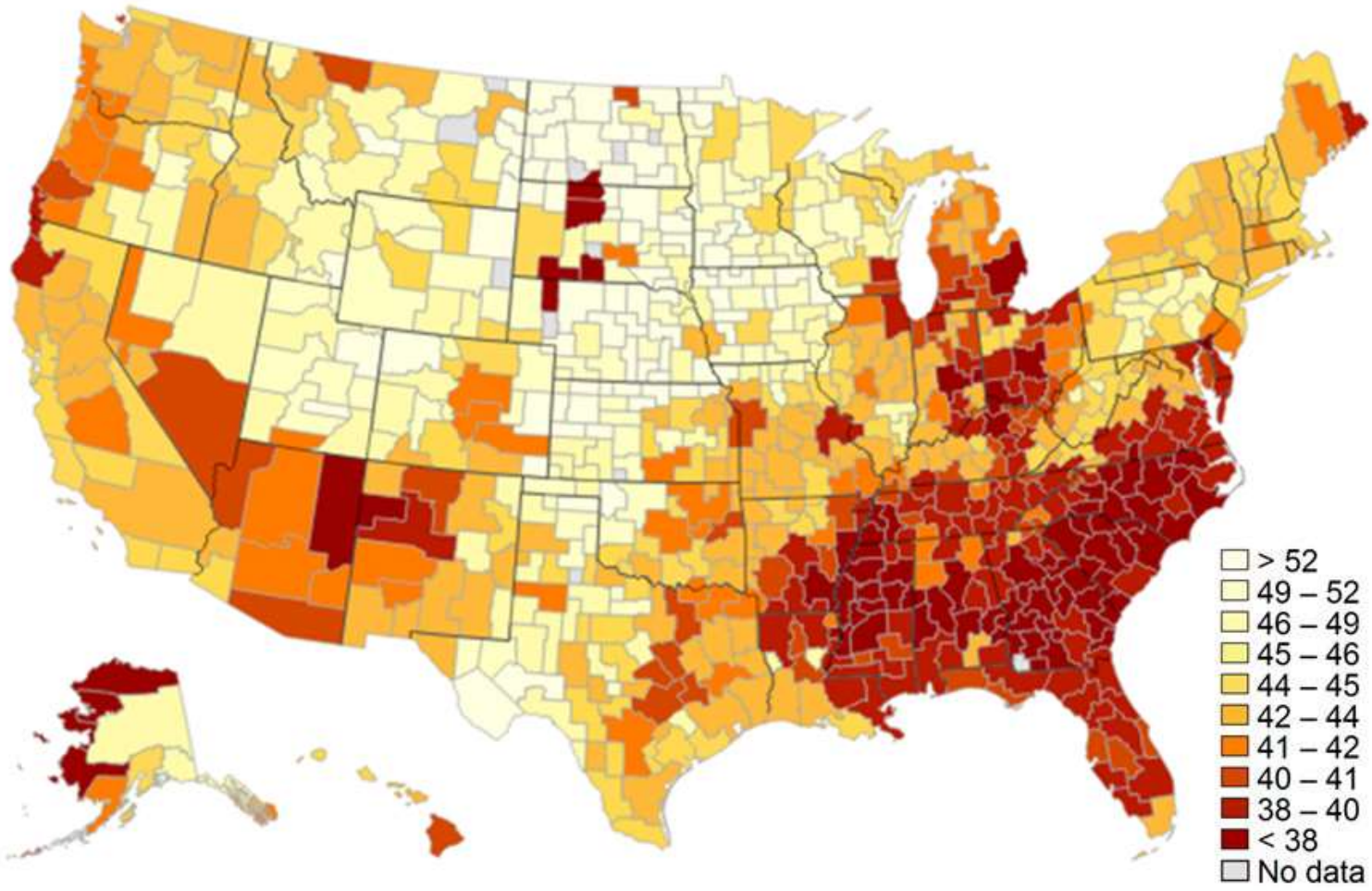
Overall Child Well-Being 2014



Source: Annie E. Casey Foundation (2014)

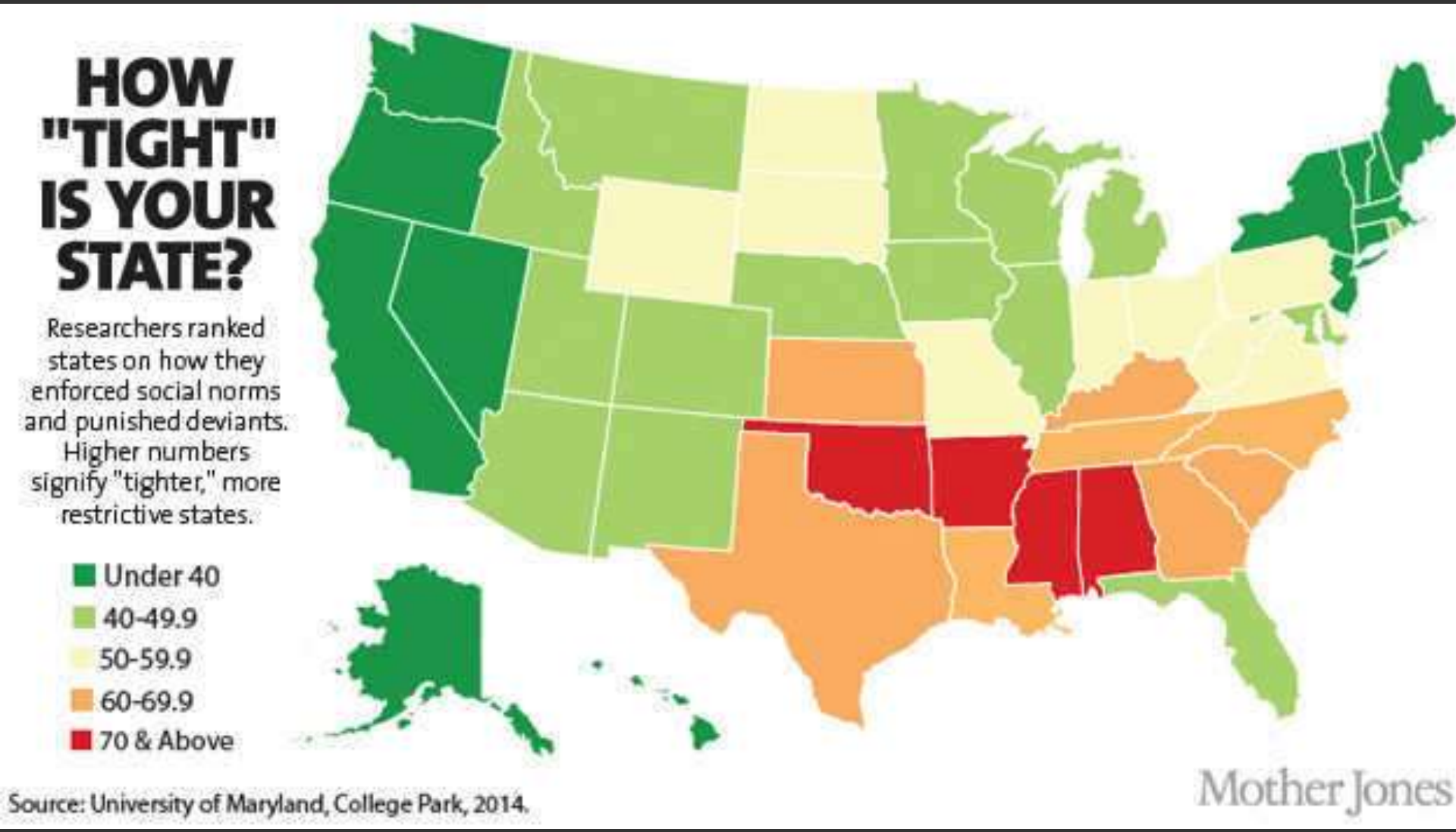
Absolute Upward Mobility Across Areas in the U.S.

Mean Child Rank for Parent at 25th National Quantile (Y_{25})



Note: Lighter Color = More Absolute Upward Mobility

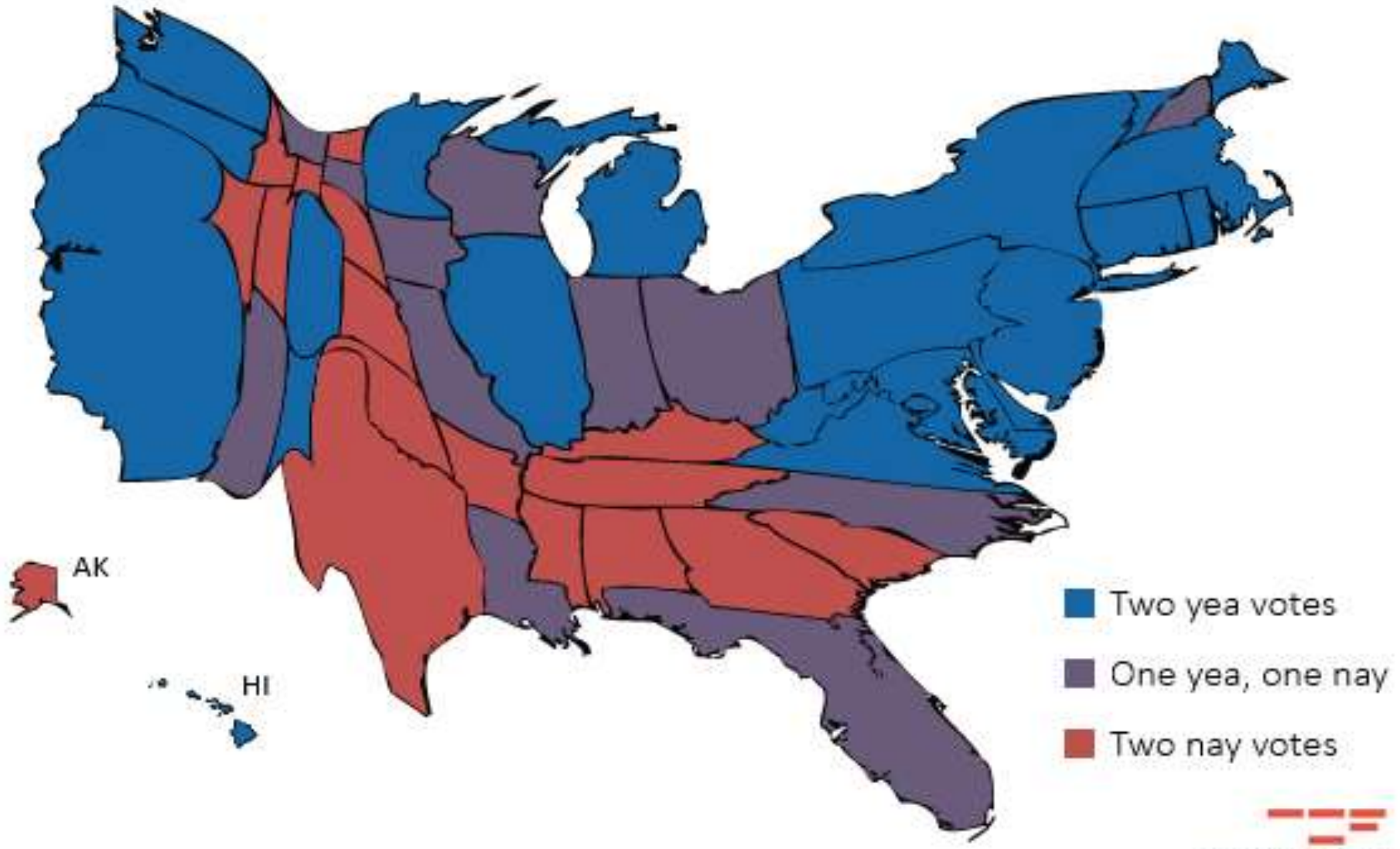
Source: Chetty et al. (2014)



Source: Harrington and Gelfand (2014)

Senate votes on Manchin-Toomey gun control bill by state

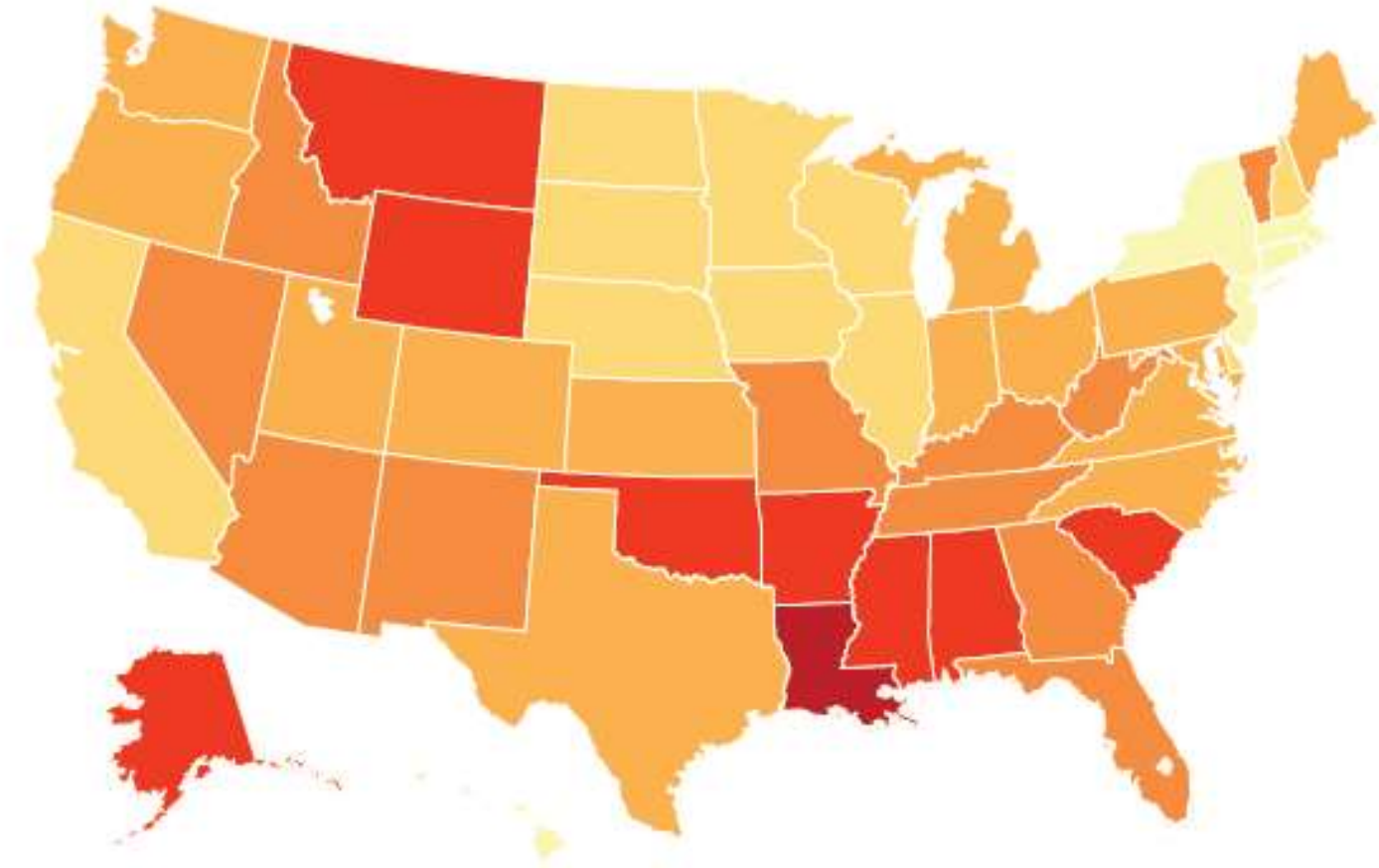
Adjusted for population size



Source: U.S. Senate, M.E.J. Newman

THE CENTURY FOUNDATION

Southern And Western States Have High Gun Death Rates



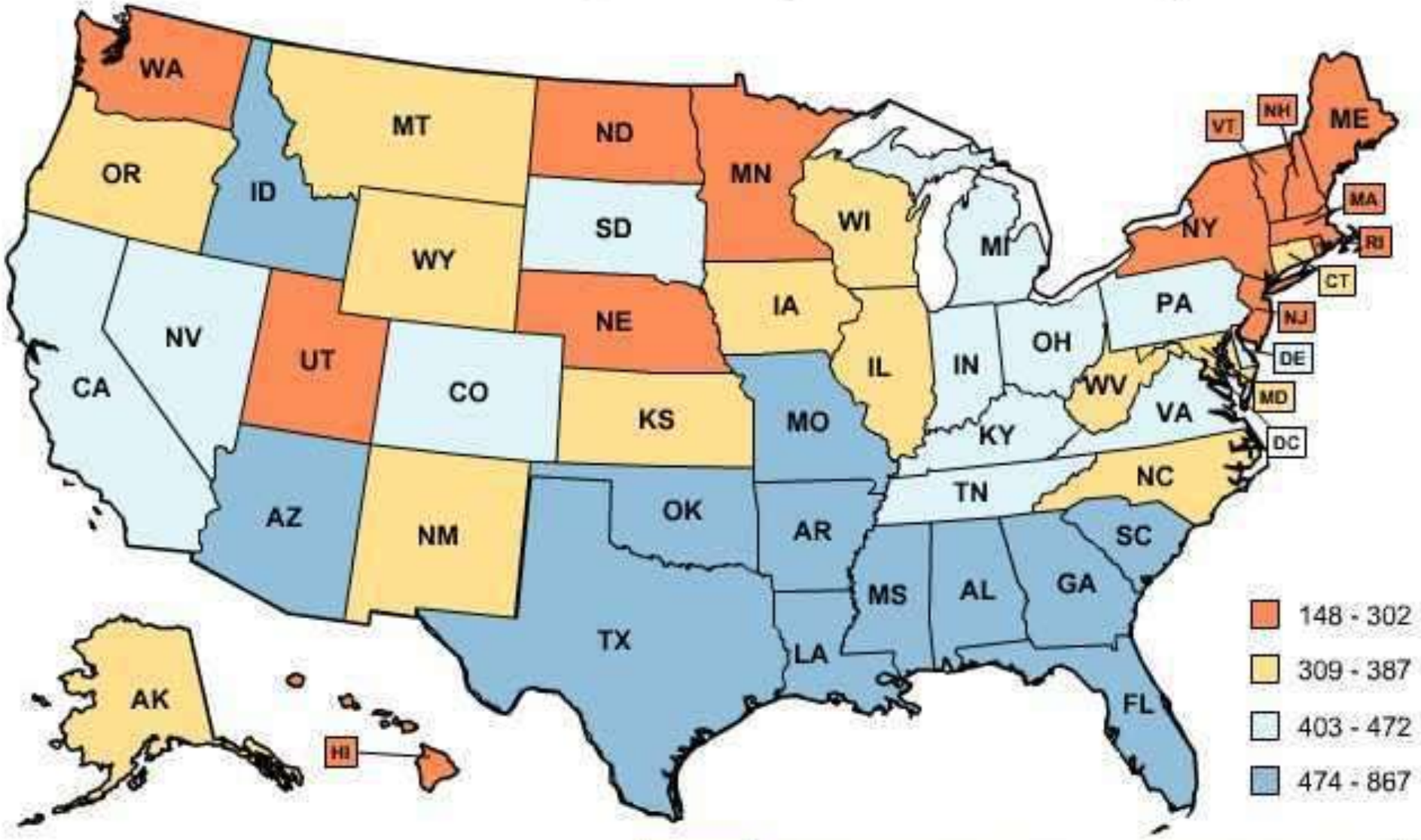
Gun death rate per 100,000, 2011

3–6	6.1–9	9.1–12	12.1–15	15.1–18	18.1+

Source: Violence Policy Center

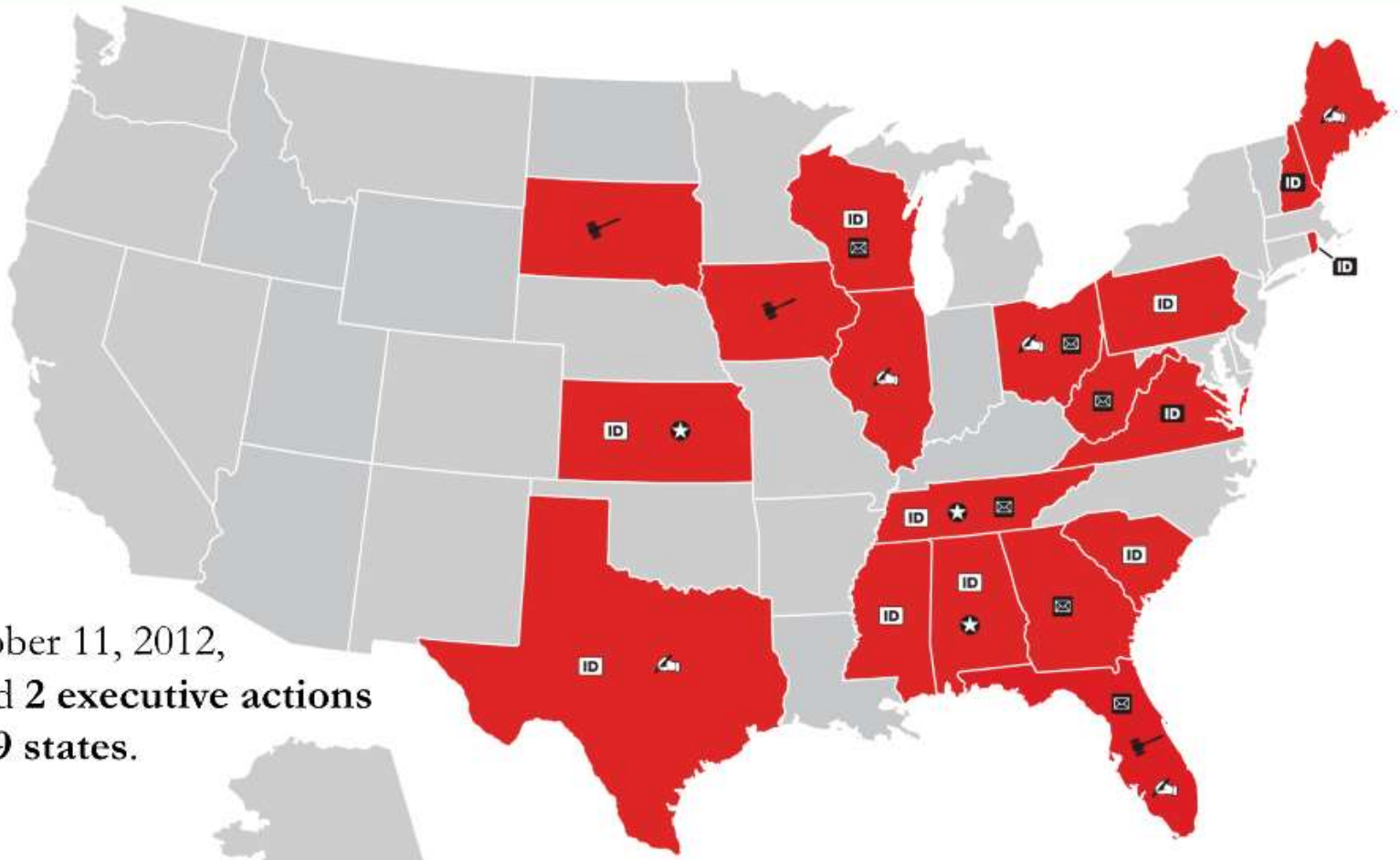
THE HUFFINGTON POST

Incarceration Rate per 100,000 Residents, 2010



Source: Death Penalty Information Center (2014)

States that passed restrictive voting laws



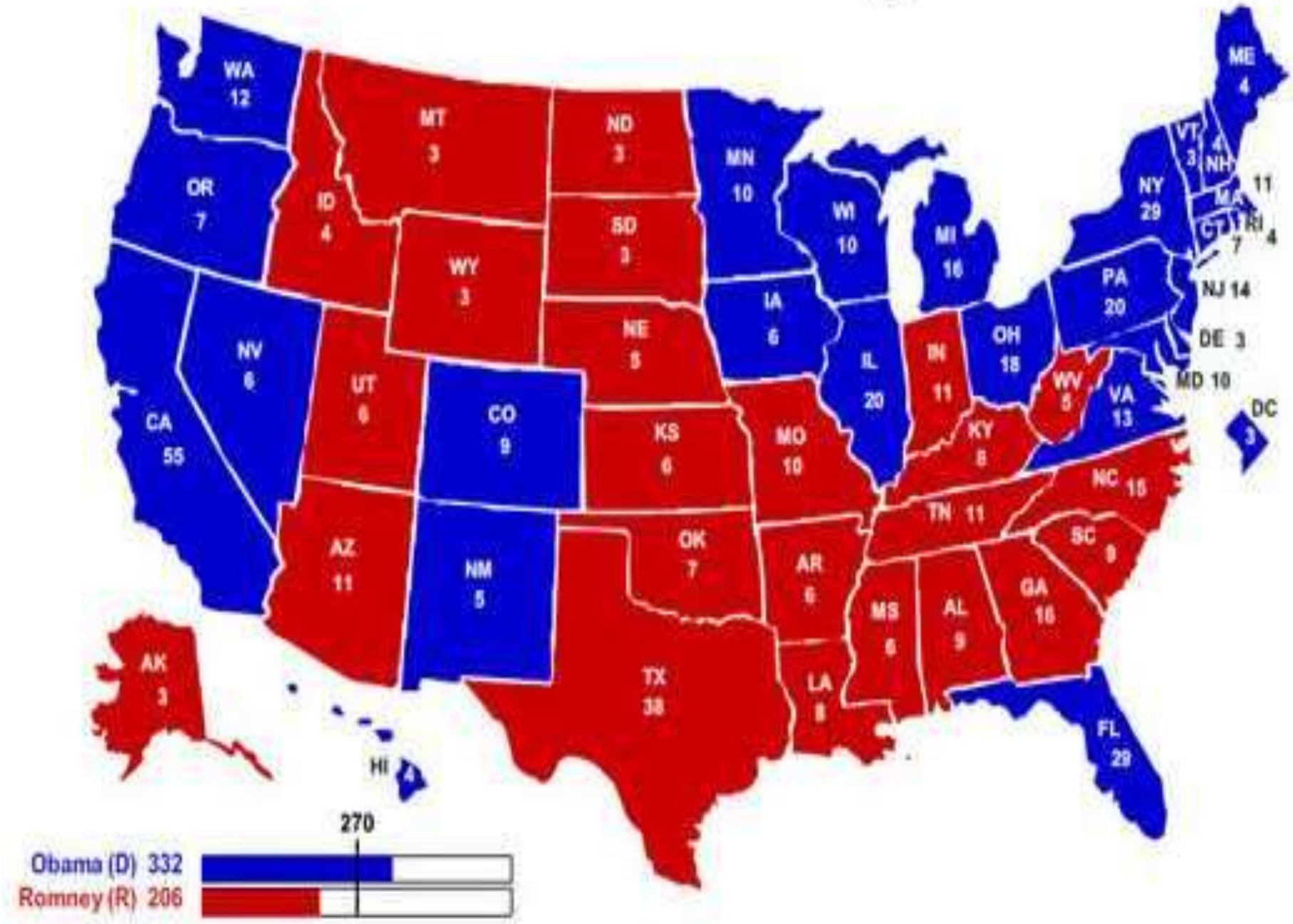
As of October 11, 2012,
25 laws and **2 executive actions**
passed in **19 states**.

