

THE QUEST FOR ENVIRONMENTAL AND CLIMATE JUSTICE

Robert D. Bullard, Ph.D.
Distinguished Professor of Urban
Planning and Environmental Policy
Texas Southern University



CONNECTING THE DOTS...

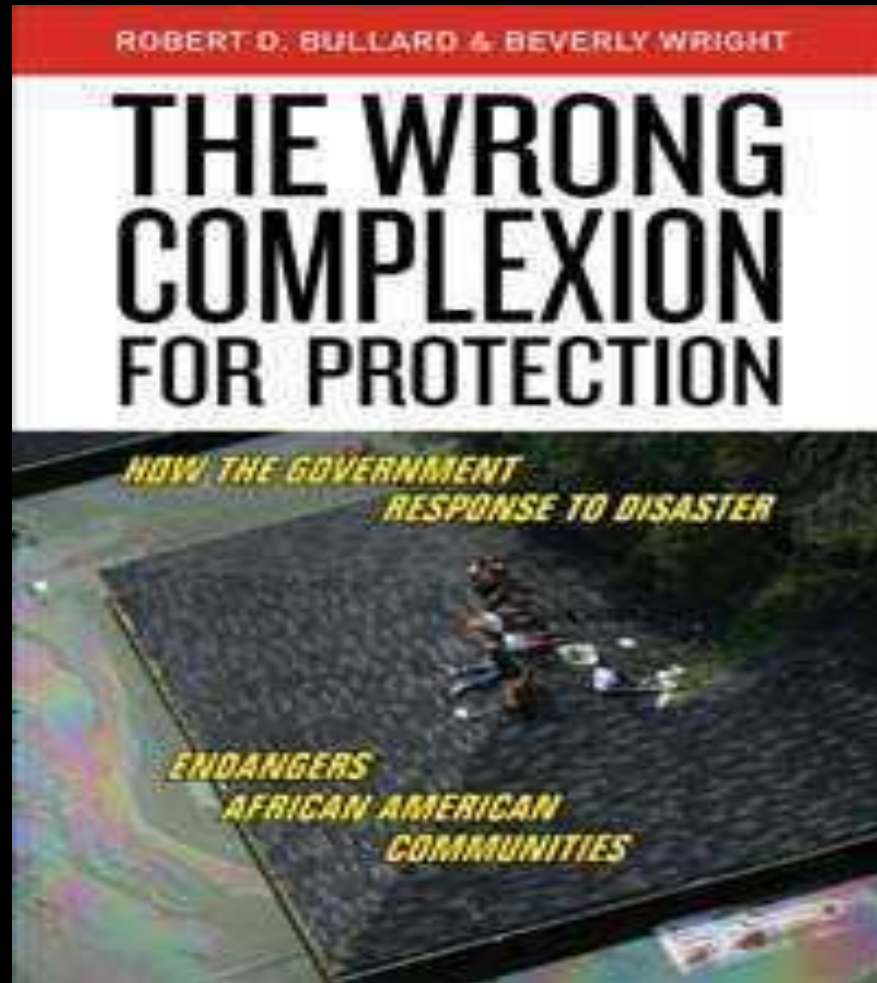
Books I've Written:

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

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

WILL THE GOVERNMENT
RESPONSE TO CLIMATE
CHANGE BE FAIR ?

