COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES

HEARING CHARTER

Sweltering in Place[1]: COVID-19, Extreme Heat, and Environmental Justice

Tuesday, July 14, 2020
2:00 p.m. ET
Cisco WebEx

PURPOSE

This hearing will explore the disproportionate impacts of extreme heat and COVID-19 on communities of color and low-income communities, and to understand the impacts of the Environmental Protection Agency (EPA)'s deregulatory actions and relaxed enforcement of pollution regulations on these communities. This hearing will provide an opportunity to discuss the near-term concerns for environmental justice (EJ) communities who are likely to be dealing with a summer of excessive heat, coupled with the impacts of toxic environmental exposures, vulnerabilities to COVID-19, and the compounding effects of recent EPA regulatory rollbacks and relaxed enforcement of pollution regulation. It will also be an opportunity to discuss the gaps in heat monitoring research to understand the disparate impacts of extreme heat on vulnerable communities, and what Federal investments are needed to address these gaps to develop equitable and just Federal policies.

WITNESSES

- **Ms. Heather McTeer Toney,** National Field Director, Moms Clean Air Force
- **Dr. Mustafa Santiago Ali,** Vice President of Environmental Justice, Climate, and Community Revitalization, National Wildlife Federation
- **Mr. Cecil Corbin-Mark,** Deputy Director, WE ACT for Environmental Justice
- **Mr. Hilton Kelley,** Founder/Director of the Community In-Power & Development Association Inc.

OVERARCHING QUESTIONS

- How has COVID-19 disproportionately impacted communities of color and low-income communities?
- What are the root causes of the disproportionate outcomes of COVID-19 for low-income communities and people of color?
- How will a summer of extreme heat compound the effects of COVID-19 on low-income communities and people of color?
- How will the rollbacks of EPA pollution standards and relaxed enforcement of environmental laws exacerbate the impacts of COVID-19 on these communities, especially as we move into the summer months and as the economy restarts?
- What actions should the EPA take to improve air quality and curb exposure to toxics to protect these already vulnerable communities?

[1] https://www.hsph.harvard.edu/c-change/subtopics/coronavirus-and-heatwaves/

- What role has climate change played in creating the perfect storm for vulnerable communities already grappling with the devastating effects of COVID-19 and historic environmental disparities?
- How are stay-at-home orders and the economic slowdown due to COVID-19 further disadvantaging environmental justice communities?
- How can social and behavioral sciences inform public warnings and other communications about vulnerable communities' risks to extreme heat, particularly during the COVID-19 pandemic?

BACKGROUND

COVID-19 Disparities and Environmental Justice

Communities of color in America have been disproportionately impacted by COVID-19. In Louisiana, Black people account for 33% of the population, but make up 70% of COVID-19 deaths in the state. In Wisconsin, they make up 26% of the population, but 75% of COVID-19 deaths.[2] An analysis by the Washington Post found that majority-Black counties have six times the rate of death of majority-white counties.[3] In New York City, the death rate for Black people was more than double that of white people.[4]

This disparity results in part from the fact that people of color have been disproportionately exposed to environmental harms that have made them more vulnerable to COVID-19. Black people are more likely than white people to live near pollution sources such as landfills, coal plants, highways, and refineries.[5] Similarly, communities of color are much more likely to face the devastating environmental, health, and economic impacts of climate change.[6] For example, in the South, Black coastal communities face the highest risks from sea level rise.[7] In cities across the country, Black neighborhoods are experiencing increasingly frequent episodes of extreme heat.[8]

The disparities between Black and white communities with respect to COVID-19 mortality rates, as well as exposure to environmental harms, are not purely coincidental: Black communities face the worst impacts of both COVID-19 and climate change as a consequence of historic redlining, or the denial of mortgage lending based on race.[9] The National Housing Act of 1934 made it legal to systematically deny Black Americans equal access to government-backed mortgages and loans, effectively enabling segregated neighborhoods and withholding investment and resources from communities of color.[10] Although redlining is no longer legal, its legacy and impacts on communities of color persist to this day. A recent study found that in 94% of cities the study looked at, historically redlined neighborhoods were on average 5°F warmer than non-redlined

