

Hot Science Cool Talks

UT Environmental Science Institute

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Environmental Justice: Progress Towards Sustainability

Dr. Robert Bullard
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ENVIRONMENTAL JUSTICE: Progress towards Sustainability

February 22, 2013

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Books that I have Written:

It's just one book, but don't tell anybody...

- Invisible Houston
- Dumping in Dixie
- In Search of the New South
- Growth and Decline of a Sunbelt Boomtown
- Confronting Environmental Racism
- Residential Apartheid
- Unequal Protection
- Just Transportation
- Sprawl City
- Just Sustainabilities
- Highway Robbery
- The Quest for Environmental Justice
- Growing Smarter
- The Black Metropolis in the Twenty-First Century
- Race, Place, and Environmental Justice After Hurricane Katrina
- The Wrong Complexion for Protection

Connecting the dots...



Defining the Environment

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



Environmental Justice Principle

Environmental justice embraces the principle that all people and communities are entitled to equal protection of our environmental, health, employment, education, housing, transportation, and civil rights laws

The Houston Backdrop - 1978



- Whispering Pines sanitary landfill protest (1978)
- *Bean v. Southwestern Waste Management* (1979)
- Houston waste sites and black community study (1979)

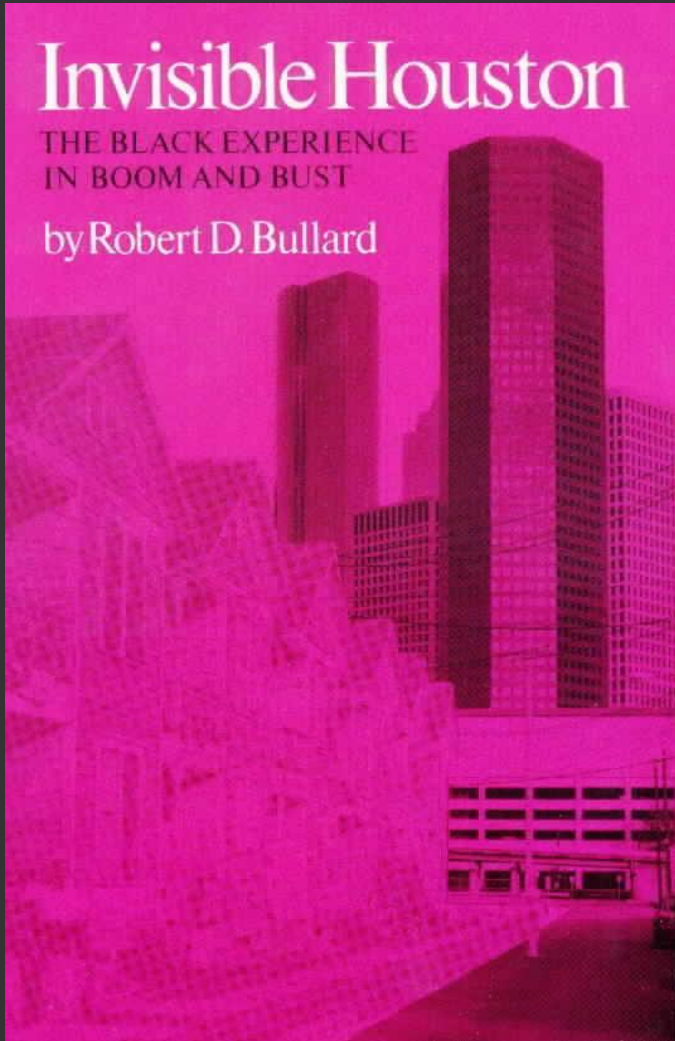
Bean v. Southwestern Waste



- 1979 *Bean v. Southwestern Waste Management Corp.*: First U.S. lawsuit challenging environmental discrimination using civil rights law
- Northeast Community Action Group (NECAG) hired Linda McKeever Bullard to represent plaintiffs



Dumping on Black Houston?



In Black Neighborhoods:

- All five city-owned landfills
- Three of four privately-owned landfills
- Six of eight of city-owned incinerators
- Over 82% of waste disposed in Houston (blacks made up 25% of city's population)

Birth of the National Environmental Justice Movement

Warren County, NC - 1982



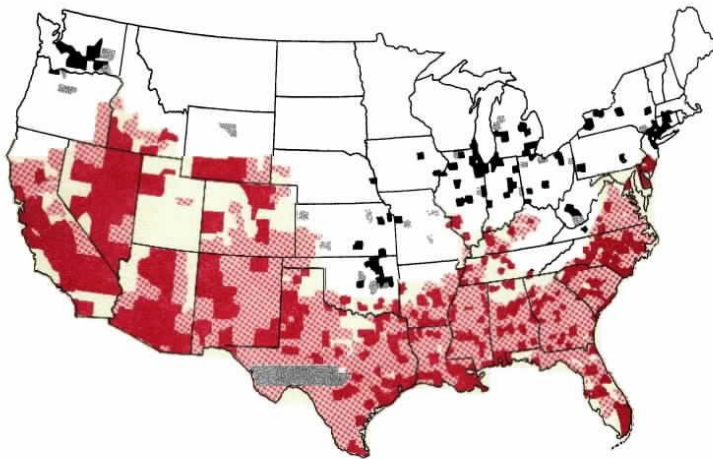
- Environmental justice movement born in Warren County, NC
- Triple “whammy” of rural, poor, and mostly black
- Over 500 demonstrators arrested while protesting the siting of hazardous PCB landfill



Toxic Wastes and Race in the United States - 1987

TOXIC WASTES AND RACE In The United States

**A National Report on the Racial and Socio-Economic
Characteristics of Communities
with Hazardous Waste Sites**



COMMISSION FOR RACIAL JUSTICE
United Church of Christ
©1987

United Church of Christ
Commission for Racial
Justice produces first
national study linking
race and hazardous
waste siting



Legacy of “Jim Crow” - 1990

DUMPING IN DIXIE



**Race, Class, and
Environmental Quality**

Robert D. Bullard

- “Deep South” has unique legacy:
 - Slavery
 - Jim Crow segregation
 - Resistance to equal justice for all citizens
- South is the most environmentally degraded region of U.S.
- It is no accident that the modern civil rights and environmental justice movements were born there

Speaking for Ourselves

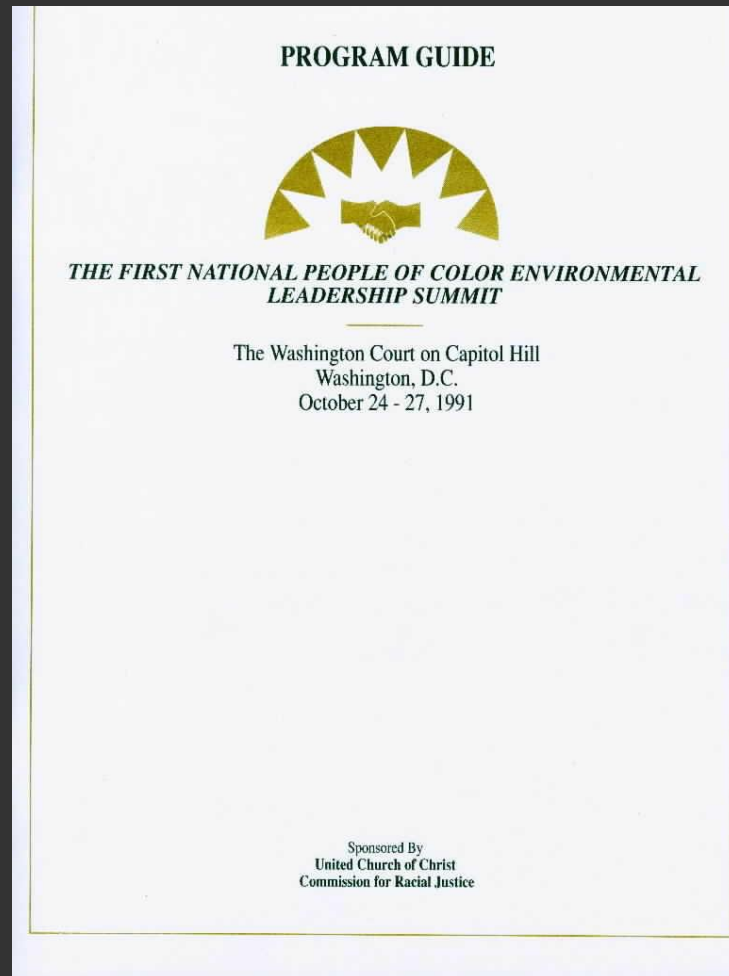


Impetus for Paradigm Shift



- Grassroots Activism
- Redefinition of Environmental Rights
- Alliances and Coalitions
- Community-Driven Research
- Conferences
- People of Color Environmental Leadership Summit

