



CLIMATE CHANGE AND HEALTH EQUITY Toolkit


Inequitable Outcomes of Climate Emergencies Demonstrate the Need for Changes in Practice and Policy

Introduction

The Network for Public Health Law has created two toolkits to support anyone seeking to develop community-centered strategies to address climate-driven health threats and emergencies. With climate-driven public health emergencies on the rise, it is important to understand how essential and valuable community perspectives and lived experiences are for creating just laws and policies. Protecting public health means working to the benefit of everyone especially communities vulnerable to climate-related harms that adversely impact health and well-being. This first piece focuses on the concrete harms that result from the development of laws, policies, and practices produced without meaningful efforts to engage with communities, highlighting some of the real-world impacts of inequitable practices with respect to drought, wildfires, flooding, and extreme heat. The examples provided are starting points for thinking through how things have gone wrong, where change may be needed, and opportunities for successful collaboration.

Why is this important? For too long, vulnerability to early mortality, illness, and poor health have existed precisely because laws and policies have ignored the needs of communities of color, communities living on low-incomes, and Tribal communities. This omission has far-reaching implications for public health. Many of our current institutions and systems have ensured that health impacts of climate-driven emergencies fall along lines of race, class, and gender—with structural racism often sitting as the centerpiece directing the flow of benefits and harms. Given that it is consistently the same communities whose voices are not being heard by those with decision-making power, it is not possible to steer a new course without changing the role that these communities play in directing the path forward.

The health impacts of climate driven emergencies are well-known, widespread, and often overlapping. They include asthma, bronchitis, heart attack, stroke, diminished drinking water access and quality, disruptions in food access, increases in vector born disease, increases in hospitalization, drowning, and heat stroke to name a few. The mental health effects can also be significant and include post-traumatic stress disorder, anxiety, depression, and increases in suicide ideation, suicide deaths, and visits to the emergency room for mental health disorders.¹ Although many of the health harms are well-known, how and why some communities and individuals are disproportionately subjected to these harms has been less studied. At the same time, it is important to consider how impacted communities are different—the concept of intersectionality calls attention to the relevance of how race, gender, class, sexual orientation, immigration status, and other factors interact to



create unique harms. It invites us to ask how factors like racial and historical trauma impact and shape these experiences. In short, unpacking the health impacts shows that climate change is a public health crisis that interacts with other public health crises like racism.

We recommend reading this resource before reading the other part of the toolkit: [“Prioritizing Cultural Safety During Climate-Related Emergencies;”](#) as well as the resources in the extreme heat toolkit [“Law and Policy Pathways to Community Centered Protection from Heat and Extreme Heat,”](#) and [“Creative Strategies to Mitigate Heat: Miami-Dade County’s Chief Heat Officer and Phoenix’s Office of Heat Mitigation and Response.”](#) The two toolkits as a whole provide practical guidance on community engagement and empowerment in the context of public health and climate change.

Climate Inequities


When it comes to emergency planning there is growing acknowledgement that government entities have routinely neglected to center equity in planning, decision-making, or resource allocation during climate-driven emergencies. Those working in public health, however, are increasingly interested in doing things differently. Doing things differently requires understanding history, including what has historically gone wrong (or right) and the directions in which harms and benefits flow before, during, and after emergencies. Doing things differently also calls for intentionally building systems that create space for community-driven knowledge and solutions, especially with respect to communities most adversely impacted by climate-driven harms.

Engaging in community centered works means creating systems that are powered by communities and abandoning practices that give marginal weight to community voices.² Thinking creatively about how to utilize community power is especially important given that individuals in underserved communities often become the de facto first responders during emergencies. This story is all too common for people of color, people living on low-incomes, and Tribal communities in rural and non-rural settings. Many of these communities are now recognized as frontline communities, but not because they signed up to be on the “frontlines” of climate harms. Instead, they were placed on the frontlines by a series of laws, policies, practices, and norms that created what some have pointedly classified as “sacrifice zones.”³ This is why community-centered movements, like the just transition movement – which takes a holistic approach to climate-harms drawing on principles of local power, democratic community governance, inclusive cultural practices, and equitable economic working conditions and relationships – have become increasingly popular.⁴ Such movements speak to the desire for systems change, including undoing structural racism that fuels so many climate-related public health harms.

Public health departments, as government entities, must heed the successes and failures of the past when it comes to promoting health equity. This means understanding how government decisions shape how communities are impacted during climate-related emergencies. As discussed below, there is ample evidence of government interventions (and inactions) that have deepened climate-related inequities. Unfortunately, not all harms reside in the past, and current laws and policies continue to do damage. To contextualize and illustrate how governments engage in inequitable planning and decision making, the next section provides examples of structural inequities during four types of climate emergencies: drought, wildfires, flooding, and extreme heat. Each of these examples identifies the real-world health harms experienced in communities that have been underserved by laws, policies, and decisions that failed to center community needs.

