

US cities are suffocating in the heat. Now they want retribution



*Karen Lewis' neighborhood in East Baltimore is considered the city's most extreme 'urban heat island'. Her home is in the middle of a set of row houses where stagnant hot air gets trapped indoors. Some days are so hot she has trouble breathing.
Photograph: Greg Kahn/The Guardian*

Baltimore is suing major oil and gas companies for spurring the climate crisis and the rising temperatures that have an outsized impact on low-income, urban areas

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or years, an elderly man stood as a regular fixture around his East [Baltimore](#) neighborhood

for the way he would wander the streets in the summer, trying to stay outside his sweltering home until nightfall.

This man, who suffers from dementia, lived in a row house that shared side walls with its neighboring homes. With windows only in the front and back, there was little air flow, which trapped the heat inside. It's not unusual for the upper floors in such homes to be several degrees hotter than the temperature outdoors.

During a nearly two-week heatwave that swept through the city in July 2019, Cynthia Brooks, executive director of the Bea Gaddy Family Center, a local non-profit that provides food and other services for the poor and homeless, noticed she hadn't seen the man for a while. Finally, on one of the "code red" days – when the forecasted heat index is expected to be at 105F (40.56C) or higher – he stumbled out of his house, looking disoriented. No one knows how long he had been sitting inside, alone, without a fan or air conditioning.

This man had no one to call – no family was around, and alerting emergency responders could have led to a hefty medical bill. Brooks dropped everything and took him to nearby Johns Hopkins hospital,

where he was diagnosed with heatstroke and given treatment. After that incident, Brooks became his legal custodian. He currently lives in a senior home nearby, and she makes his treatment decisions.



*Blocks of row houses and young trees contribute to the heat issues in Baltimore.
Photograph: Greg Kahn/The Guardian*

This man represents the population in Baltimore most likely to face the personal impacts of the climate crisis. Around the country, global heating is increasing the frequency, intensity and duration of summer heatwaves. The recent triple-digit temperatures across the Pacific north-west, where air conditioning in homes isn't common, highlight the real-world hardships caused by extreme heat exposure and how the elderly and homeless suffer disproportionately from physical discomfort and worse health outcomes.

Mitigating such public health issues, along with damage to infrastructure and losses in tourism revenue and agriculture, are among the major costs of climate change in Baltimore. Now, the city is looking for retribution.

[In a recent lawsuit](#), the city argues that fossil fuel companies should be held responsible for such costs because they knowingly contributed to the climate crisis. Baltimore's case is one of more than 20 suits brought by a range of other cities, states and counties that are suing the major oil conglomerates for driving the climate crisis and offloading the financial burden onto the American public.



Cynthia Brooks, executive director of the Bea Gaddy center in Baltimore, became the legal custodian to an elderly man with dementia after he suffered from heatstroke and required treatment. Photograph: Greg Kahn/The Guardian

The legal strategy is a novel approach toward addressing the climate crisis, and some legal experts believe Baltimore's suit may be the bellwether for similar efforts across the country. The case has caught the attention of the US supreme court, which in May ruled in favor of the oil companies over a legal technicality. While the ruling gives the fossil fuel industry the green light to pursue arguing their case in federal court, where they believe they will face better odds than in state court, the legal process is expected to reveal new information on what the industry knew of the environmental destruction brought by climate change.

The Baltimore case, in particular, highlights the ways that densely populated urban areas bear the burdens of extreme weather patterns. Marginalized communities are the most likely to face the effects.

Stretches of hot weather in the city have become more frequent over the past 40 years. According to the National Weather Service, there are 12 months in all of Baltimore's history that saw 20 or more days of 90-degree temperatures or above; 10 of those months have occurred since 1980. Last summer, 16 people died for heat-related reasons, three of whom were suspected or presumed homeless, according to [statistics from the Baltimore city health department](#). On one day in 2020, there were more than 90 emergency department complaints due to heat-related illness, including hyperthermia, dehydration and sunburn.