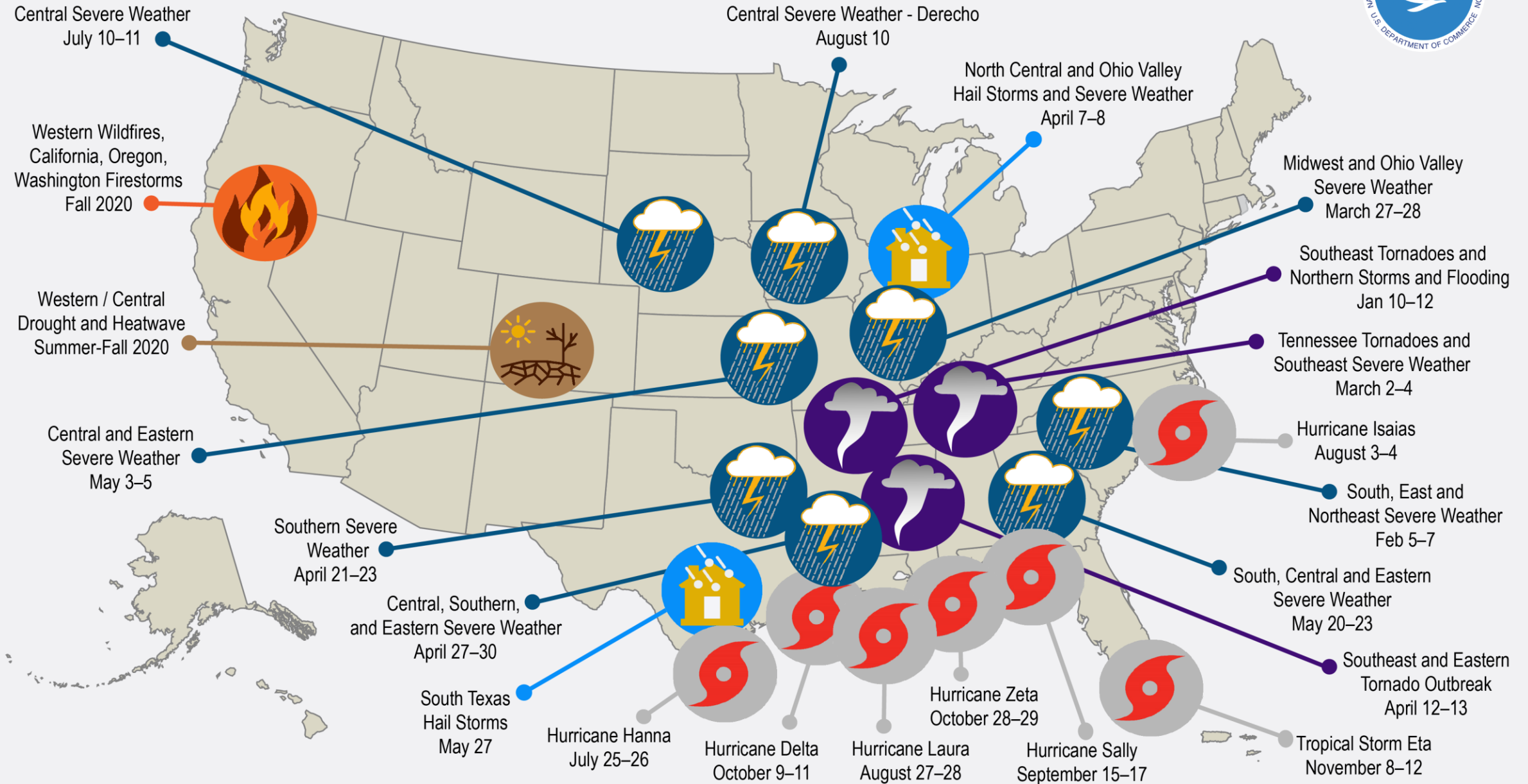
Some Communities Have the Wrong Complexion for Protection



- Long before Hurricane Katrina devastated the US Gulf Coast, people of color learned the hard way that waiting for the 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

CLIMATE CHANGE
WILL IMPACT EVERY
REGION OF THE
UNITED STATES

U.S. 2020 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the 22 separate billion-dollar weather and climate disasters that impacted the United States during 2020.



