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Heat and Health in American Cities

Racist Housing Practices From The 1930s Linked To Hotter Neighborhoods Today

January 14, 2020 · 2:38 PM ET
 Heard on All Things Considered



Meg Anderson

3-Minute Listen

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Vacant rowhouses line a portion of Franklin Square, a formerly redlined neighborhood in Baltimore. New research shows many communities subjected to discriminatory housing practices in the 1930s are hotter today.

Ian Morton for NPR

In cities around the country, if you want to understand the history of a neighborhood, you might want to do the same thing you'd do to measure human health: Check its temperature.

That's what a group of researchers did, and they found that neighborhoods with higher temperatures were often the same ones subjected to discriminatory, race-based housing practices nearly a century ago.

In a study of 108 urban areas nationwide, the formerly redlined neighborhoods of nearly every city studied were hotter than the non-redlined neighborhoods, some by nearly 13 degrees.

In Formerly Redlined Areas, Americans Live With Hotter Temperatures

In the 1930s, the federal government rated neighborhoods in urban areas to help mortgage lenders assess risk. Low ratings were determined largely by race and ethnicity. New research in 108 cities shows that today those redlined neighborhoods are often hotter than other neighborhoods in the same city, with the most drastic difference found in Portland, Ore.

NEIGHBORHOOD
RATING

DIFFERENCE BETWEEN AVG. CITY TEMP. AND AVG. NEIGHBORHOOD TEMP



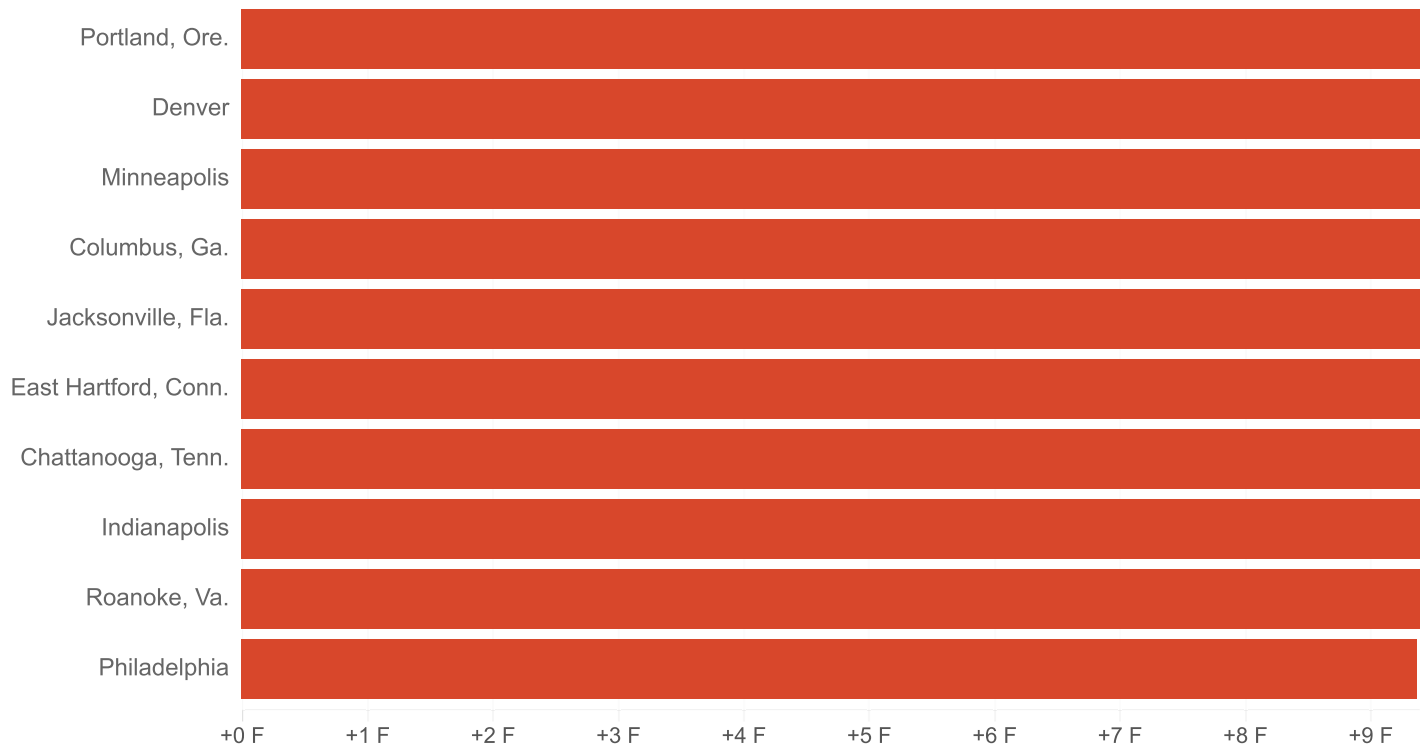
Redlining refers to the federal government's practice in the 1930s of rating neighborhoods to help mortgage lenders determine which areas of a city were considered risky. The federal Home Owners' Loan Corporation made maps and shaded neighborhoods red that it deemed "hazardous." That risk level was largely based on the number of African Americans and immigrants living there. The practice,