Examples of Climate-Driven Harms and Structural Inequities

Drought and Access to Water: A 2021 report conducted by California’s Legislative Analyst Office found that droughts have created drinking water challenges disproportionately impacting rural farmworkers and “many of the communities that lost—or remain vulnerable to losing—access to safe drinking water contain high proportions of both lower-income and Latino residents.”⁵ Droughts also affect crops, creating financial hardship




among Latino/a and Hispanic communities that rely on the availability of work harvesting crops. In recent surveys, for example, almost all California farmworkers identified as Hispanic, Latino/a, and/or Mexican, and many are undocumented.⁶ For this community, language accessibility is a major issue with 71 percent reporting either being unable to speak or able to speak “a little” English and 74 percent reporting being unable to read or able to read “a little” English—in contrast most reported being able to speak and read Spanish well (98, and 82 percent, respectively).⁷ This data underscores why culturally appropriate messaging is necessary during climate-driven emergencies.

The intersecting environmental (e.g., water access and quality), economic (e.g., lost wages and impact of lost wages), and social factors (e.g., immigration, access to public health information) affecting Hispanic populations are just some of the factors illustrating how droughts implicate multiple social determinants of health. In short, droughts do not affect all communities in the same way. That these public health threats fall so heavily on Hispanic communities shows that these outcomes are not accidental and are based on systems and practices that prop up structural racism. Overlapping structural and systemic inequities will unnecessarily continue to compound negative health impacts experienced by Hispanic communities, especially as droughts become more frequent, absent intersectional and community-driven reforms that address these harms and needs.

Wildfires and Cultural Burns: The pervasive effects of climate change have increased the frequency and severity of wildfires. Native American people are overrepresented in areas vulnerable to wildfires in the U.S., which some researchers have traced in part to government imposed relocation of Tribes onto federal reservations.⁸ In addition to the harms caused by fires, Tribes have experienced cultural harms due to structural inequities relating to funding and fire management. Agencies like the Federal Emergency Management Agency (FEMA) provide Tribes limited access to federal resources to respond to these emergencies and can overburden under-resourced Tribes with regulatory requirements to access federal funds.⁹ Tribes have also experienced cultural harms when government entities have allowed companies to bulldoze sacred sites and trees to restore power.¹⁰

Damaging fire management laws have been packaged as conservation legislation such as the federal Weeks Act of 1911, which instituted “non-Native land management practices” prohibiting prescribed (controlled) burning, such as cultural burns.¹¹ Native Americans have long practiced cultural burns which are intentionally set, low-intensity fires that serve multiple functions and reflect a diverse set of values that include “[d]uties to place and non-human relatives,” “[m]aintenance of lifeways,” “[r]egulating wildfire,” “[h]unting,” “[f]orest management,” transmitting or sharing of knowledge regarding spiritual well-being, and ceremonial as well as medicinal purposes.¹² It took decades before non-Native government entities began to reverse course on this prohibition.¹³ Some states are starting to provide culturally inclusive institutional support for cultural burns to mitigate climate impacts and protect communities. Recent California legislation ([AB 642](#)) requires, among other things, that the state’s forestry and fire management department engage in greater partnerships with California Tribes, Tribal organizations, and cultural fire practitioners and increase the use of cultural burns to mitigate and prevent wildfires.¹⁴ California agencies are creating space for Tribes to teach the history and importance of cultural burns and train firefighters on how to conduct these burns.¹⁵ This collaboration is an opportunity for Native American fire practitioners to be a part of the conversation and decision-making process established by the Department of Forestry and Fire Protection. The failure to engage relevant communities in wildfire management has exacerbated the harms experienced during climate emergencies; however, engaging with impacted communities can have widespread benefits, including greater fire resilience and respect for other cultures.

