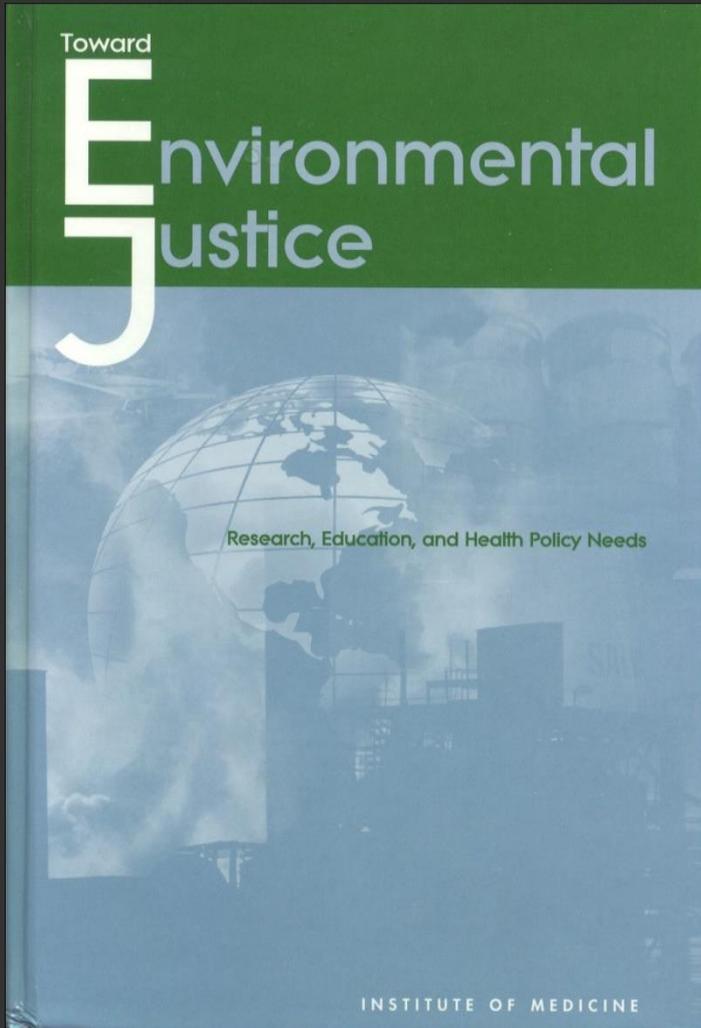


# National Institute of Medicine -1999



- The 1999 Institute of Medicine (IOM) study found 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

# AIR OF INJUSTICE: DIRTY POWER

- Over 68% of African Americans live within 30 miles of a power plant—the distance within which the maximum effects of the smokestack plumes are expected to occur, compared with 56% of whites and 39% of Latinos
- Over 35 million American children live within 30 miles of a power plant, of which an estimated two million are asthmatic