States that passed voting restrictions
ID Photo ID requirements passed
ID Voter ID restriction passed
Restrictions on early/absentee voting passed
Restrictions on voter registration passed
Proof of citizenship passed
Executive or legislative action making it harder to restore voting rights

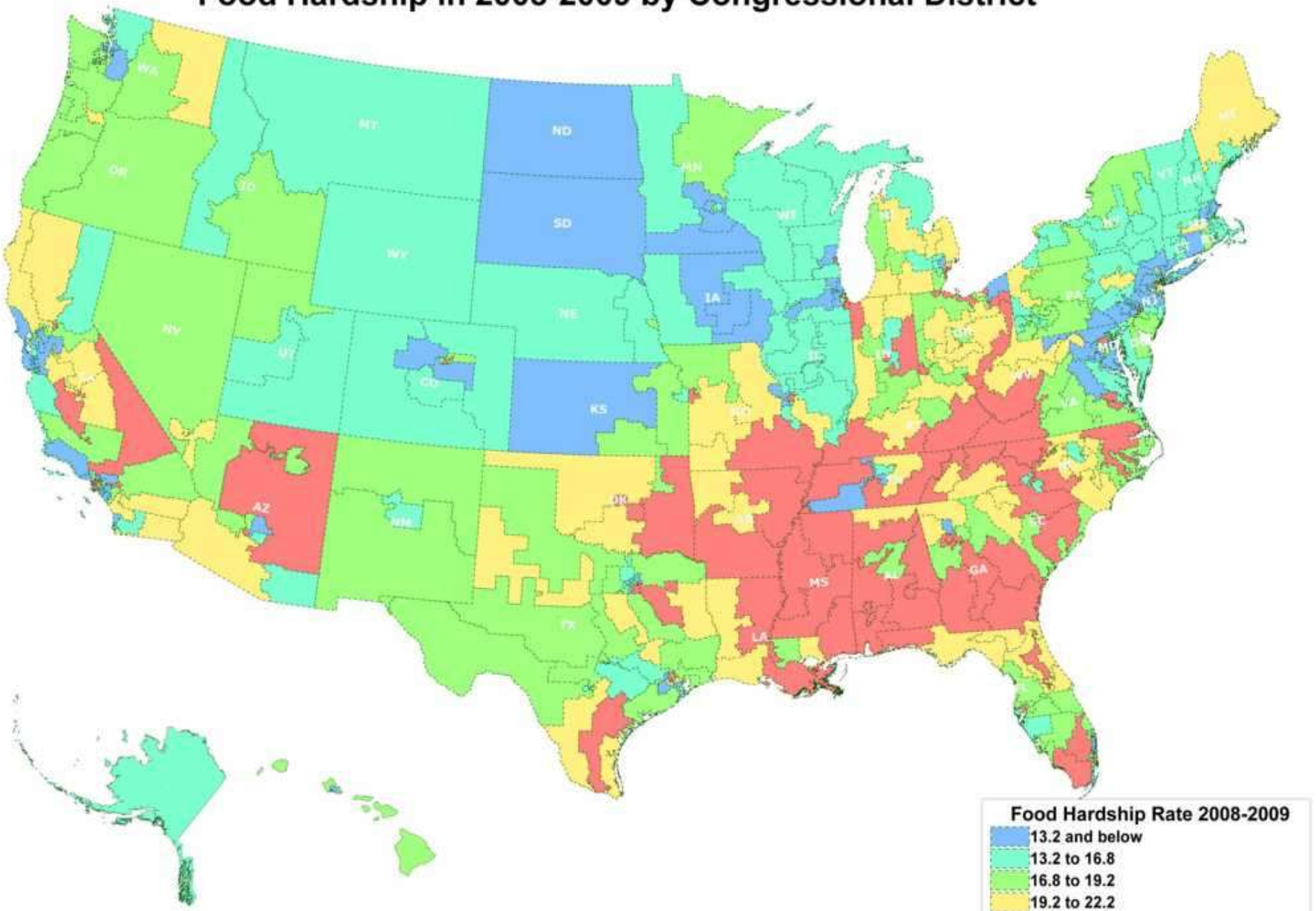
BRENNAN CENTER
FOR JUSTICE

The Politics of Place
vs
The Place of Politics

Final 2012 Electoral-College Results

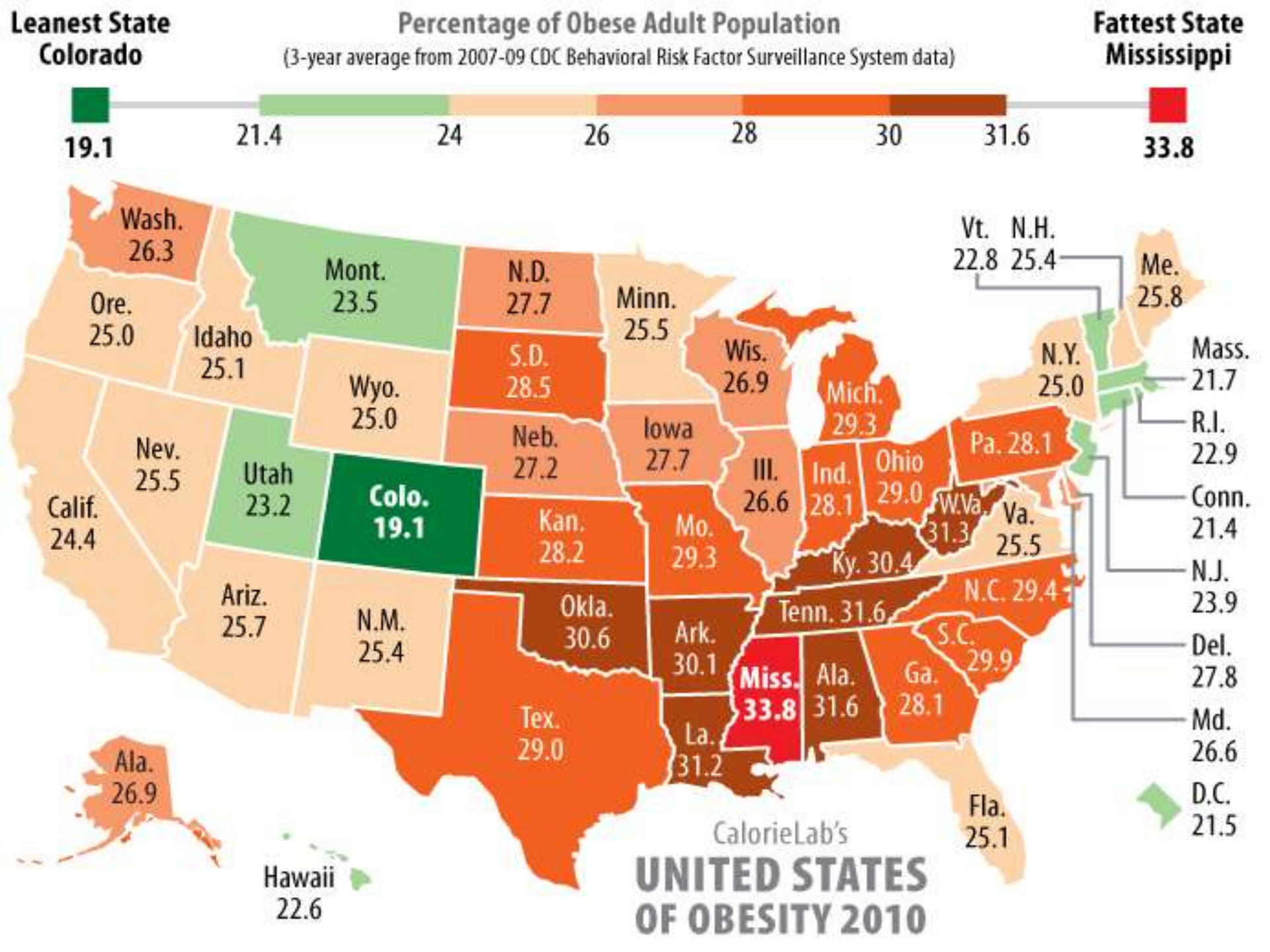


Food Hardship in 2008-2009 by Congressional District

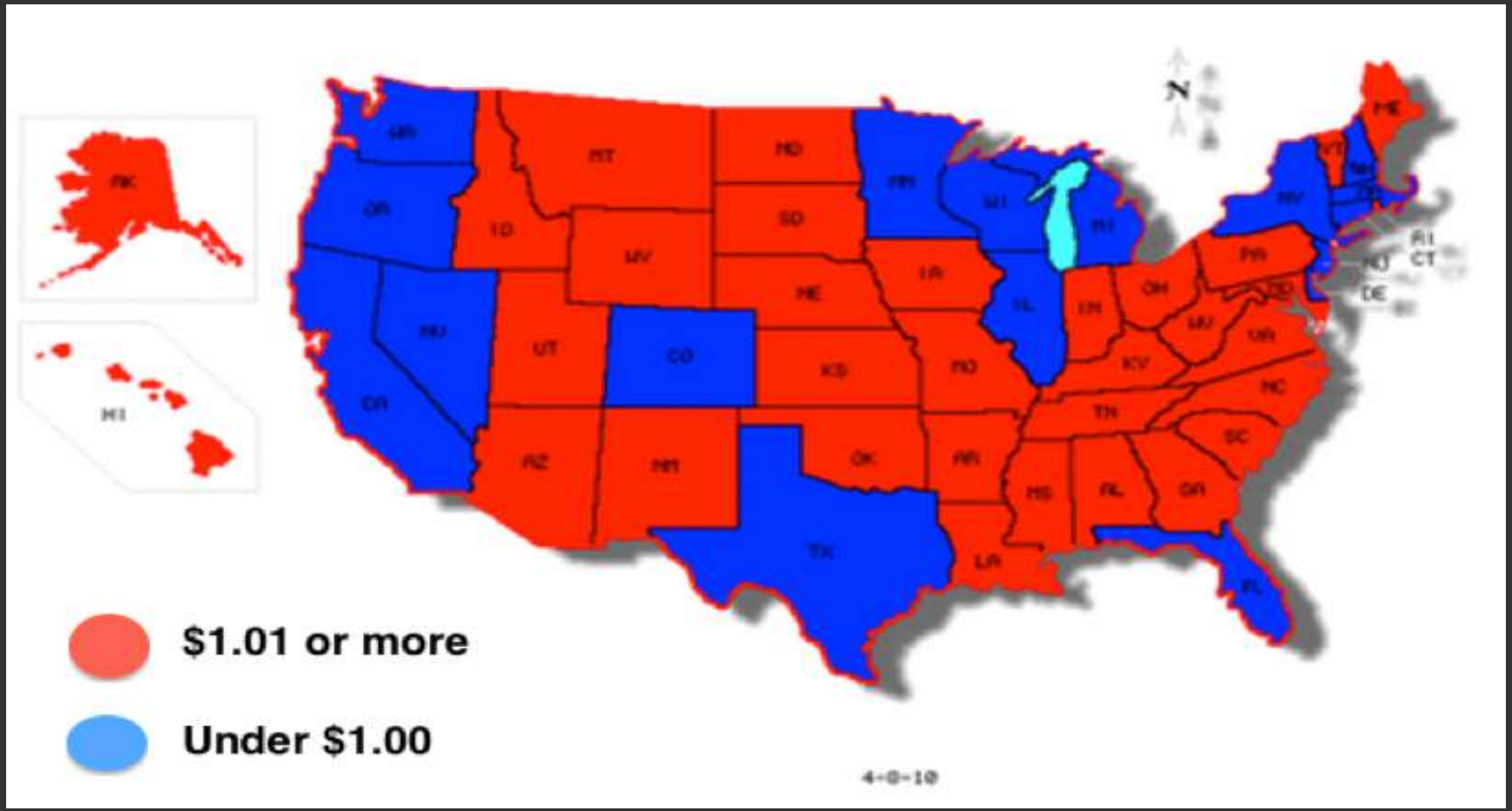


Prepared by the Food Research and Action Center


No Car and No Supermarket Store Within a Mile
> 10 percent
5.1-10 percent
2.5-5 percent
< 2.5 percent
No data available
SOURCE: Department of Agriculture, Centers for Disease Contro

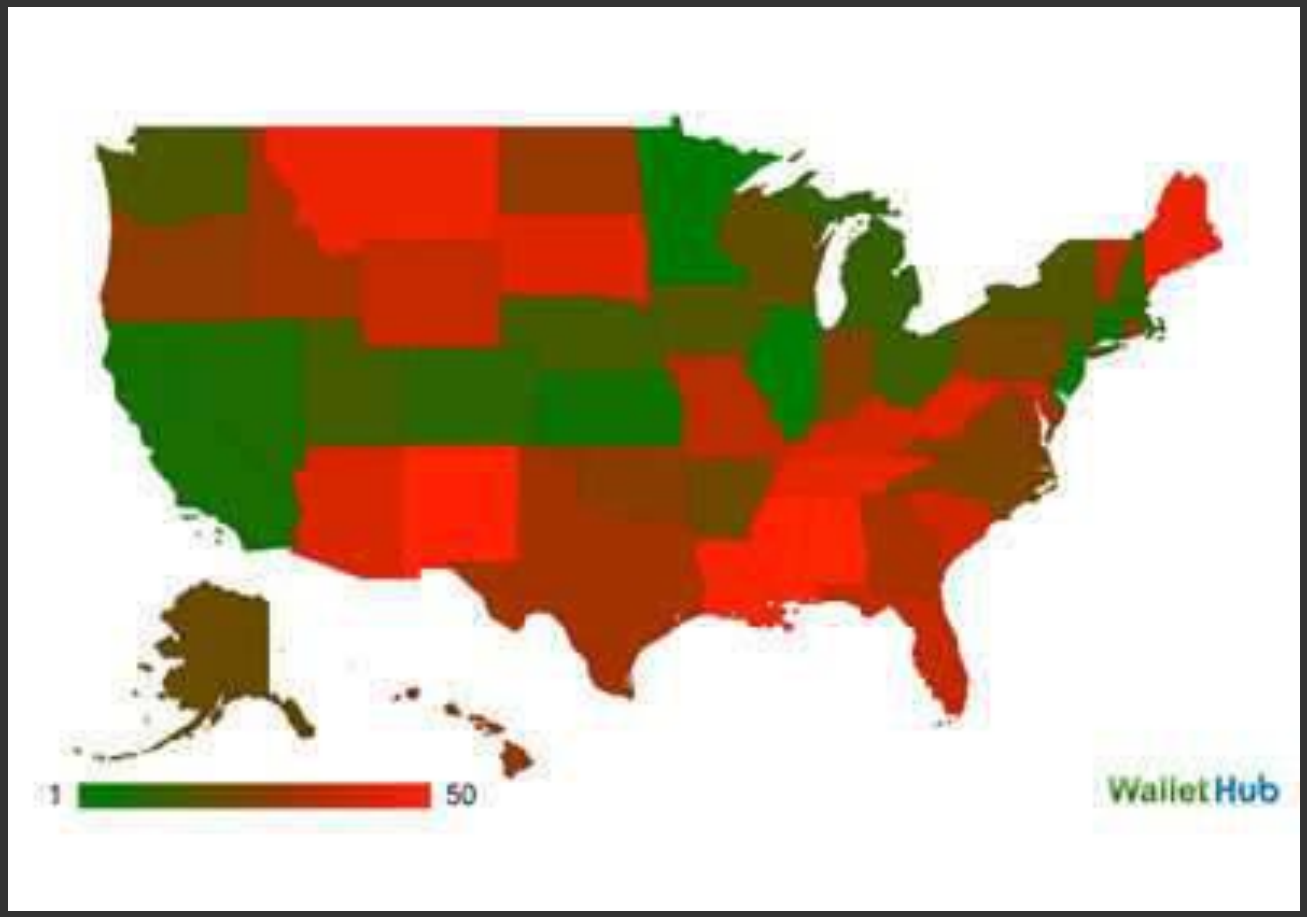

Leanest State
Colorado
Percentage of Obese Adult Population
(3-year average from 2007-09 CDC Behavioral Risk Factor Surveillance System data)
Fattest State
Mississippi
19.1
21.4
24
26
28
30
31.6
33.8
Wash. 26.3
Ore. 25.0
Calif. 24.4
Idaho 25.1
Nev. 25.5
Mont. 23.5
Wyo. 25.0
Utah 23.2
Colo. 19.1
Ariz. 25.7
N.M. 25.4
N.D. 27.7
S.D. 28.5
Neb. 27.2
Kan. 28.2
Okla. 30.6
Tex. 29.0
Minn. 25.5
Iowa 27.7
Mo. 29.3
Ark. 30.1
La. 31.2
Wis. 26.9
Ill. 26.6
Mich. 29.3
Ind. 28.1
Ohio 29.0
Ky. 30.4
Tenn. 31.6
Miss. 33.8
Ala. 31.6
Ga. 28.1
Fla. 25.1
S.C. 29.9
N.C. 29.4
W.Va. 31.3
Va. 25.5
Pa. 28.1
N.Y. 25.0
Vt. 22.8
N.H. 25.4
Me. 25.8
Mass. 21.7
R.I. 22.9
Conn. 21.4
N.J. 23.9
Del. 27.8
Md. 26.6
D.C. 21.5
Ala. 26.9
Hawaii 22.6
CalorieLab's
UNITED STATES
OF OBESITY 2010

Tax Payback: Red Indicates States That Get More Than a Dollar Back for Every Dollar of Taxes Paid

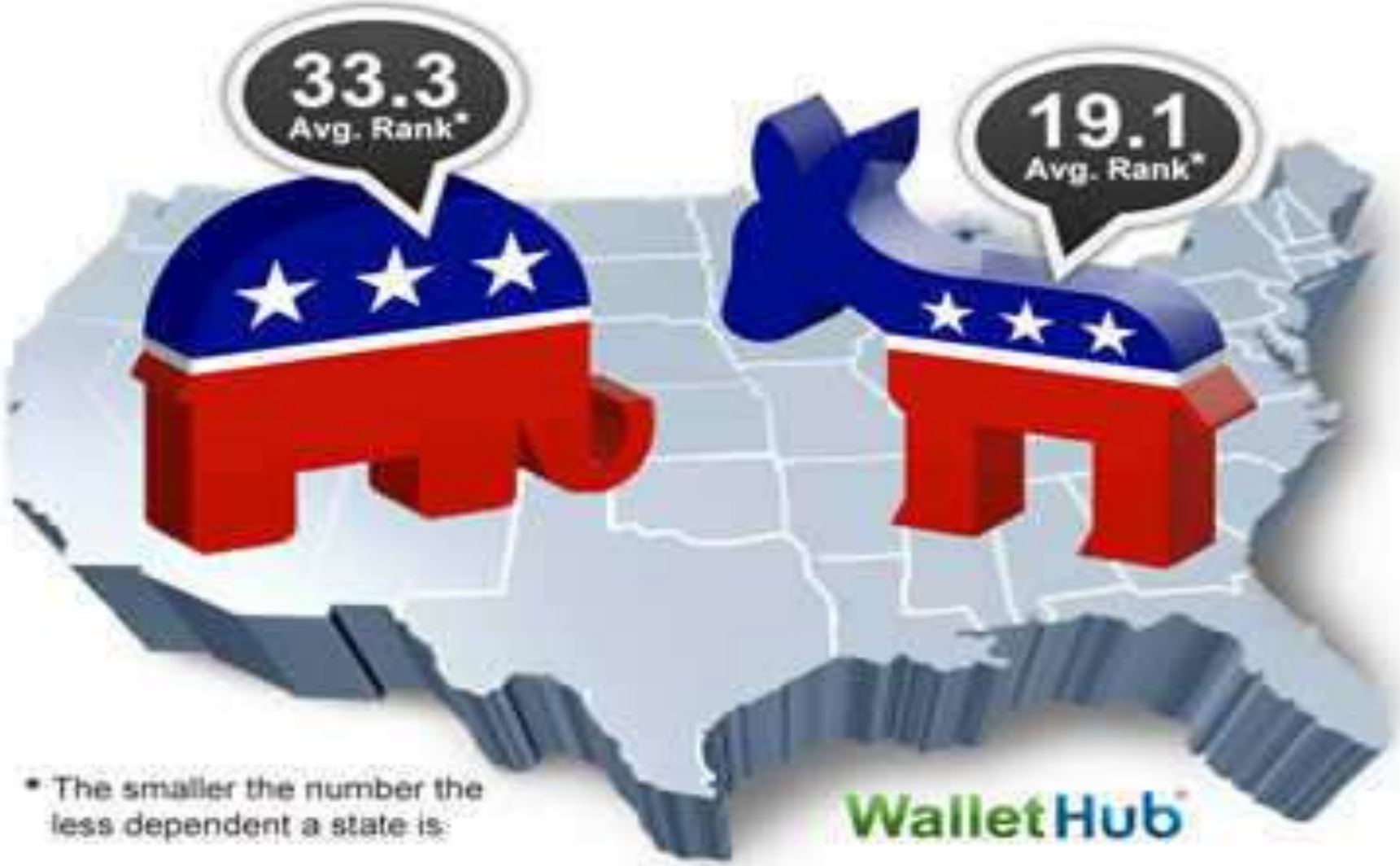


Source: Businessinsider.com (2014)

States with the Highest and Lowest Dependence on Federal Government



Blue States Are Less Dependent on the Federal Government



10 Healthiest States in the U.S.

1. Vermont
2. Hawaii
3. New Hampshire
4. Massachusetts
5. Minnesota
6. Connecticut
7. Utah
8. New Jersey
9. Maine
10. Rhode Island

Source: United Health Foundation (2012)

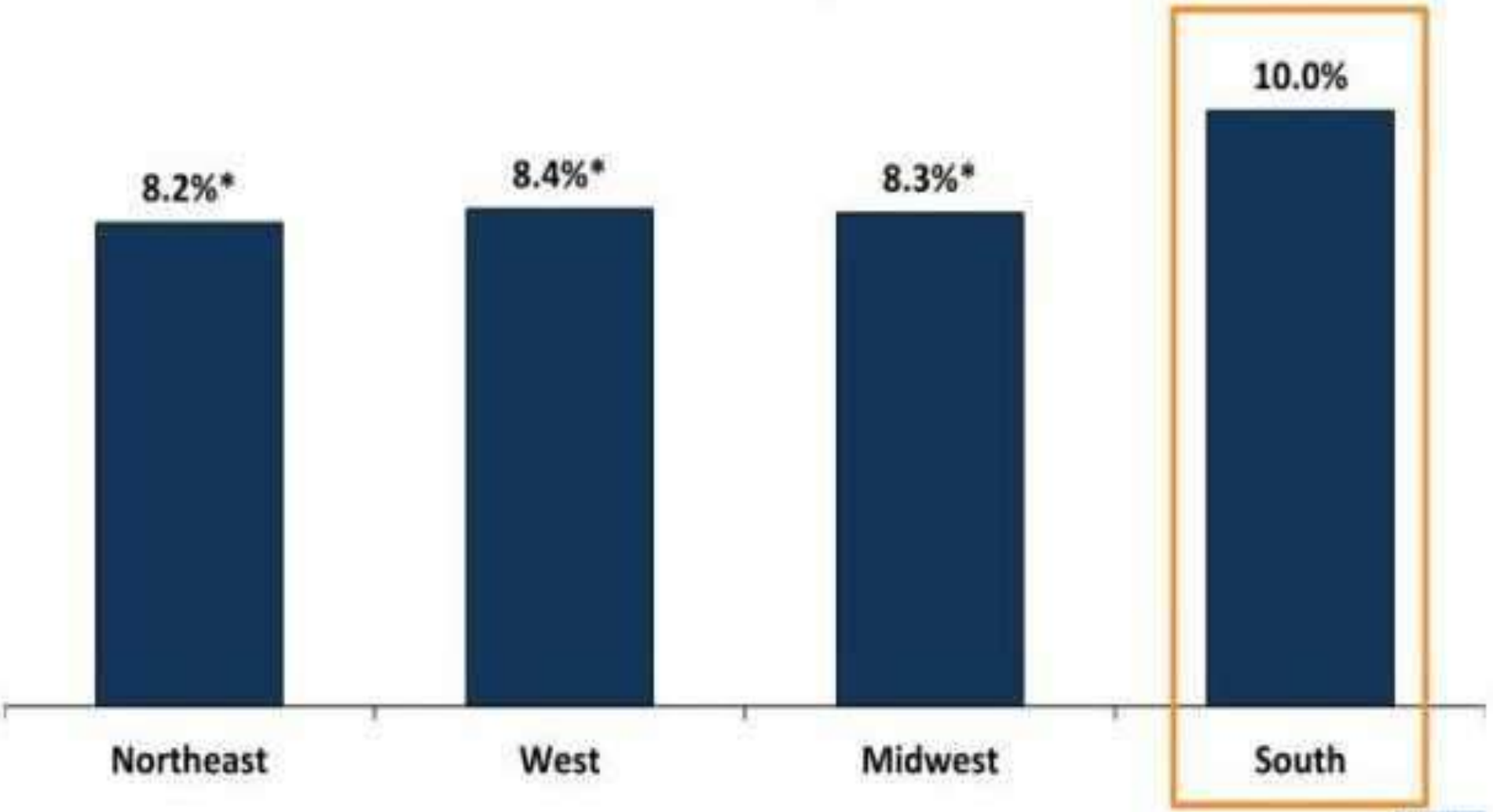
Unhealthiest States in the U.S.