along with the other segregationist housing policies of the time, had lasting effects — from concentrating poverty to stifling home ownership rates.

You can still feel those effects — literally. Nearly 90 years after those maps were created, redlined neighborhoods are hotter than the highest-rated neighborhoods by an average of almost 5 degrees, according to the research from Portland State University, the Science Museum of Virginia and Virginia Commonwealth University.

The Largest Heat Discrepancies

Surface temperature differences between redlined neighborhoods and the highest-rated ones.



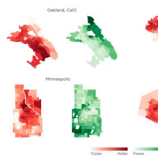
Source: Portland State University, the Science Museum of Virginia and Virginia Commonwealth University

Credit: Sean McMinn/NPR

"It's like stepping into a parking lot from a park. You would feel that relatively quickly," says Vivek Shandas, a professor of urban studies and planning at Portland State University, who co-authored the study. "It was very surprising when we saw that it was a pattern that we were seeing consistently across the country."

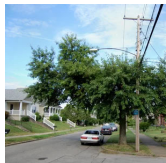
The link between higher heat and redlined neighborhoods, many of which are still struggling economically from decades of disinvestment, echoes the findings of a joint investigation last September by NPR and the University of Maryland's Howard Center for Investigative Journalism. In an analysis of heat and income in 97 of the most populous U.S. cities, we found low-income areas in the vast majority of those cities were more likely to be hotter than their wealthier counterparts. Those poorer areas were also disproportionately communities of color.

That extra heat can have dangerous, and sometimes deadly, health consequences. Extreme heat kills more Americans every year than any other weather-related disaster, and heat waves are growing in intensity and frequency as climate change progresses. In Baltimore, NPR and the Howard Center found dramatic increases in the rates of emergency calls during dangerous heat waves, and low-income patients in the city's hot spots visited the hospital more often than low-income patients in cooler areas.



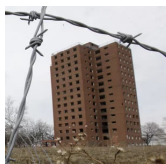
HEAT AND HEALTH IN AMERICAN CITIES

As Rising Heat Bakes U.S. Cities, The Poor Often Feel It Most



HEAT AND HEALTH IN AMERICAN CITIES

Trees Are Key To Fighting Urban Heat – But Cities Keep Losing Them



RACE

A 'Forgotten History' Of How The U.S. Government Segregated America

"Those communities are much more likely to face grave consequences in terms of their human health, their financial health or generally their ability to cope with these effects," Shandas says.

The way cities are built often creates what is known as an urban heat island, meaning they tend to be hotter than their rural surroundings. That's largely because cities usually have more pavement and concrete, which absorb heat and release it slowly.

They also tend to have fewer trees, which cool the air and provide shade. Cities in general are hotter, but green space and concrete also aren't distributed evenly across an urban area. That can create micro heat islands within a city.

Shandas says the heat patterns seen in his study are likely the result of more concrete and fewer trees and green spaces in those hotter areas. Other recent research helps bear that out: In 37 cities around the country, formerly redlined neighborhoods have about half as many trees on average today as the highest-rated predominantly white neighborhoods on those maps. That's according to research released last week by the U.S. Forest Service, the National Socio-Environmental Synthesis Center, the Cary Institute of Ecosystem Studies, Dartmouth College, Bates College, Arizona State University and the University of Vermont. An additional study from the University of Wisconsin-Madison and the Medical College of Wisconsin also found a similar pattern: In nearly 90% of the 115 cities they looked at, the highest-rated neighborhoods on the redlining maps had the most tree cover in the city by 2011.

Researchers on all three studies used the redlining maps made available by the University of Richmond's Mapping Inequality database and compared them to heat and tree canopy data. The researchers looking at heat patterns used surface temperature data from NASA and the U.S. Geological Survey. The researchers with the Forest Service team used tree canopy data mainly from individual cities and the University of Vermont, and the Wisconsin researchers used the National Land Cover Database.