# Living with More Pollution

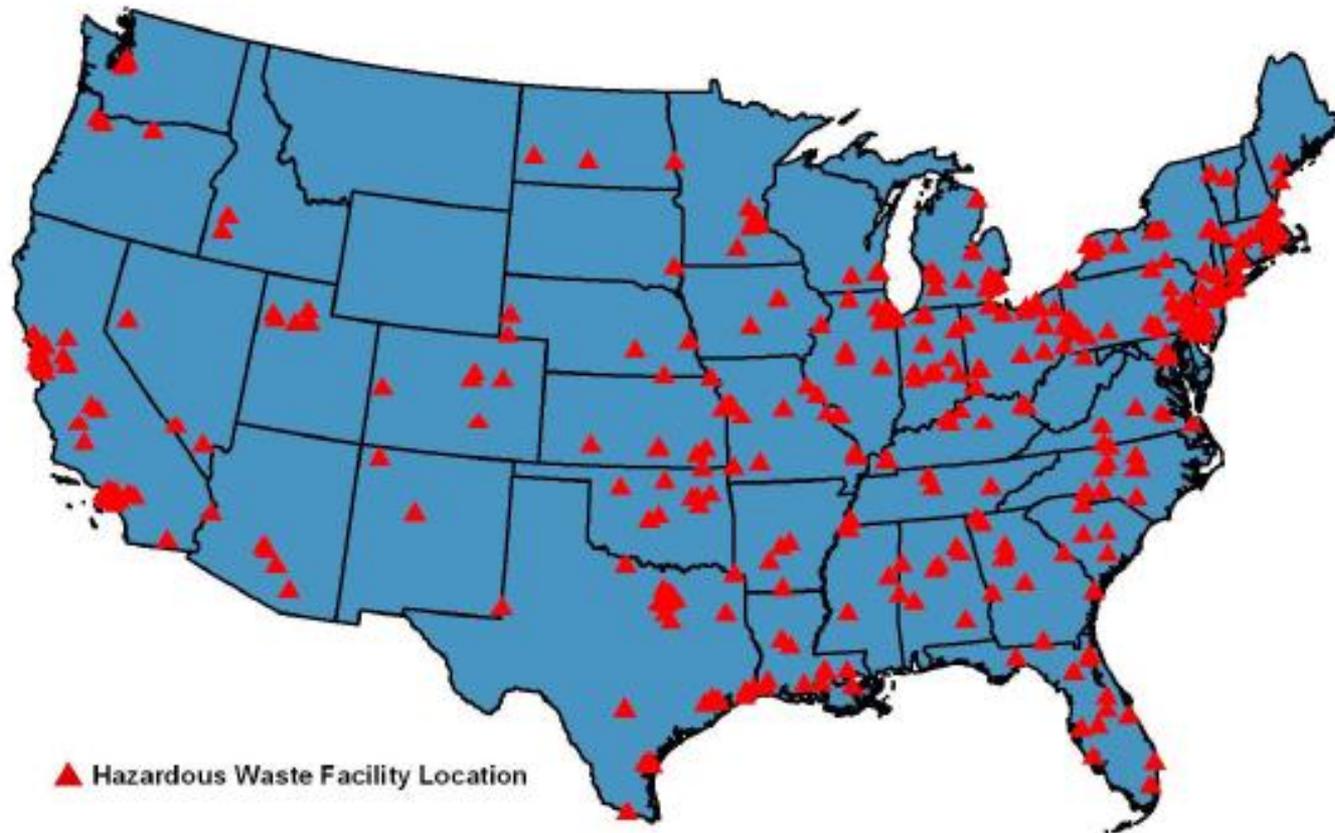


- Blacks are **79%** more likely than whites to live where industrial pollution poses the greatest health danger
- Blacks in **19** states are more than twice as likely as whites to live in neighborhoods with high pollution levels
- Similar pattern for other groups:
  - Hispanics in **12** states
  -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

Source: Associated Press (2005)