CLIMATE CHANGE THREATENS THE NATION'S INFRASTRUCTURE

The grades are in.
America's infrastructure earns a C-



2021 **REPORT CARD**
FOR AMERICA'S INFRASTRUCTURE
ASCE

www.infrastructurereportcard.org

INFRASTRUCTURE HAS
HISTORICALLY
PROMOTED **INEQUALITY**

2021 Report Card for America's Infrastructure

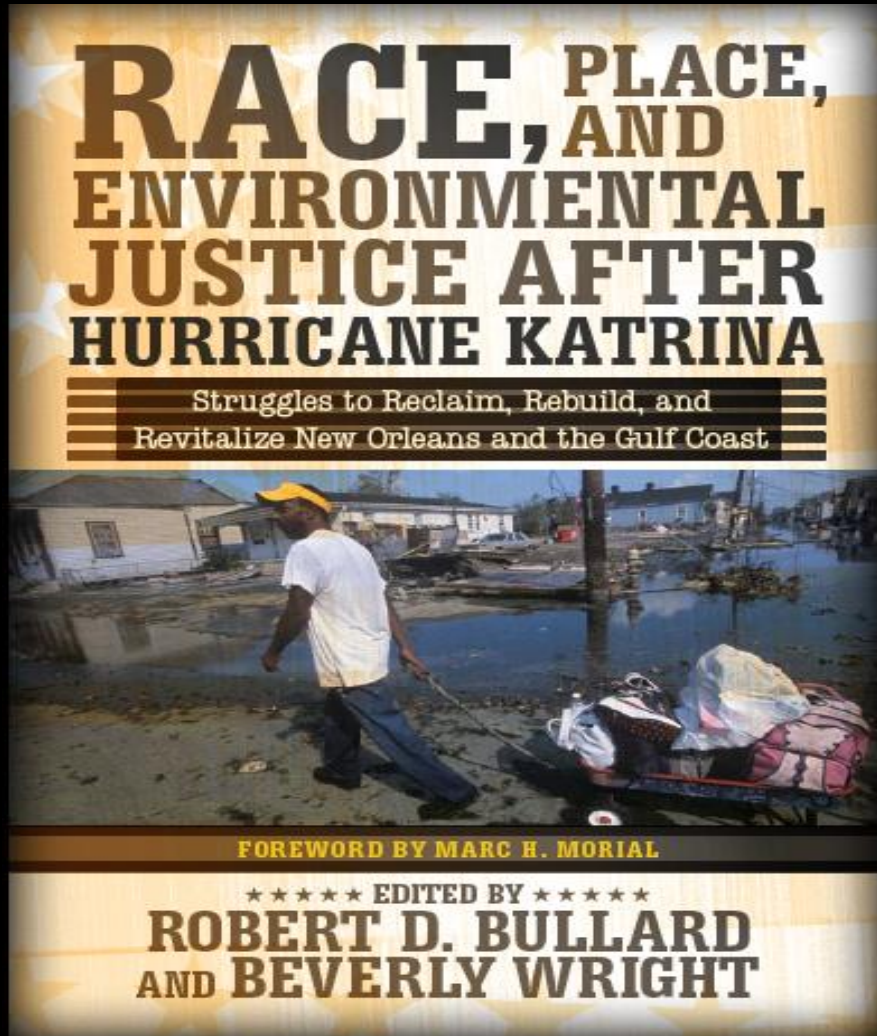
G.P.A.



*Image Source: ASCE 2021 Report Card for America's Infrastructure

- America's infrastructure is not created equal
- Biased planning, policies and funding are major contributors to the racial infrastructure gap
- Racial redlining and housing segregation help drive infrastructure disparities
- Time to build climate resilient infrastructure for all