Environmental Justice Principles Adopted in October, 1991



The First National People
of Color Environmental
Leadership Summit
adopted 17 Principles of
Environmental Justice



Support the SWITCH IN People - the New Mexico

RESISTANCE
New Mexico
New Mexico

INTERNATIONAL
TREATY

MIDATLANTIC
500 YEARS OF RESISTANCE
RESISTENCIA

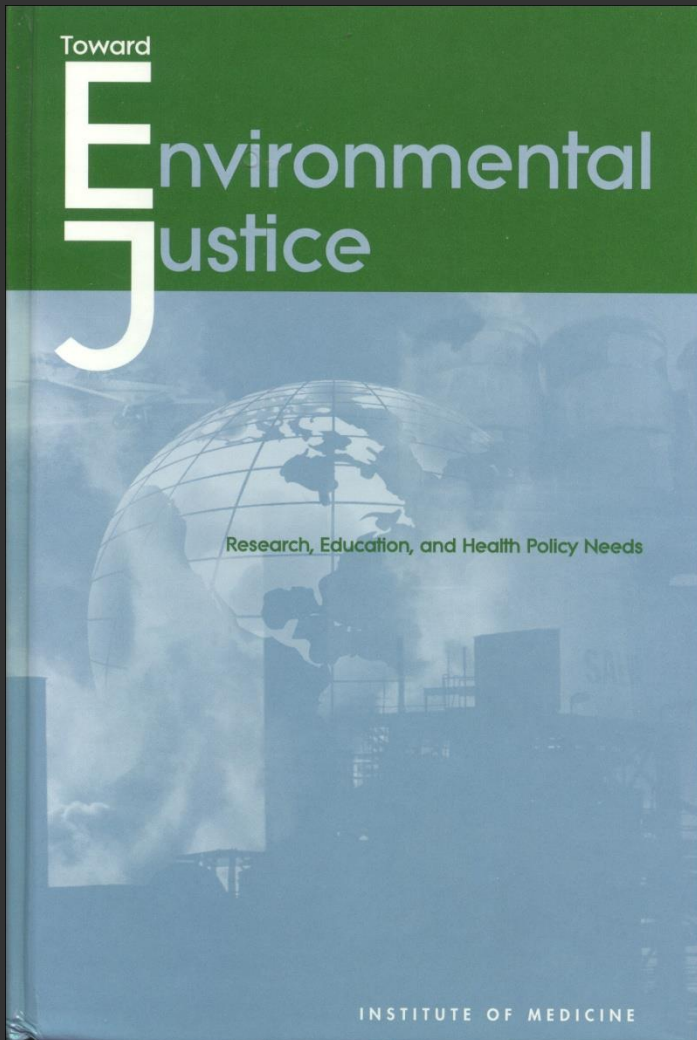
Government Response

Environmental Justice Executive Order - 1994



- 1994: President Clinton signed Executive Order 12898: *"Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"*
- 2013: Executive Order has yet to be fully implemented; over 6 studies by several federal agencies show this

Institute of Medicine Study -1999

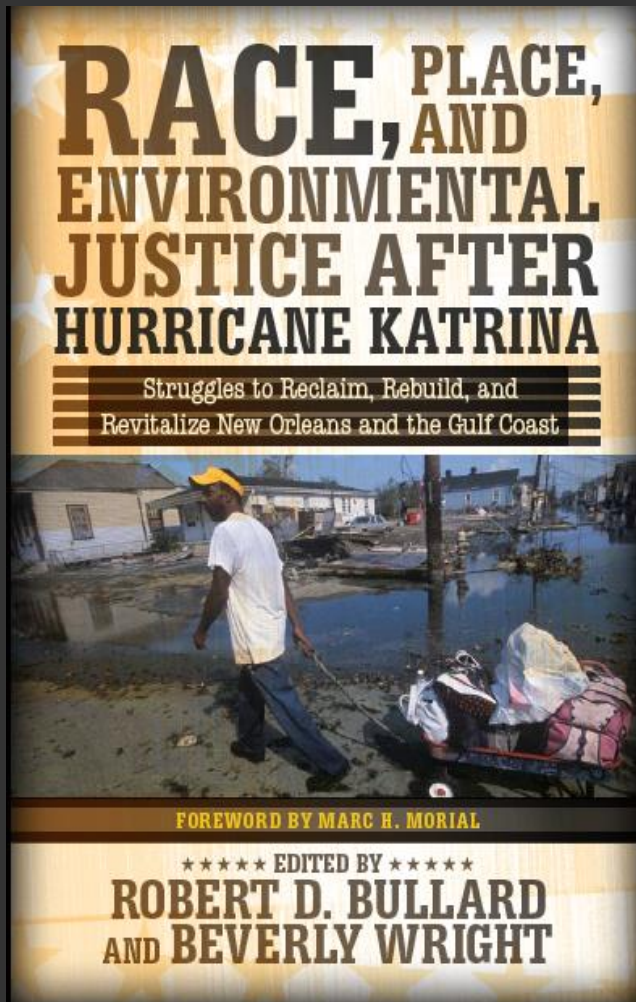


- Showed that people of color and low-income communities are exposed to higher levels of pollution than the rest of the nation
- These groups also contract certain diseases more than affluent white communities

Response of State Governments

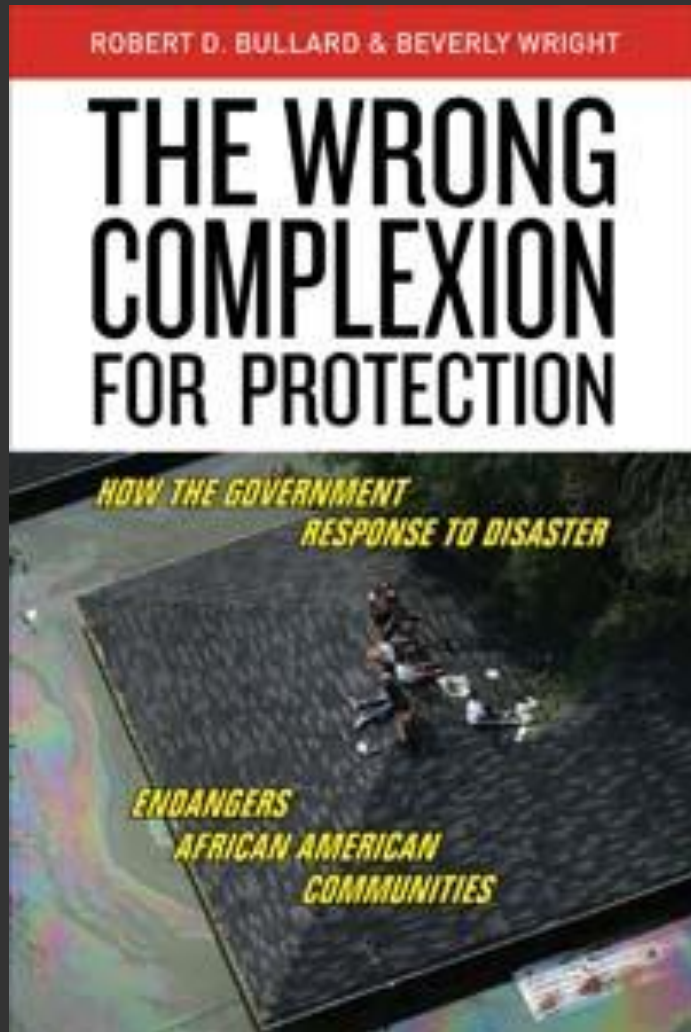
- **1993:** New Hampshire passed its pioneering environmental justice policy
- **2007:** 41 states had a policy or program in place that paid attention to the issue of environmental justice
- **2013:** All 50 states and the District of Columbia had instituted some type of environmental justice law, executive order, or policy

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

Why Race Matters in the U.S.