Eight of the 10 unhealthiest states are located in the South:

- **Mississippi and Louisiana : 49th**
- **Arkansas: 48th**
- **West Virginia: 47th**
- **South Carolina: 46th**
- **Alabama: 45th**
- **Kentucky: 44th**
- **Oklahoma: 43rd**
- **Missouri: 42nd**
- **Indiana: 41st**

Compared to those in other regions, Southerners are more likely to report having fair or poor health.

Share of Individuals Reporting Fair or Poor Health Status, by Region, 2012



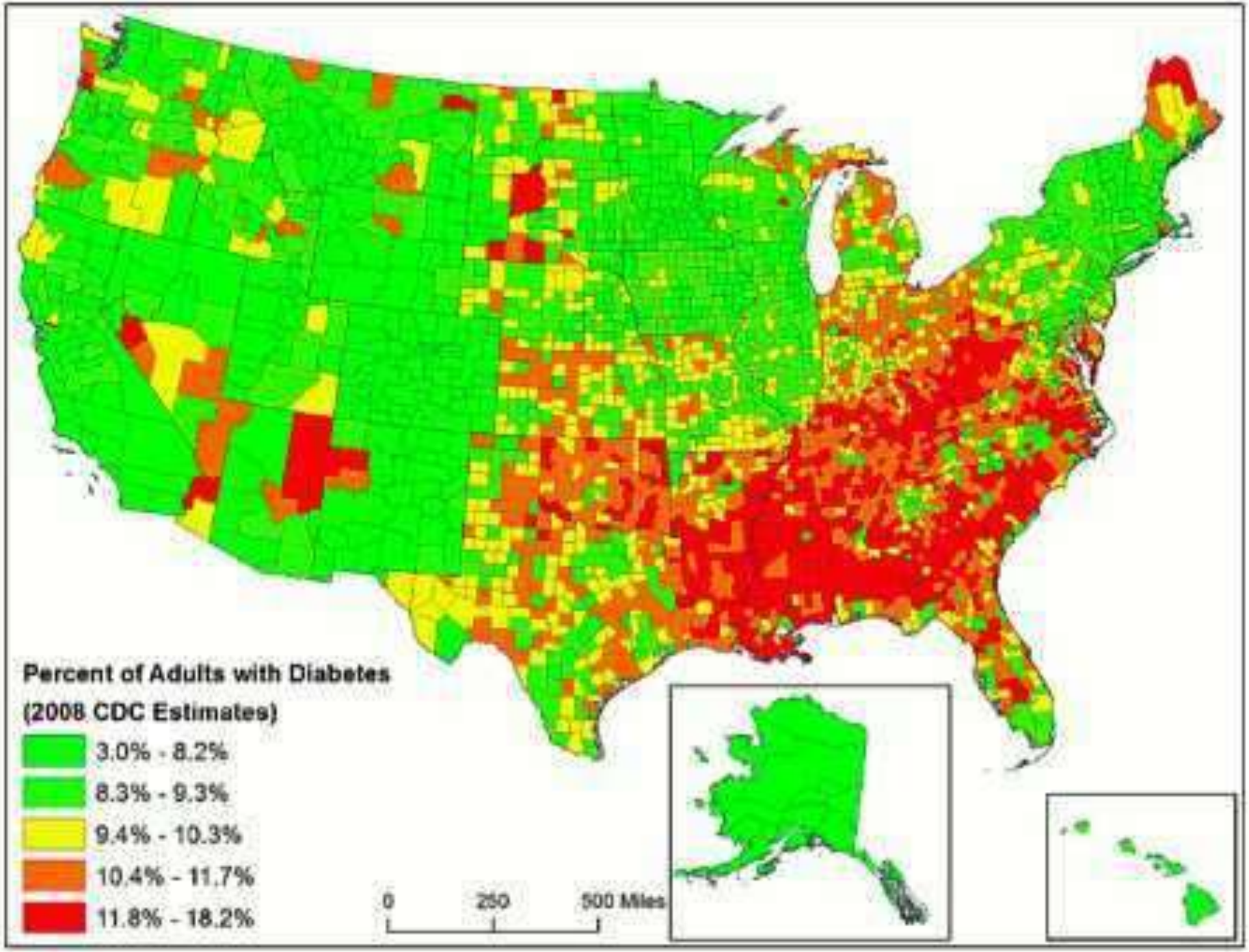
*-the difference between this region and the South is significantly different at the 0.05 level

KAISER

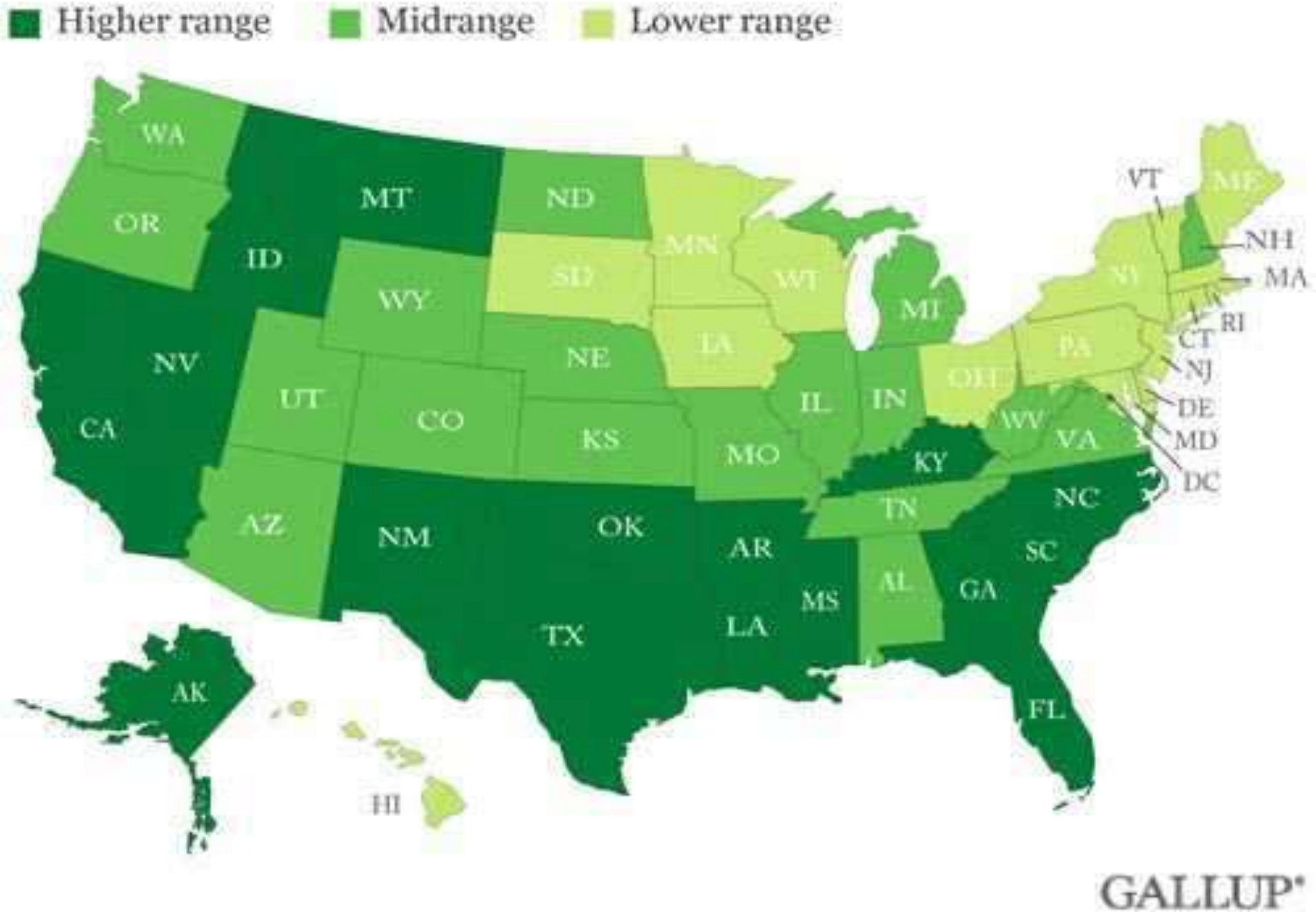
All U.S. Regions Are Not Created Equal

- The U.S. Southeast leads in stroke, obesity, hypertension, diabetes and now kidney disease, according to the CDC


United States
Stroke Belt


Percent of Adults with Diabetes
(2008 CDC Estimates)
3.0% - 8.2%
8.3% - 9.3%
9.4% - 10.3%
10.4% - 11.7%
11.8% - 18.2%
0
250
500 Miles

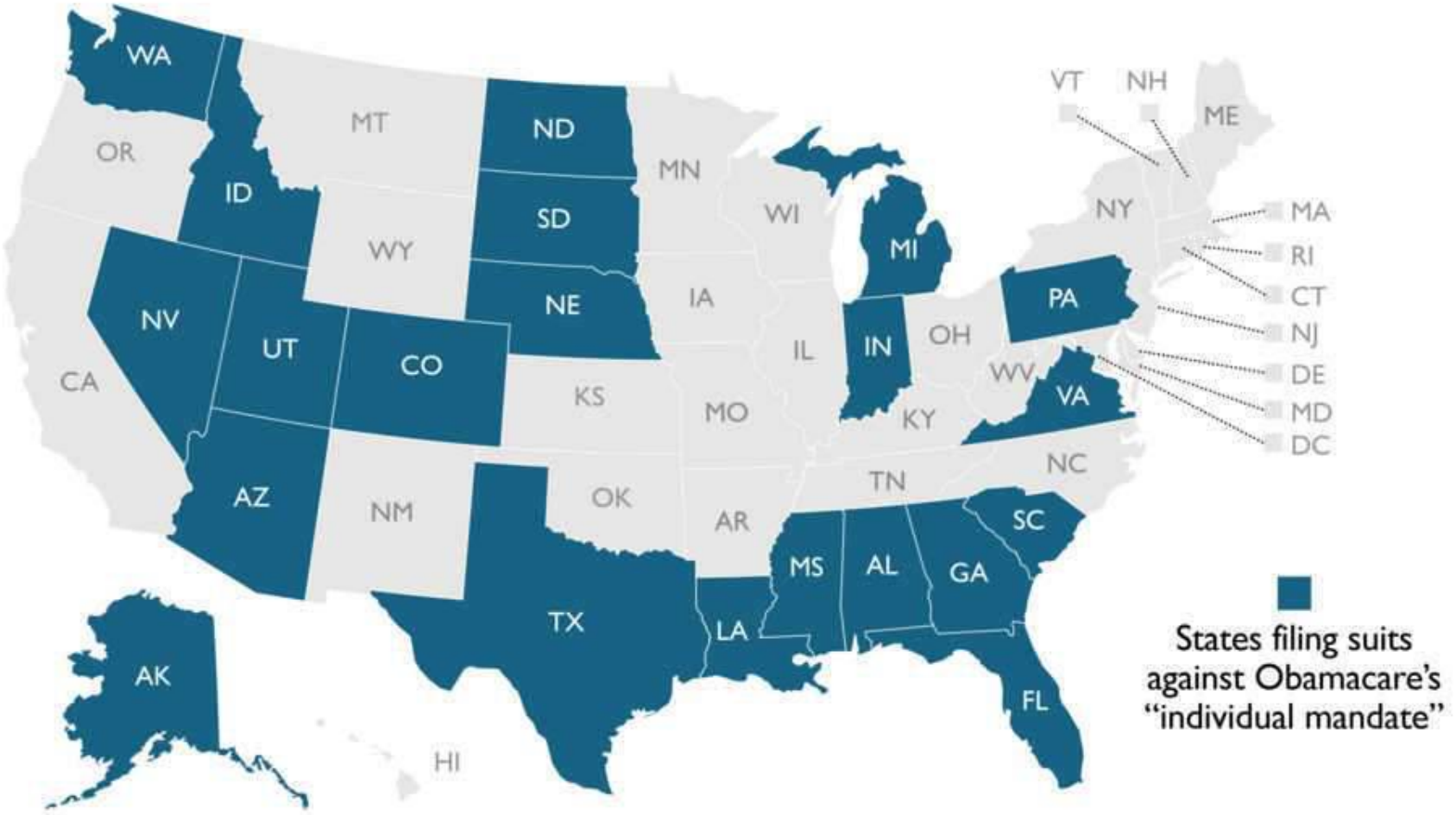
Uninsured, January-June 2011



GALLUP

States: Obamacare is unconstitutional

The Attorneys General of 21 states have filed suits to protect their citizens from being forced by the federal government to purchase health insurance.



Source: American Legislative Exchange Council.

Where the Medicaid Gap Is Biggest

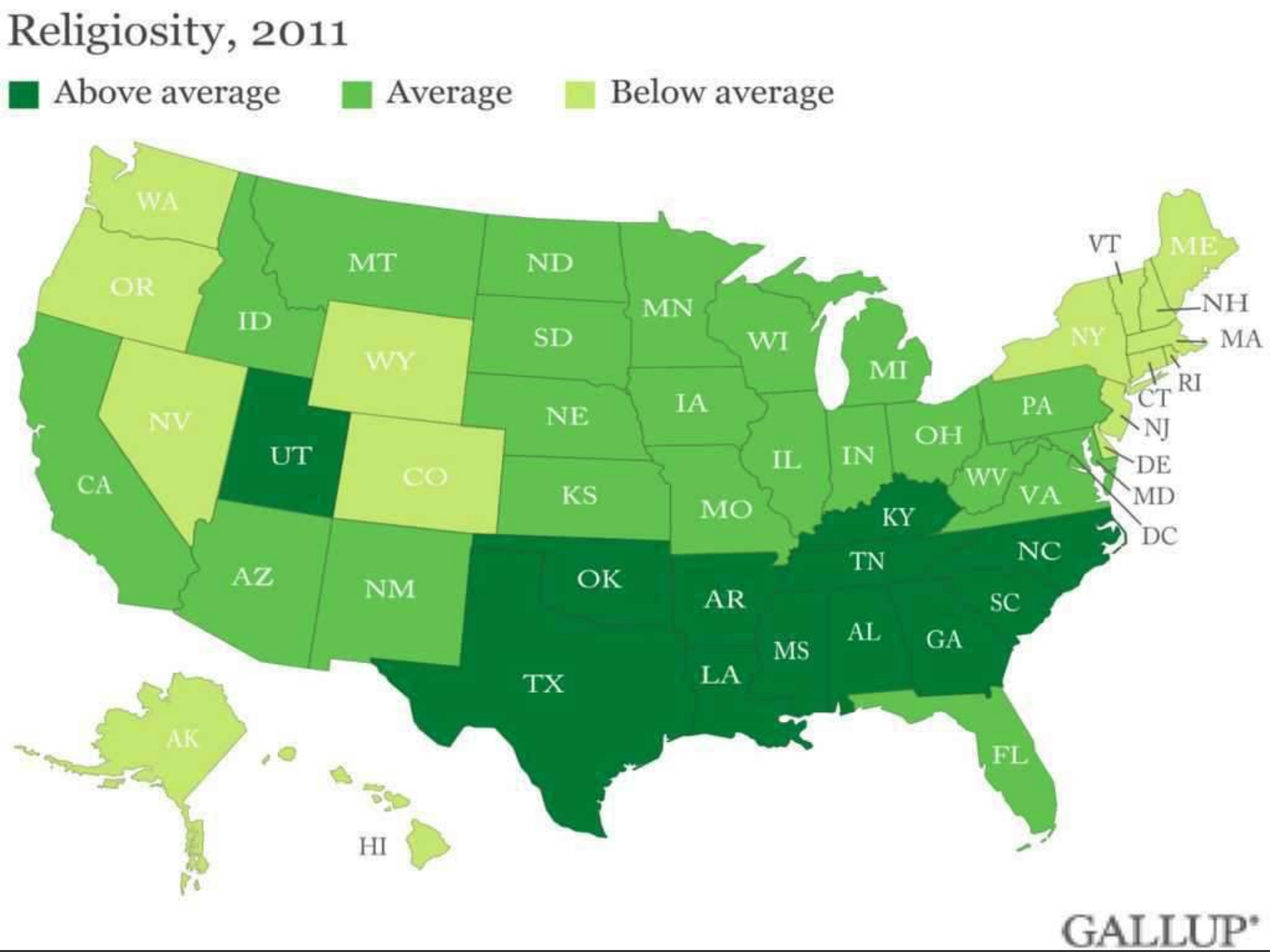
Twenty-five states are either in open debate or not moving forward with Medicaid expansion due to opposition to the Affordable Care Act. This leaves more than 4.8 million Americans without health insurance.

Number of Poor Uninsured Nonelderly Adults in the ACA Coverage Gap, by State

NOTE: Wisconsin has not adopted Medicaid expansion; however, the state provides Medicaid coverage to adults up to 100% federal poverty level.

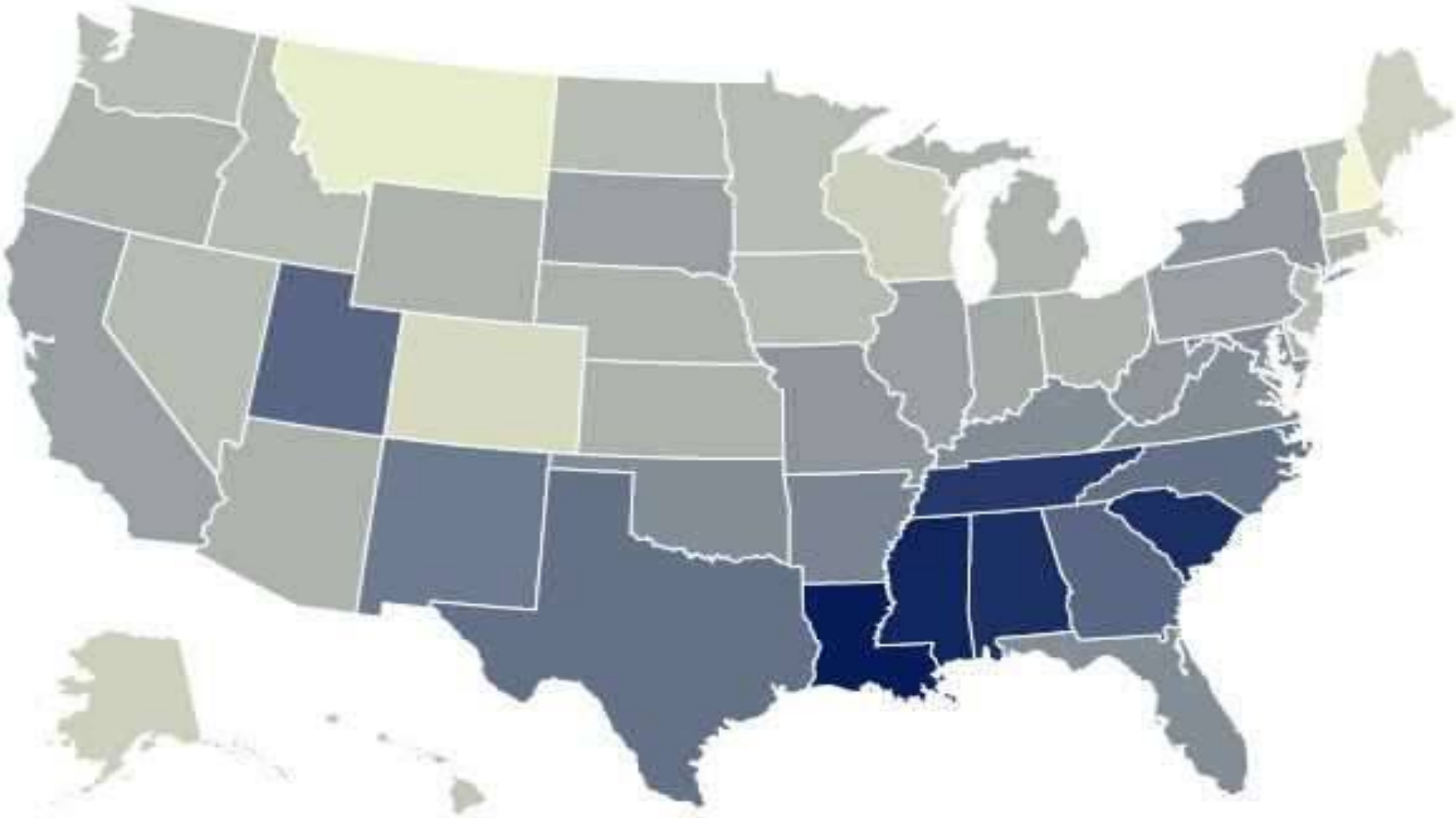
Source: Kaiser Family Foundation


Bible Belt


Religiosity, 2011
Above average
Average
Below average
WA
OR
CA
ID
NV
MT
WY
UT
AZ
CO
NM
ND
SD
NE
KS
OK
TX
MN
IA
MO
AR
LA
WI
IL
MS
MI
IN
KY
TN
AL
OH
WV
GA
FL
SC
NC
VA
PA
NY
VT
ME
NH
MA
RI
CT
NJ
DE
MD
DC
AK
HI
GALLUP

Average daily time spent on religious activities

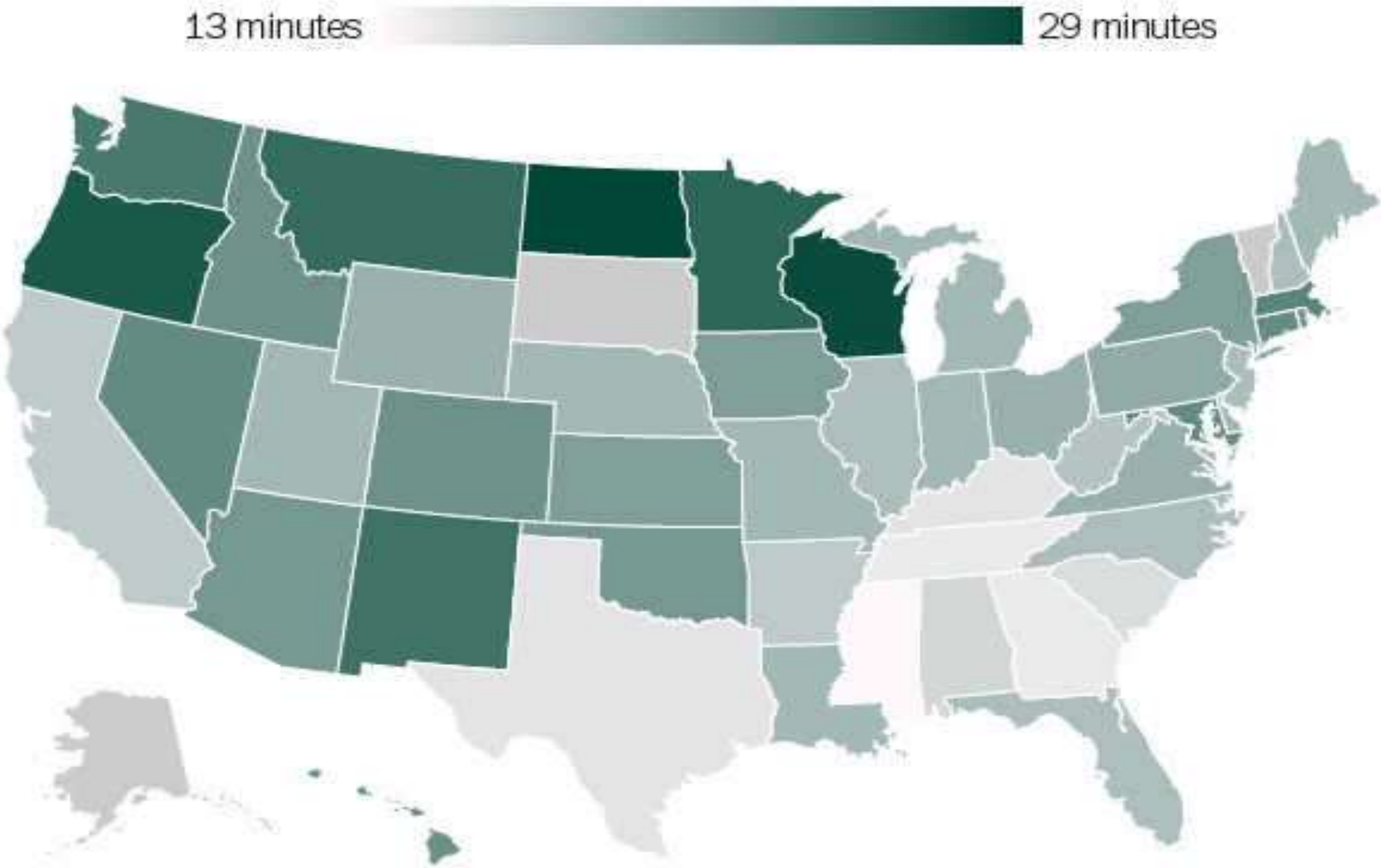
2 minutes — 17 minutes



WASHINGTONPOST.COM/**WONKBLOG**

Source: American Time Use Survey

Average daily time spent reading



WASHINGTONPOST.COM/**WONKBLOG**

Source: American Time Use Survey

Toxic Wastes and Race at Twenty: 1987-2007

Grassroots Struggles to Dismantle Environmental Racism in the United States

Source: Bullard et. al (2007)

Toxic Waste and Race

- Race is a significant predictor of commercial hazardous waste locations.
- People of color make up most (56%) of those living in neighborhoods within two miles of commercial hazardous waste facilities.
- People of color make up over two-thirds (69%) of those living near clustered facilities.
- People of color are more concentrated in areas with commercial hazardous sites in 2007 than in 1987.