# Toxic Wastes and Race at Twenty: 1987-2007

## *Grassroots Struggles to Dismantle Environmental Racism in the United States*

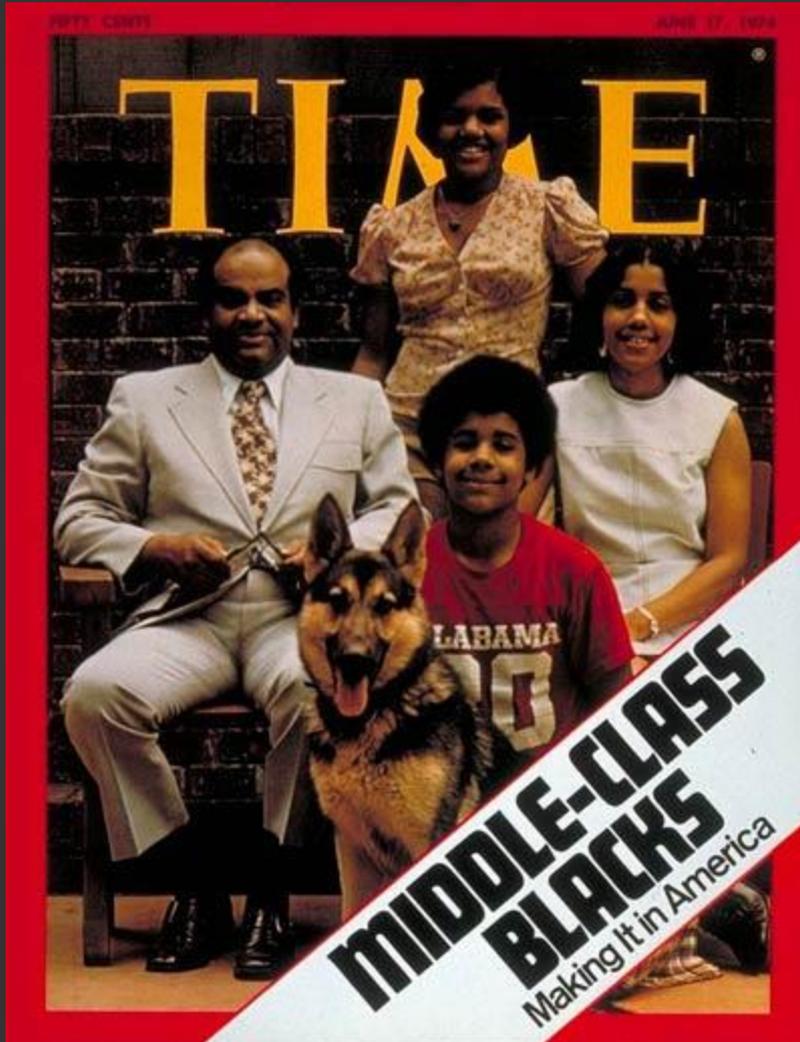


Source: Bullard et. al (2007)

# 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.

# Dumping on Black Middle Class



- Unequal burden of pollution cannot be reduce to a “poverty thing”
- 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)

# “Coal Blooded” Power Plants

## Coal Blooded

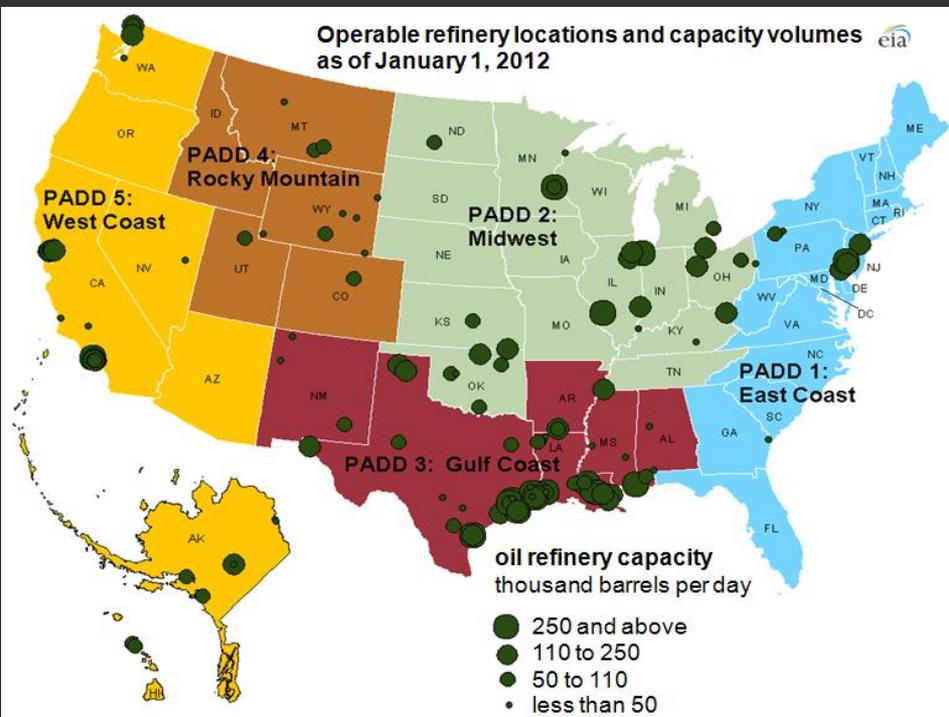
Putting Profits Before People



- Two million people live within three miles 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

Source: NAACP (2012)