- Race an important factor in the geography of social inequality and ecological vulnerability
- For people of color, apartheid-type housing, land use, and development policies have:
 - limited mobility
 - reduced neighborhood options
 - elevated environmental and health risks
- More than 100 studies link racism to reduced health
- More than 200 environmental studies show race and class disparities

Geography of Inequality

- Researchers are using Geographic Information System (GIS) analysis to map relationships between:
 - Racial and income composition
 - Health
 - Environmental vulnerability
- Unequal distribution of these factors across various populations contribute to health disparities in the United States

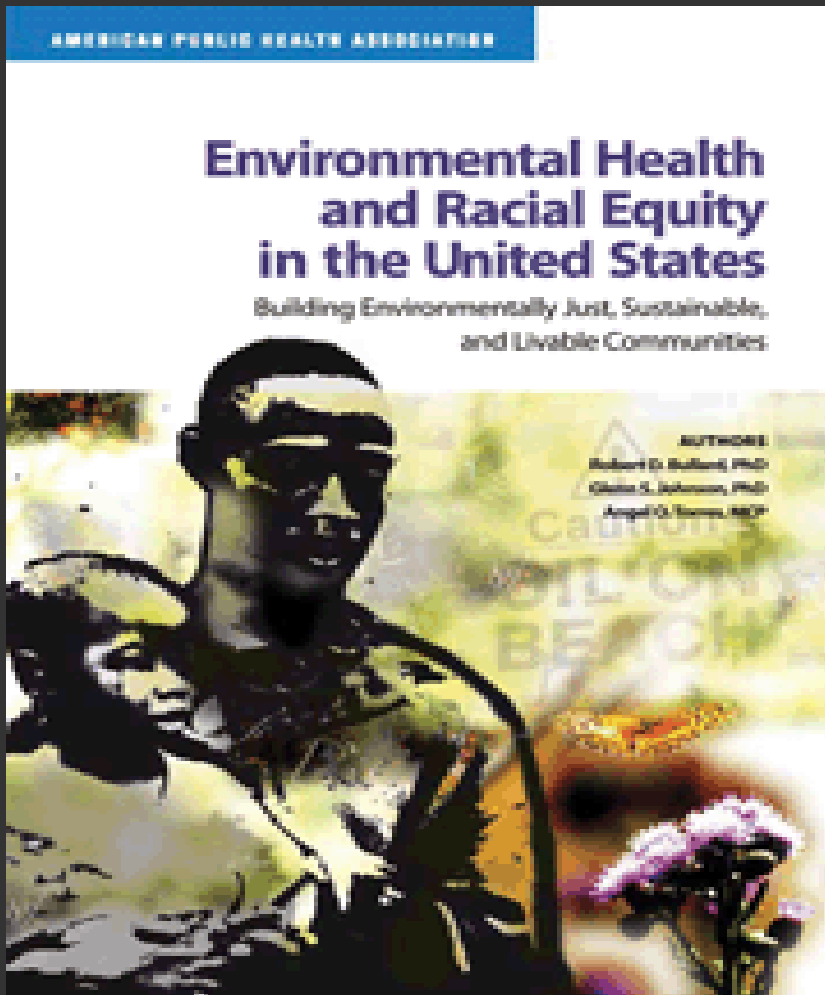
Top Ten Greenest U.S. States



- 1. Vermont**
- 2. Maine**
- 3. New Hampshire**
- 4. Nevada**
- 5. Hawaii**
- 6. South Dakota**
- 7. Montana**
- 8. Idaho**
- 9. Oregon**
- 10. Colorado**

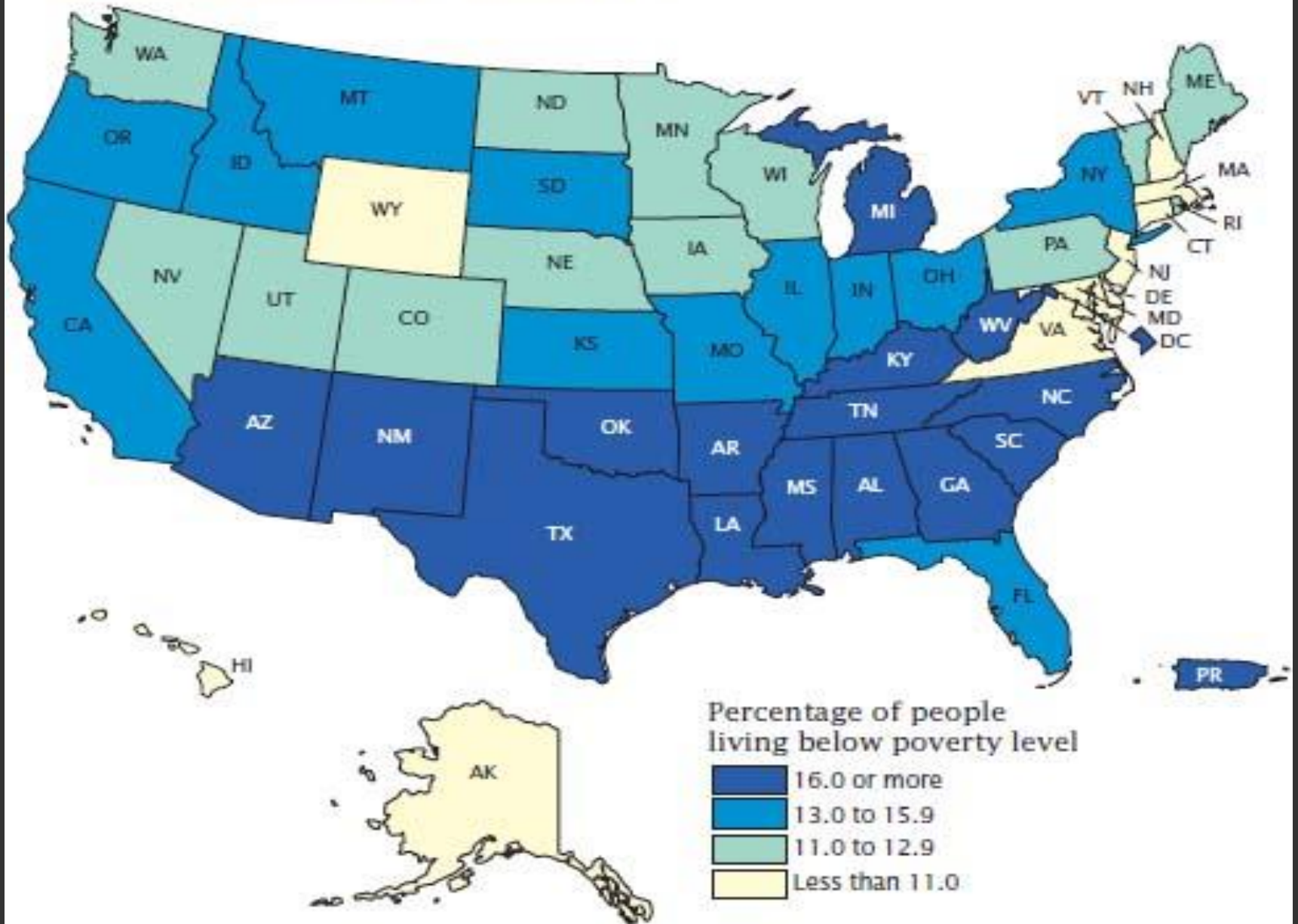
Source: Portney (2012)