The Politics of Pollution

Living with More Pollution

- African Americans are 79% more likely than whites to live where industrial pollution poses the greatest health danger
- African Americans in **19** states are more than twice as likely as whites to live in neighborhoods with high pollution levels
- Similar pattern for other groups:
  - Hispanics in **12** states
  - Asians in **7** states

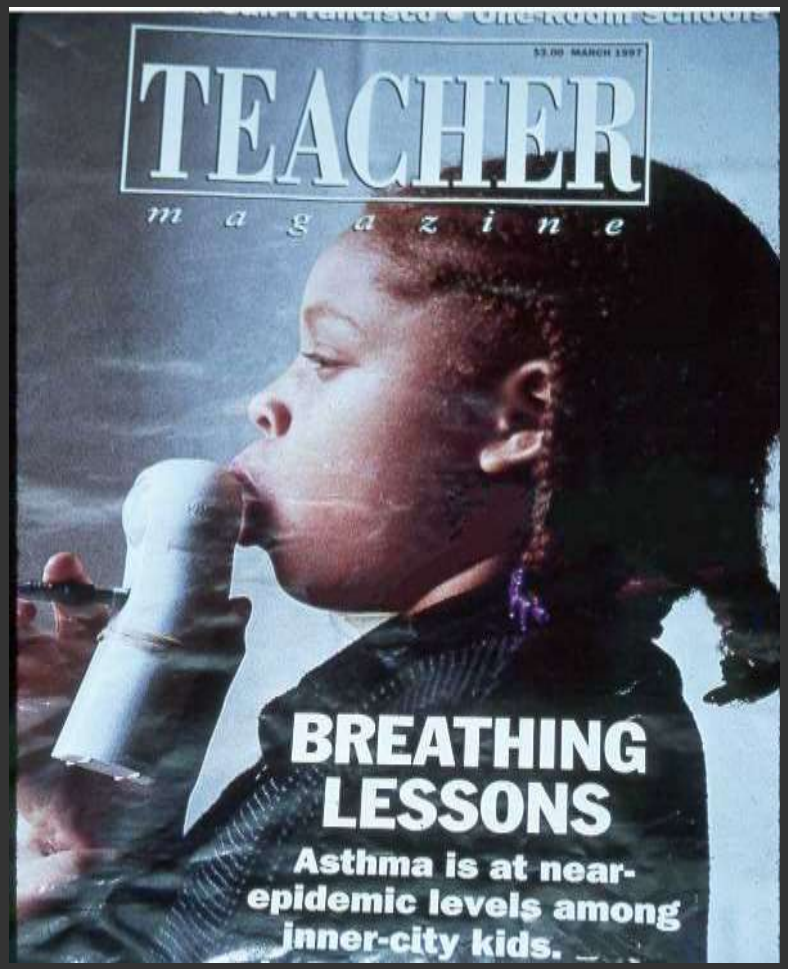
Dumping on the Black Middle Class

Black households with incomes between $50,000 and $60,000 live in neighborhoods that are more polluted than the average neighborhood in which white households with incomes below $10,000 live

Source: Downey and Hawkins 2008

Our Most Vulnerable Population Placed at Risk

Rising U.S. Asthma Epidemic

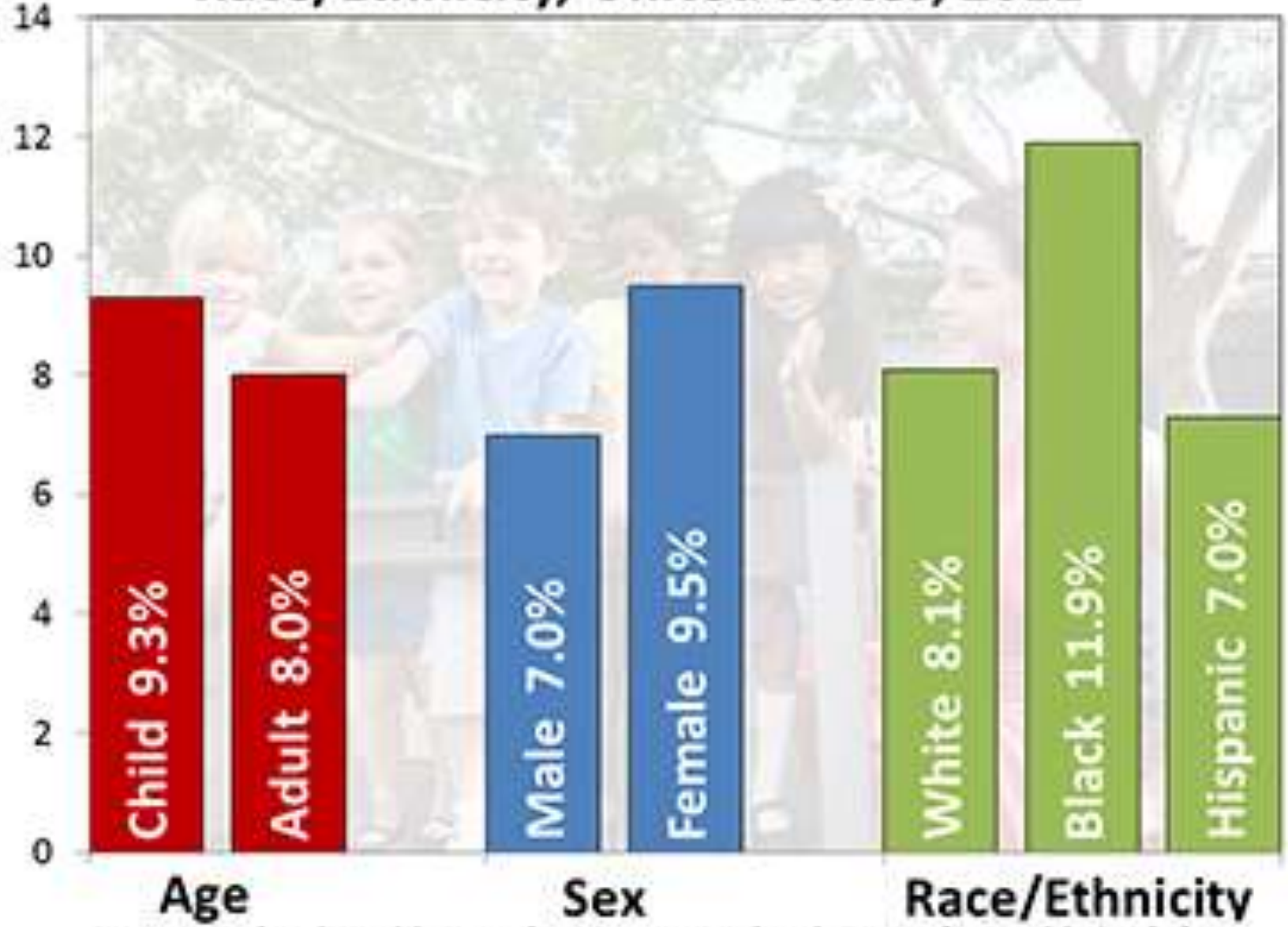


- U.S. asthma cases more than tripled:
  - 1980: 6.7 million
  - 2009: 25 million
- 2007 costs the US:
  - $56 billion in medical costs
  - $3.8 billion in missed work and school
  - $2.1 billion from premature deaths

Asthma and People of Color

- African American asthma rate is 35 percent higher than whites
- Hospitalization rate for African Americans and Latinos is 3 - 4 times the rate for whites
- African Americans and Puerto Ricans are three times more likely to die from asthma-related causes than whites
- African Americans account for 13% of the U.S. population, but 26% of asthma deaths

Current Asthma Prevalence Percents by Age, Sex, and Race/Ethnicity, United States, 2012



Source: National Health Interview Survey, National Center for Health Statistics, Centers for Disease Control and Prevention

EPA Proposes Updates to Refinery Emissions Standards

- EPA is proposing to update the toxic air pollution standards for petroleum refineries to protect neighborhoods located near refineries.
- EPA estimates toxic air emissions, including benzene, toluene, and xylene, would be reduced by 5,600 tons per year.
- Volatile organic compound emissions would be cut by approximately 52,000 tons per year.

WHO'S IN DANGER?

Race, Poverty, and Chemical Disasters


North Dakota
South Dakota
Oregon
Idaho
Wyoming
Nebraska
Nevada
Utah
Colorado
United States
Missouri
New Mexico
Mississippi
Connecticut
New Jersey
Delaware
Maryland
District of Columbia
Rhode Isl
Massa
Gulf of California
Gulf of Mexico

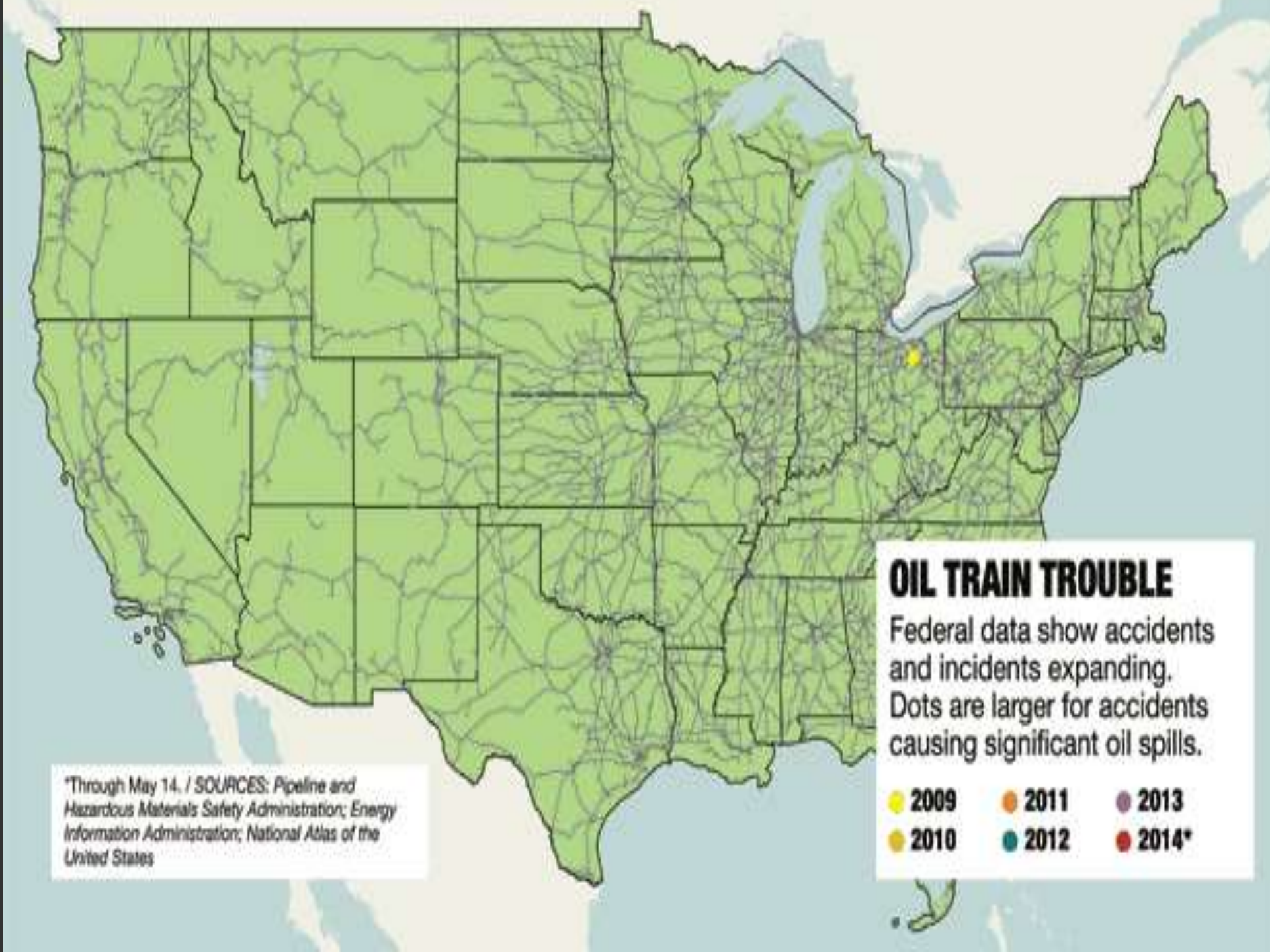
Who's in Danger?

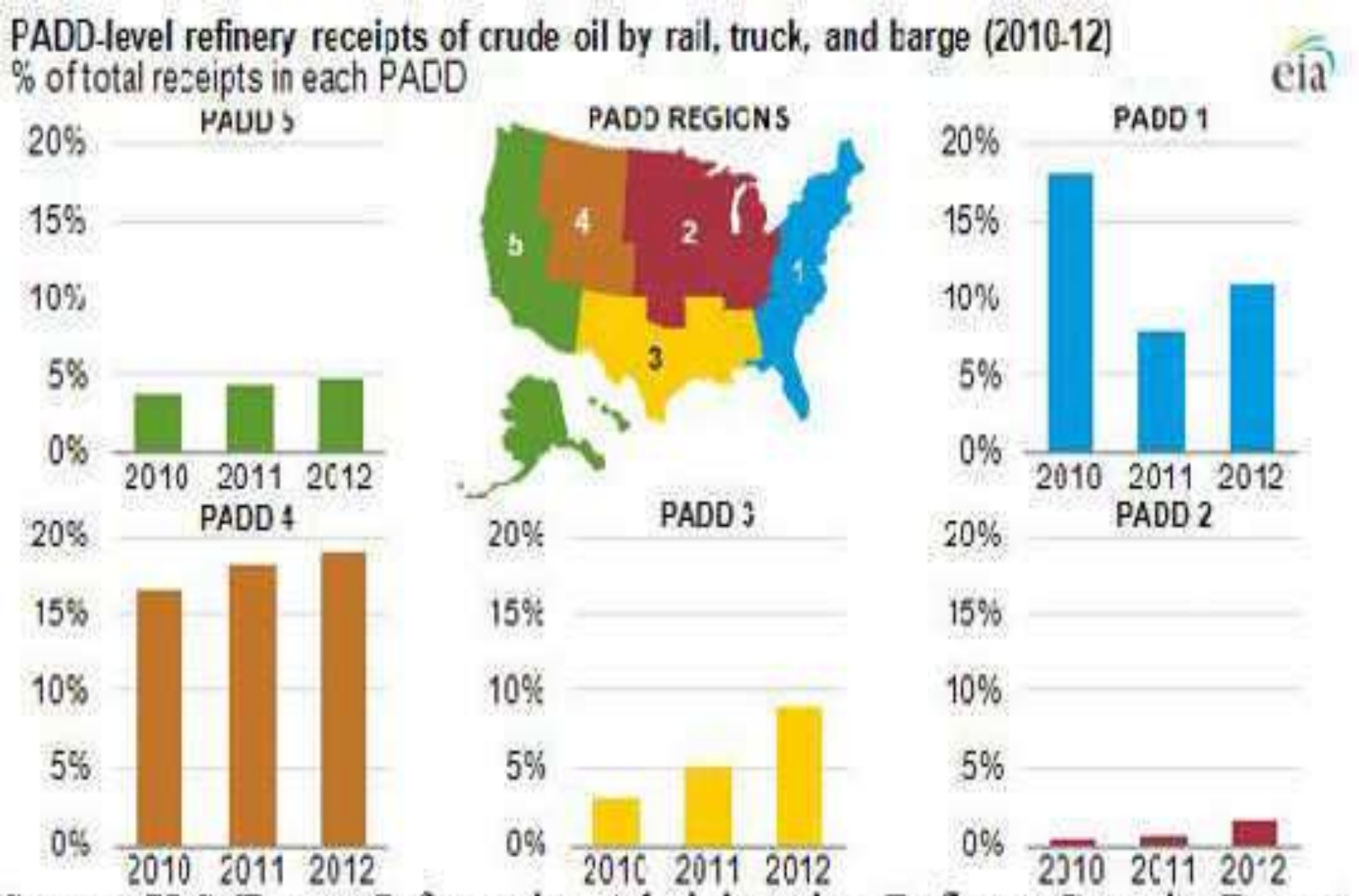
- Residents of the fenceline zones closest to the facilities have average home values 33% below the national average and average incomes 22% below the national average;
- The percentage of Blacks in the fenceline zones is 75% greater than for the U.S. as a whole, and the percentage of Latinos is 60% greater;
- The percentage of adults in the fenceline with less than a high school diploma is 46% greater than for the U.S. as a whole, but the percentage with a college or other post-high school degree is 27% *lower*
- The poverty rate in the fenceline zones is 50% higher than for the U.S. as a whole.

Equal Access to Parks and Green Space for All

PARKS ON THE FENCELINE WITH CHEMICAL PLANTS AND OIL REFINERIES

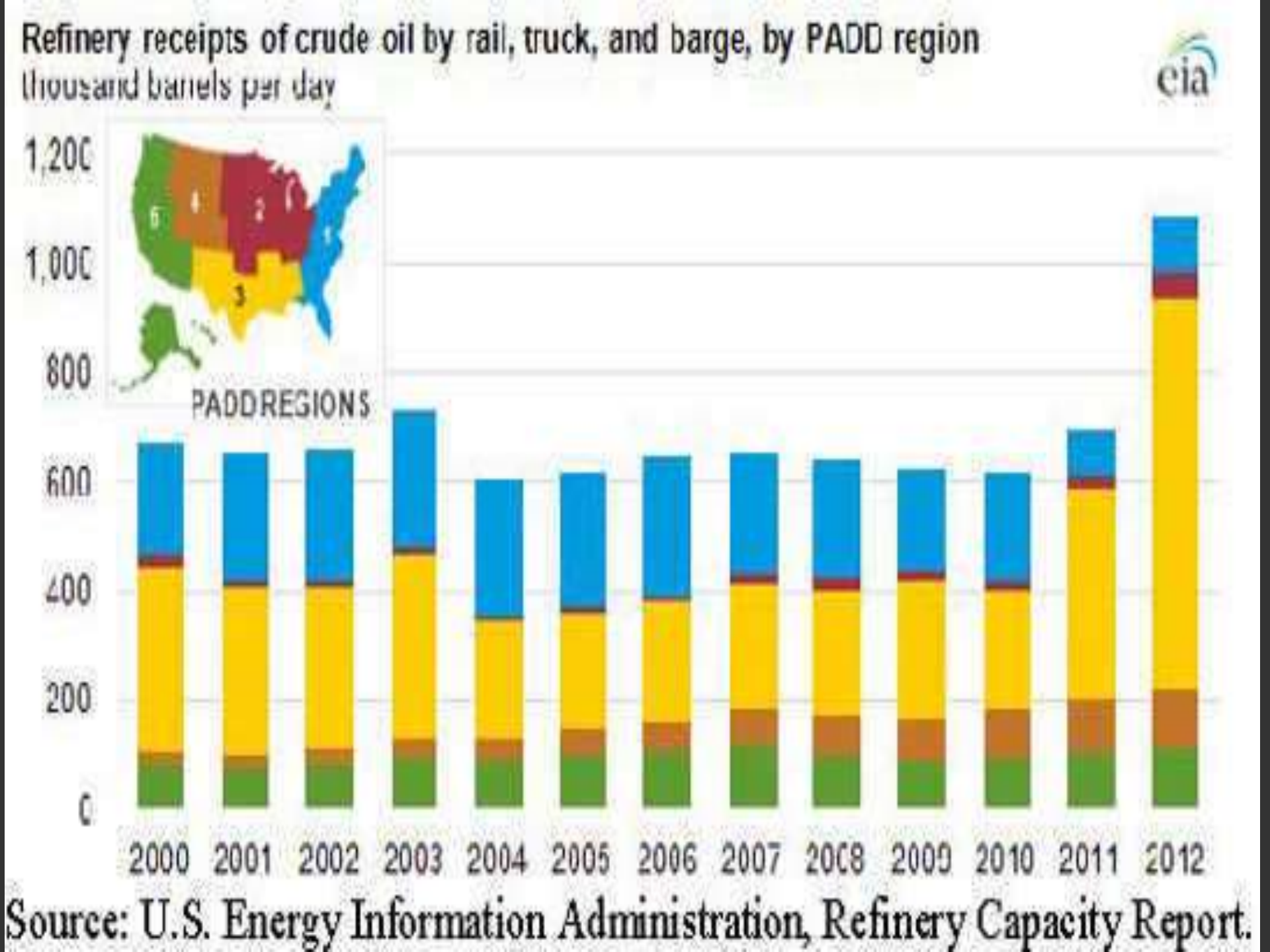
Increased Threat of Deadly Oil Trains


OIL TRAIN TROUBLE
Federal data show accidents and incidents expanding. Dots are larger for accidents causing significant oil spills.
2009
2010
2011
2012
2013
2014*
*Through May 14. / SOURCES: Pipeline and Hazardous Materials Safety Administration; Energy Information Administration; National Atlas of the United States



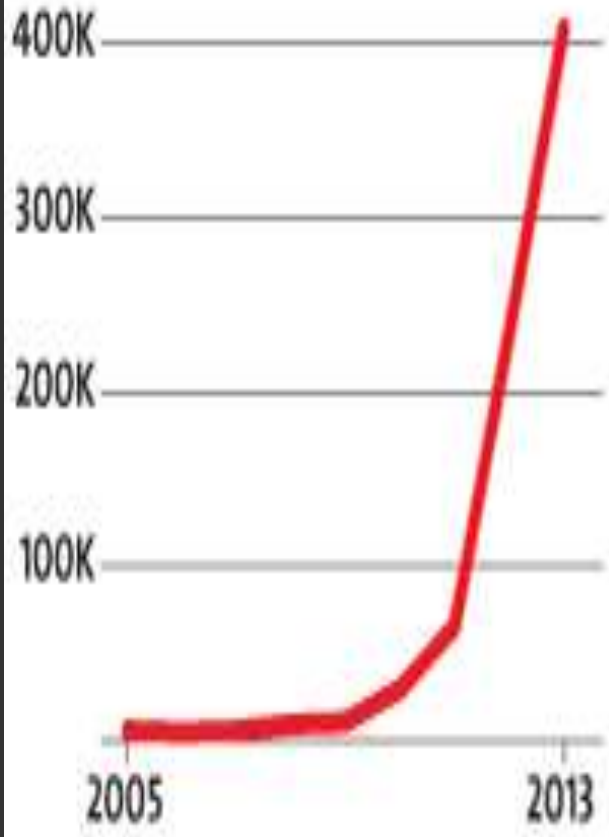
Source: U.S. Energy Information Administration, Refinery Capacity Report.

Note: PADD is Petroleum Administration for Defense District.