[2] https://www.ewg.org/news-and-analysis/2020/04/harvard-study-places-dirty-air-covid-19-patients-greater-risk-death
[3] https://www.washingtonpost.com/nation/2020/04/07/coronavirus-is-infecting-killing-black-americans-an-alarmingly-high-rate-post-analysis-shows/?arc404=true
[4] https://www.eenews.net/eedaily/2020/06/04/stories/1063313133?utm_medium=email&utm_source=eenews%3Aeedaily&utm_campaign=edition%2BiZ%2B%2FftFV%2B2LxUfHtN5bxJQ%3D%3D
[5] https://ajph.aphapublications.org/doi/10.2105/AJPH.2017.304297
[6] https://science.sciencemag.org/content/356/6345/1362/tab-figures-data
[7] https://www.sciencedirect.com/science/article/pii/S0016718517302944
[8] https://www.tandfonline.com/doi/full/10.1080/01944363.2020.1759127
[9] https://tcf.org/content/report/attacking-black-white-opportunity-gap-comes-residential-segregation/
[10] https://www.thoughtco.com/redlining-definition-4157858

neighborhoods in the same city.[11] Within some cities, the temperature differential reached as high as 12°F.

The practice of redlining also led to toxic industries being disproportionately located in communities of color, which consequently increased their exposure to pollutants that cause asthma, hypertension, diabetes, and other underlying health conditions that put people in high-risk categories for COVID-19. A pre-print Harvard study found that coronavirus patients in areas with high levels of air pollution were 8% more likely to die than coronavirus patients in parts of the country with cleaner air.[12] The study established a statistical link between long-term exposure to air pollution and severe COVID-19 outcomes. A separate, preliminary study out of Northern Italy found that COVID-19 attaches itself to tiny particles of air pollution.[13] These tiny particles, known as particulate matter or PM, can get deep into human lungs. They are produced by car emissions, power plants, and burning materials – all toxic sources that communities of color are far more likely to be exposed to than white communities.

Extreme Heat and Environmental Justice

The legacy of redlining and institutionalized racism has led to the disparate impacts that climate change has on people of color and low-income communities. The 2018 National Climate Assessment found that risks are "often highest for those that are already vulnerable, including low-income communities, some communities of color, children, and the elderly."[14] One such risk is rising temperatures and extreme heat, which disproportionately affects low-income urban residents. The EPA found that the "annual mean air temperature of a city with one million or more people can be 1.8 to 5.4°F…warmer than its surroundings, and… [at night] this temperature difference can be as much as 22°F," leading to the formation of urban heat islands.[15] These heat islands primarily impact neighborhoods of color and low-income areas, which often have "fewer trees, more concrete and [can be] closer to highways and factories."[16] In addition, low-income communities in urban areas have less financial stability, making it a challenge to pay inflated summertime air conditioning bills or finance the activities that keep children out of the heat.[17]

In the time of COVID-19, these impacts are exacerbated by stay-at-home orders and the closure of cooling centers, public pools, splash pads, and playgrounds. Extreme heat is especially dangerous for those who are already vulnerable, as heat is the leading cause of summertime morbidity and has severe impacts to those with pre-existing health conditions.[18] In major cities, including New York, it is estimated that as many as half of public housing units do not have adequate cooling.[19] Many people in these neighborhoods will have to choose between staying indoors and safe from the coronavirus but risking death or illness from extreme heat, against going outdoors for relief from indoor heat but potentially exposing themselves to the virus from

[11] https://www.mdpi.com/2225-1154/8/1/12/htm
[12] https://projects.iq.harvard.edu/covid-pm
[13] https://www.medrxiv.org/content/10.1101/2020.04.15.20065995v2
[14] https://nca2018.globalchange.gov/chapter/1/
[15] https://www.epa.gov/sites/production/files/2017-05/documents/reducing_urban_heat_islands_ch_1.pdf
[16] https://www.npr.org/2019/09/03/754044732/as-rising-heat-bakes-u-s-cities-the-poor-often-feel-it-most
[17] Ibid.
[18] https://www.mdpi.com/2225-1154/8/1/12/htm
[19] https://www.washingtonpost.com/national/will-summer-kill-coronavirus/2020/04/27/5ec70fd8-8670-11ea-a3eb-e9fc93160703_story.html

which they are more likely to die.