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

Most Vulnerable Regions in the US



Fourth National Climate Assessment

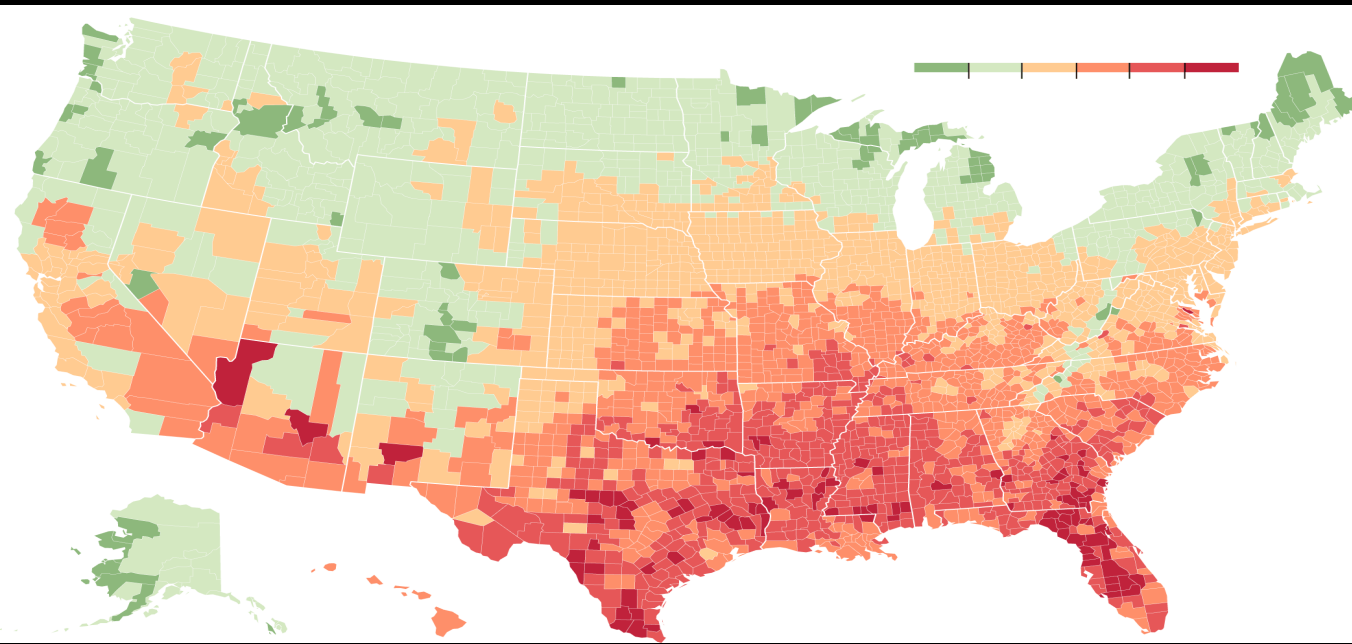


Volume II

Impacts, Risks, and Adaptation in the United States

- The 2018 *National Climate Assessment* (NCA4) states, “climate change creates new risks and exacerbates existing vulnerabilities in communities across the United States, presenting growing challenges to human health and safety, quality of life, and the rate of economic growth.”
- Severe weather events and climate-related disasters in the south have outnumbered similar events in other areas of the US annually in both scale and magnitude by a **ratio of almost 4:1** during the past 10 years.
- The Southeast for the period 1980-2020 had more billion-dollar disasters than all other regions.

Climate Change Will Hit Poor and People of Color in the South Hardest



- A 2017 UC Berkeley study found without effective climate action, the nation, as a whole, could see as much as 1.2 percent shaved off of its GDP per $^{\circ}\text{C}$ on average by the end of this century
- Parts of the American South hit hardest with up to a 20 percent drop in economic activity due to global warming by the end of the century

Climate change will
exacerbate existing
inequalities and worsen
vulnerabilities of already
marginalized populations

Air Pollution Unequal Burden



- Climate change will increase the number of “bad air days” and pose significant health threats, including cardiovascular, respiratory allergies, and asthma, with an unequal burden falling on low income and people of color households.

State of the Air – 2021



State of the Air

2021 

- The American Lung Association finds more than 4 in 10 people (135 million) in the U.S. live with polluted air, placing their health and lives at risk.
- People of color are **61%** more likely to live in a county with unhealthy air than white people, and **three times** more likely to live in a county that failed all three air quality grades.

Transportation and Climate Change

- Transportation accounts for the largest portion (28%) of greenhouse gas emissions in the U.S.
- The majority of transportation greenhouse gas emissions are from light-duty vehicles
- The health and economic impacts of transportation pollution fall disproportionately on low income and people of color households

Source: U.S. EPA (2020)

Breathing Other People's Pollution

- Black and Latino populations are disproportionately “burdened” with breathing air that's been polluted by white populations.
- Black populations are exposed to **56 percent** more pollution than caused by their consumption.
- Latino populations are exposed to 63 percent more pollution than they cause.
- White populations enjoy a "pollution advantage," meaning they breathe **17 percent** less air pollution than they cause.

Source: Tessum et al. (2019)



CLIMATE CHANGE
WILL CAUSE HOTTER
DAYS

GROWING ASHTMA EPIDEMIC



- African American adults are almost three times more likely than White adults to die from asthma related causes.
- Black and Hispanic children are five 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 eight times that of non-Hispanic White children.

