

Climate Change, Heat, and Health in Georgia



Georgia Climate Project Climate Brief

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Climate Change and Heat Impacts on the Body

Climate change is making Georgia hotter. Temperatures across most of Georgia have been steadily increasing since 1980, particularly in north Georgia and the Atlanta area [1]. Temperatures are predicted to continue to increase into the future. Extreme heat and humidity are dangerous and affect nearly all aspects of the body. Short-term exposure can lead to heat stroke [2], asthma attacks [3], and heart disease [4,5]. Older adults, very young children, pregnant women, and those with existing health conditions are especially at risk when exposed to extreme heat [5,7]. Long-term exposure can exacerbate these existing conditions and can damage lung [6,7] and kidney [8] function. Studies have shown an increased risk of low birth weights, premature birth, and even pregnancy loss for mothers who are exposed to higher temperatures during pregnancy [9].



GCP volunteers collecting temperature data to create a map of the urban heat island in Atlanta, Georgia.

Both short-term and long-term exposure to **heat waves can affect nearly all aspects of the body** and have serious health consequences.

Georgia residents, including **older adults, children** in outdoor school activities, **outdoor workers**, and **communities of color** will face greater adverse health effects from higher temperatures.

How Will Heat Affect Daily Life

While extreme heat poses risks for all of us in Georgia, some communities are especially at risk due to reduced access to reliable AC. Histories of residential segregation stemming from local and Federal regulations during the mid-19th century endure to this day, resulting in communities of color being more likely to occupy older, less energy efficient homes that increase electricity costs [10,11]. Furthermore, this socially induced vulnerability is amplified by the lower levels of urban tree cover, particularly in major cities like Atlanta [12]. The effects of this existing inequities in heat exposure are well documented. In Georgia, from 2002 to 2008, Black residents made up a disproportionately high percentage of the number of heat-related emergency room visits and deaths [13]. Racially skewed health outcomes also extend to pregnancy, with Black women and children showing higher rates of early births and lower birth



The Georgia Climate Project

is a consortium of 11 colleges and universities addressing what a changing climate means for Georgia and what we can do about it.

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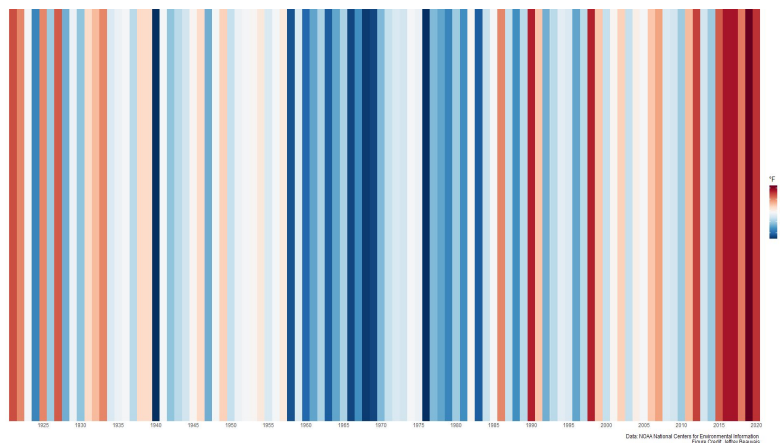
weights than White mothers [9]. Without substantial investment in these communities, climate change will continue to exacerbate the legacy of structural racism throughout Georgia.

For those who work outdoors in agriculture, construction, or other industries, finding an air-conditioned space when it is dangerously hot is not always an option [7,14]. Researchers estimate that in 2019 over 2 billion hours of work in the United States were lost in the agriculture and construction sectors due to heat [7]. To protect outdoor workers from the dangers of extreme heat exposure, OSHA recently signaled their intent to establish a new set of guidelines for heat safety in the workplace [15]. This is a major milestone, as there were previously no federal standards for protecting workers from extreme heat.

Extreme heat caused by climate change will also impact outdoor youth recreation and sports. Both the Georgia High School Association and Georgia Independent School Association currently ban outdoor practices if temperatures get too high. By 2070, the number of days when temperatures are too hot for outdoor practices could double in Georgia to 60-80 days [16]. There are currently no state-level guidelines protecting other students during activities like recess or marching band, although some counties have adopted their own guidelines to protect students in a wider range of outdoor activities.

Ultimately, protecting Georgians through future heat waves will require robust action across many different levels of government. The new OSHA regulations proposed by the federal government are just the first step in mediating uneven exposure to high temperatures in the workplace. In Georgia,

other approaches, like providing disparately impacted communities the resources to improve household insulation and retrofit older air conditioning systems can protect human health through heat waves in the home. [17]. At the state and local level, school districts will need to update their policies, practice times/activities, or cancel more outdoor activities to keep students safe [18].



Temperature bars for Georgia from 1921-2020. Each bar represents one year and the color of the bar represents the average temperature for that year. A larger version can be found by scanning the QR code!

Additional Information

Learn how to protect yourself from extreme heat:

<https://tinyurl.com/57arzcsy>

Learn more about the racial inequity in electricity access:

<https://tinyurl.com/rdart5fm>

Read the Georgia High School Association Practice and Heat Policy: <https://tinyurl.com/btass2s5>

Learn more about how heat affects the body:

<https://www.nejm.org/doi/full/10.1056/NEJMp1906035>





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