Mapping Vulnerability



- Poverty Belt
- Uninsured Belt
- Black Belt
- Fat Belt
- Diabetes Belt
- Stroke Belt
- Pollution Belt

Percentage of People in Poverty in the Past 12 Months by State and Puerto Rico: 2009



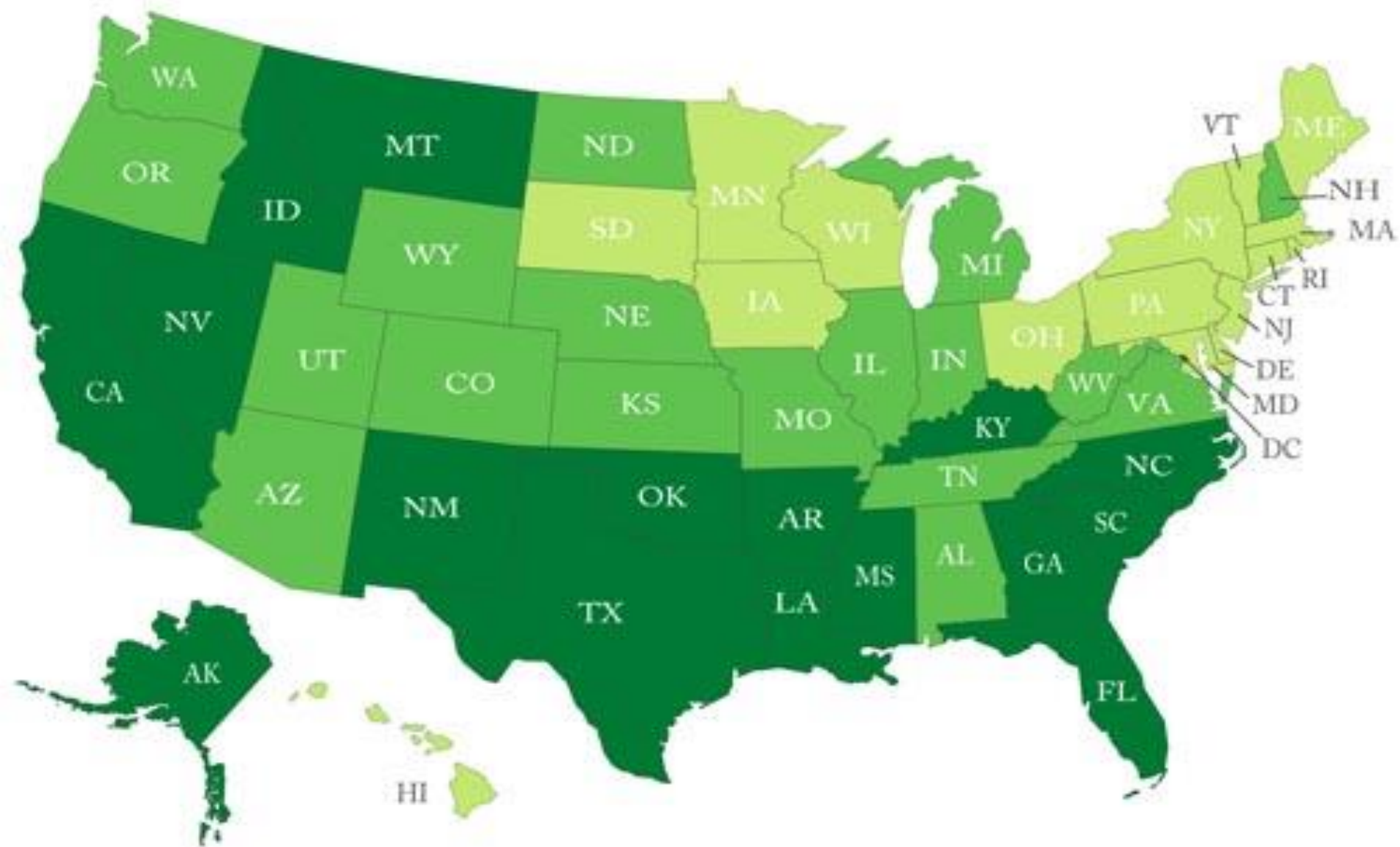
Percentage of people living below poverty level