Source: CDC (2021)

Number of Days with a Heat Index Above 100°F

Historical



Midcentury No Action



Late Century No Action



Average Days per Year

0-1

>1-10

>10-25

>25-50

>50-100

>100-200

HEAT IS THE
NUMBER ONE
WEATHER RELATED
KILLER IN THE U.S.

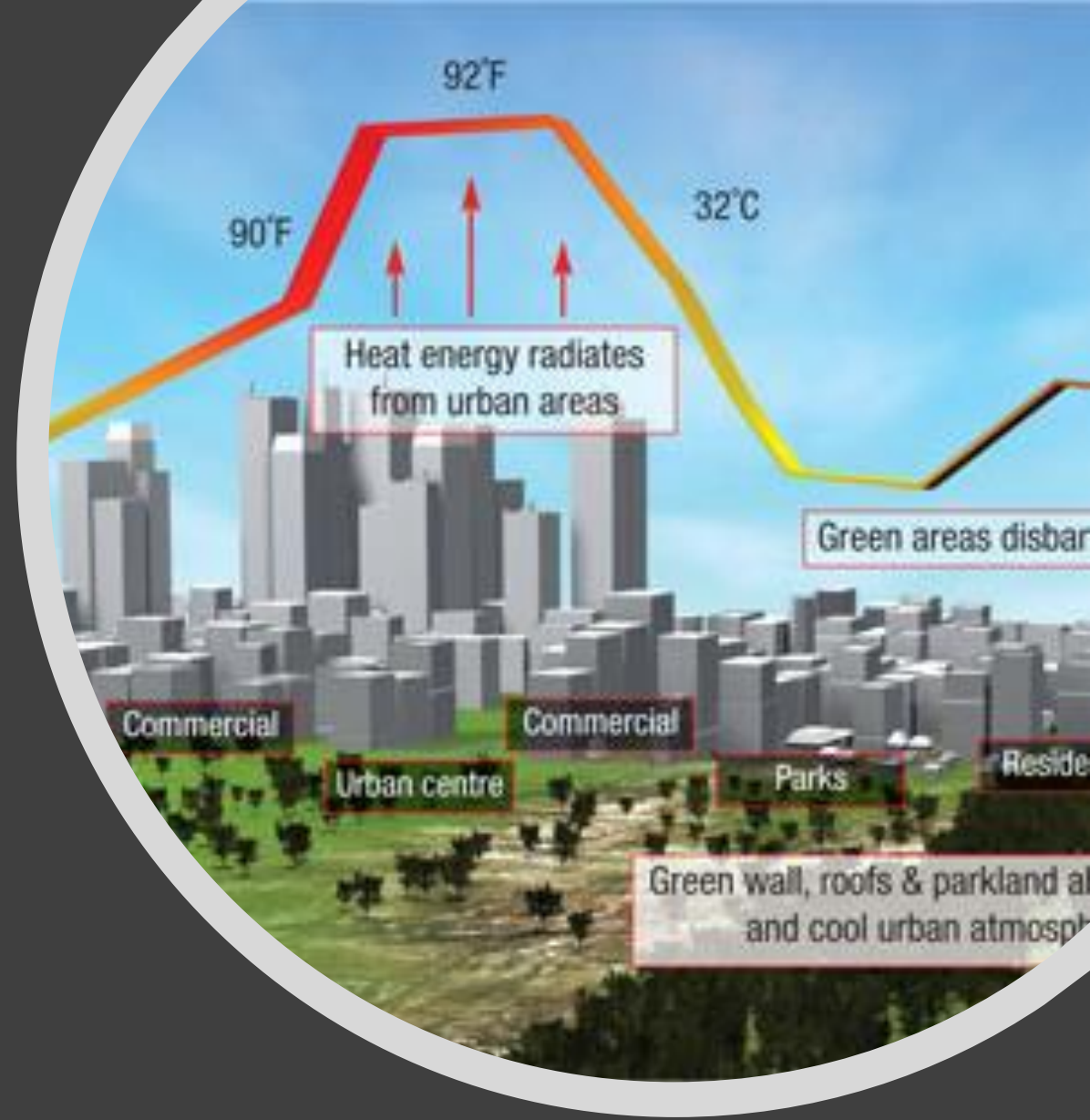
TOO HOT TO WORK OUTSIDE



Heat Islands and Racial Justice

- Blacks are **52%** more likely than Whites to live in urban heat islands, while Asians are **32%** more likely and Latinos are **21%** more likely.
- Heat island risk is greatest in hyper-segregated cities.