“Go to Johns Hopkins at any given time in the summer and people are complaining about heat exhaustion. People are getting picked up on the side of the street because they pass out,” Brooks says. “If you are homeless, you are subjected to all layers of heat.”

Though we typically think of rising tides affecting coastal communities, extreme weather patterns and wildfires out west as pressure points brought by climate change, heat islands in urban areas represent the very real, but often invisible, climate change threats that harm low-income communities in particular. Dark-colored roads and rooftops absorb heat from the sun and release it back into the air, increasing temperatures in their vicinity, an effect that's more pronounced in the evenings. Even within a city, neighborhoods with less vegetation feel hotter.

East Baltimore, particularly the area north of Patterson Park, is considered the city's most extreme urban heat island, [according to a 2018 study](#) by researchers at Portland State University in Oregon and the Science Museum of Virginia. Scientists say temperatures in such pockets can be as much as 10 to 20 degrees hotter than other parts of the city due to a high concentration of pavement and a [lack of shade from trees](#).

Central air conditioning is rare in the neighborhood, and often the wiring in the buildings is so old that a window unit could short circuit. For those able to install an AC unit, the energy required to run it is often too expensive for someone on a fixed income. Fans help somewhat, but often they end up just circulating the hot air.



Karen Lewis set up a system of strategically-placed fans in her Baltimore home to help stay cool in the summer. Photograph: Greg Kahn/The Guardian

Combined with heat-trapping row houses, illness caused by extreme heat is a major risk. Climate change has also been shown to lengthen allergy season and worsen air quality, and heat can worsen chronic health conditions, such as various respiratory, cerebral and cardiovascular diseases.

The city in recent years has worked to increase its number of cooling centers – air-conditioned public spaces that are a common strategy in many cities. Last year, because the Covid-19 pandemic prevented people from gathering in closed spaces, the city increased its efforts to keep people cooler while at home. The department of health purchased about 20,000 box fans to distribute to senior citizens. In addition, the Maryland Food Bank provided water to be distributed at community resiliency hubs throughout the city.

Tehma Smith Wilson, chief operating officer of The Door, a community resiliency hub that helped distribute the fans and water to residents living in the hottest part of the city, said it was an enormously popular program. The long walks to such facilities, however, can deter people from taking advantage of them. Many seniors who stand to benefit from the city’s services often struggle with mobility. And because people remained socially distanced during the pandemic, they had to line up outside, in areas without much green space. The water provided much-needed relief and the fans disappeared quickly, but there were still logistical challenges getting them to those who needed them most.

“You might be able to walk there, but then are you capable of carrying it two or three blocks away?” said Wilson.



Tehma Smith Wilson of The Door, a resiliency hub in Baltimore, says it was particularly difficult for elderly residents to transport fans and water back to their homes. Photograph: Greg Kahn/The Guardian

Other longer-term efforts to help people deal with the heat include weatherizing housing by plugging leaks, adding insulation and installing air conditioning. Several community organizations have received energy efficiency upgrades to accommodate solar power and battery storage so they can continue to serve their communities if there is a power outage. Backup power services are unequally distributed in cities.

The city has also amped up efforts in recent years to plant trees and add more city-maintained green spaces, with a particular focus on neighborhoods that lack shade, such as East and West Baltimore. As

of 2015, the city had 28% tree canopy coverage. In East Baltimore, many neighborhoods by comparison had tree canopy of about 10%, according to a University of Maryland Howard Center for Investigative Journalism analysis of data gathered by researchers at the US Forest Service and the University of Vermont Spatial Analysis Lab. City officials hope that by 2030, Baltimore will reach 40% tree coverage.

Roxane Prettyman, community outreach director for First Mount Calvary Baptist church in Sandtown-Winchester, another community resiliency hub in West Baltimore, says that people in the area often have to walk long distances to a grocery or a convenience store, meaning they have to stay outside longer in extreme weather without shade.

In addition to adding more green spaces, she believes more retail options are also necessary. Schools also need air conditioning. On code red days, students from schools without cooling systems are sent back to homes that are also too hot. A recent study showed that in years when there are more hot days, students do worse on standardized tests – a longer-term impact of extreme weather.