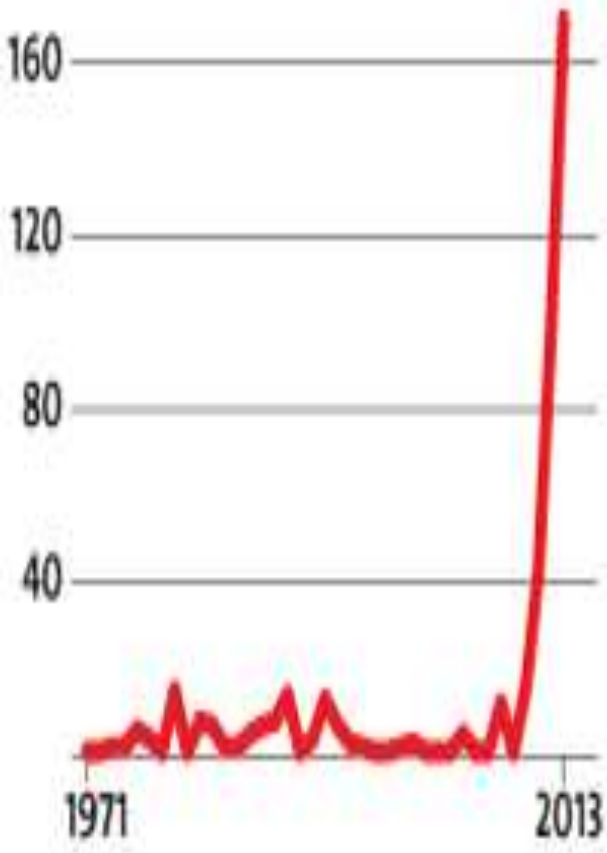


Source: U.S. Energy Information Administration, Refinery Capacity Report.

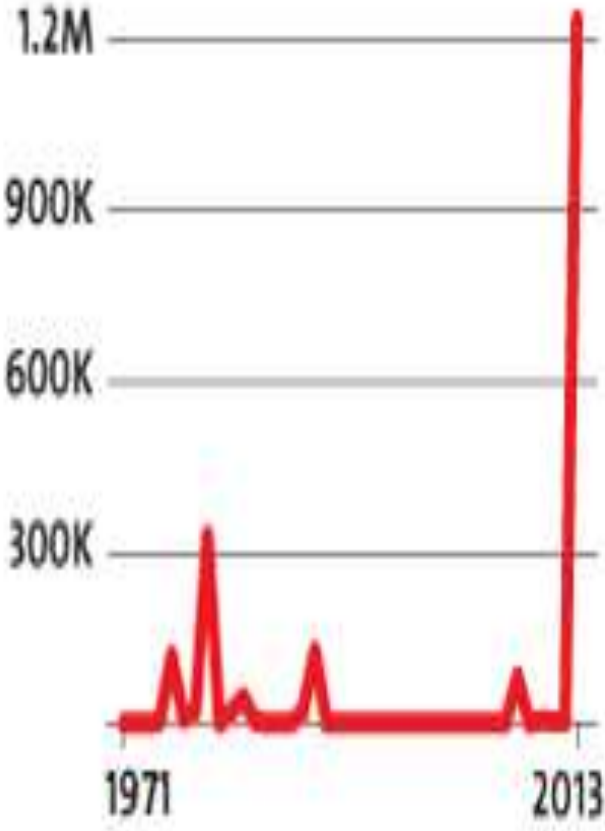
Carloads of crude oil shipped by rail in the United States



Crude-oil train accidents



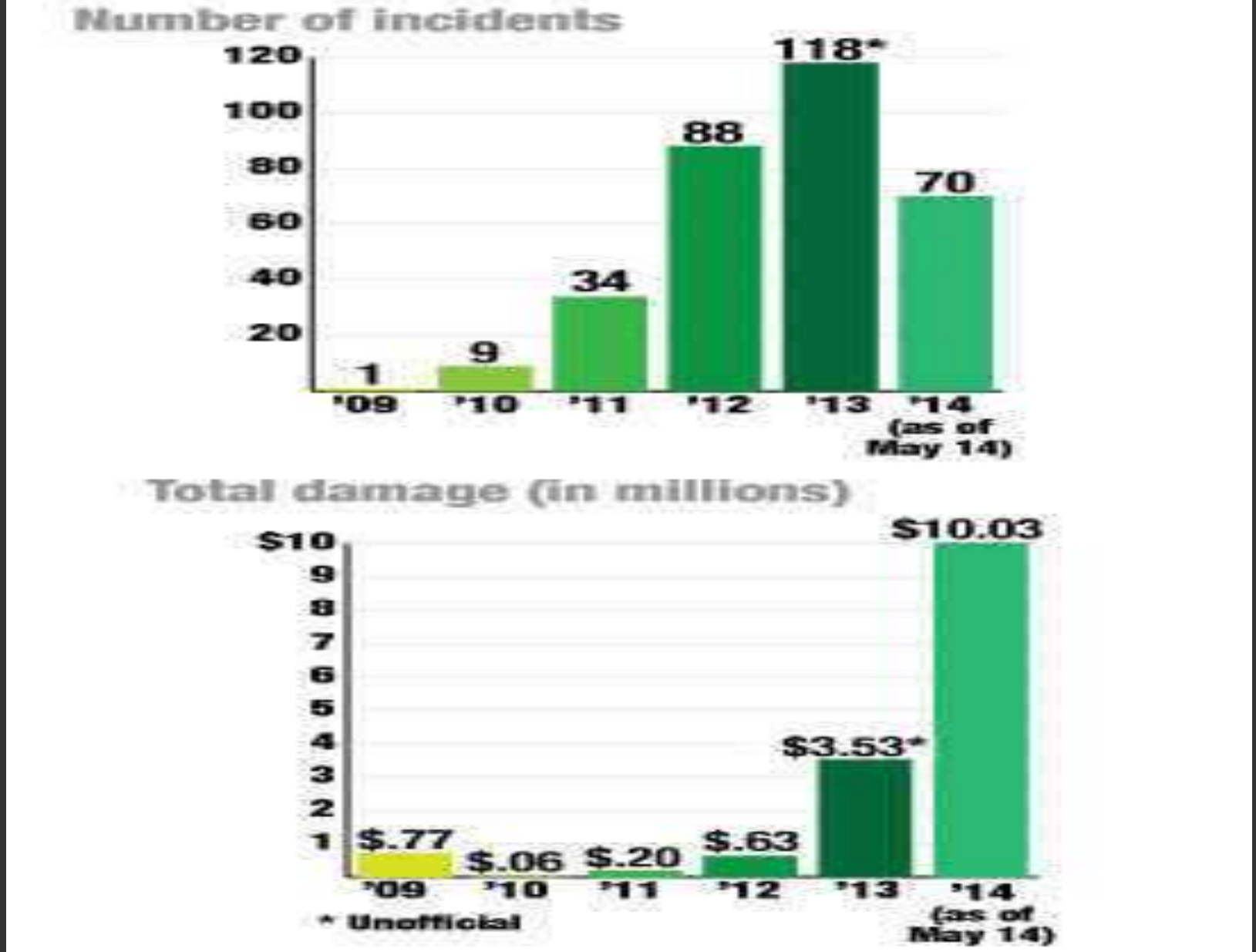
Crude oil spilled in rail accidents (gallons)



Sources: Association of American Railroads, Pipeline and Hazardous Materials Safety Administration

Mother Jones

OIL-TRAIN TOLL



GRAPHIC: MICHELLE BLOOM — POLITICO

SOURCE: PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION

Why We Must Lead on Climate

21st Century Threat: Global Climate Change

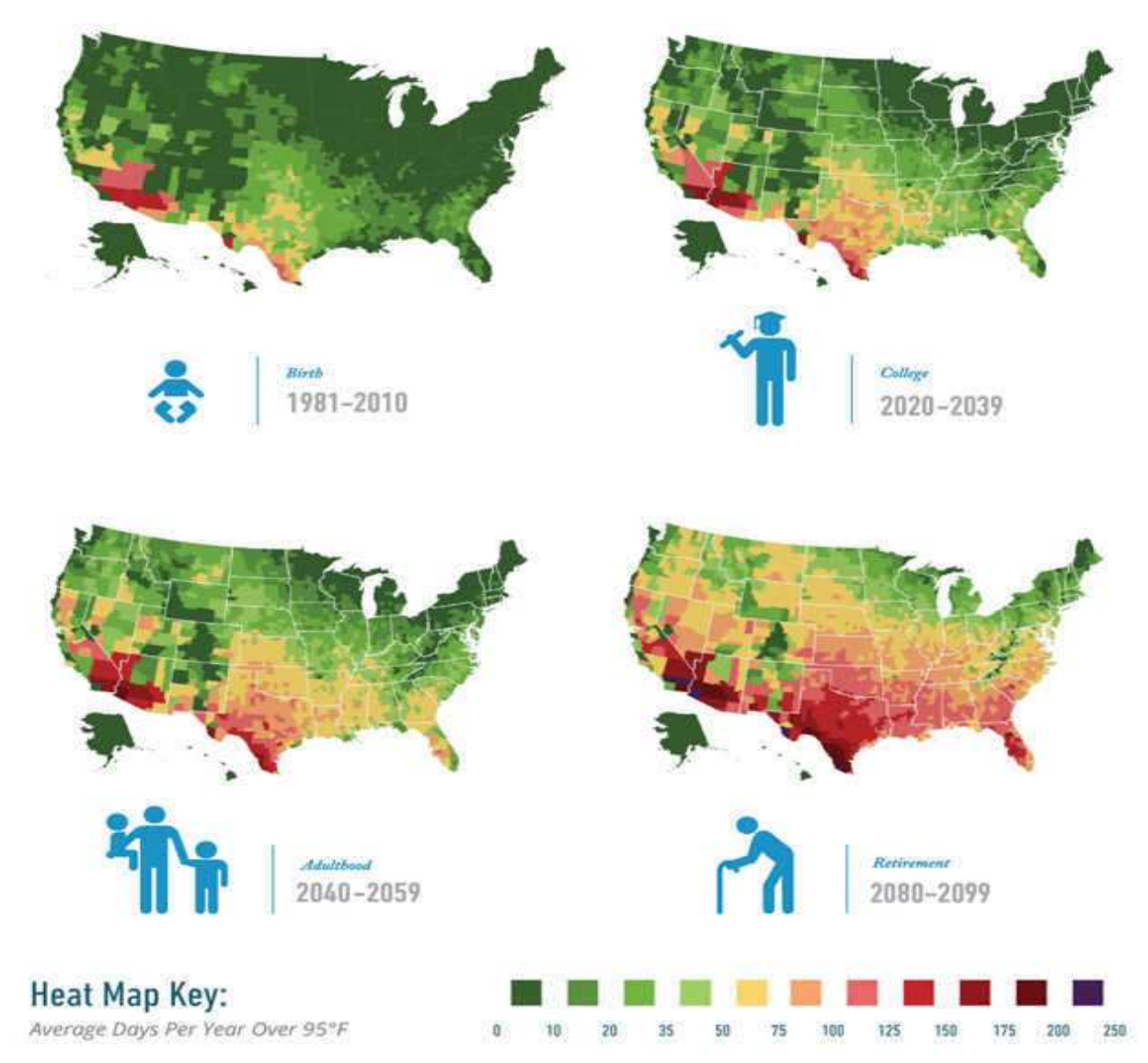
- The most vulnerable populations will suffer the earliest and most damage because of:
  - Where they live
  - Limited income and economic means
  - Lack of access to health care
- Yet they contribute the least to global warming

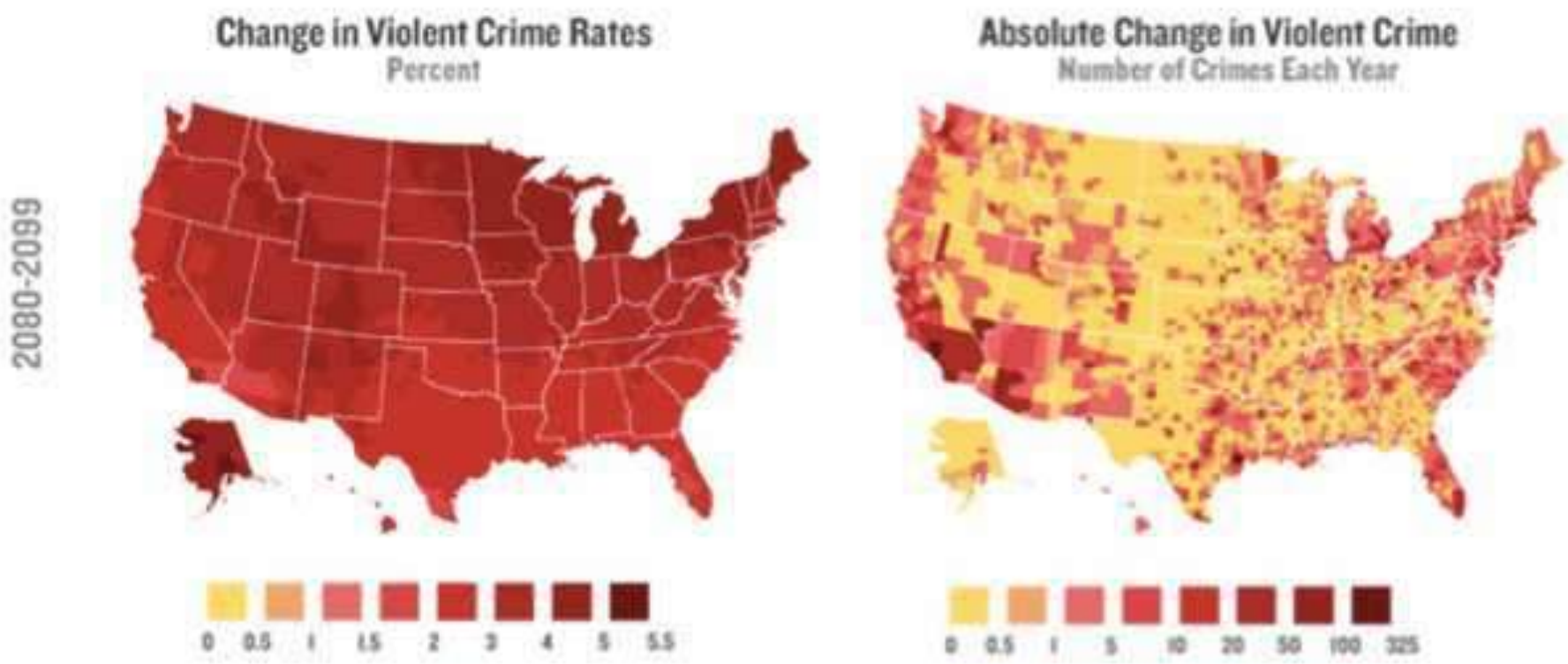
Cost of Global Weather Disasters

- Weather- and climate-related disasters have caused **$2.4 trillion** in economic losses and nearly **2 million** deaths globally since 1971, according to a new report from the World Meteorological Organization (WMO)

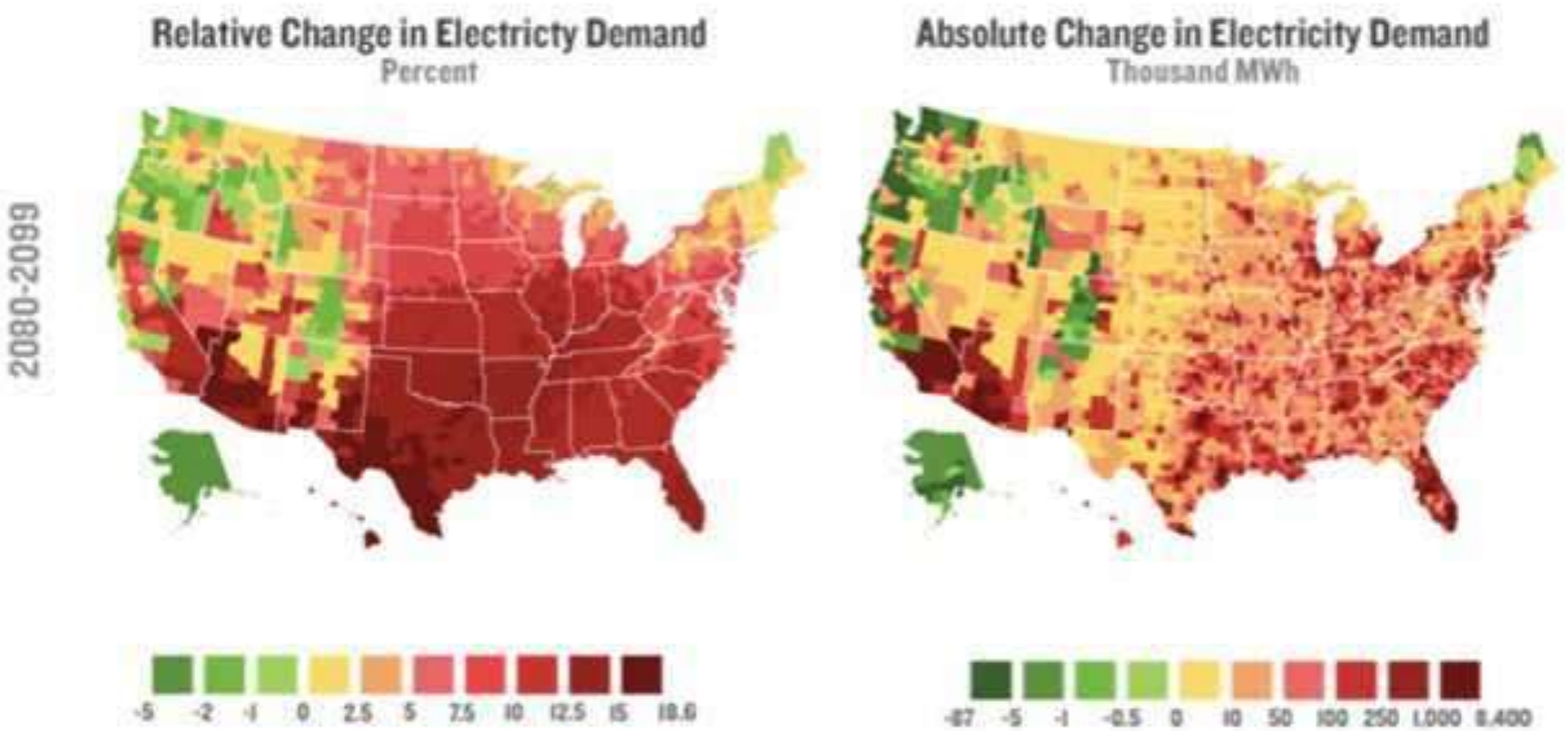
Risky Business: The Economic Risks of Climate Change in the Unite States (2014)

Average Days Per Year Over 95 Degrees Fahrenheit

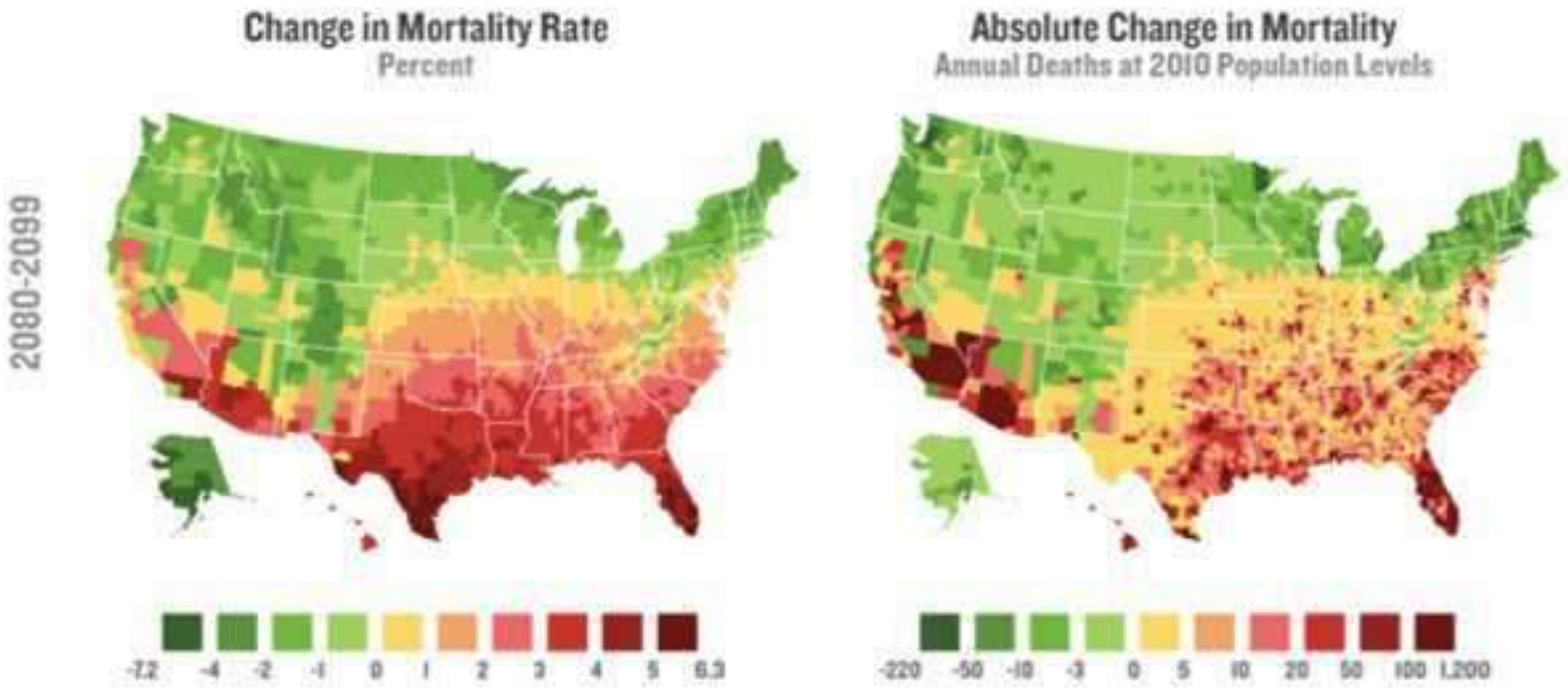




Change in violent crime under RCP 8.5 emissions scenario

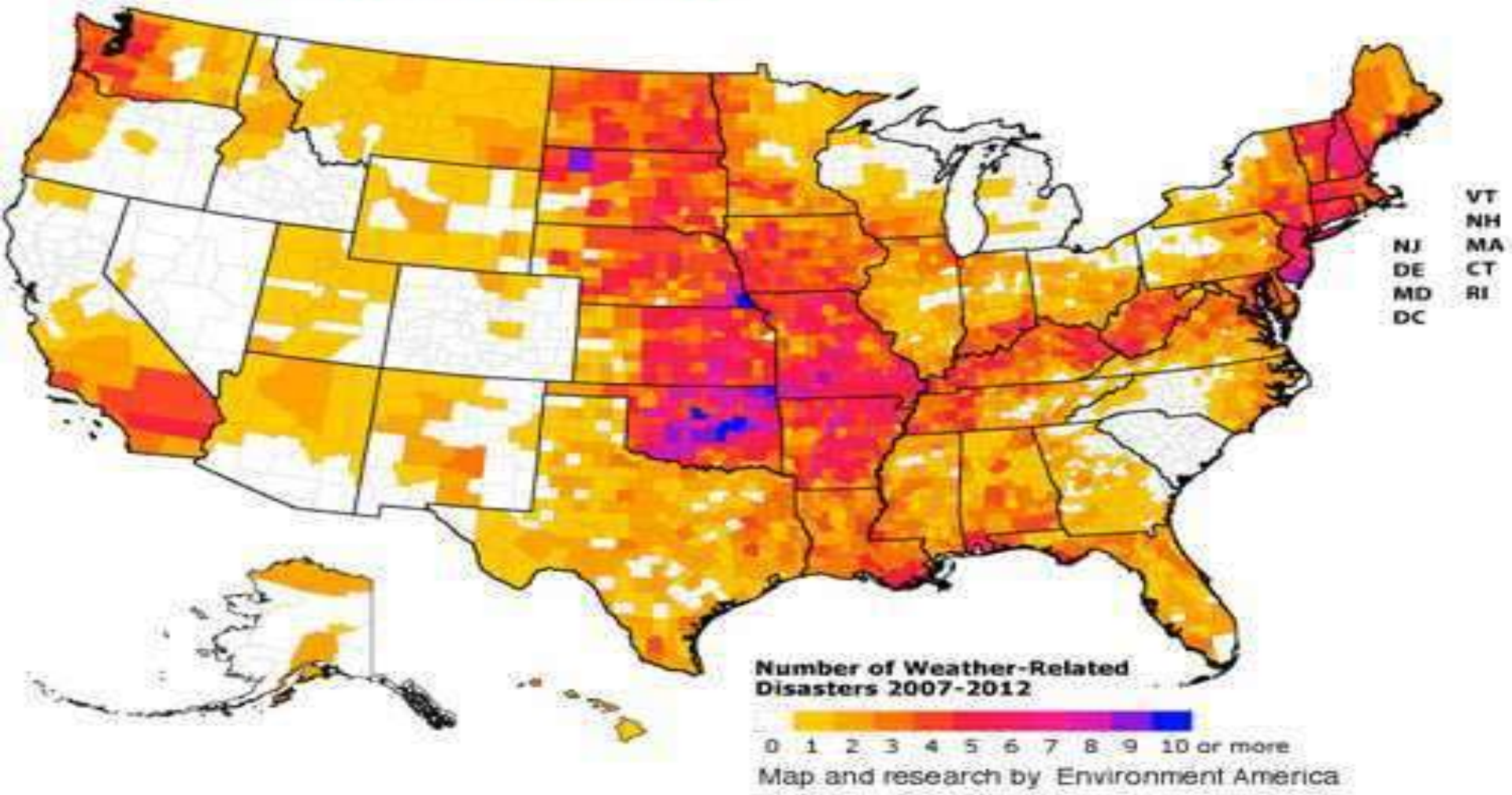


Local changes in electricity demand under RCP 8.5 emissions scenario
Median change in demand from 2012 levels