Source: Jesdale et al. 2013



Footprint of Racial Redlining



- Racial **redlining** practiced against Black people and others a century ago is showing up in **urban heat island** disparities today.
- **Redlined** neighborhoods are 5-13 degrees Fahrenheit warmer than non-redlined neighborhood.
- **Redlining** is also implicated in high **COVID-19** dangers in segregated Black and Brown communities.

Source: Hoffman et al. (2020); and Nemeth and Rowan (2020).

Heat, Pollution, and Pregnancy Risks



- Women exposed to high temperatures or air pollution are more likely to have premature, underweight, or stillborn babies
- Black mothers and their babies are harmed at a much higher rate than for white mothers and their babies
- Physicians can serve as advocates for their patients by educating officials on the role **systemic racism** plays and insist on just climate action

Source: Bekkar et al. (2020)

CLIMATE CHANGE WILL
WIDEN THE INCOME AND
WEALTH GAP BETWEEN THE
“HAVES” AND “HAVE-NOTS”



Image: © 2017 Brett Croomer/Houston Chronicle

Disasters Funding Widens Racial Wealth Gap

- Climate change will widen the racial wealth gap.
- Researchers from Rice University and the University of Pittsburgh found, in counties badly hit by natural disasters (areas with at least **\$10 billion** in damages) white communities gained an average **\$126,000** in wealth following the damage and recovery efforts.
- Communities of color lose up to **\$29,000** on average in personal wealth following events like hurricanes and wildfires.

Source: Howell and Elliott (2018)

WHO GET FEDERAL
DISASTER FUNDING
AND WHO GETS LEFT
BEHIND?

FEMA Aid Not Reaching Greatest Need



National Advisory Council
Report to the FEMA Administrator
November 2020

- The poorest renters were **23%** less likely than higher-income renters to get housing help
- The poorest homeowners received about **half** as much to rebuild their homes compared with higher-income homeowners
- FEMA was about **twice** as likely to deny housing assistance to lower-income disaster survivors because the agency judged the damage to their home to be "insufficient"
- Disaster survivors are fighting displacement
- FEMA has not analyzed whether there are **racial disparities** in who receives money after disasters