"Research on environmental justice has yet to really try to understand how systems are at work that may cause inequities," says Morgan Grove, a research scientist at the Forest Service's Baltimore Field Station and co-author of the service's study. "There are these explanations that require understanding history to understand why we see what we see today in cities."

Housing Segregation and Redlining in America: A Short History | Code Switch |...



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The federal segregationist policies that went along with redlining, particularly those of the Federal Housing Administration, ensured many communities of color stayed where they were and moved white families into single-family homes in the suburbs.

"The policies of segregation that were followed by the federal government were so powerful that they determine the racial landscape of today," says Richard Rothstein, a distinguished fellow at the Economic Policy Institute and the author of *The Color Of Law: A Forgotten History of How our Government Segregated America*. "African Americans are restricted to neighborhoods because the other neighborhoods are now unaffordable to them, restricted to neighborhoods where there are fewer trees, where there is more heat."

The 1968 Fair Housing Act prohibited ongoing housing discrimination, but it didn't look backward on the damage already done, Rothstein says.

"Unless explicit action is taken to subsidize people who are denied the right to move into those kinds of homes in the 20th century, to now subsidize them to move," Rothstein says. "You can't undo the damage. You need explicit policy, race-based policy. You need affirmative action in housing."

Those communities of color also often had less political power when it came to resisting denser housing and the construction of major industry or roadways in their neighborhoods, which in turn can generate more heat.

"Honestly, the results of these studies confirm what we've been talking about for years," says Sarah Lillie Anderson, senior manager of tree equity programs at the nonprofit American Forests. "Our cities, they're not like jungles where they developed just by natural selection on their own. People designed these places, which means that they were designed for particular people, and that means that not everybody was held in mind when plans for cities and communities were made."