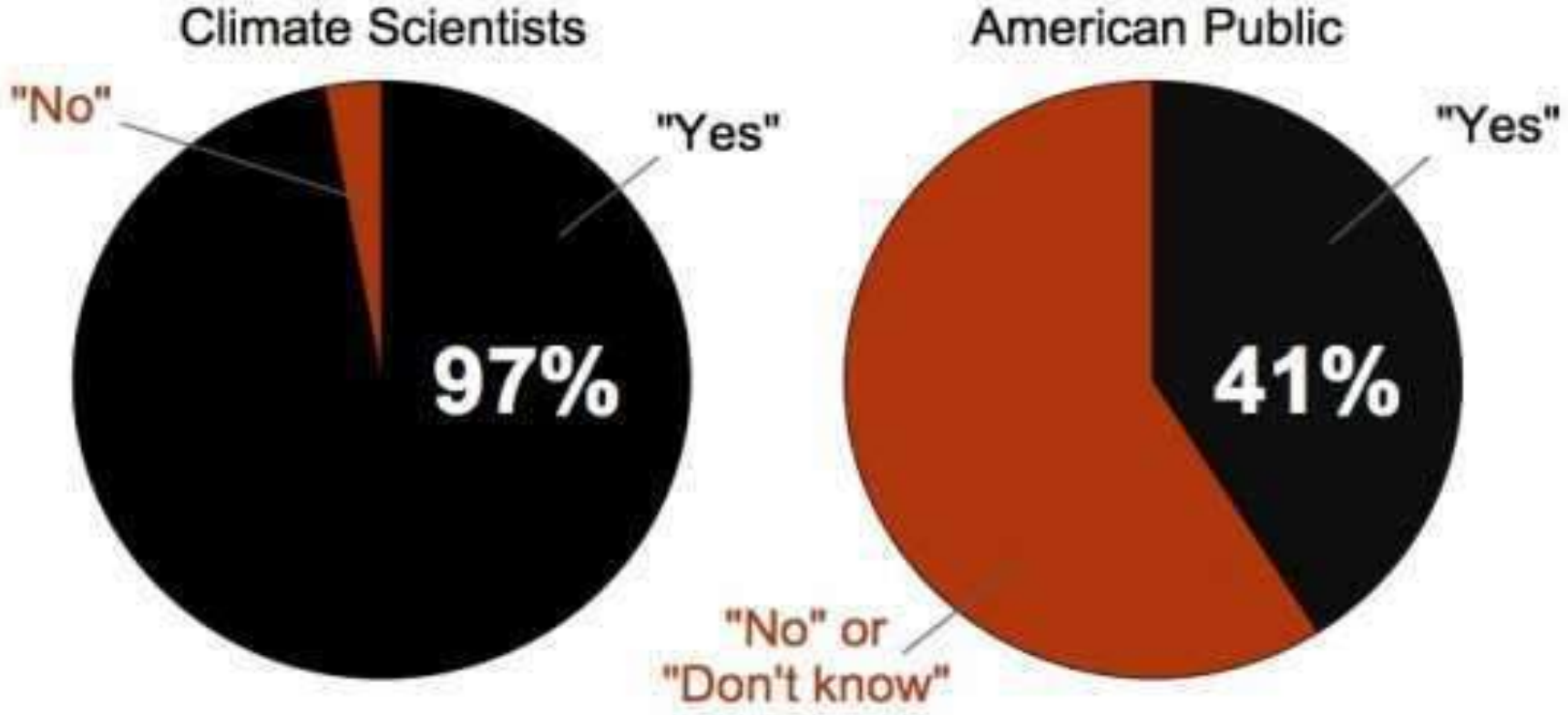
Climate impact on heat- and cold-related mortality under RCP 8.5 emissions scenario

Nearly 80% of Americans have been impacted by extreme weather disasters since 2007.



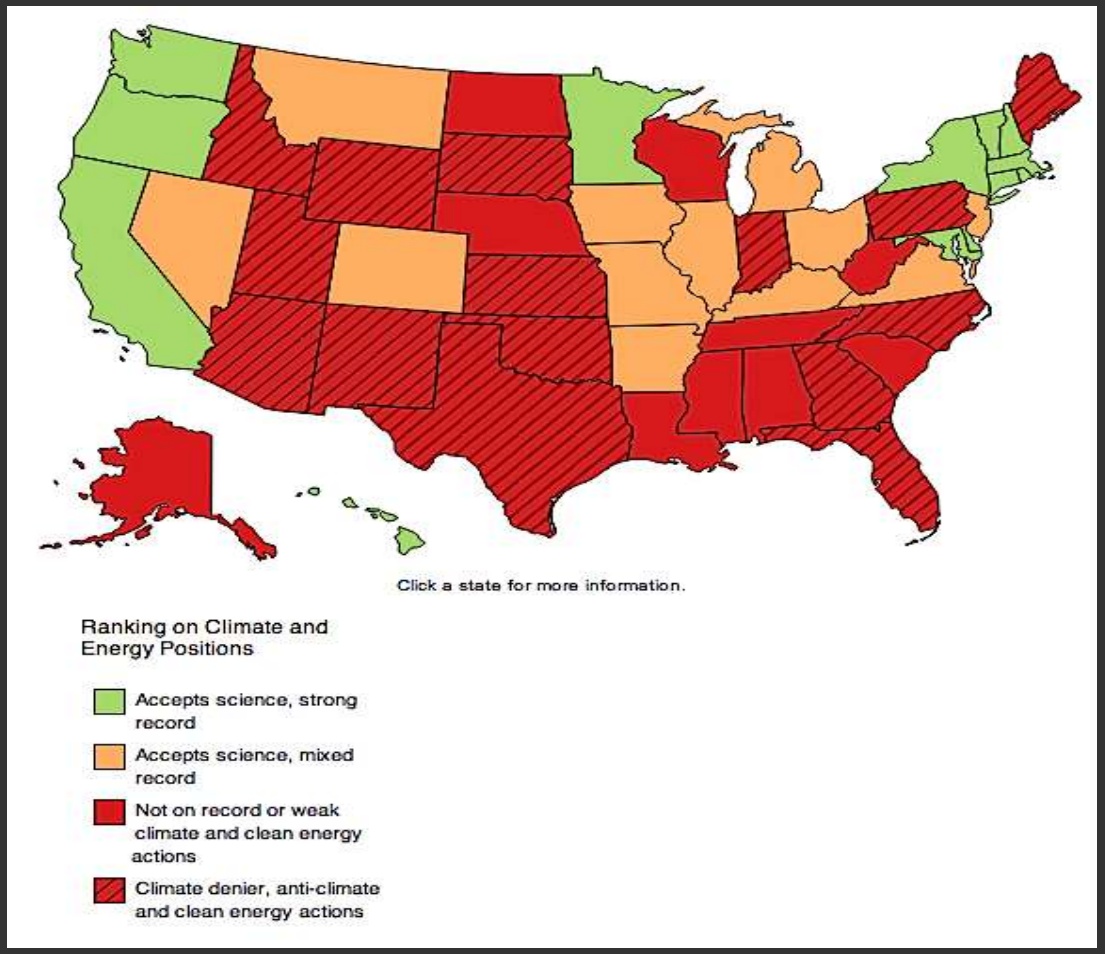
CLIMATE CHANGED.

Say Climate Change is Happening and Human Caused

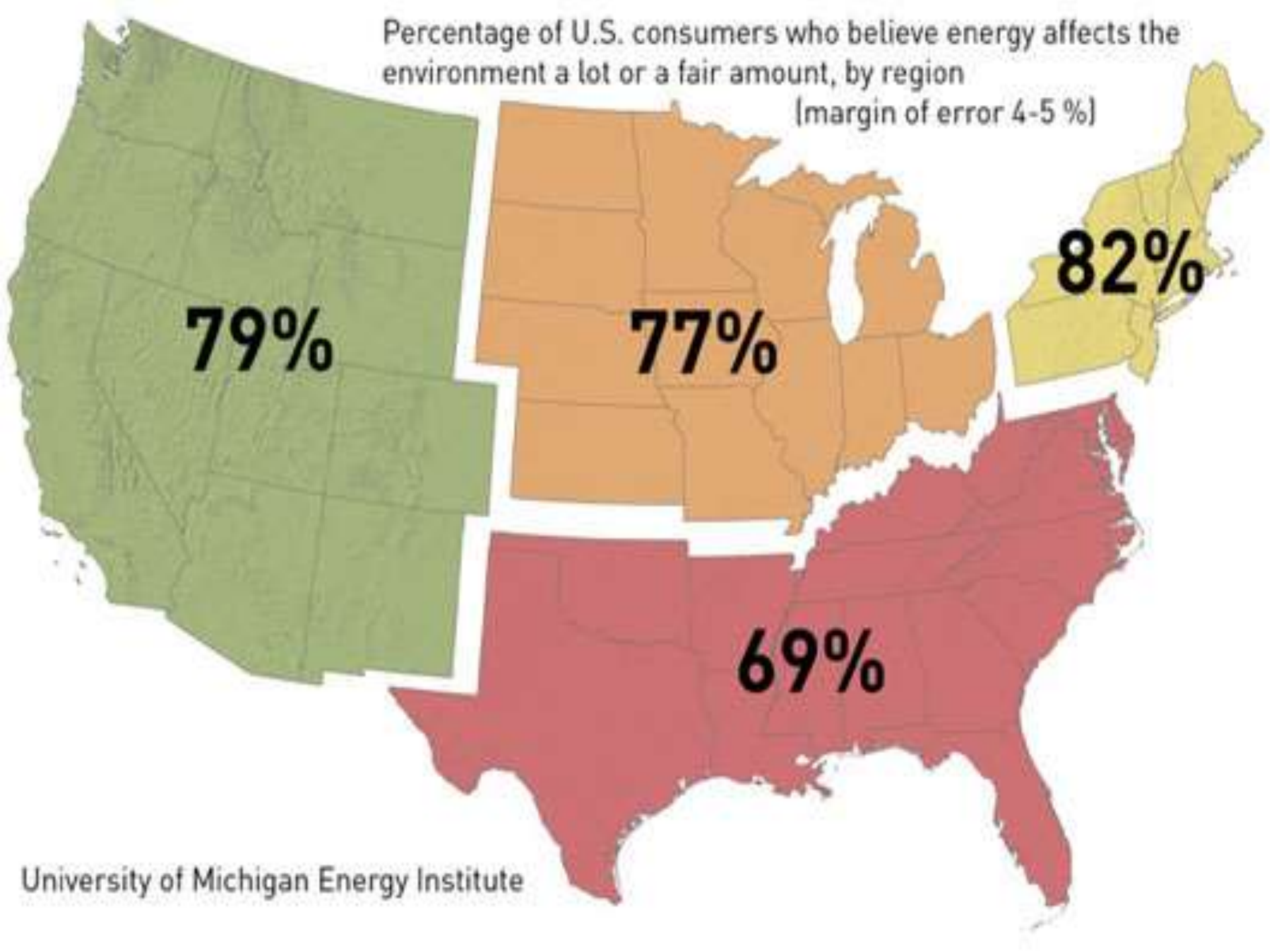


Left: Proportion of peer-reviewed research papers that stated a position on the reality of human-caused global warming and said that it is happening and human caused (Cook et al. 2013). *Right*: Proportion of the American public that says climate change is happening and human caused (Leiserowitz et al. 2013).

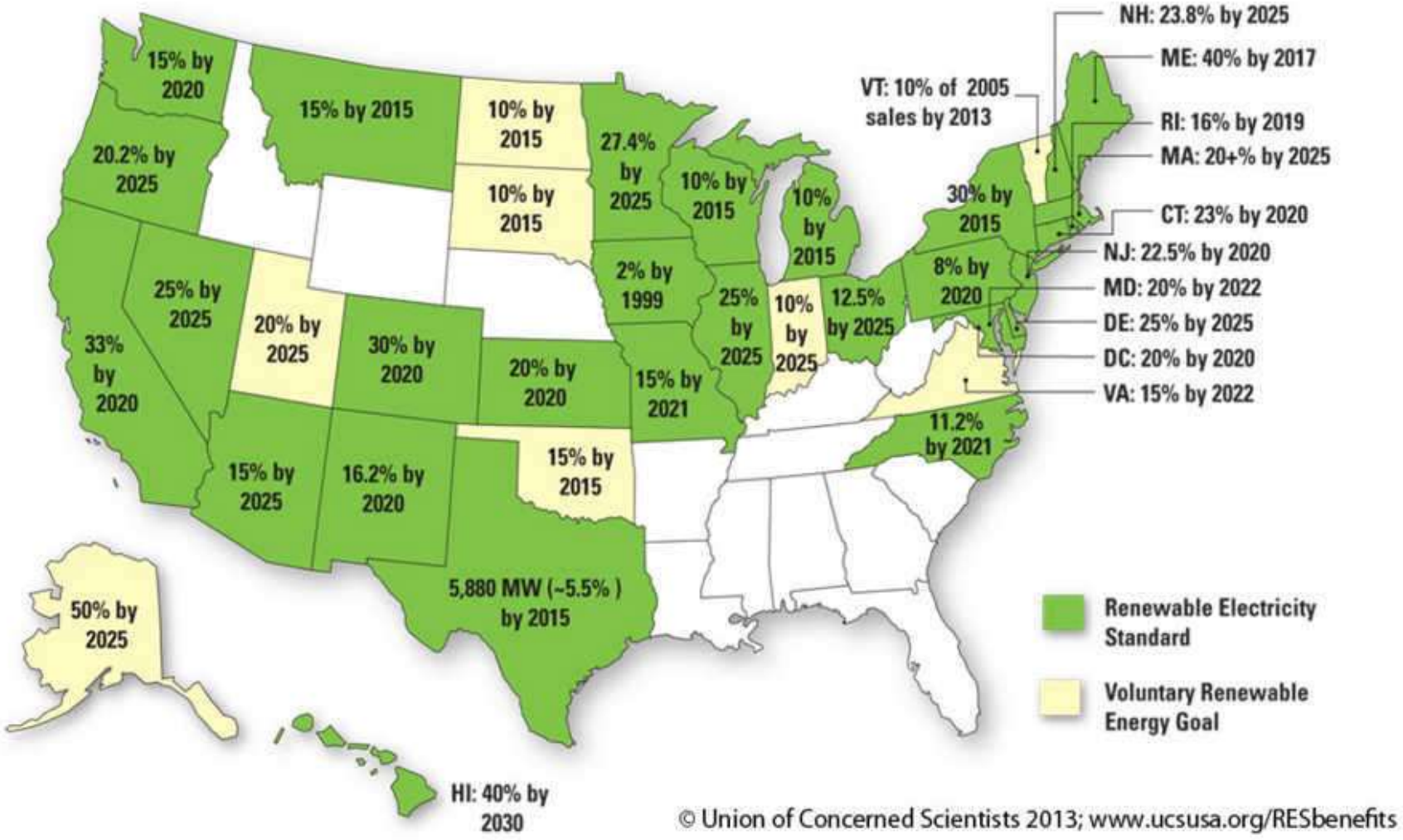
U.S. Governors' Positions on Climate and Clean Energy



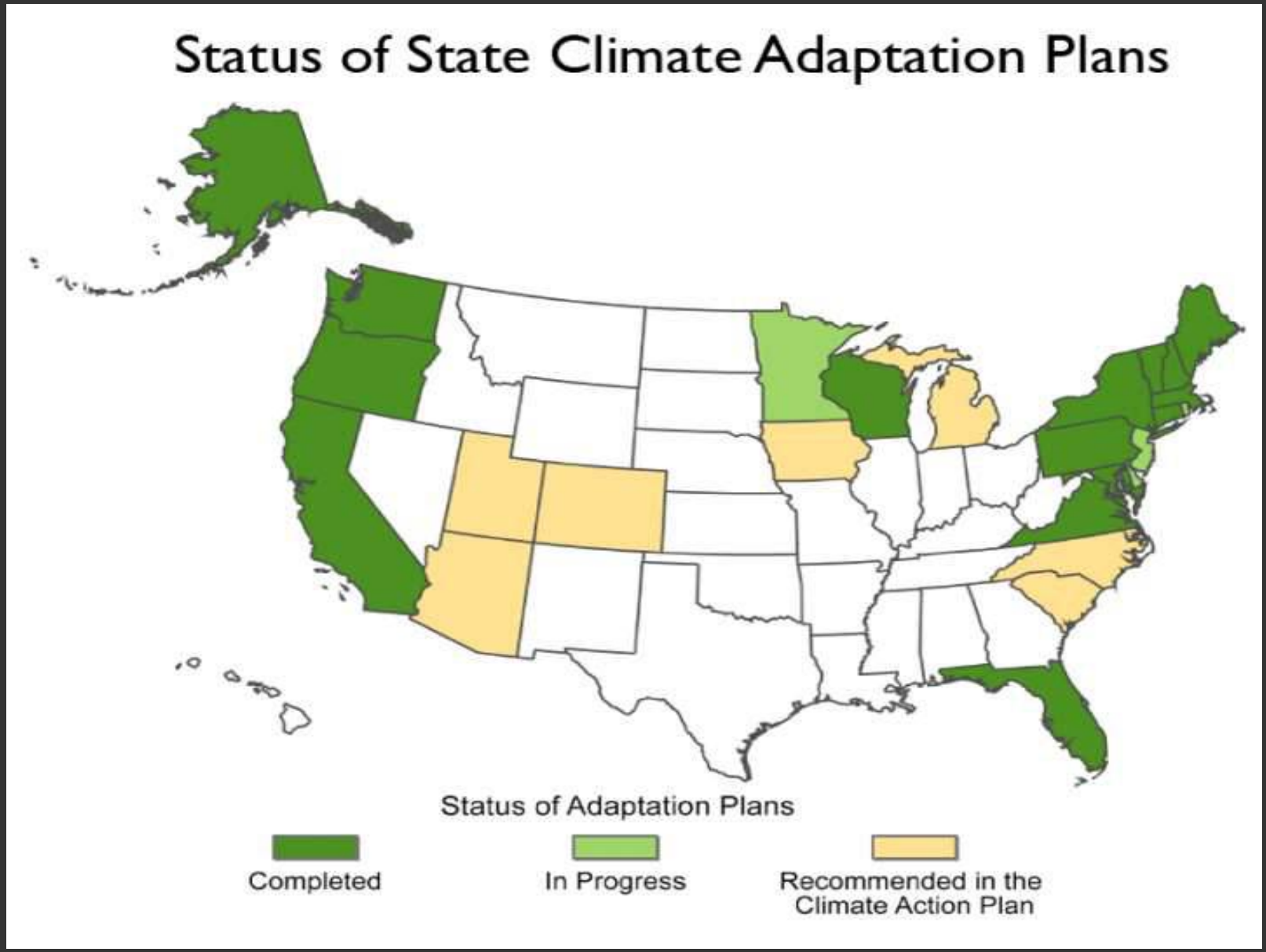
Source: Center for American Progress (2014)


Percentage of U.S. consumers who believe energy affects the environment a lot or a fair amount, by region
(margin of error 4-5 %)
79%
77%
82%
69%
University of Michigan Energy Institute

State Renewable Electricity Standards

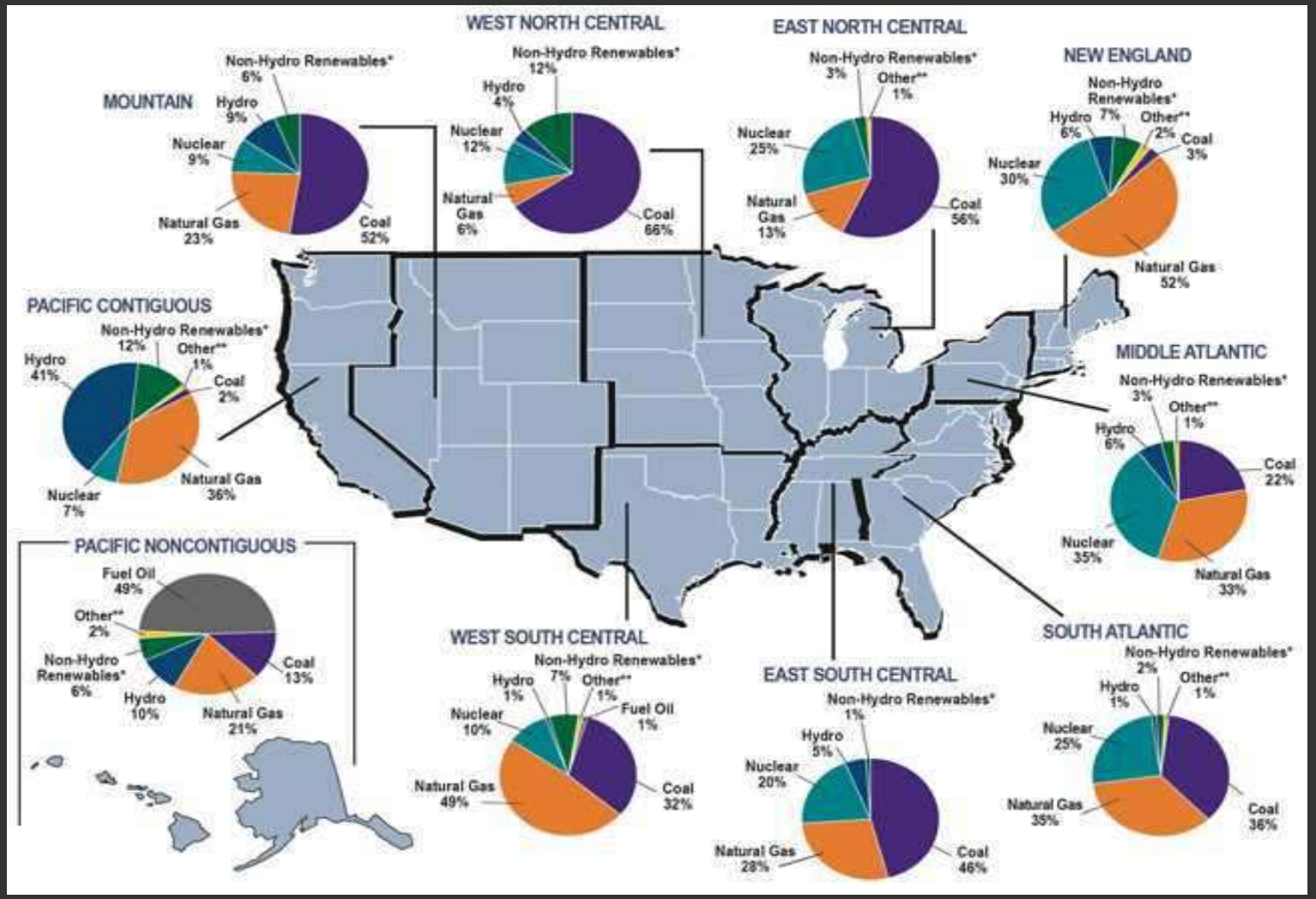


State-level renewable electricity standards are a leading driver of wind, solar, and other renewable development in the United States. Twenty-nine states and the District of Columbia have renewable electricity standards in place, 17 of which have set targets at 20 percent or greater. Another eight states have voluntary targets for renewable electricity.

