

Examining the heat wave through a social lens

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Credit: University of Texas at Arlington

Texas is certainly no stranger to summer heat. But one University of Texas at Arlington expert believes rising heat and climate change should be viewed as not only an environmental crisis, but also a social justice

issue.

Karen Magruder is an assistant professor of practice at UTA's School of Social Work who focuses on environmental justice and green social work. In the Q&A below, she discusses why rising temperatures are exacerbating social and economic inequities.

Give us a sense of how bad the climate situation is right now.

The climate crisis has many serious and far-reaching impacts, but one of the most obvious is warming temperatures. Since 1980, there has been a 50-fold increase in dangerous heat waves, and cities all over the world keep surpassing higher and higher temperature records.

There are currently 354 major cities around the world with an average maximum summer temperature of at least 95 degrees, but by 2050, that is predicted to be the case in 970 major cities. That is almost triple over the next 30 years.

Not all of these cities are equipped to face those temperatures. Most people in Texas have air conditioning, but that's not true in other parts of the country and the world. It is unfortunately going to get worse, and we need to be prepared for that.

You believe that the impacts of heat are disproportionate and not just environmental. What does that mean?

Worsening heat is not just an environmental issue. It is a social and environmental justice issue because of vulnerability. There are three elements of vulnerability:

- **Exposure:** Are you exposed to the risk? Does it get really hot where you live, work and play? Someone who works outside is going to have higher exposure to [extreme heat](#) than someone who works indoors. Generally, outdoor work tends to pay lower wages. So in the case of migrant farming, for example, individuals who may have fewer resources to start are also facing more frequent exposure to the problem.
- **Sensitivity:** How sensitive are you to those issues? For example, [older adults](#) may be more physiologically sensitive because the body becomes less efficient at regulating body temperature as we age.
- **Adaptive capacity,** which is your ability to cope or bounce back. If you have financial resources, you can crank up the A/C and afford the higher electric bill. But not everyone can. Many older adults rely on fixed incomes and may not be able to afford higher electric bills in the summer months. They may also lack the physical mobility required to fix or install an A/C unit.

Speaking of it being hot where you live, you have studied the idea of urban heat islands. What are those?

An [urban heat island](#) describes the phenomenon where it can be several degrees hotter in an urban center or [city](#) than it would be in a more rural or suburban area with the same weather. If you are in downtown Dallas, for example, it is going to be a few degrees warmer there than it would be in a suburb. That's because all the buildings, asphalt and concrete absorb heat. As you spread out from a city, there are less heat-trapping surfaces, with more shady trees and natural open areas.

How do these urban heat islands affect the people who live or work in them?

They increase energy costs because you have to work your air conditioning harder. There is also higher air pollution levels and a higher incidence of heat-related illnesses or deaths. Heat waves are actually responsible for more deaths than any other extreme weather event, including hurricanes, tornadoes or flooding. They disproportionately impact people who are more vulnerable to heat, like children or older adults, and prevent us from enjoying the mental health benefits of spending time outdoors.

Additionally, some of the urban heat islands that are the hottest also happen to be in the most low-income areas. If you think about wealthy areas of town, there are gorgeous trees and parks and other features that help to keep it cool. But in a lower-income area, there tend to be fewer green spaces, more industrial operations and more of the sort of things that help heat it up.

What can cities do to lower the impact of heat and urban heat islands on their communities?

Urban heat islands make a statistically significant difference. According to the Environmental Protection Agency, daytime temperatures in urban areas are up to seven degrees higher than outlying areas. At night, it is up to five degrees higher.

As cities continue to grow and expand, we must have measures in place to mitigate rising temperatures, like planting more trees, creating green rooftops and using building materials that reflect heat. Individuals can learn more about the climate crisis, talk about it with those in their sphere of influence, reduce their carbon footprint and advocate for changes that will protect future generations. It's a serious issue, but new technology presents solutions. Many cities are already giving us hope that sustainable practices make a difference. This is a man-made

problem, but there are also man-made solutions.

How would you explain how serious of an issue heat and the changing climate are?

You might have heard on the news that all of these climate negotiations are trying to keep Earth from warming by more than two degrees Celsius above pre-industrial levels. Two degrees. Why does that matter? Experts liken it to Earth having a fever. When your body temperature goes from 98 to 101 degrees, for example, that's only a few degrees difference. But you really feel it and it impacts how well you can function. The same is true with Earth. Even slight changes are going to have serious impacts. Many historically marginalized and vulnerable communities are already feeling the effects of climate-linked issues, from drought to sea level rise.

There's a Texas climate scientist, Katharine Hayhoe, who puts it like this: "The climate is changing. Humans are responsible. The impacts are serious. The time to act is now."

Provided by University of Texas at Arlington

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