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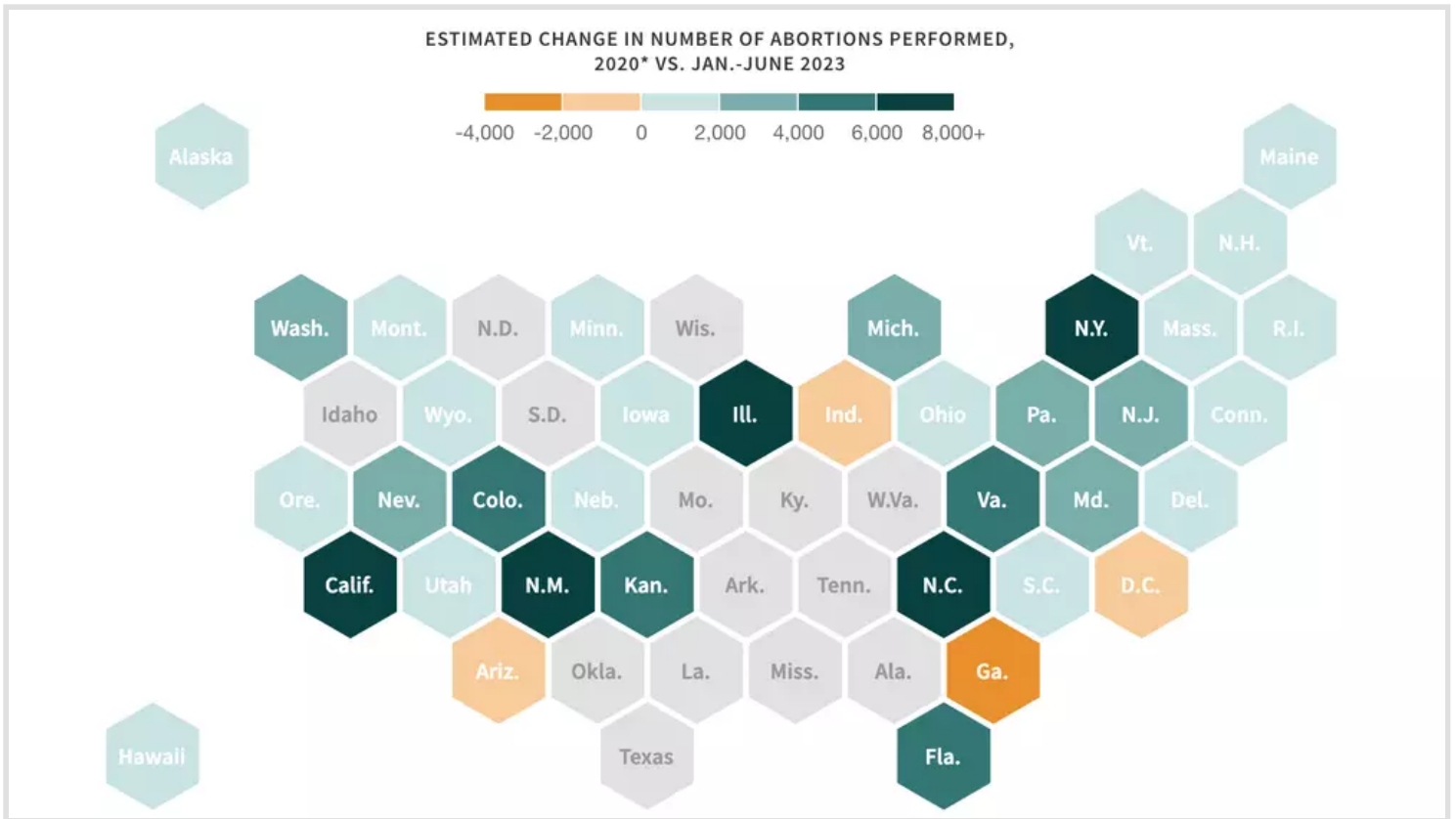
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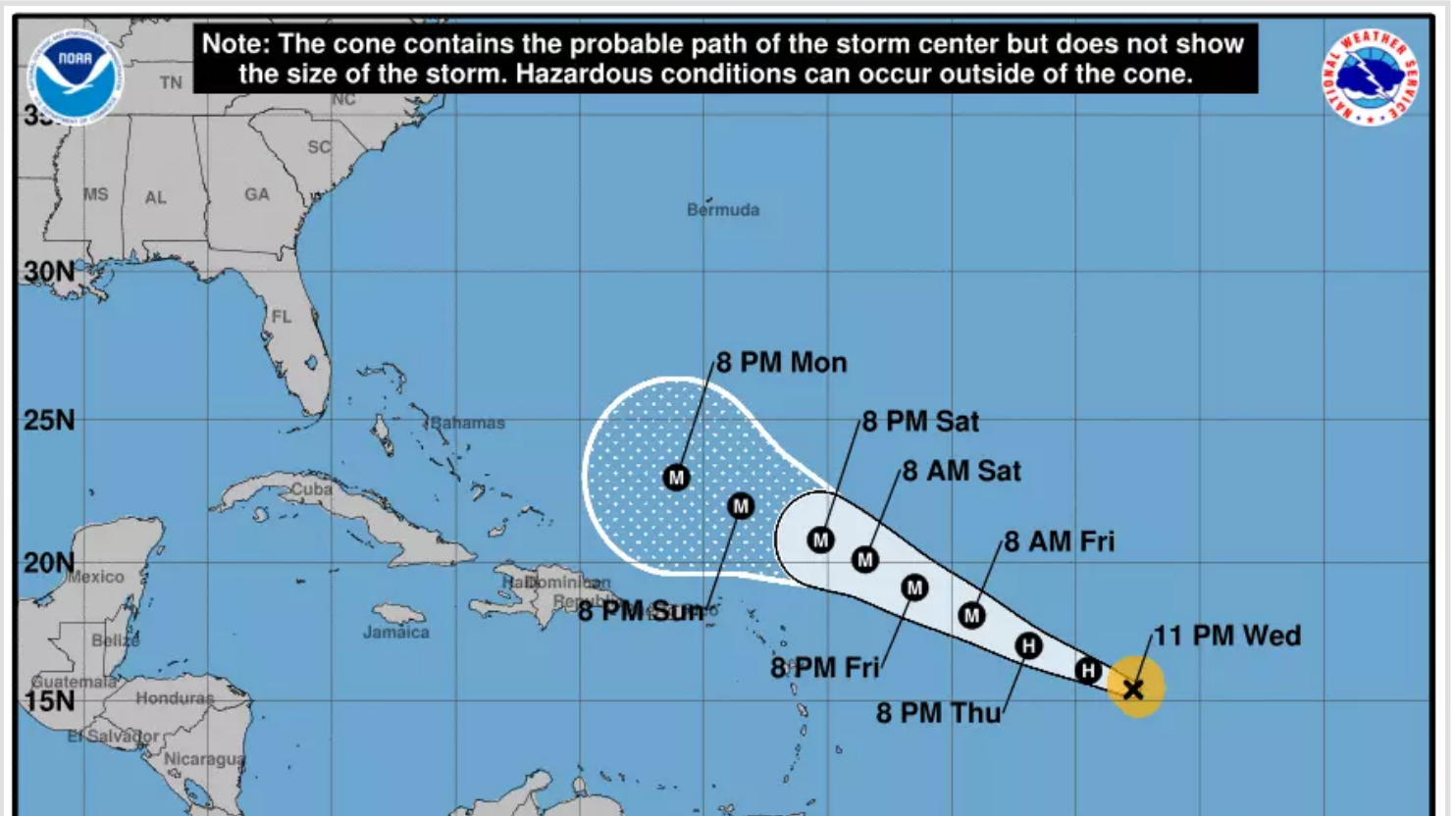