- 16.0 or more
- 13.0 to 15.9
- 11.0 to 12.9
- Less than 11.0

United States = 14.3 percent

Uninsured, January-June 2011

■ Higher range ■ Midrange ■ Lower range



United States

Stroke Belt

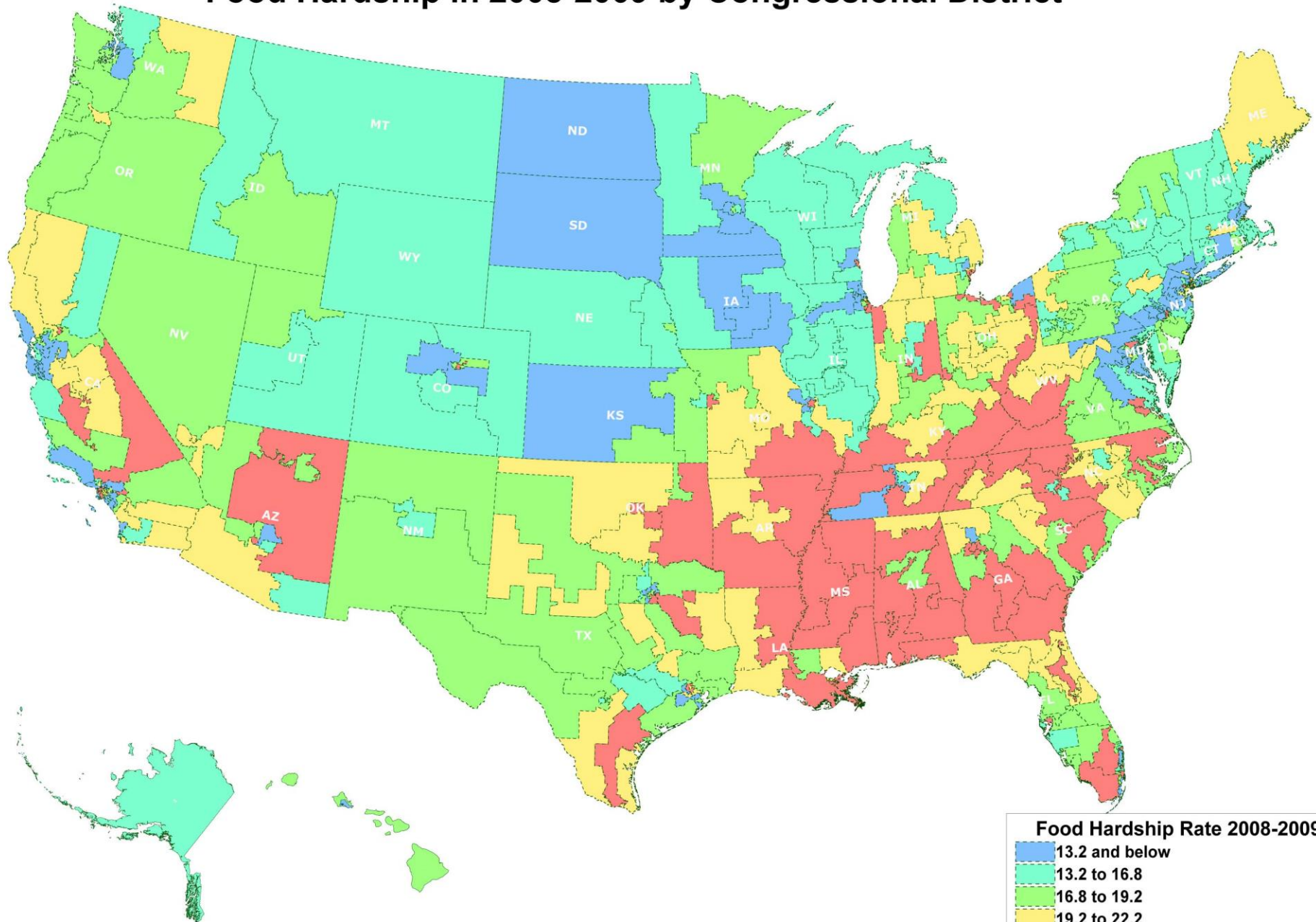


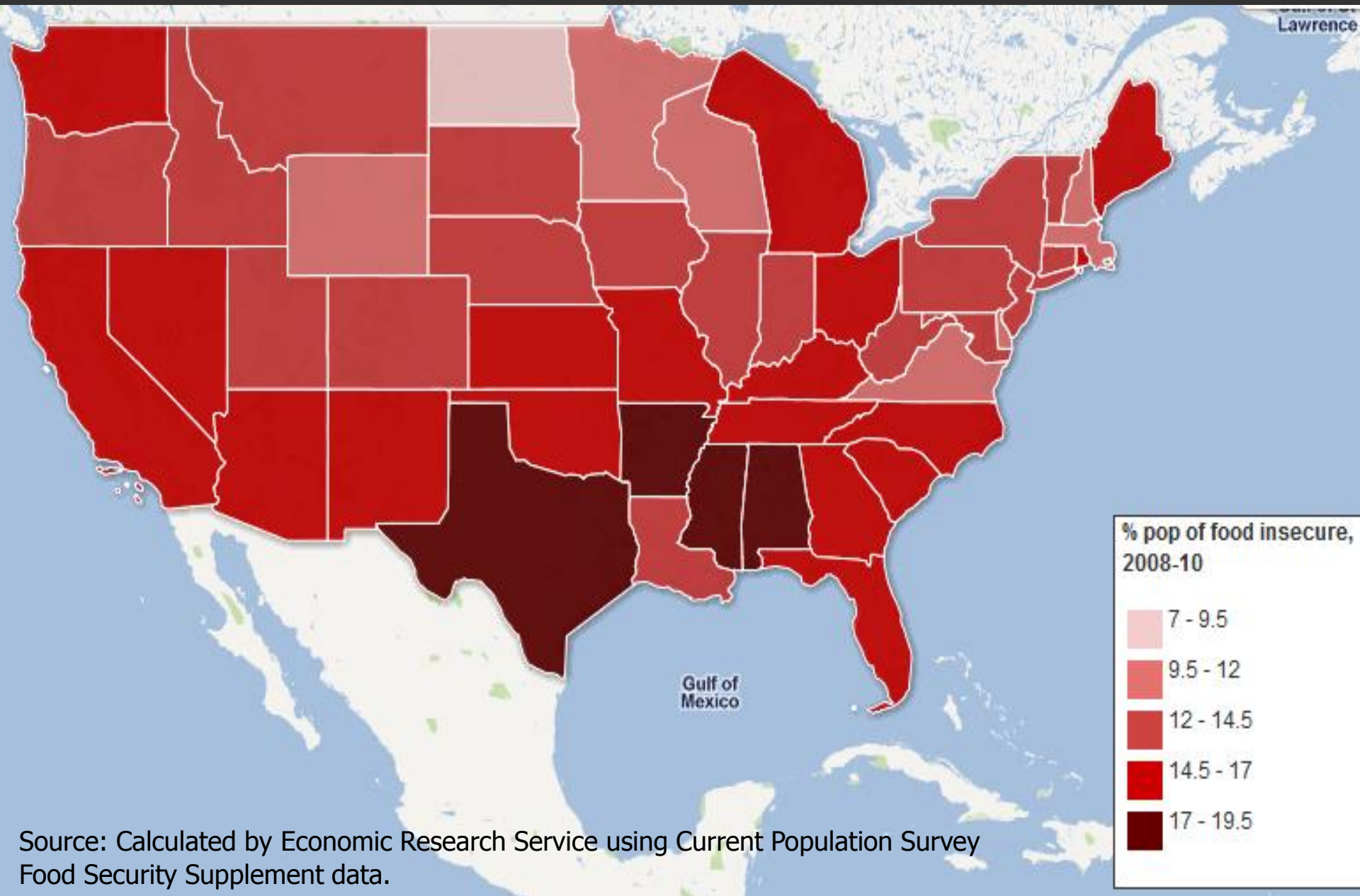
No Car and No Supermarket Store Within a Mile



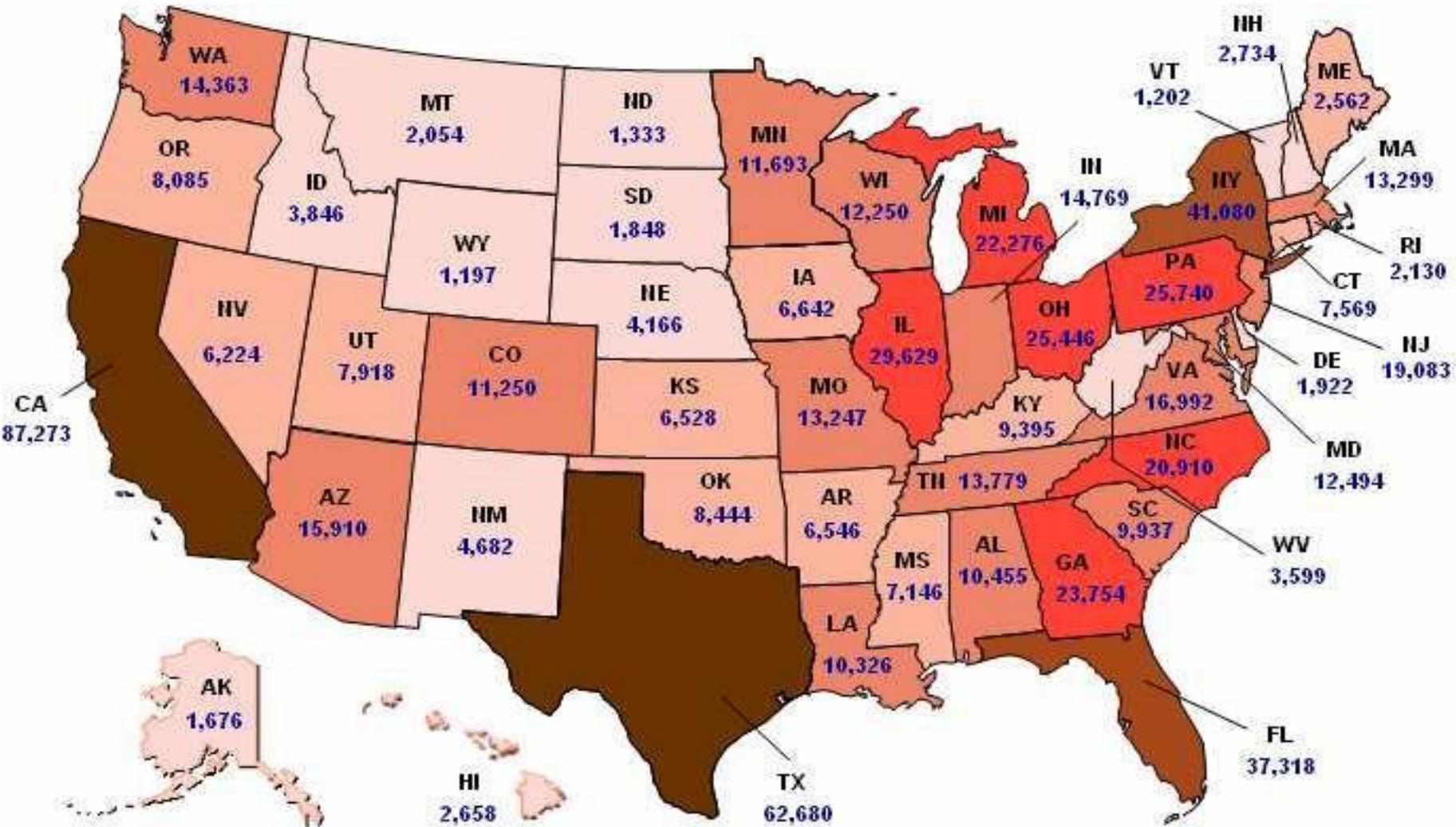
SOURCE: Department of Agriculture, Centers for Disease Control

Food Hardship in 2008-2009 by Congressional District





Source: Calculated by Economic Research Service using Current Population Survey Food Security Supplement data.