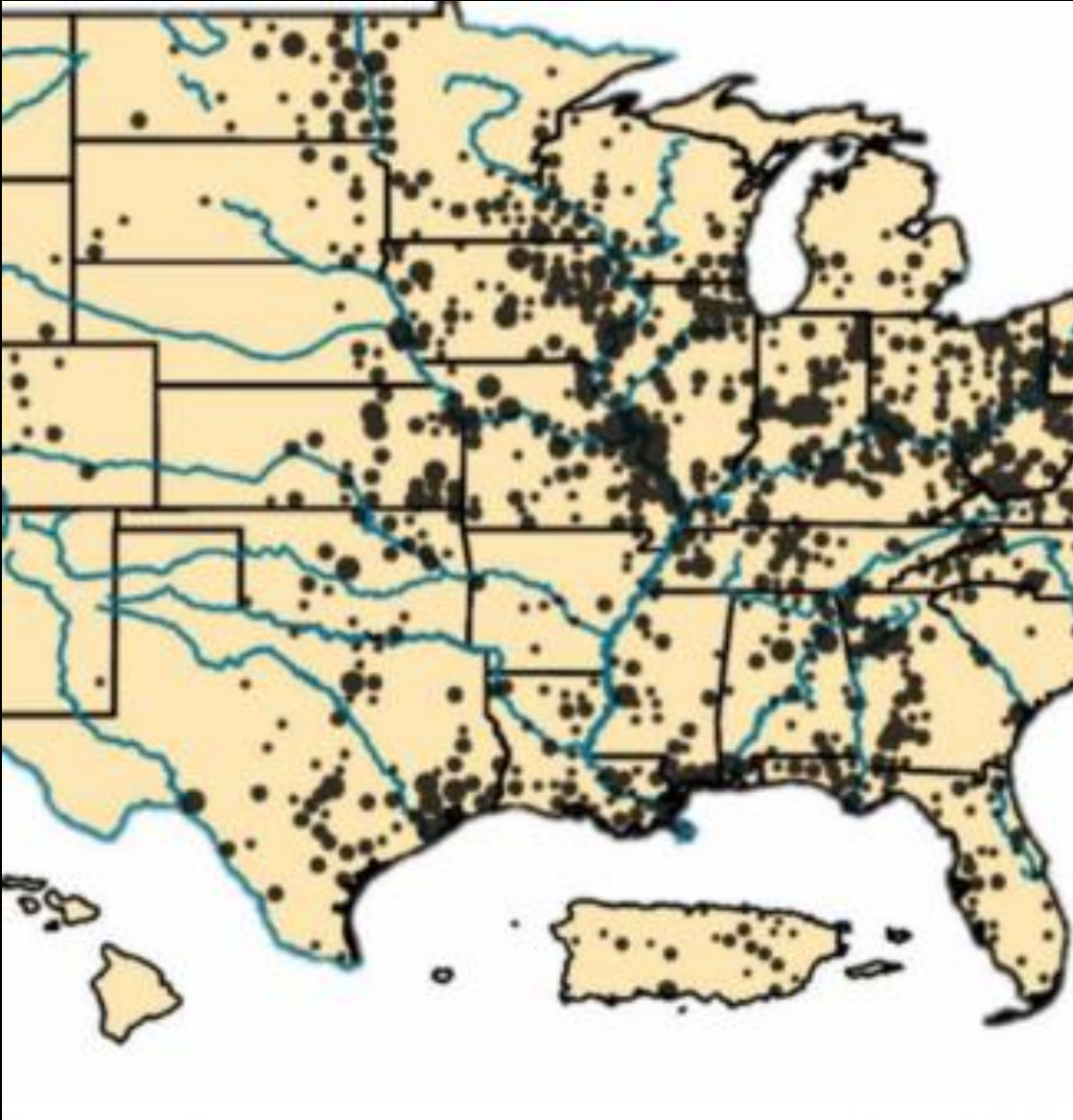
Source: FEMA National Advisory Council (2020)



Disaster Buyouts Favor White Americans

- Disaster buyouts inherently benefit White Americans and households with more wealth.
- Generally, federal disaster buyout funds don't follow need.
- The most FEMA buyouts were in neighborhoods **85 percent** or more white and non-Hispanic, even though non-Hispanic Whites make up about **62 percent** of the US population.

Source: National Public Radio (2019)



Managed Retreat Leaves the Most Vulnerable People Behind

- A 2019 study analyzing more than **40,000** properties in voluntary buyouts in flood-prone areas found FEMA's program is not helping the most vulnerable population
- The most vulnerable is being left behind in flood zones

