



PRESENTED BY UNIVERSITY OF HOUSTON

# ***TAMEST*** NATURAL HAZARDS SUMMIT

*Responding  
to and  
Mitigating  
the Impacts*

PART I: VIRTUAL SUMMIT

10.19.2021

#NATURALHAZARDSSUMMIT

# *Theme Two:*

## EMERGENCY RESPONSE AND RECOVERY

Moderated by:

CHANDRA FRANKLIN WOMACK, P.E.

**Owner and Chief Executive Officer, Aran & Franklin**  
**Board Chair, Texas Windstorm Insurance Association**



**TAMEST NATURAL HAZARDS**

*Responding to and Mitigating the Impacts*

**SUMMIT**

*Presented by:*  
UNIVERSITY of  
**HOUSTON**



# Panel:

## *Disparate Impacts of Natural Disasters and Disease*



ROBERT D.  
BULLARD, PH.D.

**Distinguished Professor**  
*Texas Southern University*



LOREN HOPKINS,  
PH.D.

**Chief**  
**Environmental**  
**Science Officer**  
*City of Houston*



PETER HOTEZ, M.D.,  
PH.D. (NAM)

**Dean, National School**  
**of Tropical Medicine**  
*Baylor College of*  
*Medicine*

# UNEQUAL BURDEN OF DISASTERS: REDIRECTING PRIORITIES AND FUNDING TO PROTECT THE MOST VULNERABLE PEOPLE AND PLACES

Robert D. Bullard, Ph.D.

Professor of Urban Planning and Environmental Policy  
Bullard Center for Environmental & Climate Justice  
Texas Southern University



CONNECTING  
THE DOTS...



# ROBERT D. BULLARD BOOKS: 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

ROBERT D. BULLARD & BEVERLY WRIGHT

# THE WRONG COMPLEXION FOR PROTECTION

*HOW THE GOVERNMENT  
RESPONSE TO DISASTER*

*ENDANGERS  
AFRICAN AMERICAN  
COMMUNITIES*

## DISASTERS AMPLIFY AND EXACERBATE EXISTING INEQUITIES IN SOCIETY

- Disasters compound and amplify poverty, marginalization and vulnerability
- Government response to natural and human-made disasters over the past eight decades has not treated all communities fairly.
- 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
- Heightened vulnerability is not so much determined by the disasters but by the social, economic, and political conditions society creates for different populations



## Air Pollution & Increasing Allergens

Asthma, cardiovascular disease,  
respiratory allergies

## Extreme Heat

Heat-related illness and death,  
cardiovascular failure

## Severe Weather

Injuries, fatalities, loss of homes,  
mental health impacts

## Environmental Degradation

Forced migration, civil conflict, mental  
health impacts, loss of jobs and income

Rising Temperatures



More Extreme Weather



# IMPACT OF CLIMATE CHANGE ON HUMAN HEALTH & EXACERBATION OF EXISTING INEQUITIES

Increasing CO<sub>2</sub> Levels



Rising Sea Level



## Degraded Living Conditions & Social Inequities

Exacerbation of existing social and health  
inequities and vulnerabilities

## Changes In Vector Ecology

Malaria, dengue, encephalitis,  
hantavirus, Rift Valley fever, Lyme  
disease, chikungunya, West Nile virus

## Water & Food Supply Impacts

Malnutrition, diarrheal disease

## Water Quality Impacts

Cholera, cryptosporidiosis, Campylobacter,  
leptospirosis, harmful algal blooms

Adapted from CDC, J. Patz



# RACE, PLACE, AND ENVIRONMENTAL JUSTICE AFTER HURRICANE KATRINA

Struggles to Reclaim, Rebuild, and Revitalize New Orleans and the Gulf Coast



FOREWORD BY MARC H. MORIAL

\*\*\*\*\* EDITED BY \*\*\*\*\*  
**ROBERT D. BULLARD  
AND BEVERLY WRIGHT**

## How Structural Inequality and Systemic Racism Worsen the Impacts of Climate Change

- Greater flood risks
- Hotter temperatures and more heat-related deaths
- More “bad-air days” and asthma
- Economic dislocation of outdoor workers – “too hot to work outside”
- Heat + air pollution = more bad pregnancy outcomes
- Hotter school days and hotter classrooms — “too hot to learn”
- Loss of natural land cover, green canopy, trees and nature
- More droughts, wildfires and deadly smoke
- More grid failures—stranding more people without power, air conditioning, heat, and clean drinking water
- More energy insecurity and “energy poverty”



## CLIMATE CHANGE AND SOCIAL VULNERABILITY IN THE UNITED STATES

A Focus on Six Impacts

SEPTEMBER 2021

# Climate Change Hits Most Vulnerable People Hardest

- Climate change impacts fall disproportionately on people of color communities who are least able to prepare for, and recover from, heat waves, poor air quality, flooding, and other impacts
- Black Americans are 34% more likely to currently live in areas with the highest projected increases in childhood asthma diagnoses and 40% more likely to currently live in areas with the highest projected increases in extreme temperature related deaths.
- Latinos are 43% more likely to live in communities that would lose work hours due to intense heat and 50% more likely to live in areas with the highest estimated increases in traffic delays due to coastal flooding
- American Indians and Alaska Natives are 48% more likely to live in areas that will be inundated by flooding from sea level rise (US EPA 2021)





**National Advisory Council  
Report to the FEMA Administrator  
*November 2020***

# DISASTER FUNDING NOT FOLLOWING NEED

- 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, while communities of color lost up to \$29,000 in wealth after recovery efforts (Howell and Elliott 2018).
- Managed retreat buyouts leave the most vulnerable households in flood zones (Mach et al. 2019).
- FEMA aid is not reaching households and families with the greatest need (FEMA 2020).





# Disaster Buyouts Favor White Americans

- Path of disaster funding: “Money follows money, money follows power, money follows whites.”
- Disaster buyouts inherently benefit White Americans and households with more wealth.
- Most FEMA buyouts are in neighborhoods 85 percent or more non-Hispanic Whites, even though they make up about 62 percent of the US population.

Source: National Public Radio (2019)

# President Biden's JUSTICE40 Initiative

- 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.

Center for Environmental & Climate Justice

Texas Southern University

Houston, TX 77004

Phone: 713-313-6840

Fax: 713-313-7153

E-Mail: [Robert.Bullard@tsu.edu](mailto:Robert.Bullard@tsu.edu)

Twitter: @DrBobBullard