Access to, and the cost of, indoor cooling is also unequal among races: Black families with air conditioning units face higher energy prices than white families. A June 2020 study from UC Berkeley found that Black households in the U.S. pay more for residential energy than white households.[20] This gap holds regardless of income, household size, homeowner status, and city of residence. As climate change causes extreme heat across more areas of the country, and the urban heat island effect intensifies, families who have air conditioning might not even have the option to turn it on due to the overwhelming cost of energy. Many cities are looking towards solutions for keeping their residents cool, especially during the COVID-19 pandemic with many cooling centers closed. Some cities have proposed delivering free air conditioners to residents who need them; however, these plans are shortsighted because many of those residents will not be able to shoulder the disproportionate energy burden they will have to pay once they plug those air conditioners in.

Inequality Exposed by the Pandemic

The COVID-19 pandemic has exposed the systemic inequities that result in disproportionate impacts to communities of color and low-income communities. These inequities are the same for all disasters and diseases: communities of color are more vulnerable to harm than their white counterparts due to historic and modern-day redlining, housing discrimination, lack of equal access to adequate healthcare and nutrition, and so on. These same factors make people of color more vulnerable to COVID-19, extreme heat, climate change, and many other environmental and health risks.

In addition to higher rates of COVID-19 illness and death amongst low-income communities and people of color, the reopening and recovery process also disproportionately harms these communities. People of color comprise a large portion of the essential workforce in many cities and states, and consequently, are disproportionally exposed to toxics at work as well as at home. Government decisions to reopen disproportionately impact these people. On top of that, people of color are more likely than white people to live in proximity to toxic sites such as landfills and highways. This constant toxic exposure at home and at work makes them more vulnerable to COVID-19 and its deleterious impacts.

EPA Rollbacks and Relaxed Pollution Enforcement

Over 100 rules and regulations relating to climate and environmental policies have been rolled back since January 2017, with the majority of these roll backs occurring at EPA.[21] These deregulatory actions range in progress from the first notice of planned action in the Regulatory Agenda, to a formal Notice of Proposed Rulemaking, to a finalized rule.[22] The regulations that have been, or are in the process of being, rolled back include dozens of rules meant to regulate air emissions, reduce toxic pollution, limit the use of harmful pesticides and chemicals, and improve air quality.[23] Amid a global pandemic, EPA has eased enforcement of pollution standards, relaxing penalties for companies that do not comply with air and water pollution

[20] https://haas.berkeley.edu/wp-content/uploads/WP306.pdf
[21] https://www.nytimes.com/interactive/2020/climate/trump-environment-rollbacks.html
[22] U.S. EPA. "EPA Deregulatory Actions," Accessed here: https://www.epa.gov/laws-regulations/epa-deregulatory-actions
[23] https://eelp.law.harvard.edu/regulatory-rollback-tracker/

monitoring and reporting requirements.[24] They have also weakened fuel-efficiency standards and mercury emission rules.[25] Loosening emissions standards is likely to lead to increased emissions, which EPA's own research has shown causes asthma, lung irritation, heart issues, and other underlying conditions that make people more vulnerable to contracting severe COVID-19.[26] In addition to regulatory rollbacks, EPA has limited comment periods and has been accused of using the COVID-19 pandemic to push through controversial rulemaking, including the Strengthening Transparency in Regulatory Science rule.[27]

Communicating Environmental and Public Health Risks to Environmental Justice Communities