Karen Lewis now covers the bathroom skylight to keep the sun rays from roasting the upper floors of her Baltimore home. Photograph: Greg Kahn/The Guardian

In the meantime, residents of the hottest areas have to think creatively about how to deal with the heat. Irwin Wilson, 64, a volunteer at The Door, says he tries to stay outside. While 137-acre Patterson Park is a few blocks away from his home, the location is inconvenient. Instead he relies on small spots of shade wherever he can find them, but the options are limited. Though the city has made efforts to plant trees, many of them are still young and don't provide significant cover. He chases every couple feet of shade he can find, even if it's from a single branch.

“You find some shade, and if you stay still long enough you find a breeze,” said Wilson, 64.

In Karen Lewis's rowhouse in East Baltimore, she has to be innovative to stay cool in the summers. She covers up the skylight in her upstairs bathroom so sunlight gets blocked. She has an air conditioner, but she uses it sparingly due to the cost to move some cool air in. Mostly, she uses a series of strategically placed fans.

But in spite of these adaptations, Lewis, 61, who does odd jobs, including making jewelry and sometimes providing cleaning and assisted living services, says the heat often feels so thick that it gives her trouble breathing.

“It's very hot,” said Lewis. “If I put on a fan, it's still very, very humid in there.”

In addition to the heat, Baltimore is also experiencing the lasting effects of climate change through extreme storms. The city has seen an increase in nuisance flooding, or flooding that is caused by tidal fluctuations rather than rainstorms, according to Aubrey Germ, the climate and resilience planner for Baltimore's office of sustainability.

Extreme weather events in the Atlantic Ocean sometimes cause rising shorelines in Baltimore. The waterfront, which the city recently revitalized and attracts millions of visitors each year, is particularly vulnerable to flooding, and is a major factor in the city's lawsuit.

Baltimore consists of five watersheds, which also makes it prone to flash flooding. There has also been an increase in microbursts, rainstorms that linger over certain areas of the city for longer periods rather than moving through, which overwhelms the storm water system. Several intersections, particularly in south-east and north-east Baltimore, have had repeated flooding that has damaged cars, businesses and homes.

In the short term, the city has become more vigilant about regularly cleaning storm drains. But in the long term, infrastructure improvements are needed. City workers cannot comment on the costs of projects associated with the climate crisis as the city's lawsuit is ongoing.



Sloane Lipkin of Baltimore Humanitarian picks up water to distribute to the homeless in the area from The Door, a resiliency hub in the city. Source: Greg Kahn/The Guardian



Water is brought to a car at The Door. Source: Greg Kahn/The Guardian

Residents say that such extreme weather events take a long financial and psychological toll. In 2018, Baltimore received a so-called 1,000-year rainstorm, meaning there is 0.1% of a chance in any year for a storm like that to hit. This was just two years after a similar deluge. Almost 150 homes near a portion of Frederick Avenue, in south-west Baltimore, were flooded. Most of the damage was to basements, but some people's first floors were also affected. They had to fix structural damage and buy new hot water heaters. In the months following the 2018 event, two other flash floods slogged through, destroying their progress. Only some were able to cover these costs through insurance.

“That numerical anomaly is what really traumatizes a lot of the residents, many of whom are senior citizens,” says Michael S Martin, lead pastor at Stillmeadow Community Fellowship, another resiliency hub. “Even today, if it gets cloudy, we will get a few calls from individuals worried about what they should do.”

Martin says that while much of the media's focus in the 2018 storm was on damage to commercial buildings in nearby Ellicott City, a suburb outside of the city and former mill town that is known for its historic charm, more homes were damaged in the mostly Black area near Frederick Avenue. Similarly, the efforts to solve infrastructure problems appear, to him, to be moving faster there than in his neighborhood. In the summers, residents are doubly affected by extreme heat.

“The city offering water and fans to residents is conscientious and thoughtful,” he says. “We're doing what we can at a small level, but what's our overall national response to our cities getting hotter?”

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