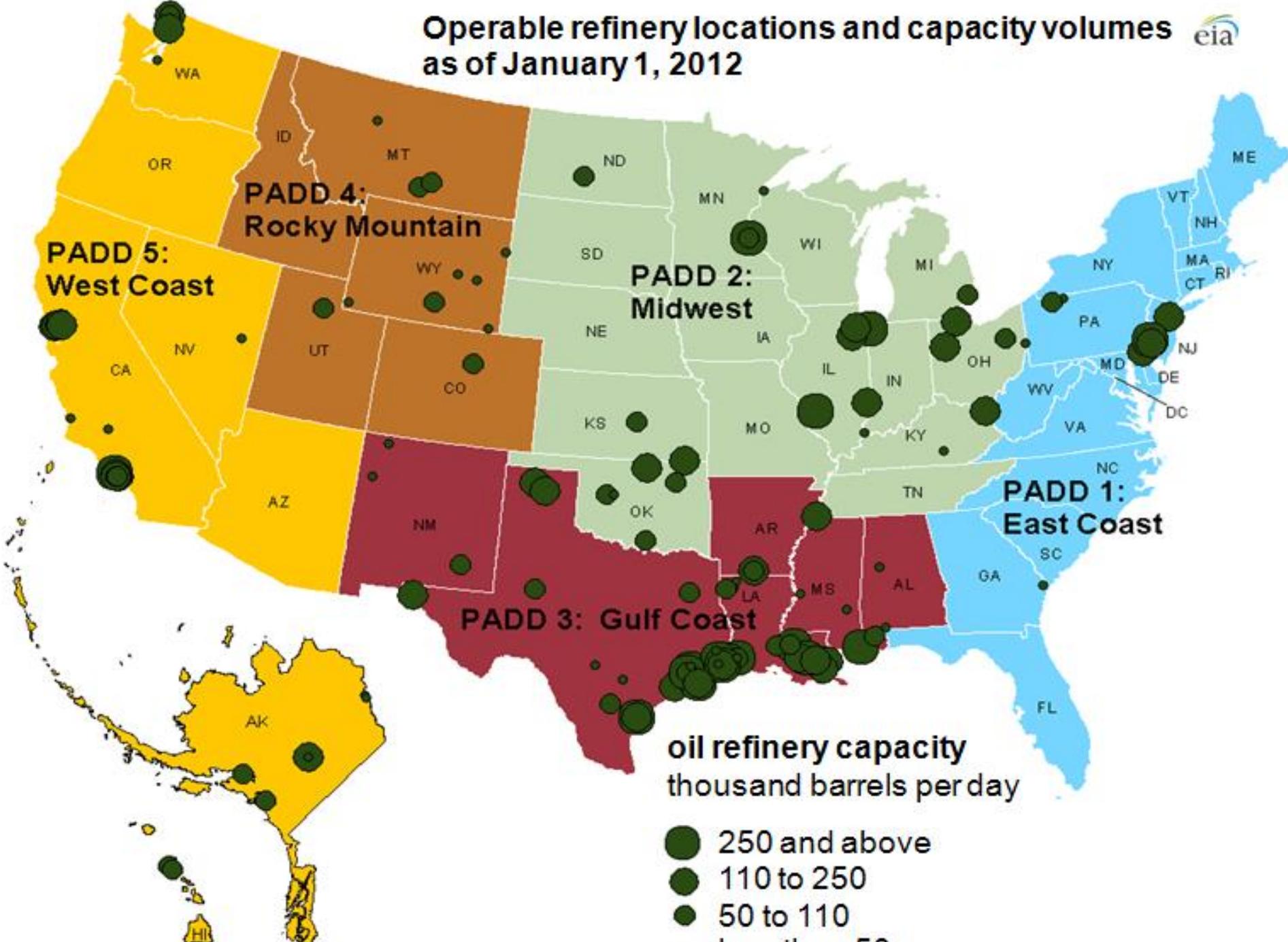
# Geography of U.S. Oil Refineries



- In addition to greenhouse gases, the nearly 150 U.S. oil refineries operating in 32 states emit thousands of tons of hazardous air pollutants, including substances that cause cancer.
- Half of the people that are at an increased cancer risk from refineries' pollution are people of color

Source: Louisiana Bucket Brigade (2014)

# Operable refinery locations and capacity volumes as of January 1, 2012







# WHO'S IN DANGER?

Race, Poverty, and Chemical Disasters



# 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.

Source: Environmental Justice and Health Alliance for Chemical Policy Reform et al.

# Inequality in the Air We Breathe

I  
CAN'T  
BREATHE

- America is still segregated and so is pollution
- University of Minnesota researchers found people of color breathe **38%** more polluted air than whites
- People of color are exposed to **46%** more nitrogen oxide than whites

Source: Clark, Millet and Marshall (2014)

# Breathe at Your Own Risk



- Air pollution still causes **200,000** early deaths each year.
- A Harvard University study found African Americans are nearly **three times** more likely to die from exposure to airborne pollutants than other Americans.
- Reducing current levels of fine particulate matter (PM2.5) by just one microgram per cubic meter of air would save about **12,000** lives every year, the scientists found.