Flooding and Hurricane Disaster Response: Flooding in the U.S. disproportionately harms many Black neighborhoods. High-risk flood zones are more likely to be in areas with high populations of people of color and people with lower incomes. Despite this heightened vulnerability, communities of color face structural



barriers to disaster preparedness and recovery at both the federal and state level. For instance, in 2021, the N.Y. Times examined several studies on disaster aid finding that FEMA “often helps white disaster victims more than people of color, even when the amount of damage is the same.”¹⁶ It compiled research illustrating how this occurs through different institutional mechanisms including that: zip codes with higher percentages of Black residents are less likely to get home inspections necessary to receive FEMA funds for repairs; Black people who received inspections were denied funding without explanation at double the rate of White counterparts; FEMA reimbursed counties with higher White populations through its public assistance program more so than counties with higher Black, Hispanic, and Native American populations “even when suffering the same amount of damage;” and FEMA appears to disproportionately demolish homes, damaged in disasters, that are located in communities of color via buyouts, harming residents who cannot afford relocation costs.¹⁷ Additionally, “FEMA programs appear to be making racial inequality worse;” the wealth of White residents following a major disaster actually grew compared to Black residents in the same counties, whose wealth decreased.¹⁸ Such discriminatory practices and outcomes highlight the active role the federal government can play in exacerbating inequities that result from the damage of flooding and other extreme weather events. A report compiled following a roundtable of community-based organizations found “100% of participants” agreed or strongly agreed that the federal government contributes to racial inequities “in their communities” through its flooding, adaptation, and recovery policies.¹⁹ The data supports this perspective and matches the reality on the ground.

State policies and practices can also exacerbate the climate-related harms experienced by communities of color. Hurricane Harvey, a category 4 hurricane, left devastating impacts on Texas residents in 2017. The U.S. Department of Housing and Urban Development (HUD) recently found Texas engaged in race and national origin discrimination in their allocation of HUD disaster funds, to mitigate disaster risk and future loss in areas damaged by Harvey, to state residents.²⁰ The state did this by adopting a method of distributing these funds that resulted in highly impacted Black and Hispanic residents receiving significantly less funding than less impacted White communities.²¹ For example, Texas used a point system to award funds. In awarding points, it created a jurisdiction size criterion that significantly favored small jurisdictions heavily populated by White residents and that highly disadvantaged large population jurisdictions where Black and Hispanic residents were more likely to reside, which HUD determined ultimately “shifted funding away from areas with the greatest need without justification.” HUD concluded that, absent Texas’s discriminatory criteria “[n]early four times as many Black residents would have benefited [from the grants], and more than twice as many Hispanic residents would have benefited.”²² Such government caused inequities must be avoided when creating emergency response systems so that funding and resource allocation go to the right places and support communities who are most in need. At minimum the laws and policies put in place to mitigate climate-driven harms should not further deepen existing inequities.

Extreme Heat and COVID-19: As temperatures continue to rise throughout the nation, heat related deaths have become a growing concern. As new law and policy strategies are created to address this public health threat, it is important to keep sight of the fact that individuals are not equally vulnerable to heat exposure and its concomitant health impacts. One area where this is seen is heat exposure in urban heat islands. Urban heat islands generally refer to temperatures increasing in urban areas where there is a high concentration of structures that absorb and then re-emit heat (such as roads and pavement). Urban heat islands are hotter than surrounding areas that have more reflective structures or natural landscapes such as greenspaces that can help keep ambient temperatures lower.²³ According to one study, in most major U.S. cities, on average, communities whose residents live below the poverty line and whose residents are predominantly people of color experience more extreme heat exposure from urban heat islands compared to White and high-income communities.²⁴ Similarly, an examination of the Southwestern U.S. found that communities with low-incomes and Hispanic communities experience thermal inequity due to greater exposure to heat on average and extreme heat days, compared to their counterparts.²⁵ Differences in heat exposure can be linked to inequitable practices including the continued impacts of [redlining](#), which prevented people of color from owning homes

through the denial of home loans and other disinvestments—a regulatory and legal scheme that truly reflects inequality by design.²⁶

Recent increases in extreme heat in Arizona showed how communities are impacted by colliding public health emergencies and how equitable public health strategies must be able to take this into account. In 2020, Arizona experienced extreme heat temperatures that broke several records resulting in the most 100-degree days (144 days), the most 110-degree days (53) and the most 115-degree days (14).²⁷ The National Weather Service described these conditions as a “a preview of what a typical summer in Phoenix, AZ will be like in 20-40 years.”²⁸ This contributed to over 494 heat-related deaths in 2020—almost double the number of deaths of the previous year. During this time, there was also a reduction in the number of cooling centers available to residents. Maricopa County, the largest county in Arizona with a population of over 4 million people, went from 106 cooling centers in 2019 to 19 in 2020 during the COVID-19 pandemic at a time when closure of other public spaces and businesses also greatly limited access to cooler spaces.²⁹ While these aggregate numbers paint a grim picture in themselves, they do not tell the whole story of how inequities manifest. A 2020 report on heat-associated deaths in Maricopa County found the number of unhoused people who died more than doubled from 2019.³⁰ Those with the highest rates of deaths included males, Black people, Native American people, and the elderly.³¹ This data aligns with research finding that communities of color are disproportionately affected by extreme heat.