Pediatric Asthma Prevalence

≥ 500,000

300,000 - 500,000

200,000 - 300,000

100,000 - 200,000

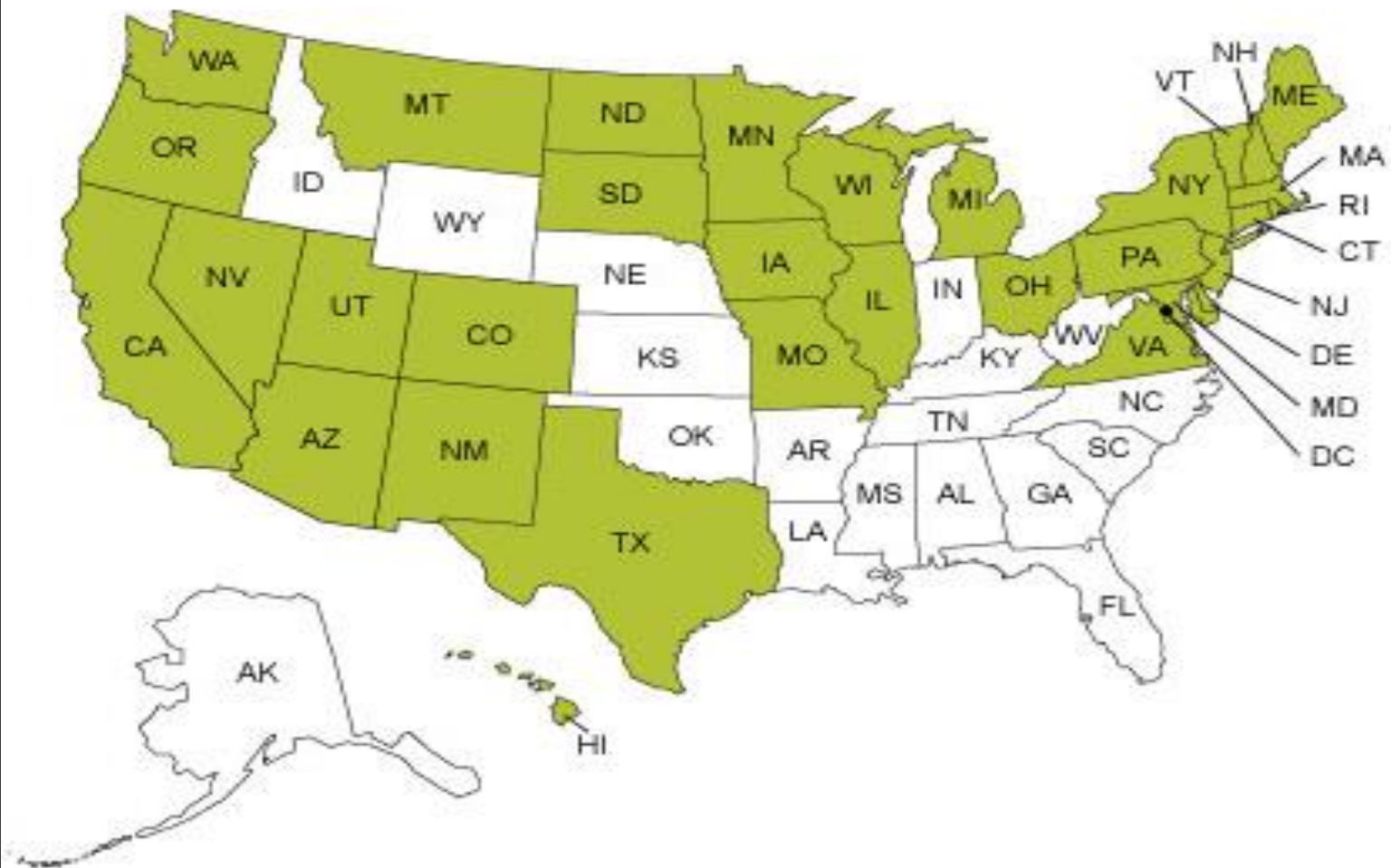
50,000 - 100,000

10,000 - 50,000

STATE # Pediatric ER Visits

Source: National Association of School Nurses et al., 2011

More Than Half of States Have Renewable Portfolio Standards and Renewable Mandates, 2009



Source: U.S. Department of Energy, Energy Efficiency and Renewable Energy, November 2009.

Toxic Wastes and Race at Twenty: 1987-2007

Grassroots Struggles to Dismantle Environmental Racism in the United States

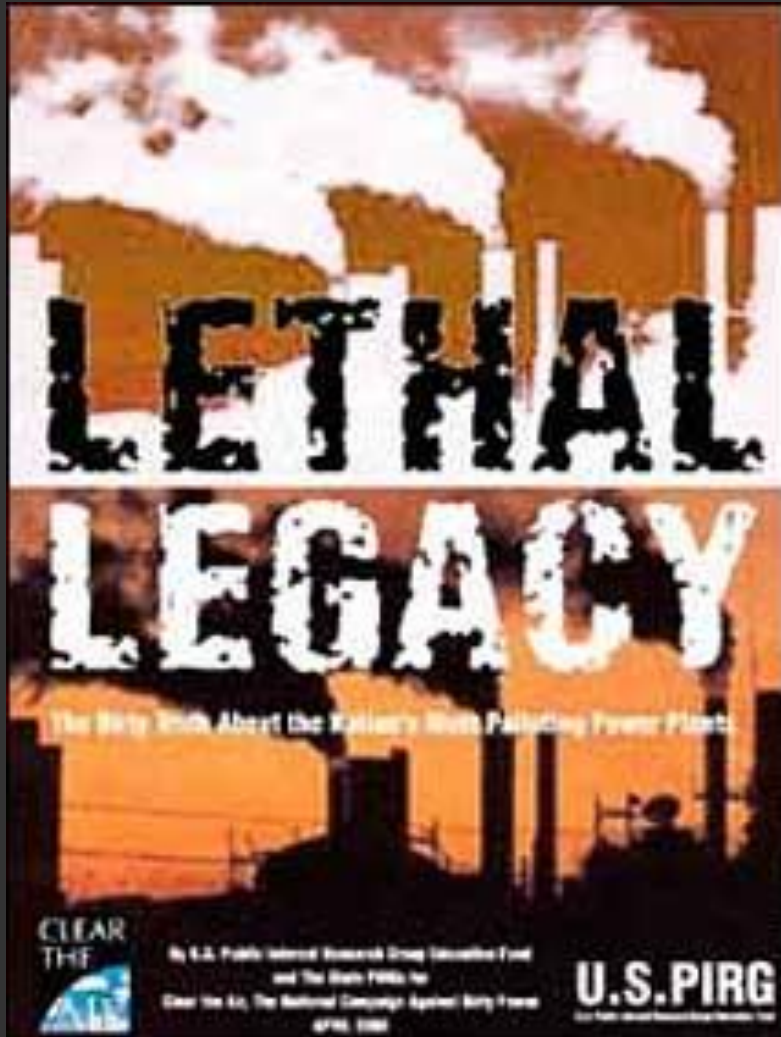


Source: Bullard et. al (2007)

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 of those living near clustered facilities.
- People of color are more concentrated in areas with commercial hazardous sites in 2007 than in 1987.

It's Raining Down Mercury



- Coal-fired plants are the largest source of mercury air pollution: 40% of all mercury emissions nationwide.
- Mercury can stay airborne for two years and spreads around the globe.
- 10% of American women carry mercury concentrations at levels considered to put a fetus at risk of neurological damage.

