

Facing the Heat: City-Led Solutions to Address Impacts of Increased Temperatures

Why is it important to address extreme heat?

Over the past decade, global temperatures have reached record highs—and without meaningful action to curb greenhouse gas emissions, they will continue to rise. By mid-century, daily temperatures are projected to increase by an [average of 5°F](#) across much of the world, fueling more frequent and deadly heat waves. In cities, buildings and pavement absorb and re-emit heat, creating urban heat islands where temperatures can [soar up to 7°F higher](#) than surrounding areas. These localized hotspots compound the dangers of extreme heat, placing cities at heightened risk.

The consequences of extreme heat extend beyond discomfort. Prolonged heatwaves strain the electric grid, hospital systems, and agricultural productivity—undermining economic stability and public health. Heat stress is the [leading cause](#) of weather-related death, a risk [further exacerbated by certain factors](#) like age, health, occupation, and socio-economic factors.

As heat increases, we are also seeing the dismantling of federal programs that can help lessen the impacts of extreme heat on energy bills, as well as a general retreat in federal heat data tracking and management. At the same time, extreme heat is intersecting [with other threats](#), from wildfires to rising insurance costs, creating a cascade of financial, safety, and health challenges that cities must confront.

What can mayors do to address extreme heat?

Local leaders must act now to safeguard residents from the growing threat that extreme heat poses. Cities can harness readily available information—such as weather patterns, hospital admissions, utility usage, and public perception—to inform programming and adopt proven policies already in use across the country. This approach enables local governments to identify vulnerable populations, strengthen inter-agency coordination, and deploy targeted, equitable strategies.

Climate Mayors has been working with mayors across the country through our Extreme Heat Cohort, where we've convened mayors for virtual meetings and events. This initiative has facilitated discussions on shared strategies to address extreme heat, provided access to expert insights, and underscored the significance of local action in combating this critical issue. The following is an overview of the key concerns that surfaced, and the projects and policies that can help cities address increasing heat.

Projects that mayors can facilitate:

- **Green space and shade structures:** Investments in shade are one of the most straightforward avenues to reducing urban temperatures and the heat island effect. Trees can reduce heat-related mortality by up to [33%](#) and lower temperatures by [2-9°F](#).
- **Cooling buildings and streets:** City temperatures can be lowered by up to 7°F by orienting buildings to maximize airflow and connecting urban areas through green corridors. [Cool roof coatings](#) can [reduce building surface](#) temperatures by up to 50°F, which can reduce energy costs by [10-15%](#). Permeable pavements and green roofs combined with vegetation can [reduce surface temperatures by 5-7°F](#), amplifying cooling effects while managing stormwater efficiently.
- **Emergency infrastructure:** [Cooling centers](#) and resilience centers can provide immediate relief to communities during extreme heat events. These measures can complement long-term resilience efforts and provide respite during emergencies.
- **Social infrastructure and education:** As cities invest in resiliency measures, vulnerable populations must know and understand how to access resources. From interactive [maps](#) to educational campaigns targeting vulnerable populations, communicating available resources can save lives in emergencies and increase community uptake of long-term solutions.

Policies that mayors can instate:

- **Disconnection limits:** Utility disconnections can be a detriment to staying cool during high heat. Policies that prohibit utilities from disconnecting during high heat can protect residents as they stay indoors to stay cool.
 - Example: the [State of Arkansas has a policy](#) that says: “An electric or gas utility cannot suspend service to a customer who is identified as 65 years or older or handicapped if the National Weather forecast predicts a temperature of 95 degrees Fahrenheit will occur during the next twenty-four hours.”
- **Indoor air temperature maximum:** While minimum indoor air temperatures are often regulated, maximum indoor air temperatures are not always subject to the same regulations in many locations. Policies that mandate a maximum indoor air temperature can protect residents in places like apartments where they may not have control of their temperature.
 - Example: the [City of Chicago has an ordinance](#) that “requires certain new and existing residential buildings to install air conditioning equipment in indoor common gathering areas and to make these areas available to building residents as cooling centers when the outdoor heat index exceeds 80°F.”
- **Outdoor worker protection:** Outdoor workers face high vulnerability to extreme heat. To protect these workers, cities can create ordinances that require training on the signs of

heat exhaustion, mandate break times, require shading, and allow for adjusted work hours.