A lack of public cooling centers does not only impact outdoor deaths. In Maricopa County, most heat-associated deaths occurred outdoors. However, indoor deaths also occur when individuals lack a functioning air conditioning unit: 18% of people who died indoors had no air conditioning unit and of the 82% who had a unit, for most the unit was non-functioning—meaning that these individuals also needed a place to cool off, at the very least, in the extreme heat of the day.³² Cooling centers are not a panacea, but their absence is illustrative of the heightened crises that can be created when climate emergencies interact with other emergencies.

Conclusion

Equitable emergency preparedness requires taking stock of disparate community impacts, understanding how laws and policies have contributed to these inequitable conditions, and, conversely, how laws and policies can remedy these conditions. By understanding where strategies and solutions have failed it is possible to envision a different way forward. An equitable pathway is one that centers community perspectives, lived-experiences, a diverse set of values and needs, and takes a bottom-up approach. Absent these reforms, frontline communities will continue to carry the weight of the worst climate-related harms: paying with their health, livelihoods, and even lives. Equitable public health practices can change that.

SUPPORTERS



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This document was developed by April Shaw, PhD, JD, Senior Staff Attorney, Network for Public Health Law – Northern Region Office, and Mosalewa Ani, Program Associate, Network for Public Health Law – National Office. The legal information and guidance provided in this document do not constitute legal advice or representation. For legal advice, please consult specific legal counsel in your state.