# Dumping on People of Color



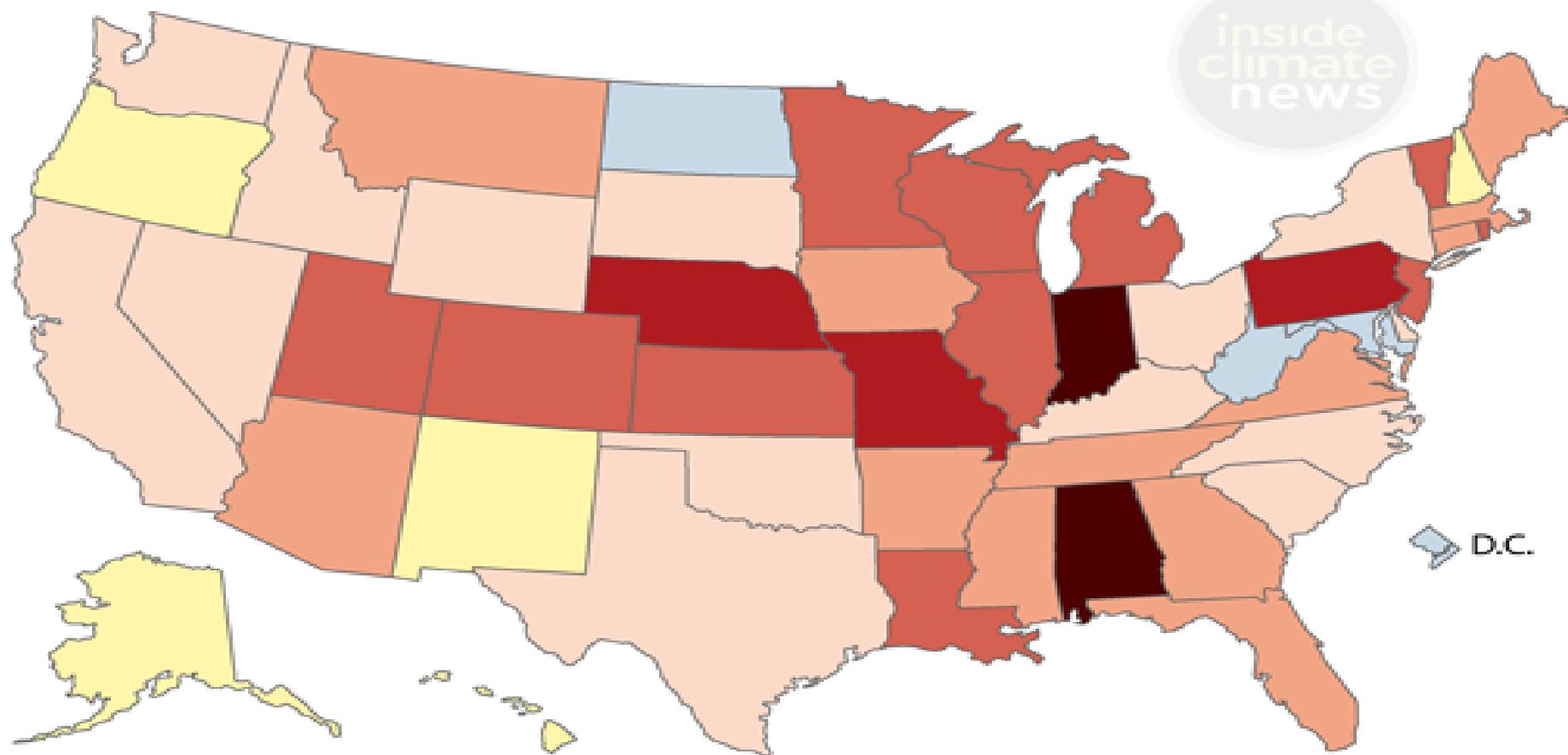
- In **46 states**, people of color live with more air pollution than whites
- African Americans are exposed to **1.54** times more fine particulate matter than whites
- Hispanics are exposed to **1.2** times
- Those below poverty are exposed 1.35 times more than those above poverty

Source: Mikati et al. (2018)

# People of Color Bear Greater Air Pollution Burden

Non-white people face higher exposure to particulate matter air pollution than white people do in all but four states (Maryland, New Mexico, North Dakota and West Virginia) and Washington, D.C. People of color living in Indiana and Alabama are exposed to roughly twice as much particulate pollution than white people.