For extreme heat and COVID-19 as well as other diseases and disasters, public outreach and warning systems are essential in preparing people and helping them understand their risks. This is especially crucial for vulnerable populations, who are facing the most devastating impacts from both extreme heat and COVID-19. Research has demonstrated that Federal, state, and local governments failed to both understand and communicate the risks from COVID-19 to communities of color, who have been disproportionately harmed by the pandemic. Likewise, various factors determine the effectiveness of heat warnings for vulnerable people, and communicating these events is an ongoing issue for local, state, and Federal officials. More social and behavioral science research is needed to understand how people interpret and respond to weather forecasts and disease information.[28]

Impacts of extreme heat and other extreme events are strongly dependent on behavioral responses to forecasts; thus, increased investment in social science is needed to understand how social factors affect how the public prepares for and responds to extreme weather events.[29] Given that people of color and other at-risk groups are more likely to experience negative impacts of extreme heat and COVID-19, there is an urgent need to improve understanding of the role of public communication and outreach in order to prepare and protect them from these compounding risks.

Federal Heat Research and Monitoring

In June 2015, the National Oceanic and Atmospheric Administration (NOAA) and the Centers for Disease Control (CDC) launched the National Integrated Heat Health Information System (NIHHIS). NIHHIS monitors and collects data on heat across timescales and regions, and provides advanced heat warnings and decision support services to help the public prepare for and respond to extreme heat.[30] The program has expanded to include other relevant agencies, forming an interagency working group that includes NOAA, CDC, US Department of Agriculture (USDA), Federal Emergency Management Agency (FEMA), Occupational Safety and Health Administration (OSHA), and EPA.[31]

[24] https://www.nytimes.com/2020/03/26/climate/epa-coronavirus-pollution-rules.html
[25] https://www.washingtonpost.com/health/2020/03/30/trump-mileage-standards-environment/
[26] https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm#:~:text=Health%20Effects&text=Exposure%20to%20such%20particles%20can,nonfatal%20heart%20attacks
[27] https://www.newsweek.com/epa-push-censored-science-rule-pandemic-1512590
[28] National Academies of Sciences, Engineering, and Medicine. 2018. Integrating Social and Behavioral Sciences Within the Weather Enterprise. Washington, DC: The National Academies Press. https://doi.org/10.17226/24865
[29] Ibid.
[30] https://cpo.noaa.gov/Serving-Society/NIHHIS/About-NIHHIS
[31] https://www.nationalacademies.org/event/05-13-2020/webinar-on-environmental-extreme-events-and-covid-19-in-2020?utm_source=All+DBASSE+Newsletters&utm_campaign=a9c23748f1-BECS-webinar-may-13-2020&utm_medium=email&utm_term=0_e16023964e-a9c23748f1-206337753

NOAA, through the International Research and Applications (IRAP) program, funds projects that seek to understand how international climate and weather events, such as extreme heat, affect U.S. interests in health and national security. One such ongoing project is working "to assess historical heat extremes and their predictability at seasonal-subseasonal scales to inform geographically and socioculturally specific recommendations for improving the efficacy of heat advisory and mitigative messaging to vulnerable populations."[32]

In August 2018, EPA released a report titled *Mapping the Vulnerability of Human Health to Extreme Heat in the United States*, through which EPA began to identify and define methodologies for developing maps and mapping tools to understand the effects of extreme heat on vulnerable populations.[33]

The Department of Energy (DOE) works with universities, businesses, and its National Labs to develop innovative energy-efficiency technologies, including for home energy saving.[34] DOE's research and development into energy efficiency help to mitigate extreme heat by limiting power outages during heat waves, reducing spikes in energy prices, and curbing heat-trapping emissions through energy-efficient appliances.[35]