- ¹ AMERICAN PSYCHOLOGICAL ASSOCIATION, CLIMATE FOR HEALTH, AND ECOAMERICA, *Mental Health and Our Changing Climate Impacts, Inequities, Response* (2021) <https://www.apa.org/news/press/releases/mental-health-climate-change.pdf>; Eun-hye Yoo, Youngseob Eum, John E. Roberts, et al., *Association between extreme temperatures and emergency room visits related to mental disorders: A multi-region time-series study in New York USA*, SCIENCE OF THE TOTAL ENVIRONMENT (Oct. 2021) <https://www.sciencedirect.com/science/article/abs/pii/S0048969721033179>. Western culture tends to divide “physical” from “mental” health impacts, but this division is largely socially constructed and can promote practices inconsistent with cultural values and cultural healing practices of non-Western or non-dominant cultures.
- ² Rosa Gonzalez and Facilitating Power, *The Spectrum of Community Engagement To Ownership* (2019), <https://movementstrategy.org/resources/the-spectrum-of-community-engagement-to-ownership/>.
- ³ IRONBOUND COMMUNITY CORPORATION, *The Sacrifice Zone – A Documentary*, <https://ironboundcc.org/advocacy/the-sacrifice-zone-a-documentary/> (Last visited June 2, 2022).
- ⁴ CLIMATE JUSTICE ALLIANCE, *Just Transition Principles*, <https://climatejusticealliance.org/just-transition/> (Last visited June 2, 2022).
- ⁵ Gabriel Petek, *What Can We Learn From How the State Responded to the Last Major Drought?*, LEGISLATIVE ANALYST’S OFFICE (May 2021) <https://lao.ca.gov/reports/2021/4429/learn-from-last-drought-051321.pdf>.
- ⁶ *California Findings From the National Agricultural Workers Survey (NAWS) 2015-2019: A Demographic and Employment Profile of California Farmworkers*, p. 4-5, JBS INTERNATIONAL (January 2022), <https://www.dol.gov/sites/dolgov/files/ETA/news/pdfs/NAWS%20Research%20Report%202015.pdf>; Paulette Cha, *Health Care Access among California’s Farmworkers*, PUBLIC POLICY INSTITUTE OF CALIFORNIA (April 2022) <https://www.ppic.org/publication/health-care-access-among-californias-farmworkers/> (finding that over 90 percent of California’s farmworkers are immigrants and about of which are undocumented people).
- ⁷ *California Findings From the National Agricultural Workers Survey (NAWS) 2015-2019: A Demographic and Employment Profile of California Farmworkers*, p. 14-15, JBS INTERNATIONAL (January 2022), <https://www.dol.gov/sites/dolgov/files/ETA/news/pdfs/NAWS%20Research%20Report%202015.pdf>.
- ⁸ Ian P. Davies, Ryan D. Haugo, James C. Robertson, et al., *The Unequal Vulnerability of Communities of Color to Wildfires*, PLOS ONE (Nov. 2, 2018) <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0205825#pone-0205825-g005>.
- ⁹ Allison Herrera, *When disaster strikes, Indigenous communities receive unequal recovery aid*, THE CENTER FOR PUBLIC INTEGRITY (Nov. 6, 2019) <https://publicintegrity.org/environment/one-disaster-away/when-disaster-strikes-indigenous-communities-receive-unequal-recovery-aid/>; The Government Office of Accountability recently issued a report on the barriers that Tribes face in accessing federal funding. Although the report does not focus on wildfires, it contains a chart identifying the multiple barriers that Tribes experience when trying to access federal funds for disasters and other environmental threats. UNITED STATES GOVERNMENT ACCOUNTABILITY OFFICE, *Alaska Native Issues: Federal Agencies Could Enhance Support for Native Village Efforts to Address Environmental Threats*, p. 38-39 (May 2022) <https://www.gao.gov/assets/gao-22-104241.pdf>.
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- ¹¹ CLIMATE CHANGE PROJECTS, *Fire Works!*, <https://karuktribeclimatechangeprojects.com/fire-works/> (Last visited May 27, 2022); FOREST HISTORY SOCIETY, *The Weeks Act* <https://foresthistory.org/research-explore/us-forest-service-history/policy-and-law/the-weeks-act/KARUK> (describing the Weeks Act as “one of the most successful pieces of conservation legislation in U.S. history.”) CALIFORNIA WILDFIRE & FOREST RESILIENCE TASK FORCE, *California’s Strategic Plan for Expanding the Use of Beneficial Fire*, p. 7-8 (March 2022), <https://fmtf.fire.ca.gov/media/wmnj2312/californias-strategic-plan-for-expanding-the-use-of-beneficial-fire.pdf>.
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- ¹³ CALIFORNIA WILDFIRE & FOREST RESILIENCE TASK FORCE, *California’s Strategic Plan for Expanding the Use of Beneficial Fire*, p. 7 (March 2022), <https://fmtf.fire.ca.gov/media/wmnj2312/californias-strategic-plan-for-expanding-the-use-of-beneficial-fire.pdf>.
- ¹⁴ California also passed legislation ([SB 332](#)) that makes controlled and cultural burns easier by raising the liability standard for individuals who engage in this practice from a negligence standard to a gross negligence standard.
- ¹⁵ Alaa Elassar, *California once prohibited Native American fire practices. Now, it’s asking tribes to use them to help prevent wildfires*, CNN (April 3, 2022) <https://www.cnn.com/2022/04/03/us/california-native-american-fire-practitioners-wildfires-climate/index.html>
- ¹⁶ Christopher Flavelle, *Why Does Disaster Aid Often Favor White People?* THE NEW YORK TIMES (Updated Oct 27, 2021) <https://www.nytimes.com/2021/06/07/climate/FEMA-race-climate.html?searchResultPosition=1>.
- ¹⁷ *Id.*
- ¹⁸ *Id.*
- ¹⁹ AMERICAN FLOOD COALITION AND THE INSTITUTE FOR DIVERSITY AND INCLUSION IN EMERGENCY MANAGEMENT, *Conversations With Communities: Considerations for Equitable Flooding and Disaster Recovery Policy*, p. 6 (March 2021), <https://i-diem.org/conversation-with-communities-considerations-for-equitable-flooding-and-disaster-recovery-policy/>.

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²¹ *Id.*

²² *Id.*

²³ UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *Learn About Heat Islands* (Last Updated Sept. 2, 2022) <https://www.epa.gov/heatislands/learn-about-heat-islands>.

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²⁶ Jeremy S. Hoffman, Vivek Shandas, and Nicholas Pendleton, *The Effects of Historical Housing Policies on Resident Exposure to Intra-Urban Heat: A Study of 108 US Urban Areas*, CLIMATE (Jan. 13, 2020) https://www.mdpi.com/2225-1154/8/1/12/htm?utm_medium=website&utm_source=archdaily.mx. As the impacts of historical redlining become more clear, it is important to keep in mind that redlining is a practice that continues today, even though it is now illegal.

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²⁸ THE NATIONAL WEATHER SERVICE, *Year in Review 2020 (v2)* <https://www.weather.gov/psr/YearinReview2020v2> (Last visited June 1, 2022).

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³⁰ MARICOPA COUNTY PUBLIC HEALTH, *Heat-Associated Deaths in Maricopa County, AZ Final Report for 2020*, p. 25 (2020) <https://www.maricopa.gov/ArchiveCenter/ViewFile/Item/5240>.

³¹ *Id.* It is important to apply an intersectional framework to these issues—for instance the report found greater outdoor deaths for males (60%), whereas females experienced greater indoor deaths (66%).

³² *Id.* at 21.