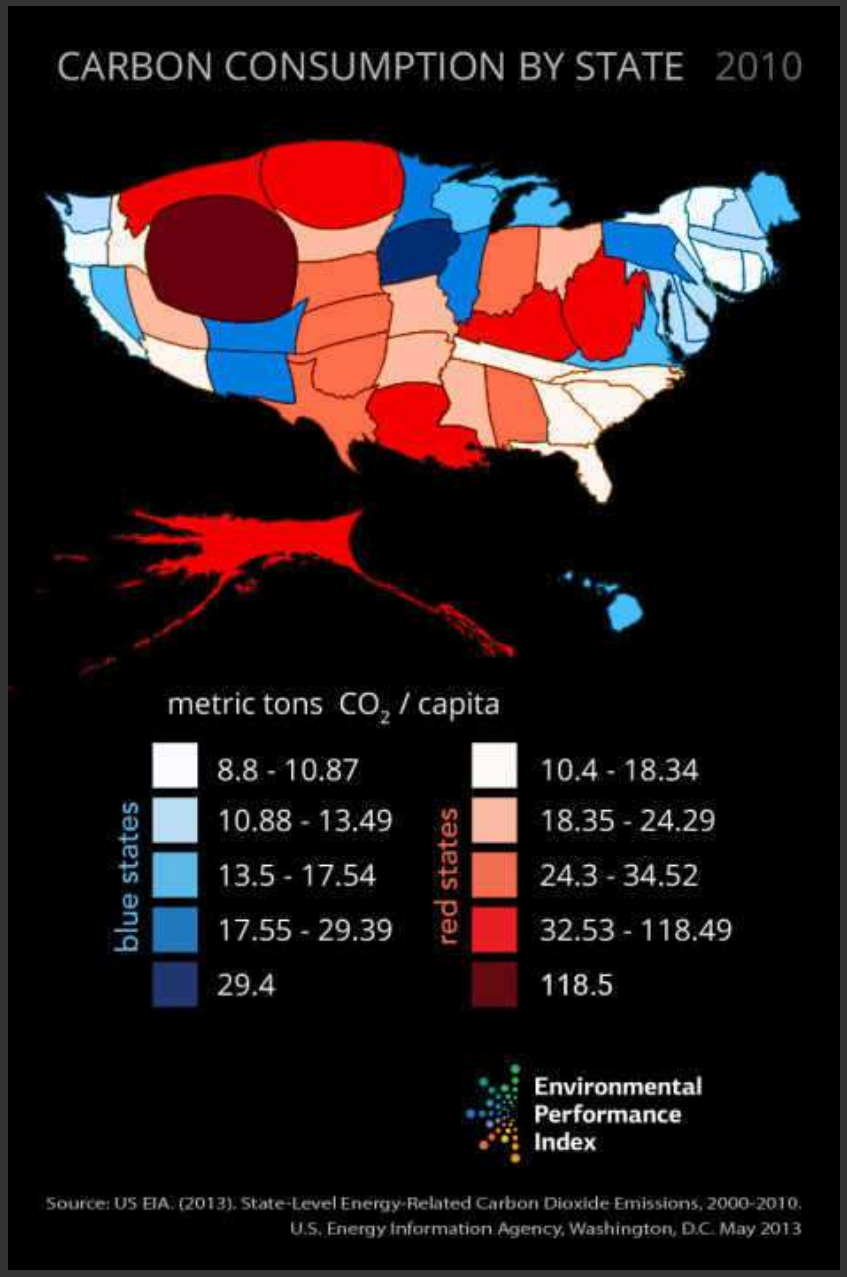


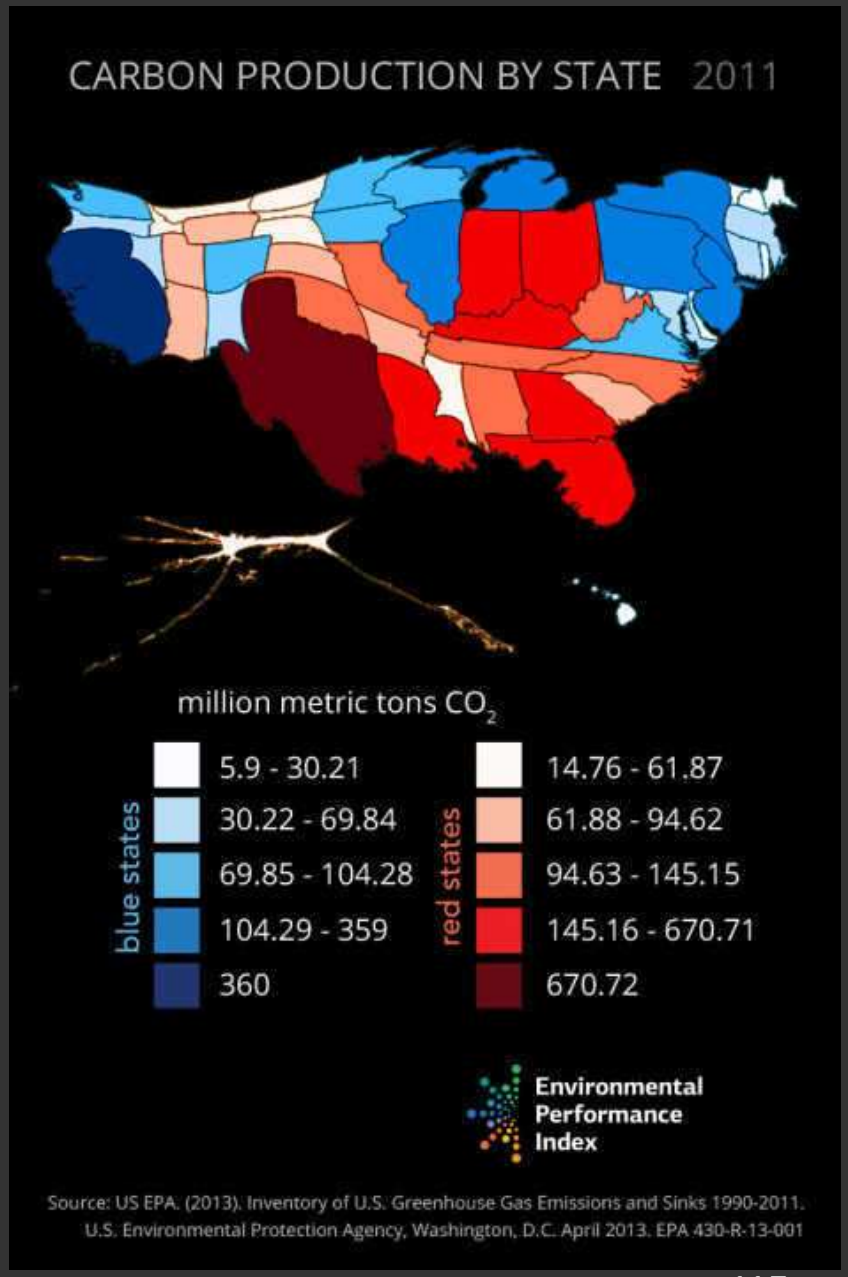
Source: National Climate Assessment (2014)

Electricity Mix by U.S. Region



Source: Center for Climate and Energy Solutions (2011)


CARBON CONSUMPTION BY STATE 2010
metric tons CO_2 / capita
blue states
8.8 - 10.87
10.88 - 13.49
13.5 - 17.54
17.55 - 29.39
29.4
red states
10.4 - 18.34
18.35 - 24.29
24.3 - 34.52
32.53 - 118.49
118.5
Environmental Performance Index
Source: US EIA. (2013). State-Level Energy-Related Carbon Dioxide Emissions, 2000-2010. U.S. Energy Information Agency, Washington, D.C. May 2013


CARBON PRODUCTION BY STATE 2011
million metric tons CO_2
blue states
5.9 - 30.21
30.22 - 69.84
69.85 - 104.28
104.29 - 359
360
red states
14.76 - 61.87
61.88 - 94.62
94.63 - 145.15
145.16 - 670.71
670.72
Environmental Performance Index
Source: US EPA. (2013). Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2011. U.S. Environmental Protection Agency, Washington, D.C. April 2013. EPA 430-R-13-001

Coal Plants in the Contiguous U.S. (557)

Source: Vox (2014)

Geography of "Dirty Power"

Living within 30 miles of a power plant (the distance within which most airborne pollution impacts occur):

- 56% of whites
- Over 78% of African Americans
- 39% of Latinos
- Over 35 million American children

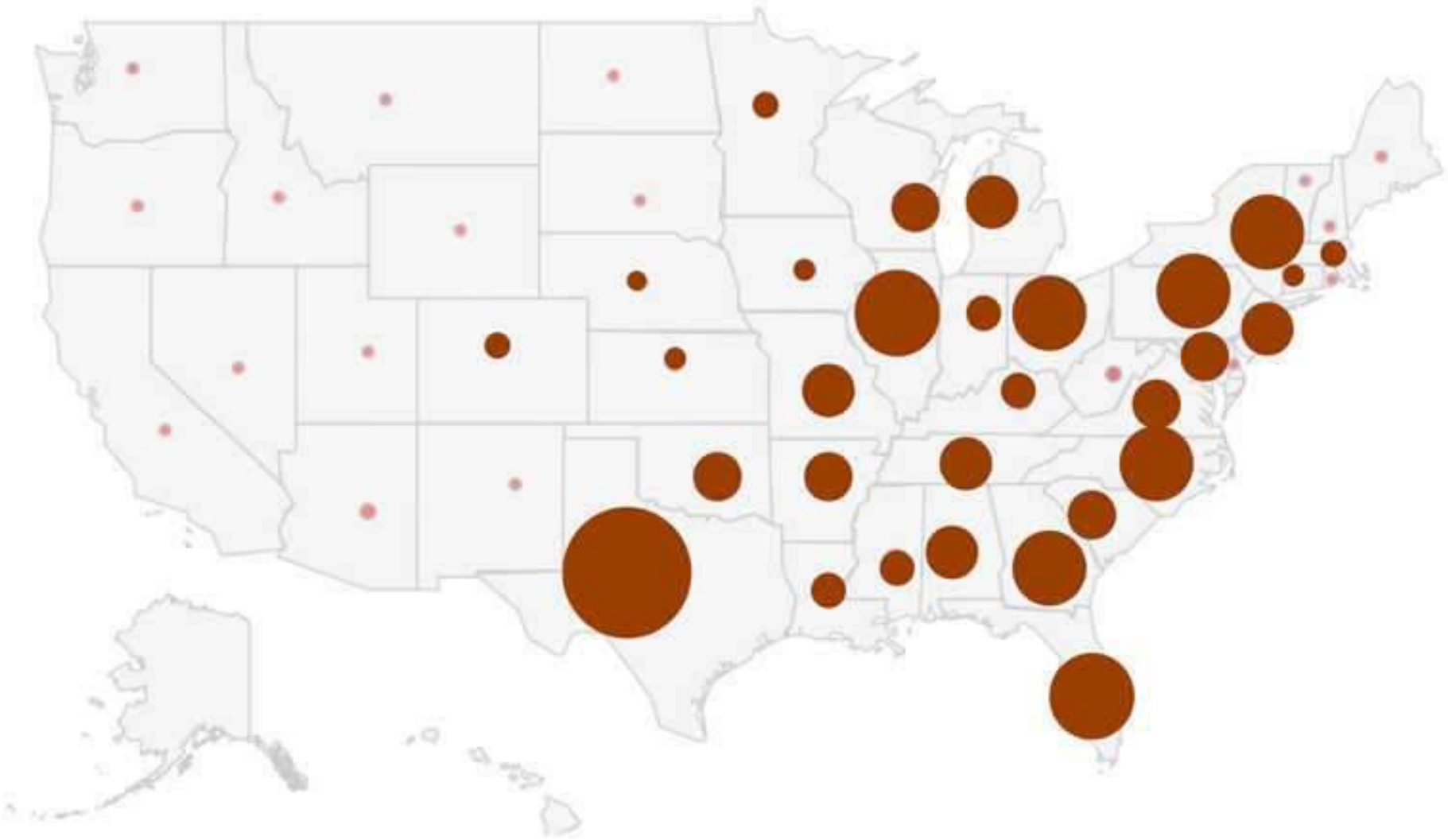
The "Dirty Dozen" Coal Plants

- Two million people live within three miles of one of the top twelve "dirtiest" coal fired power plants
- 76 percent of these residents are people of color and the average per capita income is $14,626, compared with the national average of $21,587
- People of color make up just only 37 percent of the U.S. population in 2012

Where Is the Air We Breathe Killing Us?

As many as 11,000 deaths are caused in the U.S. each year by toxic power plant emissions.

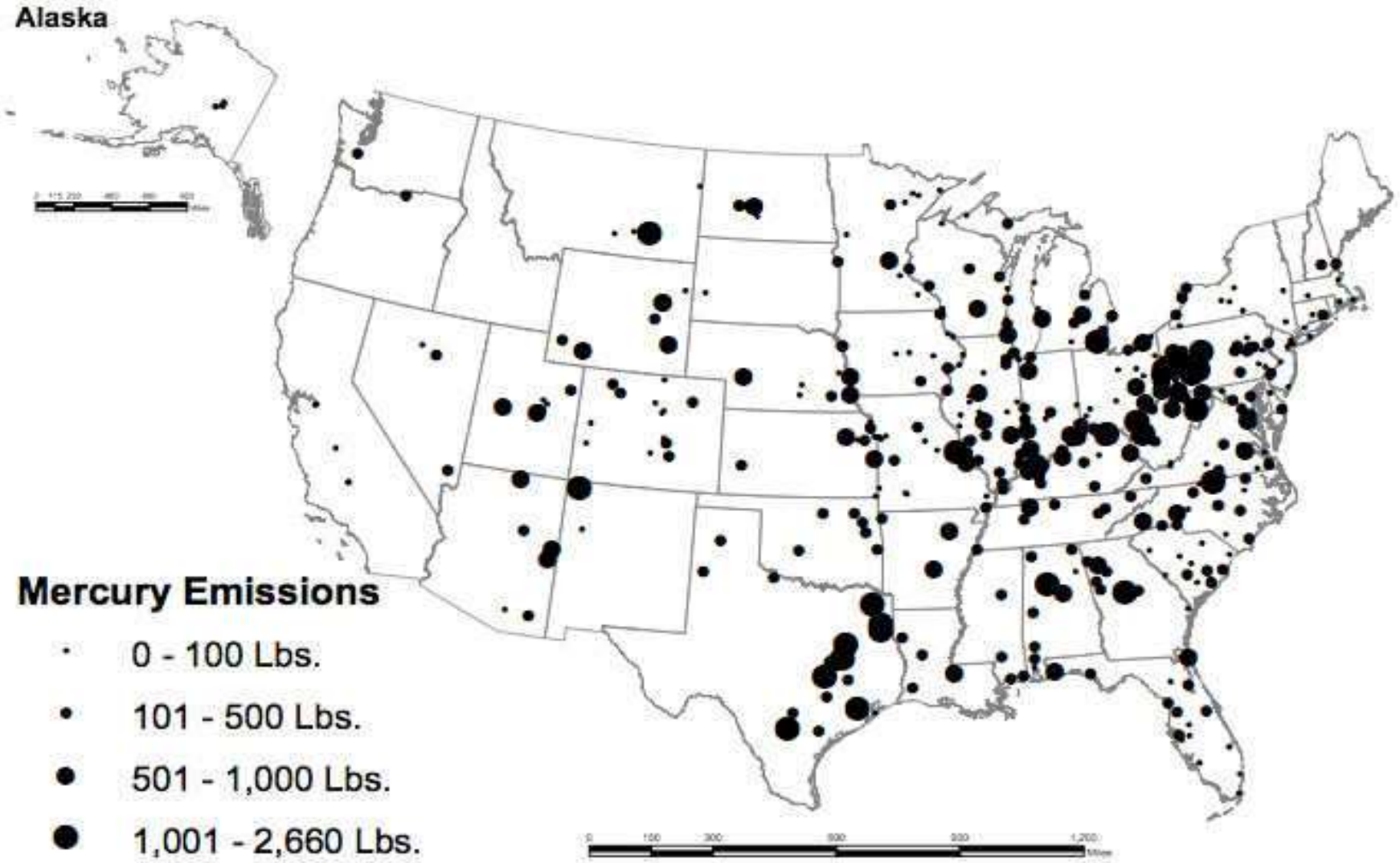
AMERICAN LUNG ASSOCIATION®
Fighting for Air



6 — 1,200 Lives Lost

Source: epa.gov/mats. EPA's analysis does not include AK or HI

Map of all mercury emissions from power plants in the United States



Dirty Energy's Assault on our Health: Mercury

Source: U.S. Environmental Protection Agency TRI Explorer: Releases: Trends Reports

President Acts to Limit Carbon Pollution from Coal Plants

HERE'S HOW MODERNIZING OUR POWER PLANTS WILL MAKE OUR COMMUNITIES HEALTHIER

EPA's proposed power plant rule will set the **first-ever national carbon emissions limits** for America's existing power plants.

THE RESULT: LESS CARBON POLLUTION

In 2030, because of these standards, there will be **30% less carbon pollution** from the power sector.

(That's the equivalent of canceling out the carbon pollution from nearly two-thirds of all cars and trucks in America.)

And there will be 25% less smog and soot.

WHEN THESE POLLUTION REDUCTIONS ARE IMPLEMENTED, AMERICANS WILL:

BREATHE EASIER

An estimated **3,700** fewer cases of bronchitis in children

An estimated **150,000** fewer asthma attacks in children

STAY IN SCHOOL

Kids will miss an estimated **180,000** fewer days of school

LIVE LONGER

An estimated **2,700 to 6,600** fewer premature deaths

STAY OUT OF THE HOSPITAL

Up to **3,300** fewer heart attacks

More than **1,800** avoided hospital visits for cardiovascular and respiratory illnesses

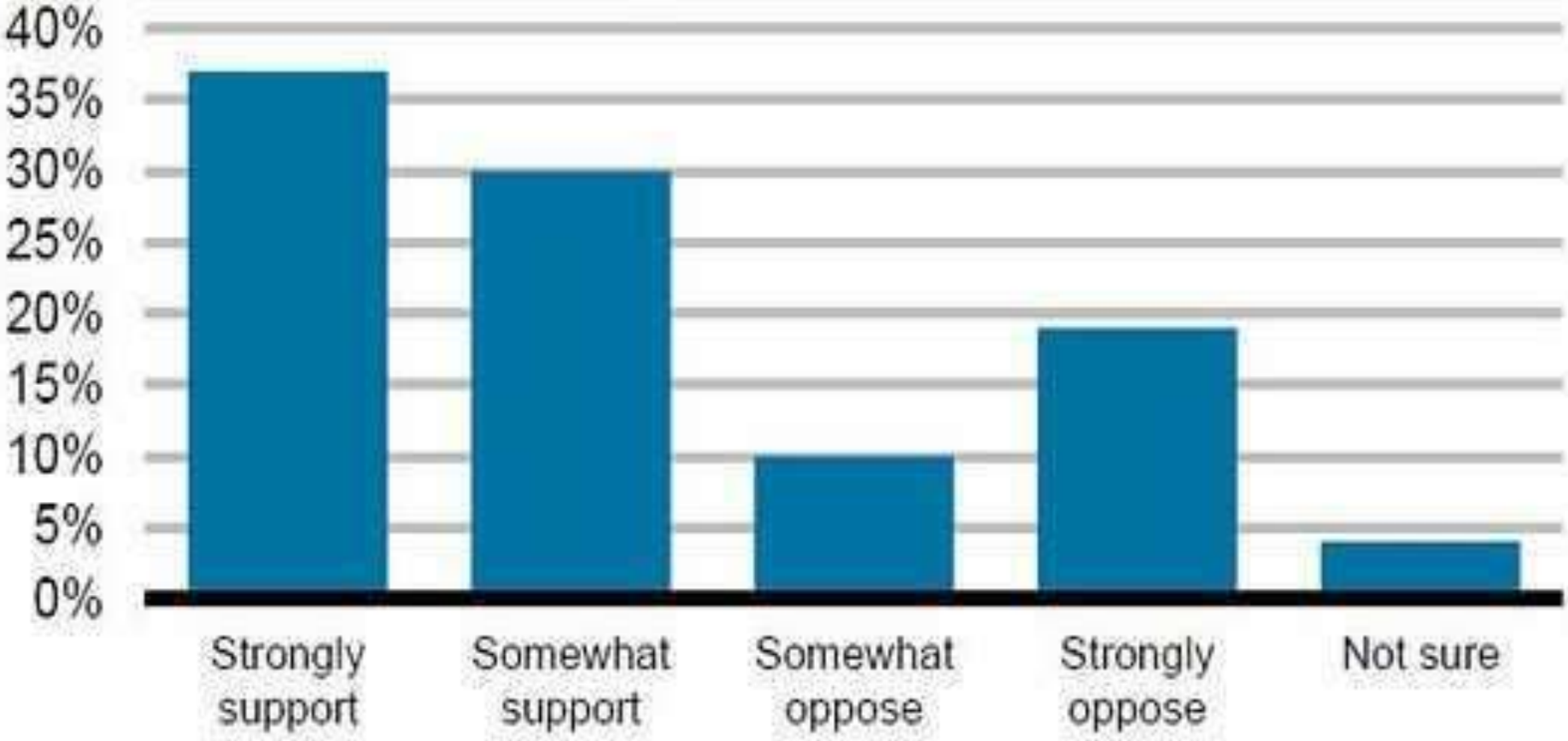
GET BACK TO WORK

An estimated **310,000** fewer lost work days

wh.gov/climate-change

Majority Support New EPA Rules

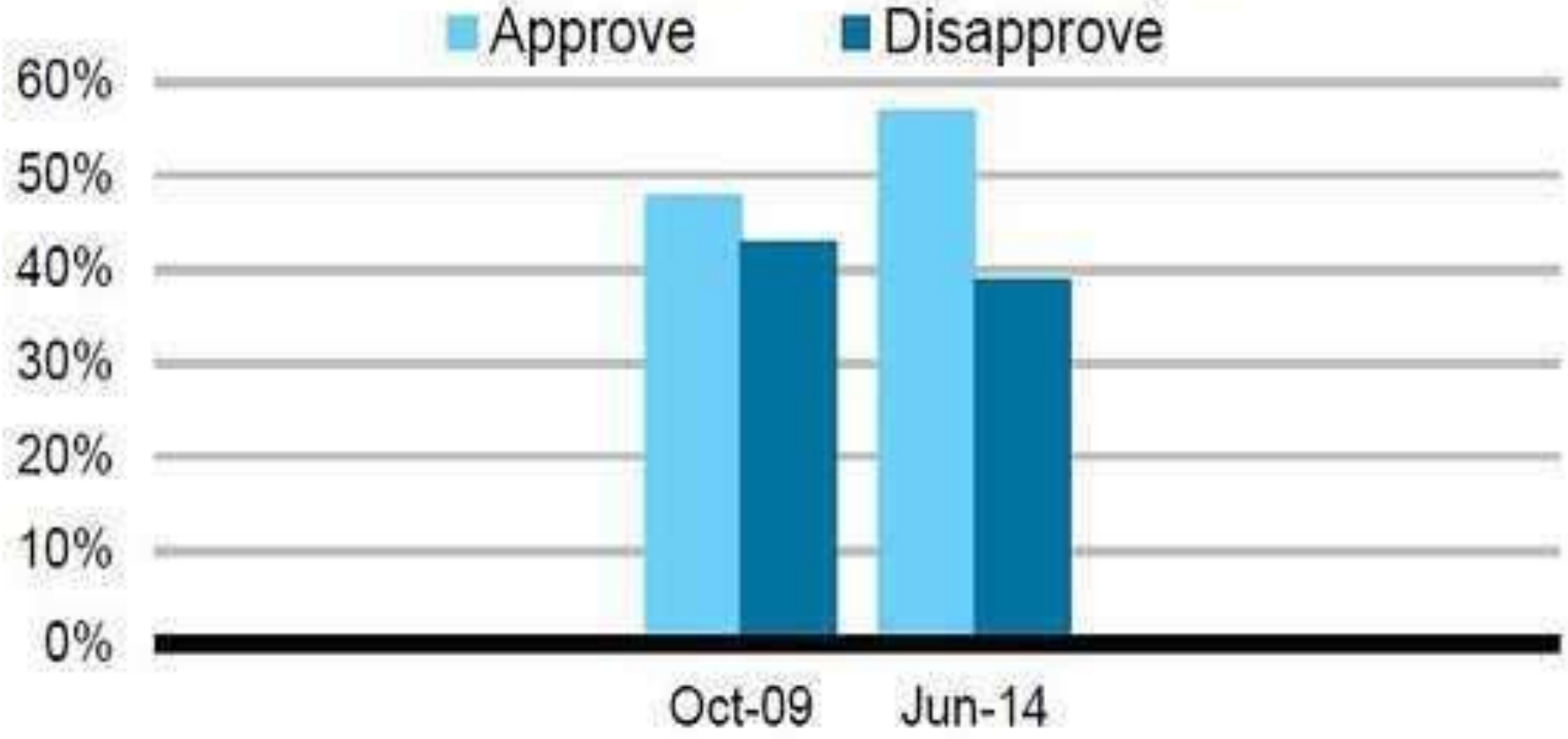
Two-thirds of Americans favor new EPA rules limiting carbon emissions from coal-fired power plants.



Source: Wall Street Journal/NBC News poll | WSJ.com

Paying the Price

More Americans now support requiring companies to cut emissions -- even if it would mean higher utility bills.



