



Robert Wood Johnson Foundation

Cooling Cities and Improving Health as Climate Change Fuels Worsening Heatwaves



Climate Change is Driving Record Setting Heat and Harming Health

▶ NASA reports that 2014-2022 have been the hottest years on record, with global temperatures 1.6 degrees Fahrenheit hotter today than the average between 1951-1980.

▶ Extreme heat causes heat stroke and illness; exacerbates asthma, and heart, lung, and kidney disease; and causes higher rates of premature births.

▶ Heat-related deaths have increased 74 percent between 1980 and 2016, according to two recent studies in The Lancet.

The neighborhoods we call home should be places that keep us safe and provide opportunities to be healthy. When summer comes and days get hotter, trees, parks, and greenspace help cool communities, ensuring that residents can rely less on air conditioning and move about outside safely.

However, in some neighborhoods where more areas are paved, where structures are built from concrete, and where there are fewer trees and grassy areas, a hot summer day can turn dangerous quickly. Communities swelter as surfaces grow warmer and overnight temperatures stay high, denying residents an important reprieve from the heat and putting their health at greater risk. These hot spots are known as “urban heat islands,” and as climate change increases the frequency and intensity of heat waves, the danger to our health only grows.

Intense Heat Takes a Greater Toll on the Health of Some

People of color and people with lower incomes are most likely to live in urban heat islands, greatly increasing their risk of experiencing the dangers of heatwaves, such as heat stress and heat stroke. Research in 2013, for example, found that people of color are far more likely than White people to live in neighborhoods where a majority of people lacked tree cover and over half of the ground was covered by pavement and other heat absorbing materials. Specifically:

- Non-Hispanic Black people were 52 percent more likely than non-Hispanic White people to live in these neighborhoods.
- Non-Hispanic Asian people were 32 percent more likely than non-Hispanic White people to live in these neighborhoods.
- Hispanics were 21 percent more likely more likely than non-Hispanic White people to live in these neighborhoods.

The fact that communities of color experience worse heat than predominantly White communities is not by chance; rather, it is the result of policies and practices by governments and others. Segregation, due to past practices like redlining and racial covenants, as well as ongoing policies like exclusionary zoning, is behind these differences. That means it can also be undone through equitable policies.

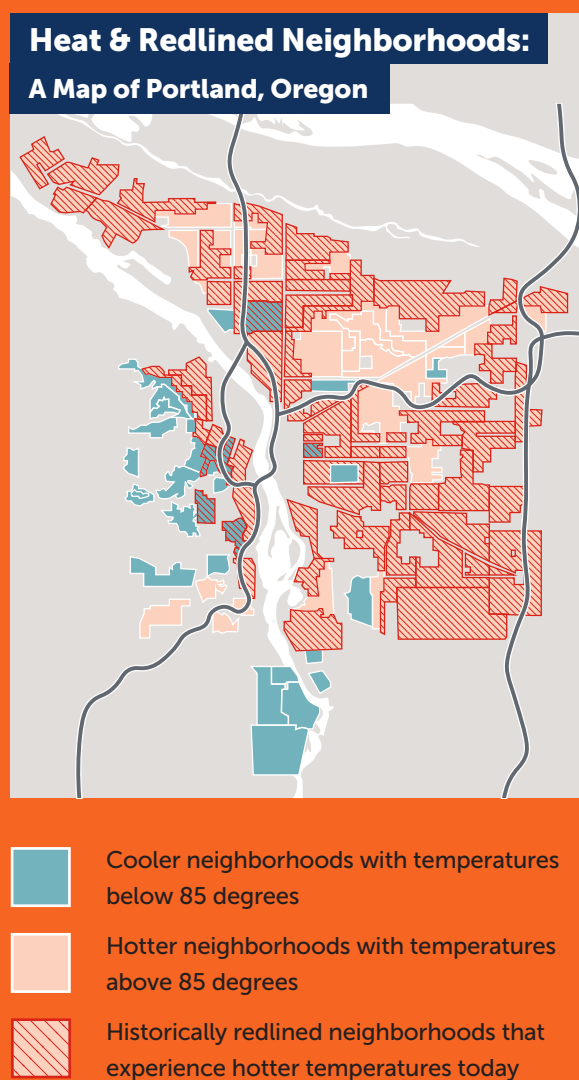
Policymakers and Communities Can Act to Cool Neighborhoods and Advance Health Equity

Fortunately, there are steps we can take to protect ourselves from worsening heatwaves from climate change and to address the inequities that leave people of color and those with low incomes at greatest risk. Organizations like Friends of Trees in Portland, Oregon, are working with communities to plant more trees, zoning decisions are being reconsidered to invest in cooling and green infrastructure, and programs like the Low Income Home Energy Assistance Program and similar programs assist households with unaffordable heating, cooling, and electricity bills.

When we act together to improve policies and practices that shape communities, we can ensure everyone has a fair and just opportunity to reach their best health and wellbeing.

To learn more about our work, visit

www.rwjf.org/en/insights/our-research/2021/09/climate-change-threatens-our-health-and-deepens-health-inequities



A Record Setting Heatwave Hits Portland, Oregon Unevenly

In June 2021, a “Heat Dome” settled over the Pacific Northwest, subjecting millions across the region to record-setting temperatures and leaving 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.

During the Heat Dome event, the temperatures in different neighborhoods varied by up to 25 degrees, according to Portland State University professor Vivek Shandas. One corner of the Lents neighborhood, which has suffered from disinvestment by government and businesses for decades, hit 124 degrees—eight degrees higher than the 116-degree peak reported for the city at large.

These disparities aren’t just an issue in a “1,000-year weather event” like the Heat Dome, and they aren’t limited to Portland. Shandas and colleagues studied 108 U.S. cities and found Portland has the largest temperature difference between areas historically redlined and those graded as “best,” but these inequities are present everywhere. This clear pattern of uneven heat impacts that put people of color at greater risk is seen in cities across the country.



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