## PROPORTIONAL PARTICULATE MATTER (PM<sub>2.5</sub>) BURDEN, NONWHITE



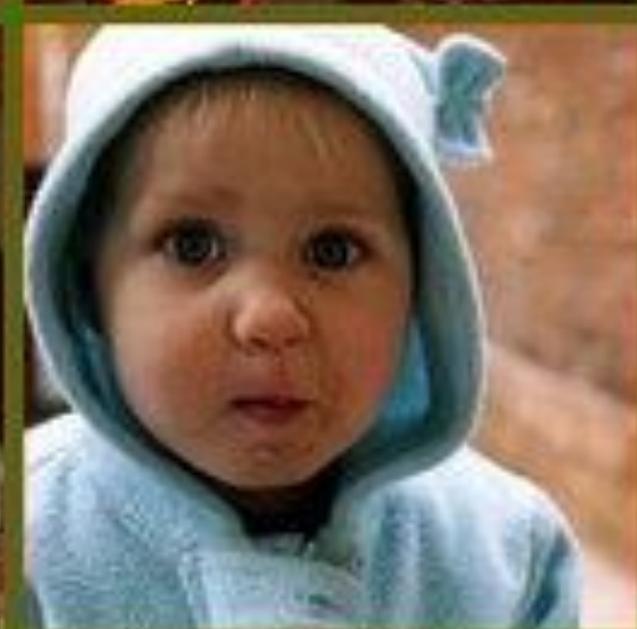
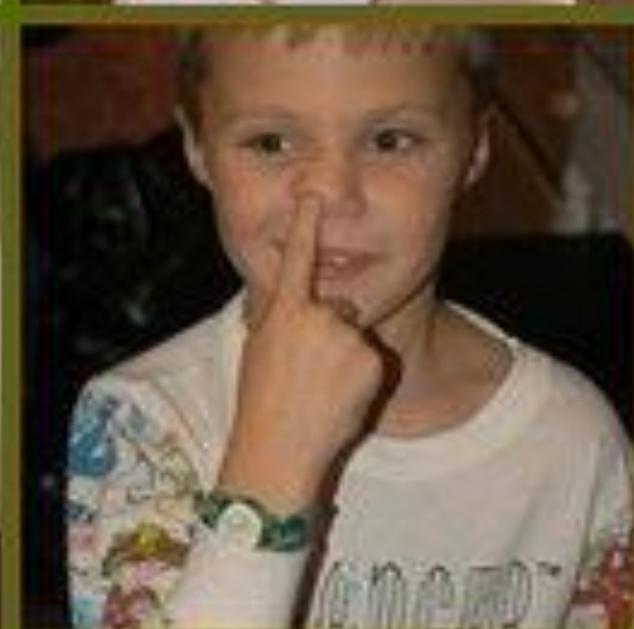
# Blacks, Hispanics Breathe More Pollution Than They Make



- A 2019 study found whites experience **17 percent less** pollution caused by their consumption of goods and services.
- Blacks and Hispanics experience **56 percent** and **63 percent**, respectively, more pollution than their consumption would generate.

Source: Tessum et al. (2019)

**POPULATION MOST AT  
RISK**



# Asthma and People of Color



- African Americans are almost three times more likely than whites to die from asthma related causes.
- Black children are 4 times more likely to be admitted to the hospital for asthma, as compared to non-Hispanic white children.
- African American children have an asthma death rate ten times that of non-Hispanic white children.

Source: CDC (2017)

# Kids in Danger Zones

**One in Three U.S. Schoolchildren at Risk from Chemical Catastrophes**



# Dumping on School Children



- While white children make up almost **52** percent of U.S. public school students, yet only **28** percent attend high-risk schools.
- Black students, on the other hand, make up just **16** percent of the total public school population, but **27** percent attend high-risk schools.
- Latinos see that number jump to **34** percent while making up just **24** percent of public schools.

Source: Hopkins (2014)



# Traffic Pollution Linked to Asthma



- A 2010 study suggests that traffic-related pollution near schools contributes to the development of asthma in kids.
- The USC researchers found that the risk of developing asthma due to exposure at school was comparable to that of children whose exposure occurred primarily at home, even though time spent at school only accounted for about one third of waking hours.
- Children in schools located in high-traffic environments had a 45 percent increased risk of developing asthma.

