

Temperatures in D.C.'s Heat Islands Can Register Ten to Twenty Degrees Hotter Than in Leafy Neighborhoods (text from "Temperatures in Heat Islands are Higher than in Leafy Neighborhoods" by HOLA CULTURA S.P.E.L. TEAM for *The Washington City Paper*)

"It's hot. It's really hot out here," says Chuck Jackson, a seller of hats who has hawked his wares on the streets of Washington since the early 2000s. Except for a brief hiatus this year after being diagnosed with diabetes, he's made his living by supplying local shoppers with a wide and colorful selection of broad-brimmed picture hats, bucket hats, baseball caps, and visors.

...Temperatures crested 90 degrees in D.C. on six days in June and 18 days in July, according to [AccuWeather.com](https://www.accuweather.com). July 22 was one of those 90-plus degree days. Jackson was sitting in one of the hottest spots in all of D.C.—14th Street NW, across the street from the Columbia Heights Metro Station.

... Jackson is inside one of Washington's summertime "heat islands," where high temperatures can soar as much as 10 or 20 degrees higher than in leafier parts of the District. Not only are tonier neighborhoods such as Barnaby Woods or Chevy Chase comparatively cool during the summer months, wealthier D.C. residents can leave town for the beach or the mountains this time of year. Jackson doesn't have that option.

"I gotta survive," he says. "It's my job. I've been doing this all my life."

For Washington’s most vulnerable, the summer months aren’t just uncomfortable—they can be hard on their health and sometimes even fatal.

While people may think hurricanes or flooding would kill more people, extreme heat events are the biggest killer of any natural disaster, according to Dr. Laurence S. Kalkstein, an applied climatologist who studies the urban heat island effect in D.C. and other cities.

“We estimate that in the nation, in an average summer, 1,500 people die of the heat,” Kalkstein says.

With summertime temperatures rising and expected to soar as climate change takes hold, cities around the country, including D.C., are waking up to the need to protect residents, particularly the most vulnerable.

“We’re going to triple the number of extreme heat days by the end of the century, more or less,” says James Dunbar, a climate analyst with D.C.’s Department of Energy and the Environment.

This summer to date, Mayor Muriel Bowser has declared several multiday heat emergencies whenever forecasts surpass 95 degrees. Once the emergency is declared, the city’s heat emergency plan is activated... putting neighborhood libraries and other community gathering spots into double-duty as cooling centers. **These spaces are at the center of the city’s adaptive measures when it comes to extreme heat.** D.C. and other cities are also exploring ways to reduce the number of annual heat emergencies that could mean the difference between life and death for people like Jackson, whose diabetes puts him at higher risk of heatstroke or other heat-related illness...

The Urban Heat Island Effect

While heat is something that affects an entire city, not all of its residents experience it in the same way. As the sun beats down on Columbia Heights, Jackson and the other street vendors are particularly exposed.

“[C]oming out here at 9 o’clock in the morning, I’m totally sweating pushing that cart, that’s how hot it is out,” says Jackson, who brings these wares on a handcart from his apartment on 16th Street NW. It’s a short walk, but even standing still on a summer day in D.C. can be **oppressive**.

For street vendors, as well as construction workers, landscapers, mail carriers, delivery drivers, child-care workers, day laborers, and others who work outdoors, the summer months can be **hazardous**. Infants and toddlers are vulnerable to heat-related illnesses... The elderly are at high risk in summertime heat. Excessive heat can also complicate pregnancies...

The shopping plaza in Columbia Heights is dominated by large buildings and wide roads and sidewalks. The concrete and asphalt absorb heat, causing the surface and **ambient temperatures** to rise. It’s a phenomenon known as the urban heat island effect, which dates back to the 19th century. British amateur meteorologist Luke Howard put thermometers in downtown London and the surrounding countryside. As he observed the temperature throughout the year, he noticed that **temperatures were higher in the urban area versus the rural area...**

Heat island studies not only boldly expose how urban heat disproportionately hurts poor and vulnerable residents, they pinpoint the problem... point the way to solutions; and provide residents and

activists with crucial information for fighting for more equitable public policy and opposing real estate developments that would contribute to the warming trends...

Of the top 20 heat island districts, 8 are in Ward 4, 7 are in Ward 5, and 5 more are in Ward 1. In fact, all of the top 32 hottest districts (out of 296) were located in wards 4, 5, and 1.

Temperature readings for wards 7 and 8 were among the cooler in the city, apparently thanks to the lush tree cover and more single-family, stand-alone housing, but high temperatures alone do not determine a person's "heat vulnerability."

Less surprising than the relatively cool temperatures east of the river is that 12 of the top 20 coolest districts are in bucolic Ward 3 in Upper Northwest... illustrating just how much heat islands are localized phenomena linked closely to the trees overhead and the heat-absorbing asphalt and concrete underfoot and emanating from the surrounding buildings.

Upper Northwest neighborhoods, by and large, continue to benefit today from development decisions that date back to their earliest days...

In Upper Northwest neighborhoods... planners also took great care in laying out the tree-dappled thoroughfares and picturesque green spaces, historic planning decisions that continue to help keep those neighborhoods cool a century later.

Advances in online mapping like the ones Hoffman and his colleagues have developed show with increasing clarity and granular detail how differently historically White neighborhoods were developed even as

much as a century ago, and how those decisions keep those neighborhoods cool today, compared with neighborhoods of color in the very same cities, where heat islands are a legacy of racism and discriminatory housing policies.

Online mapping has made it possible to assess present conditions, plan for a better future, and expose direct links between today's urban heat and past decisions by public officials, private developers, bankers, and individual homeowners—even redlining.