Source: Wall Street Journal/NBC News poll | WSJ.com

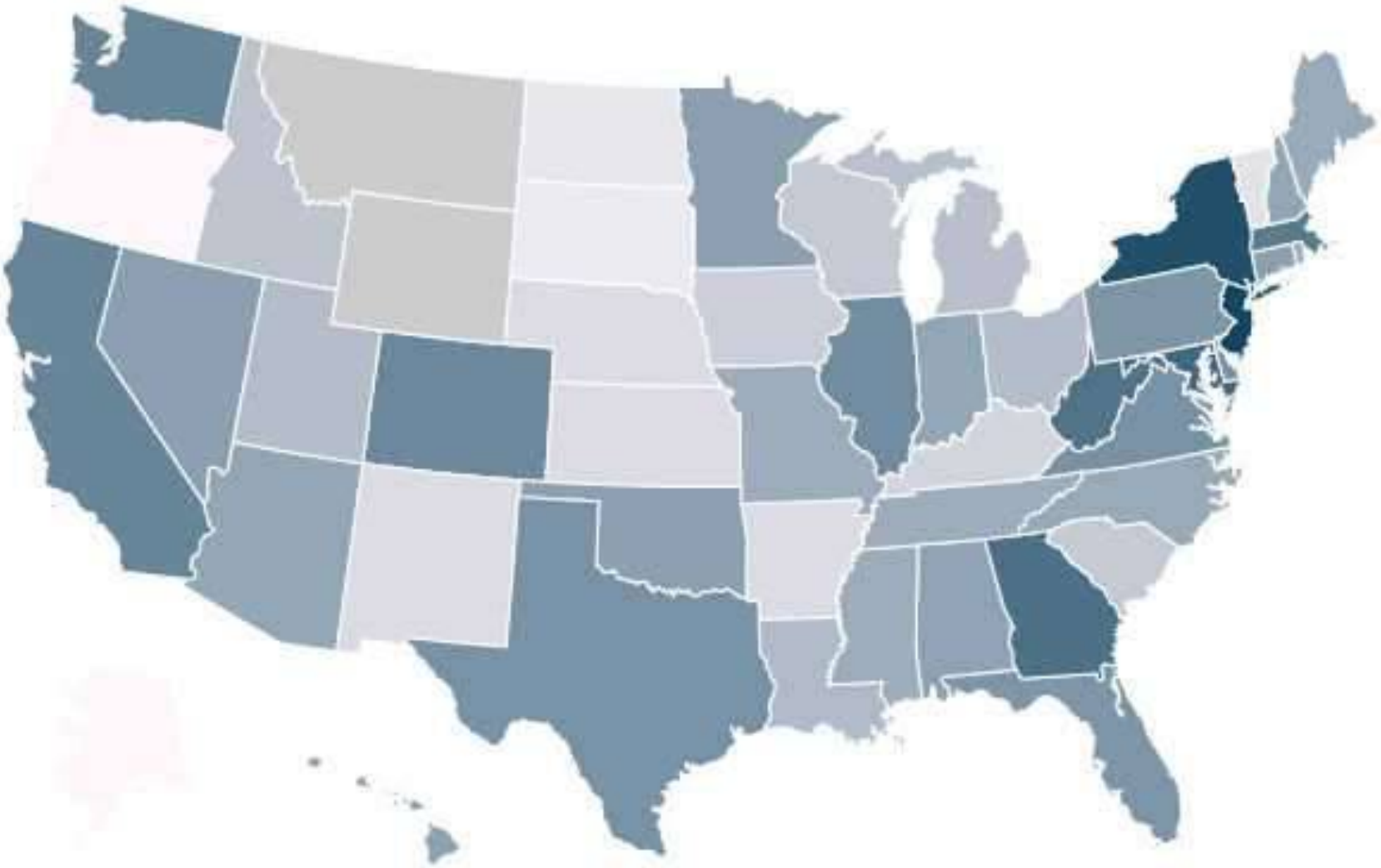
The Right to Breathe
vs.
The Right to Pollute

Private Car Ownership

- Car ownership is almost universal in the United States with 91.7 percent of American households owning at least one motor vehicle
- Nationally, 7 percent of white households own no car, compared with 24 percent of black households, 17 percent of Latino households, and 13 percent of Asian-American households
- Blacks with No Car: Pittsburgh (48.6%), Baltimore (44.4%), Washington, DC (42.1%), St. Louis (36.2%), New Orleans (34.8%), Atlanta (34.6%)

Avg. daily time spent commuting (among employed)

29 minutes — 63 minutes



WASHINGTONPOST.COM/**WONKBLOG**

Source: American Time Use Survey

Transportation-Induced Pollution

- Contributes 60-90% of air pollution in U.S. Cities
- Accounts for 75% of carbon monoxide emissions
- 30+ health studies have linked diesel emissions to increased incidence of cancer
- Diesel emissions may be responsible for 125,000 cancer cases in the U.S. annually

Olympic Size Health Gains

- Driving was banned from the Atlanta central business district during July 1996 Olympics millions of people rode MARTA
- Reduced auto use by 22.5 percent
- Asthma admissions to ERs and hospitals decreased by 41.6 percent

Source: U.S. Center for Disease Control

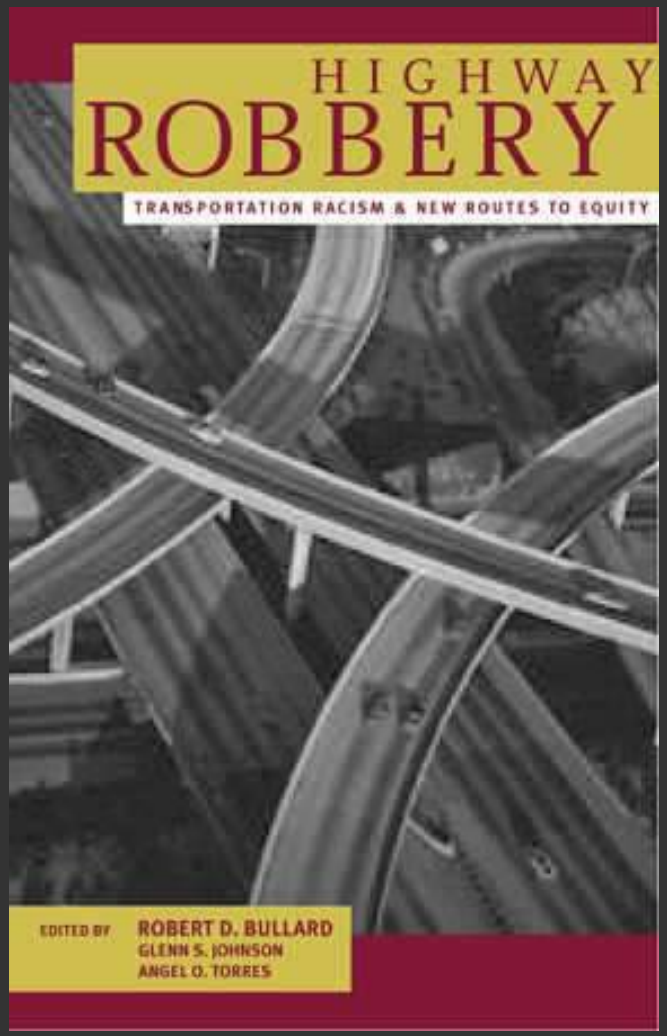
Cleaner Air Extends Lifespan

- A recent study published in the January 22, 2009 *New England Journal of Medicine*, found Americans are living longer because the air they breathe is getting cleaner
- The average drop in pollution seen across 51 metropolitan areas between 1980 and 2000 appears to have added nearly five more months to people's lives
- Residents of cities that did the best job cleaning up air pollution showed the biggest jump in life span

Getting There on Transit

- Only about 5 percent of Americans use public transit to get to work
- People of color make up 60 percent of U.S. transit riders
- African Americans are almost six times as likely as whites to use transit to get around

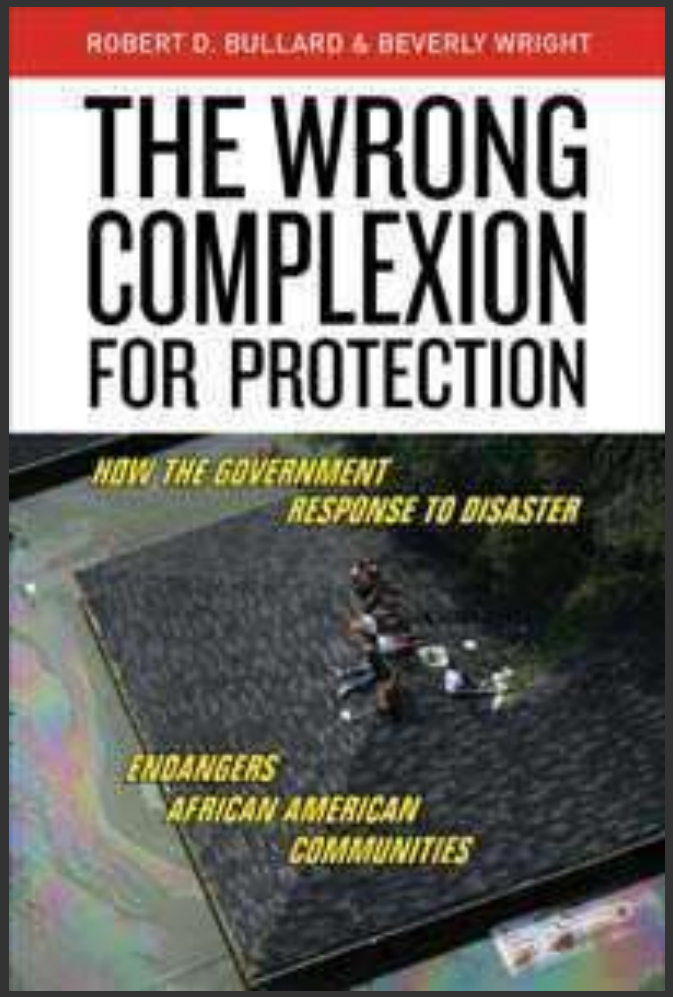
FUNDING MORE TRANSIT



- Roads get 80% of transportation dollars vs 20% for transit
- Public transportation creates twice the jobs of highway construction
- Every $1 invested in public transportation generates $4 in local economic activity
- Every $1 billion invested in the nation's transportation infrastructure supports 36,000 jobs

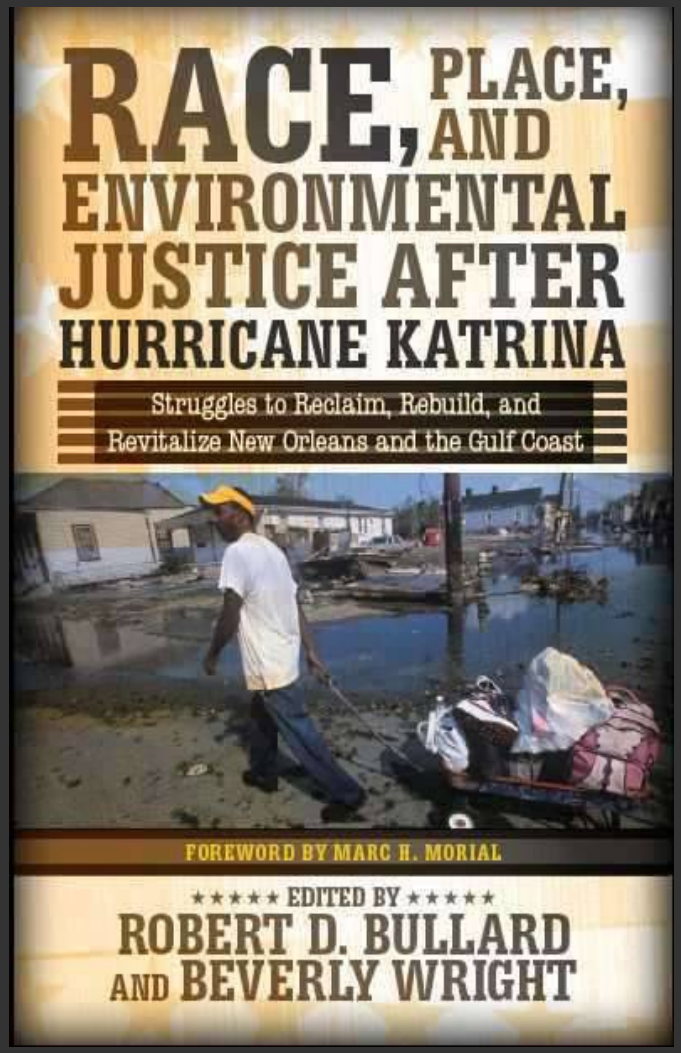
Build Them and They Will Come

Will Government Response to Climate Change Be Fair?



- Long before Katrina devastated the U.S. Gulf Coast, African Americans learned the hard way that waiting for government to respond can be hazardous to their health and the health of their communities
- Government response to natural and human-made disasters over the past eight decades has not treated all communities equally and fairly

Protecting the Most Vulnerable



- In major disasters, the most vulnerable populations generally suffer the earliest and most damaging setbacks because of where they live, their limited income and economic means, and their lack of access to health care
- Social vulnerability involves the basic provision of health care, the livability of places, overall indicators of quality of life, and accessibility of lifelines (goods, services, emergency response personnel), capital, and political representation

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IN THE WAKE OF THE STORM

ENVIRONMENT, DISASTER, AND RACE AFTER KATRINA

A REPORT FROM THE RUSSELL SAGE FOUNDATION

MANUEL PASTOR, ROBERT D. BULLARD, JAMES K. BOYCE,
ALICE FOTHERGILL, RACHEL MORELLO-FROSCH, BEVERLY WRIGHT


New Orleans

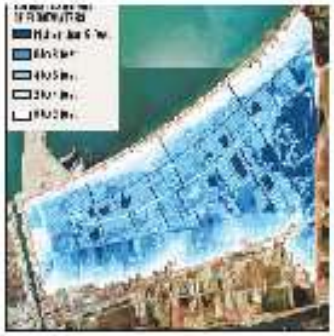
Washed Away by Katrina


Katrina Flooding in New Orleans
as of September 2, 2005, four days after hurricane
0.2 - 0.7 feet deep
3.1 - 3.5 feet deep
8.5 - 15.6 feet deep
Major Levee Breaches
Miles
0 0.5 1 2
Lake Pontchartrain
New Orleans East
Versailles
Pontchartrain Park
Gentilly
Lakeview
Metairie
Jefferson Parish
Orleans Parish
17th Street Canal
Bayou St. John
London Avenue Canal
Industrial Canal
Intracoastal Waterway
Levees Overtopped
Old Metairie
Seventh Ward
Upper Ninth Ward
Lower Ninth Ward
Mid City
Marigny
Bywater
French Quarter
St. Bernard Parish
Carrollton
CBD
Algiers Point
Mississippi River
Central City
Chalmette
Garden District
Uptown
Gretna
Jefferson Parish
Map by Richard Campanella, "Bienville's Dilemma:
A Historical Geography of New Orleans"
(Lafayette: University of Louisiana Press, 2008)

Stop Racism at the Army Corps of Engineers! Equal Flood Protection for All!

Flood Levels During Hurricane Katrina

New Orleans East



Gentilly

Ninth Ward

Lakeview

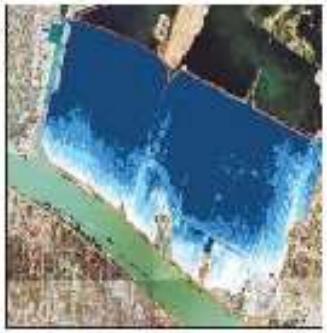
Old Metairie

Flood Reduction by the Army Corps of Engineers' Levee Upgrades/Repairs as of June 2007

New Orleans East
Zero Inches

Gentilly
6 Inches

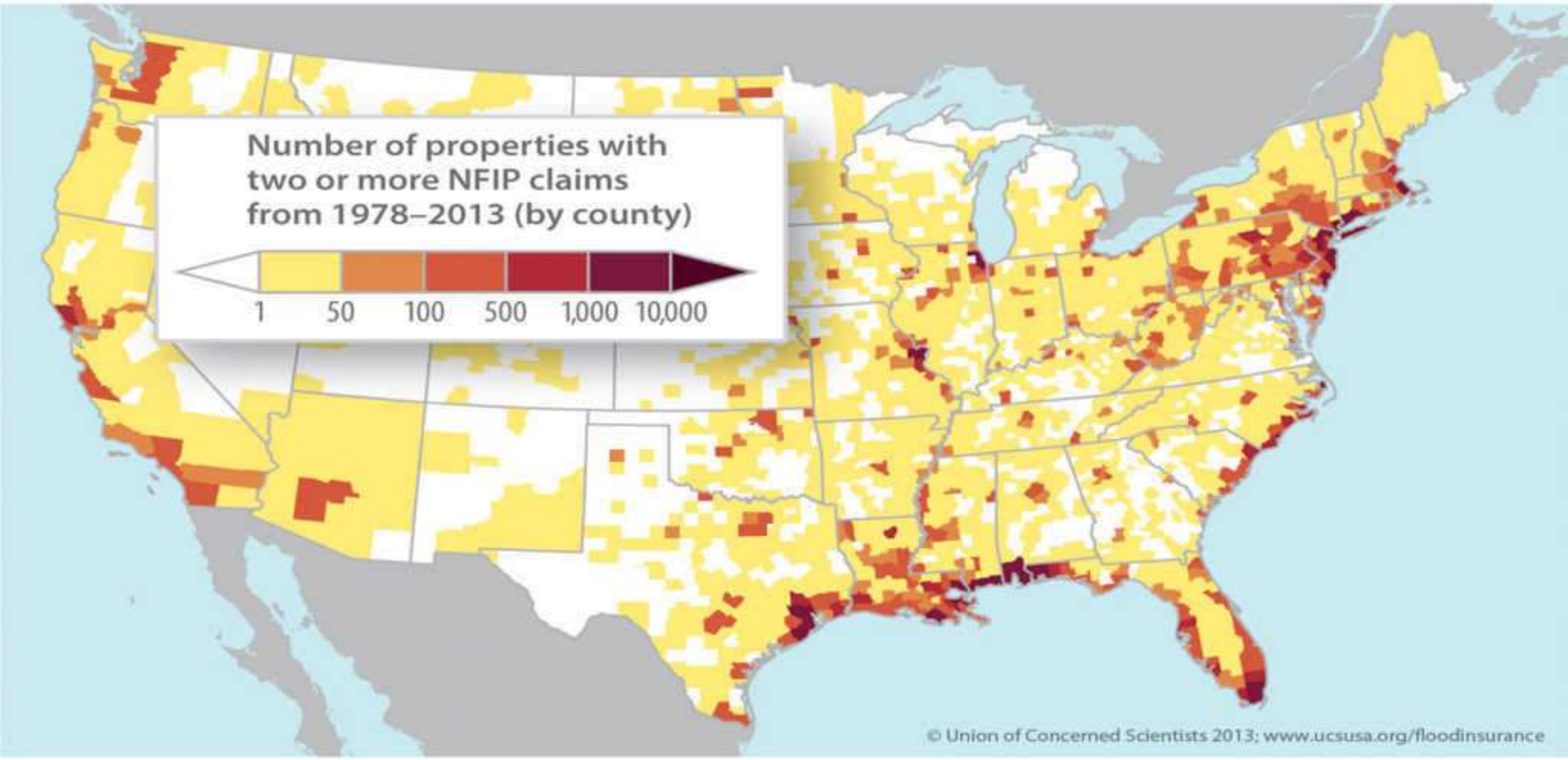
Ninth Ward
2 Feet



Lakeview
5.5 Feet

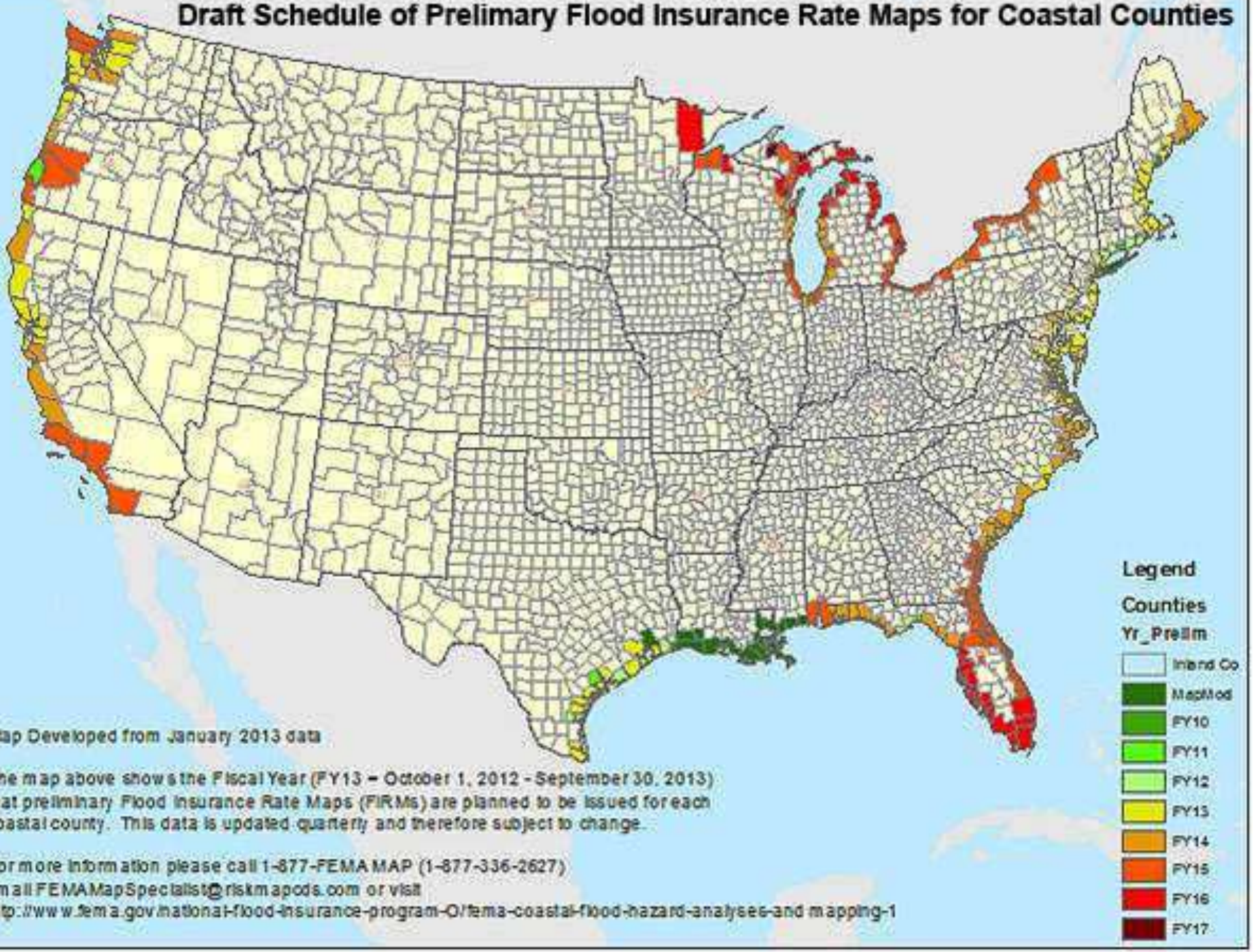
Old Metairie
5.5 Feet

Repetitive-Loss Properties by U.S. County



Insurance claims on properties that are repeatedly damaged by flooding, or "repetitive losses," are of particular concern to the National Flood Insurance Program (NFIP). NFIP has paid out almost $9 billion in claims to repetitive-loss properties, which amounts to about a quarter of all NFIP payments since 1978. Repetitive-loss properties, shown here, account for just 1.3 percent of all policies but are responsible for fully 25 percent of all NFIP claim payments since 1978. The darker colors show counties particularly prone to repetitive losses. Map based on data from FEMA as of May 2013.

Draft Schedule of Prelimary Flood Insurance Rate Maps for Coastal Counties



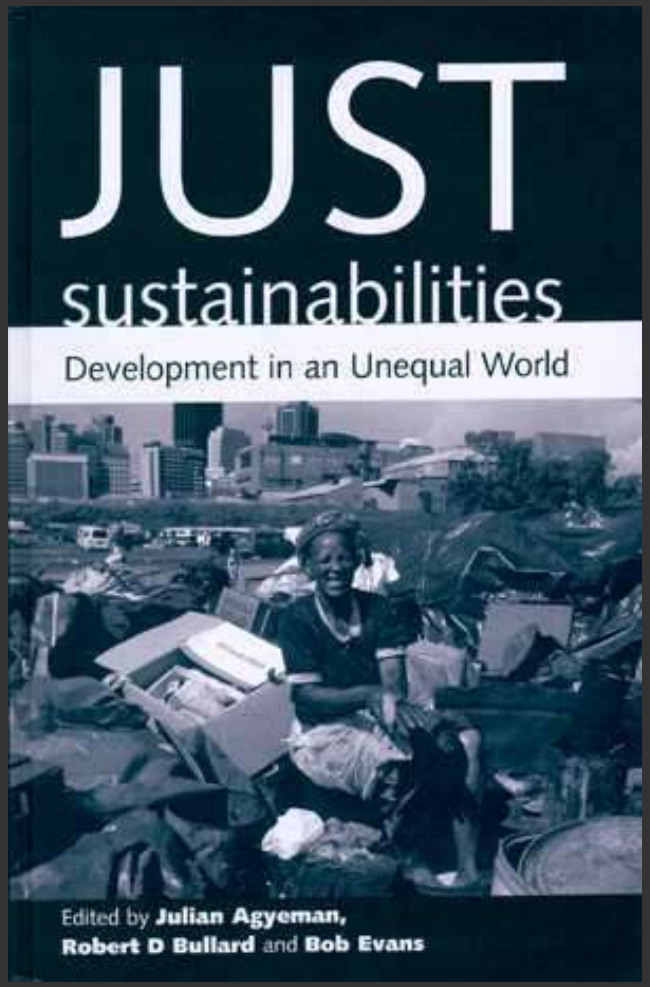
Map Developed from January 2013 data

The map above shows the Fiscal Year (FY13 – October 1, 2012 - September 30, 2013) that preliminary Flood Insurance Rate Maps (FIRMs) are planned to be issued for each coastal county. This data is updated quarterly and therefore subject to change.

For more information please call 1-877-FEMA MAP (1-877-336-2627)
email FEMAMapSpecialist@riskmapcds.com or visit
http://www.fema.gov/national-flood-insurance-program-0/fema-coastal-flood-hazard-analyses-and-mapping-1


The Water
is
Rising
Pleas

Sustainable Communities in the Era of Climate Change



- Sustainability must address equity and social inequality
  - equitable development,
  - families below poverty,
  - households without livable wage
  - widening health and income/wealth gap
- Addressing equity issues is prerequisite to achieving sustainability

Thank You!

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