Source: McConnell et al. (2010)

# Air Toxics Linked to Student Academic Performance



- **California** researchers nearly a decade ago found a clear link between toxics near schools and student academic performance in Los Angeles (Pastor et al. 2006)
- In **Michigan**, schools located in areas with the highest air pollution levels had the lowest attendance rates and the highest proportions of students who failed to meet state educational testing standards (Mohai et al. 2011)
- In **El Paso, Texas**, residential exposure to air toxics was linked to lower grade point averages among school children (Clark-Reyna et al. 2016)

# Plant Closure = Fewer ER Visits

- Emergency room visits for asthma dropped the year after a Pittsburgh polluting power plant shut down
- After the Shenango power plant closed, the rate of physician-diagnosed asthma in elementary school students in the region decreased from 25.3 percent to 19.1 percent, and the rate of uncontrolled asthma dropped from 64.9 percent to 37.9 percent.



# Power Plant Pollution Tied to Premature Births



- Prevalence of preterm birth decreased significantly near power plants after they closed, with larger decreases in women who lived closer to the plants.
- For women living within three miles of the plants, the preterm birthrate was 5.1 percent after closing compared with 7.0 percent before.

Source: Casey (2018)

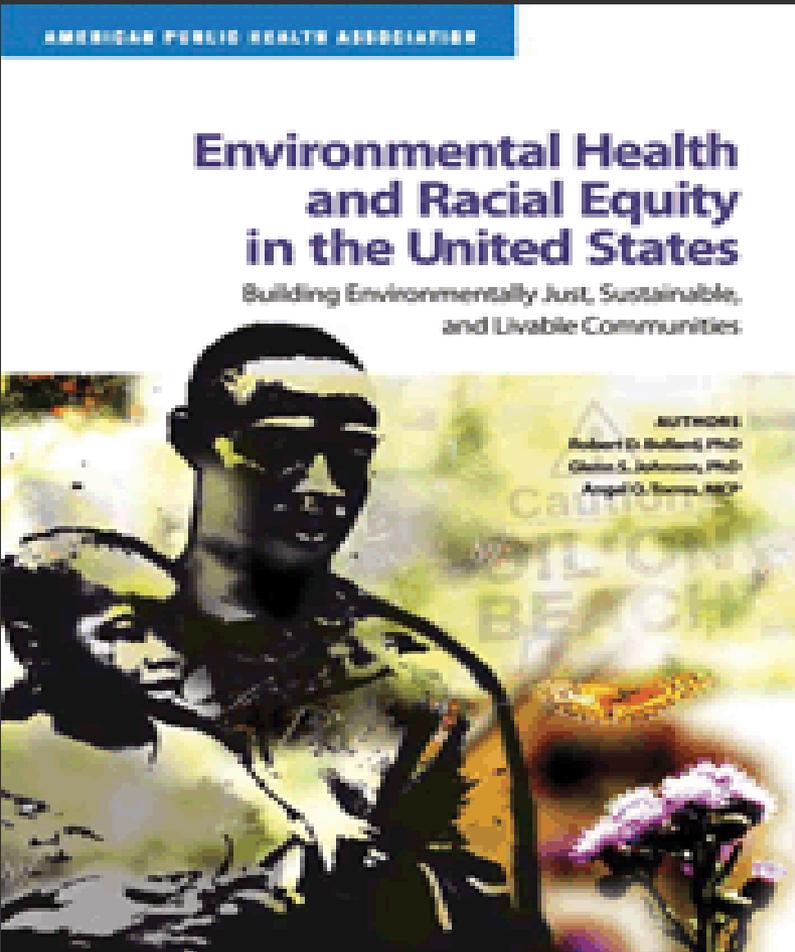
# Polluting Kids in the Womb



- A 2018 study from Johns Hopkins University shows air pollution during pregnancy is tied to high blood pressure in children
- Half of the U.S. adults now have high blood pressure
- African Americans have higher rates of high blood pressure than whites

Source: Zhang et al. (2018)

# Building a Healthy and Just Society for All



- Wealth and health are correlated
- Where you live affects health and well being and chances of leading flourishing lives
- The poorest people within the U.S. also have the worst health and the most degraded environments
- It is unlikely the U.S. will achieve a healthy, sustainable and resilient society without addressing justice and equity
- We should strive to make health the cornerstone of all justice work

# Thank You!

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