The “Heat Dome” that set down on the Pacific Northwest at the end of June 2021 left millions across the region sweltering under record-setting temperatures and hundreds dead in the U.S. and Canada. Portland, Oregon, set a new record high of 116 degrees—14 degrees higher than the previous record.

Climate Change is Worsening the Urban Heat Island Effect and Deepening Health Inequities Across the U.S.

As a result of systemic racism, the populations who are most likely to live in these hotter neighborhoods—and therefore among those at greater risk of the dangers of increasing heat due to climate change—are disproportionately people of color. Research in 2013, for example, found that people of color are far more likely than Whites to live in neighborhoods where a majority of people...
lacked tree cover and over half of the ground was covered by concrete, pavement, and other heat absorbing materials. Specifically:

- Non-Hispanic Blacks were 52% more likely than non-Hispanic Whites to live in these neighborhoods
- Non-Hispanic Asians were 32% more likely more likely than non-Hispanic Whites to live in these neighborhoods
- Hispanics were 21% more likely than non-Hispanic Whites to live in these neighborhoods

**Health Inequities from Climate Change are Rooted in Structural Racism**

While temperatures across the region varied, the Heat Dome put in stark relief the health and racial inequities that prevail between Portland’s neighborhoods. Cities and urban areas experience greater heat because of the amount of buildings, roads and concrete that absorb heat—a phenomenon known as the “urban heat island effect”—but not all neighborhoods experience heat waves in the same ways.

As a result of historic segregation due to practices like redlining and racial covenants, and ongoing policies like exclusionary zoning, neighborhoods that are home to people of color, immigrants, and families with low-income often have received fewer investments in infrastructure, including parks and trees, that help to mitigate the worst of the heat. Building and development today can exacerbate these inequities when they limit the development of high-density or affordable housing to certain neighborhoods or override land coverage standards.

These disparities aren’t just an issue in a “1,000-year weather event” like the Heat Dome; they are ongoing. Research by Shandas and colleagues shows a 12.8 degree difference between high-income, predominantly white neighborhoods in the west side of Portland and neighborhoods like Overlook, St. Johns and North Lents that have the largest proportion of communities of color. In fact, of the 108 U.S. cities Shandas and colleagues studied, Portland has the largest temperature difference between areas historically redlined and those graded as “best.” This clear pattern of uneven heat impacts that put people of color at greater risk is seen in cities across the country.

Increasing temperatures fueled by climate change already put every person at greater risk of health harms. But as a result of systemic racism and the long legacy of discrimination, it has a greater impact on the health of those who have been made more vulnerable through racist and discriminatory policies and practices that fuel health inequity today. Policies to prevent and adapt to climate change must be equitable to address the long-standing forces of systemic racism.