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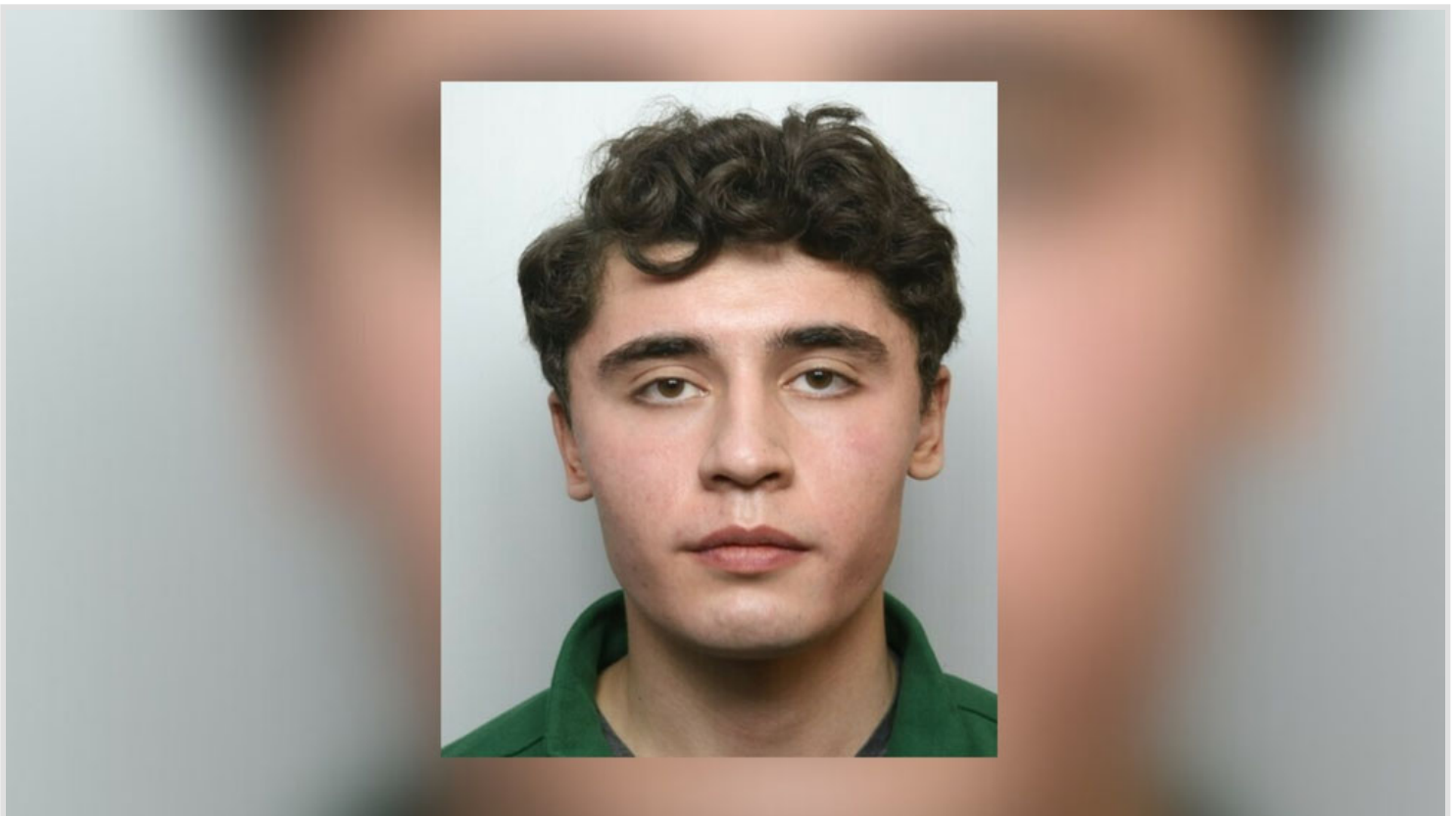
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