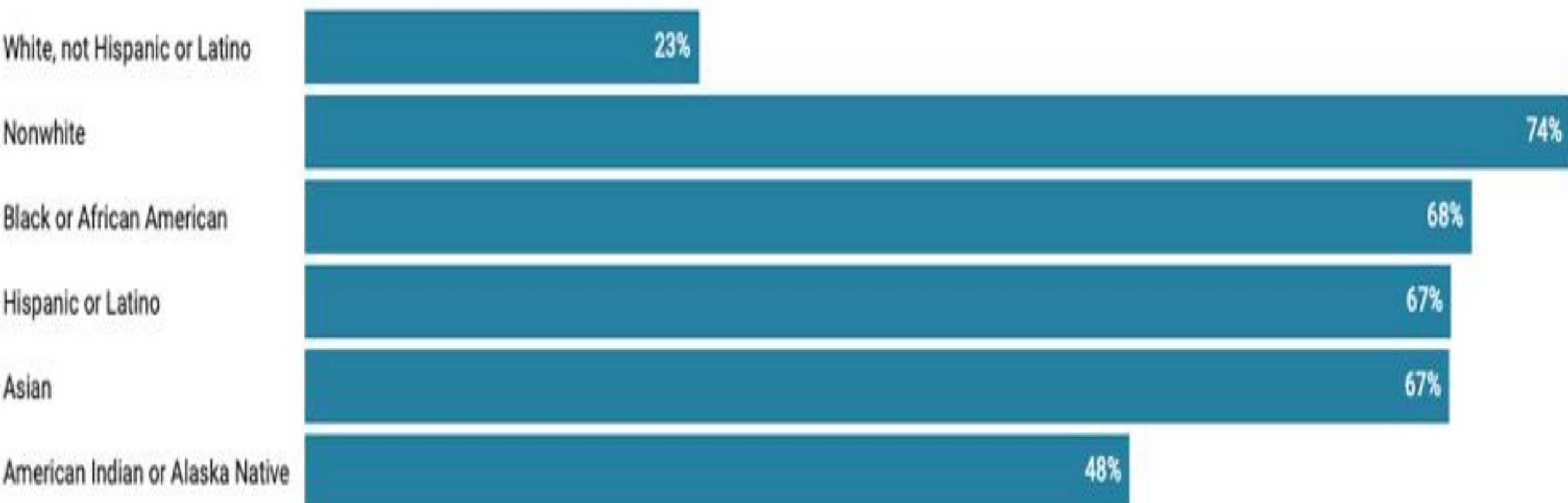
Mach et al. (2019)

An aerial photograph of a coastline. On the left, dark blue ocean waves are breaking onto a light-colored sandy beach. The beach is wide and stretches across the middle of the image. To the right of the beach is a strip of green vegetation, followed by a dark, possibly forested area. The text is overlaid on the beach and vegetation. The words 'NATURE DEPRIVED' are highlighted with a red outline.

CLIMATE CHANGE WILL
STRAND THE MOST
VULNERABLE POPULATIONS
IN **NATURE DEPRIVED** AREAS

People of color are more likely than white people to live in an area that is nature deprived

Percent of people living in a nature-deprived area by census tract demographics in the United States, 2017



Note: Communities are considered nature deprived if their census tract has a higher proportion of natural area lost to human activities than the state-level median.

Chart: Center for American Progress •

Source: Vincent A. Landau, Meredith L. McClure, and Brett G. Dickson, "Analysis of the Disparities in Nature Loss and Access to Nature. Technical Report." (Truckee, CA: Conservation Science Partners, available at https://www.csp-inc.org/public/CSP-CAP_Disparities_in_Nature_Loss_FINAL_Report_060120.pdf).

Rich Americans enjoy almost **50 percent** more greenery in their environment compared with lower-income communities.

Source: American Forests (2021)



Loss of Natural Land Cover and Equity

A study from researchers from the University of Vermont and the Gund Institute for Environment found people of color and low-income people will face the harshest effects from loss of natural land cover by 2100.

People of color in the U.S. will experience an estimated **224%** decrease in air quality, an **118%** decrease in crop pollination and an **111%** decrease in control of vector-borne disease.

Source: Gourevitch et al. (2021)

JUST sustainabilities

Development in an Unequal World



Edited by **Julian Agyeman,**
Robert D Bullard and **Bob Evans**

Time to Build Just and Sustainable Communities for All

- Sustainability and climate action plans must address environmental and racial justice
 - Transportation racism
 - Energy, food, and water insecurity
 - Equitable development
 - Families below poverty
 - Health, income, and wealth gap
- Addressing equity is a prerequisite to achieving healthy and climate resilient communities

President Biden's JUSTICE40

- President Biden's "Justice40" Initiative is a plan to deliver **40%** of the overall benefits of climate investments to disadvantaged communities -- environmental justice communities that historically have been left behind economically and overly polluted.
- Develop and implement cross-sector and interdisciplinary initiatives that place justice and equity at the center



Thank You!

Robert D. Bullard, Ph.D.

Barbara Jordan-Mickey Leland

School of Public Affairs

Texas Southern University

Houston, TX 77004

Phone: 713-313-6840

Fax: 713-313-7153

E-Mail: Robert.Bullard@tsu.edu

Twitter: @DrBobBullard