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 (approx. two million are asthmatic)

21st Century Threat: Climate Change



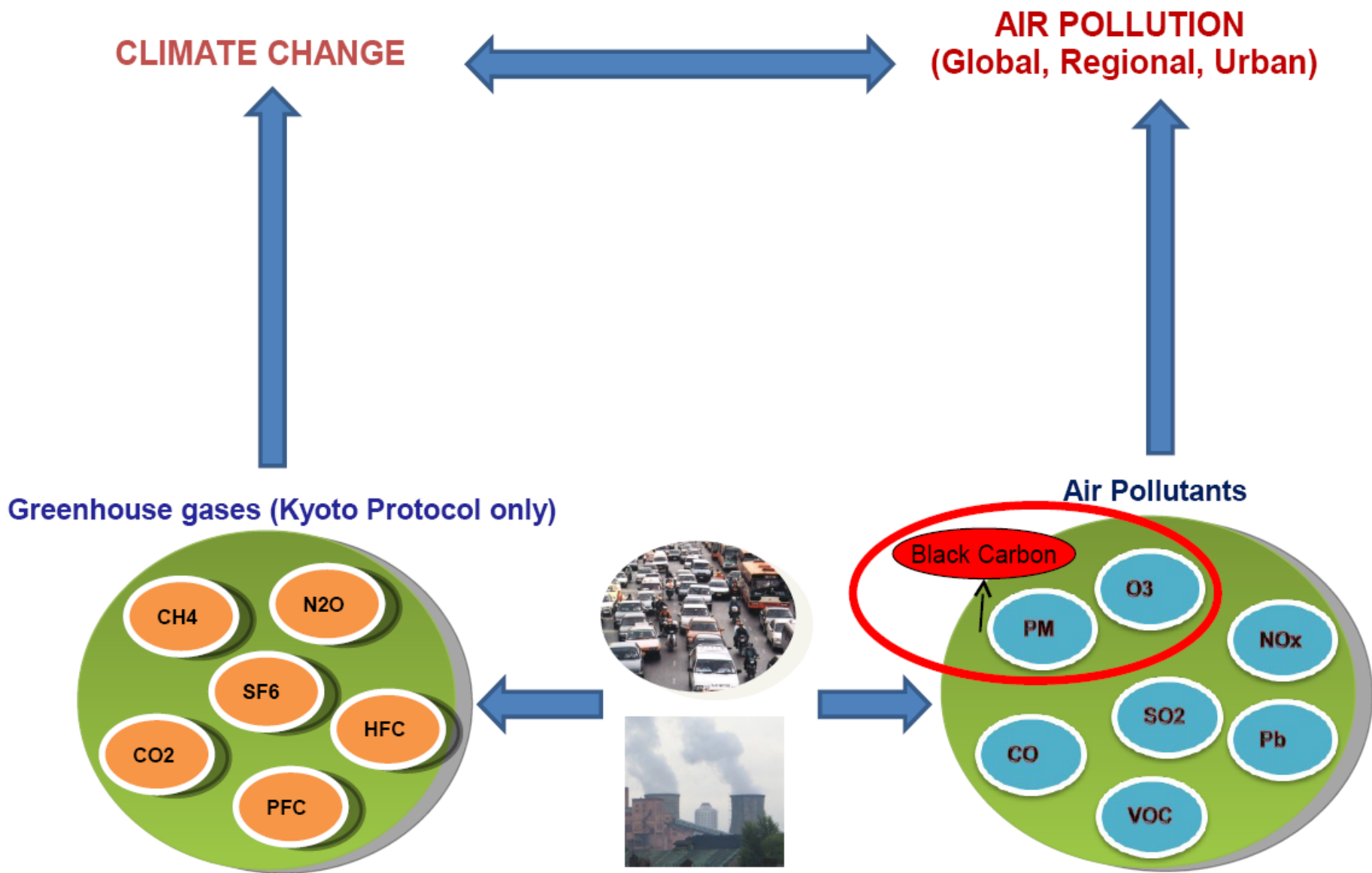
- The most vulnerable populations will suffer the earliest and most damage because of:
 - Where they live
 - Limited income and economic means
 - Lack of access to health care
- Yet low-income people and people of color contribute *the least* to global warming

Impacts of Global Climate Change

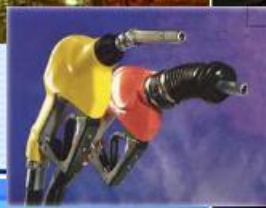


- **Impacts on Weather**
 - Heat waves & droughts
 - Extreme weather events
 - Sea-level rise
 - Ground-level ozone
 - Airborne allergens
- **Health Impact Examples**
 - Heat stress
 - Diseases
 - Injuries, drowning
 - Water and soil salinization
 - Food and water shortages
 - International conflicts

Interacting effects



Sources of Air Emissions



Pollution “Hot-Spot” Areas



- Pose environmental, economic, and health threats to the nation's low-income, people of color, and indigenous communities
- Many “fenceline” communities are in the direct path of accidents, spills, explosions, and routine toxic emissions

Vulnerable Population





The Smokestack Effect

Toxic Air and America's Schools

USA TODAY used an EPA model to track the path of industrial pollution and mapped the locations of almost 128,000 schools to determine the levels of toxic chemicals outside. The potential problems that emerged were widespread, insidious, and largely unaddressed.



A “Green Zone” for Schools



- The air at 435 schools in 34 states is worse than that found at an elementary school shut down in 2005 because of carcinogenic chemicals
- Only **3%** of the nation's 127,800 schools were within a mile of a long-term monitor set up to detect hazardous air pollutants

Source:
December 2008 *USA Today* study

Schools that ranked worst

A USA TODAY analysis of EPA data indicated the air outside these schools had the highest levels of dangerous toxic chemicals, most of which have never been tested for their effects on children.



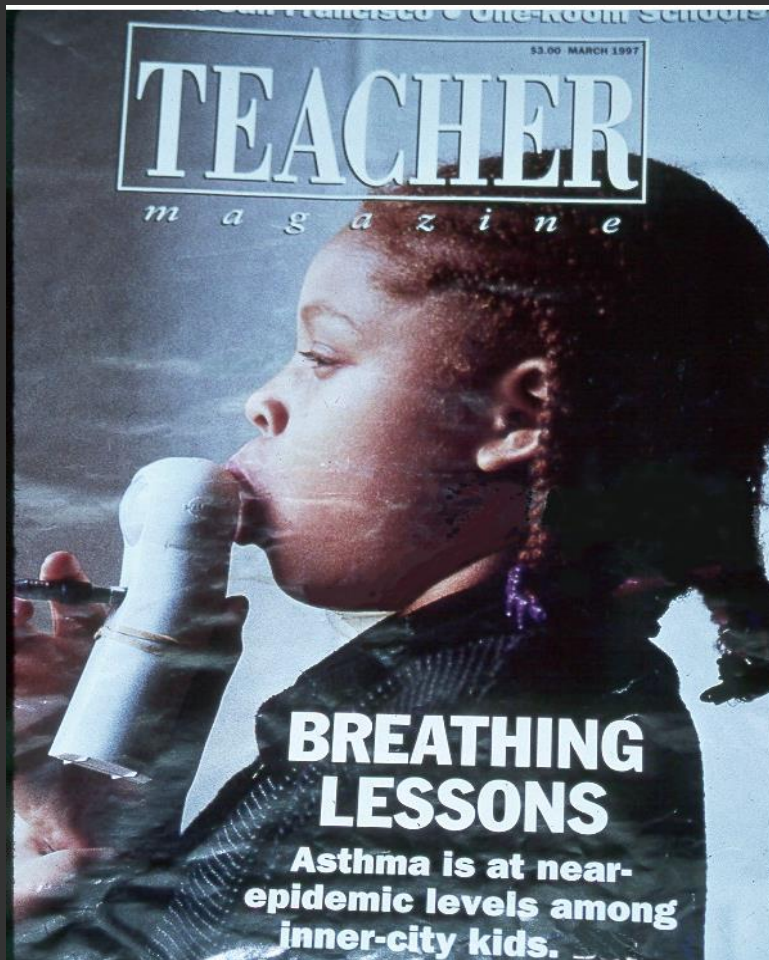
- 1
- 2-4
- 5-7
- 8-10
- 11-14

The “Sick School” Problem



- 60% of all students are at daily risk due to school conditions
- Up to 50% of the nation's schools have indoor air quality problems
- 57% of schools have at least one unsatisfactory environmental factor
- 68% of schools have at least one inadequate building feature that can harm students' health and hinder learning