Research on COVID-19 in the Environment

EPA's Office of Research and Development (ORD) has the capability to conduct robust research on the human and environmental health factors that affect COVID-19 transmission and severity. In EPA's April 2020 "Charge for Review of COVID-19 Pandemic Scientific and Technical Issues to Inform EPA's Research Activities" to its Science Advisory Board (SAB), they outlined research questions including whether exposure to air pollutants increases susceptibility to respiratory viruses or exacerbates COVID-19 infections, as well as whether there are particular factors such as race, socioeconomic status, gender, and built environment, that affect transmission and severity of COVID-19.[36] The SAB, charged with rapidly reviewing these research questions and providing feedback to EPA, recommended that ORD utilize existing monitoring networks, partnerships, models, and national databases to carry out these analyses.[37] It also recommended EPA expand the scope of these questions to deepen understanding of how exposure factors related to living and working near pollution sites affect the likelihood of contracting COVID-19 or having a severe case of it, as well as the impact of human health risk factors related to socio-economic status on virus transmission and risk.[38]

Environmental Justice Research Gaps

The pandemic has brought to the forefront the social, health, environmental, and economic disparities that persist in the United States, and the ongoing movement for racial justice has

[32] https://cpo.noaa.gov/Meet-the-Divisions/Climate-and-Societal-Interactions/IRAP/Funded-Projects
[33] U.S. EPA. Mapping the Vulnerability of Human Health to Extreme Heat in the United States (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-18/212F, 2018.
[34] https://www.energy.gov/science-innovation/energy-efficiency
[35] https://www.ucsusa.org/resources/killer-heat-united-states-0
[36] https://yosemite.epa.gov/sab/sabproduct.nsf/0/2996BA363B41C2598525854C0048EA69/$File/PDF%20for%20COVID-19%20Meeting%20Materials%20and%20Charge_04-21-20.pdf
[37] https://yosemite.epa.gov/sab/sabproduct.nsf/0/F29062728B4BC9148525857B00731EAA/$File/EPA-SAB-20-006.pdf
[38] Ibid.

heightened the need to better understand these inequities. Much of the EJ research to date has focused on anthropogenic pollution and its disproportionate impacts on communities of color.[39] There is a need to broaden the research priorities and develop an EJ research framework that extends to existing and emerging topics. This includes better understanding environmental injustices stemming from extreme weather events including heat, flooding, energy production and access, food production and access, animal feeding operations, drinking water systems, and how these and other issues lead to inequitable environmental burdens and disproportionate health impacts for people of color.[40]

In addition to expanding EJ research topics, there is a need to better document and understand links between unjust environmental exposures and health effects and incorporate EJ metrics into Federal research and development efforts.[41] EPA ORD published an Environmental Justice Research Roadmap draft, which laid out plans for research to fill gaps in scientific understanding of how environmental stressors interact with societal and economic stressors, and to address climate justice, or the "growing recognition that America's poorest communities are also those that are…least prepared for potential impacts related to our changing climate such as extreme weather emergencies, drought, heat stress, flooding, and changes in sea level."[42]

LEGISLATION

There have been several pieces of legislation introduced this Congress addressing issues related to Environmental Justice, including H.R. 5986, the Environmental Justice for All Act,[43] H.R. 5842, Voices for Environmental Justice Act,[44] and H.R. 3924, the Environmental Justice Act of 2019.[45]

ADDITIONAL READING

Killer Heat in the United States: Climate Choices and the Future of Dangerously Hot Days, Union of Concerned Scientists. July 2019
https://www.ucsusa.org/resources/killer-heat-united-states-0

The National Black Environmental Justice Network's COVID-19 Statement
https://www.nbejn.com/nbejn-covid-19-statement

GAO Report: Environmental Justice: Federal Efforts Need Better Planning, Coordination, and Methods to Assess Programs. September 2019
https://www.gao.gov/products/gao-19-543?mobile_opt_out=1

[39] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5129282/
[40] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5129282/
[41] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5129282/
[42] https://www.epa.gov/sites/production/files/2015-12/documents/environmental_justice_research_roadmap_partner_review.pdf
[43] https://www.congress.gov/bill/116th-congress/house-bill/5986?q=%7B%22search%22%3A%5B%22environmental+justice+for+all+act%22%5D%7D&s=1&r=1
[44] https://www.congress.gov/bill/116th-congress/house-bill/5842?q=%7B%22search%22%3A%22environmental+justice%22%7D&s=1&r=4
[45] https://www.congress.gov/bill/116th-congress/house-bill/3923