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

Wrong Side of the Tracks



Equal Access to Green Space and Sustainable Places



UNTAMED
→

















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

Geography of Air Pollution



- Most American children of color live in areas that exceed the standard ozone limit
- White children: 50.8%
Latinos: 69.2%
Asians: 67.7%
African Americans: 61.3%

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

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

Clean Air Extends Lifespan

- Americans are living longer because the air they breathe is getting cleaner
- The average drop in pollution 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

Source: *New England Journal of Medicine*, January 22, 2009

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

The Right to Breathe
VS.
The Right to Pollute

Driven to Spend Big Time



- Americans spend 19¢ out of every dollar earned on transportation expenses
- Transportation cost range:
 - 17.1% in the Northeast
 - 20.8 % in the South—where some 54 percent of African Americans reside
- Americans spend more on transportation than they do on food, education, and health care

GREEN CAR JOURNAL presents

GREEN CAR OF THE YEAR



LA AUTO
SHOW



GREEN CARS

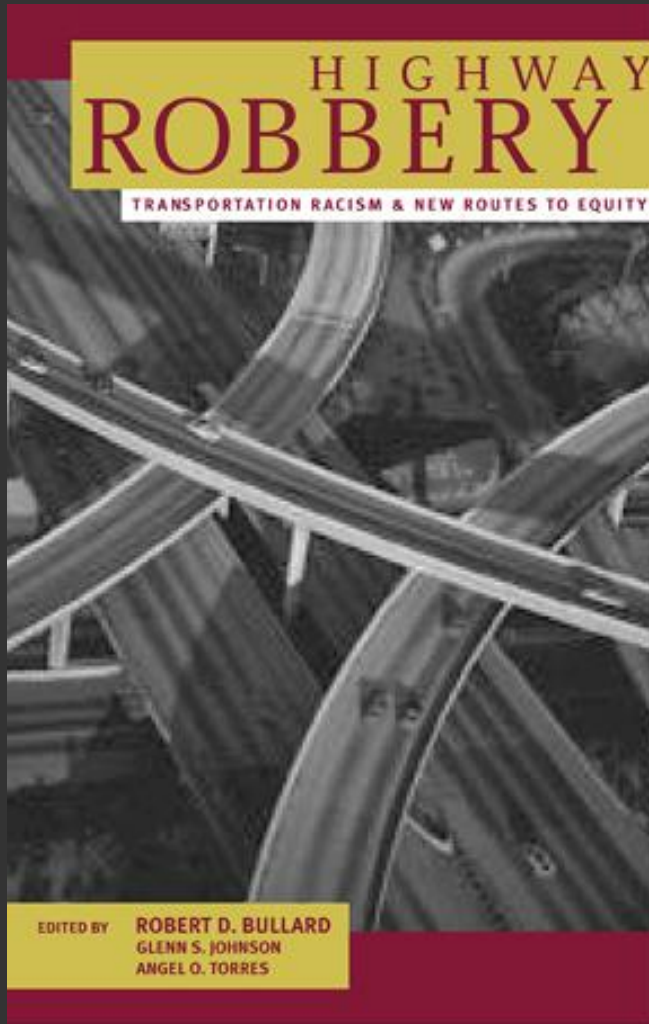
You're doing it wrong.

Less Auto-Dependent Development



- Sprawling development fuels growth in driving: projected 48% increase in the total miles driven between 2005 and 2030
- Compact development reduces driving 20% - 40%
- Shifting 60 percent of new growth to compact patterns would save 79 million tons of CO2 annually by 2030
- The savings over that period equate to a 28 percent increase in federal vehicle efficiency standards by 2020 (to 32 mpg)

Funding Roads vs. Transit



- Roads get 80% of transportation dollars vs. 20% for transit
- Roads routinely get priority while transit systems crumble or struggle to stay afloat
- Public transportation creates twice the jobs of highway construction
- There's a term for what we have:
– "Highway Robbery"

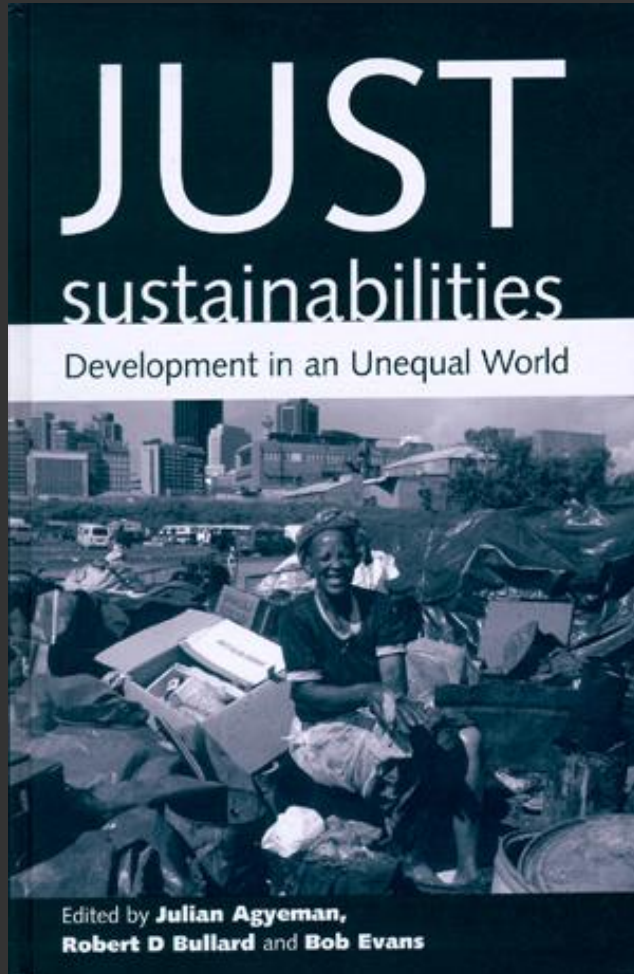
Build Them and They Will Come



On the Road to Nowhere



Just and Sustainable Communities for All



- 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

Framework for Achieving Environmental Justice

- Funding Transit instead of Roads
- Equal access to green space and sustainable places
- Equal sharing of pollution burden
- Solve the “sick school” problem
- Target pollution “hot spot” areas
- Address Climate Change Threats

Thank You!

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Robert D. Bullard is the Dean of the Barbara Jordan-Mickey Leland School of Public Affairs at Texas Southern University in Houston, Texas. He is often described as the father of environmental justice. Professor Bullard received his Ph.D. degree from Iowa State University. He is the author of seventeen books that address sustainable development, environmental racism, urban land use, industrial facility siting, community reinvestment, housing, transportation, climate justice, emergency response, smart growth, and regional equity. Professor Bullard was featured in the July 2007 CNN People You Should Know, Bullard: Green Issue is Black and White.

In 2008, Newsweek named him one of 13 Environmental Leaders of the Century. And that same year, Co-op America honored him with its Building Economic Alternatives Award (BEA). In 2010, The Griot named him one of the "100 Black History Makers in the Making" and Planet Harmony named him one of Ten "African American Green Heroes." And in 2012, he was featured in Welcomebooks Everyday Heroes: 50 Americans Changing the World One Nonprofit at a Time by Katrina Fried.