- Example: The [City of Phoenix has an ordinance](#) that requires all city contractors to have written heat safety plans on file that contain specific criteria set by the city.
- **Cool roof ordinances:** Traditional dark-colored roofs contribute to heat retention in cities and heighten the urban heat island effect. A proven mitigation tactic is [“cool roof” design](#), which uses lighter colors on roofs to reflect more sunlight and retain less heat.
 - Example: The City of Atlanta recently passed a [green roof ordinance](#) that stipulates new buildings must use cool roof design and meet certain reflective thresholds to reduce heat.
- **Tree canopy protection:** Trees cool the air as they release moisture and provide shade. They have been proven to decrease air temperature by [a significant amount](#), particularly in areas of high tree coverage. Mayors can enact policies that protect the current tree population while encouraging additional tree plantings.
 - Example: Charlottesville, VA has a [tree protection ordinance](#) that protects trees in certain areas of the city and certain types of trees throughout the city. If these trees are in danger or removed, there are fines up to \$2,500.

Case studies of success across the country:

- **Arizona:** Maricopa County and Pima County require [medical examiners to mark deaths](#) that heat caused or contributed to, and they now report this data weekly. This data then informs where to mobilize resources to respond to heat in these communities.
- **Boston, MA:** Data showed that the majority of Boston’s Bus 28 line intersects with urban heat islands, meaning that the area experiences higher temperatures for longer periods on hot days. Over 50% of the riders on that line are classified as low-income, making riders even more vulnerable to heat. To address this, [the City installed 30 green roofs on the bus stops for Line 28](#). Green roofs provide shade, improve air quality, and reduce heat exposure for bus riders.
- **Tucson, AZ, and Indianapolis, IN:** Tucson uses a [GIS dashboard from American Forests](#) to score neighborhoods based on canopy cover, climate data, and demographics. The scores from this tool help inform where additional tree coverage could support cooling neighborhoods. Similarly, the City of Indianapolis, in partnership with Keep Indianapolis Beautiful, [uses the same methodology](#) and has planted nearly [half a million trees](#) in the city, aimed at reducing the increasingly hot summers.
- **Jacksonville, FL:** Jacksonville, FL, operates cooling stations for residents on high heat days. Upon noticing residents weren’t using the cooling centers, outreach efforts showed that residents didn’t have access to transportation to the centers. In response, the City partners with the Jacksonville Transportation Authority to [make transportation to the cooling centers free](#) on high heat days.
- **San Jose, CA:** Knowing that San Jose sees 300+ days of sunshine per year, extreme heat will continue to impact their community. They are piloting a resilience hub, which will both

provide a cool space during high heat and support residents' modern cooling systems by offering rebates for heat pump HVAC units.

How to use communications to address extreme heat:

Communications play a significant role in preparing the community for extreme heat. Mayors can use the following toolkits to talk to their communities about the risks of extreme heat and how to combat it.

- Use the [home cooling tips messaging toolkit](#) to show the community how to remain resilient to extreme heat.
- Use social media to communicate [directly to your community](#) about the dangers of extreme heat and resources available.
- Let your community know the risks of extreme heat exposure with [C40's talking points](#).
- Use Climate Mayors' [social media toolkit](#) to amplify [this video](#) on how mayors across the country are addressing extreme heat.

In addition to preparedness, communication provides an opportunity to connect heat to climate change - and make that resonate with communities. Recent polling shows that [86% of Americans](#) say increased temperatures and heat waves have made them more concerned about climate change, offering a window for mayors to connect extreme heat with climate change. The following communications kits can support these efforts:

- Connect clean energy to addressing extreme heat and grid overloads with these [talking points](#).
- Connect public safety to the climate crisis and extreme heat with this [messaging guidance](#).

Calls to action for mayors:

- **Build the communication channels now, not when disaster strikes.** The National Weather Service has a [tool](#) that predicts heat waves 7+ days in advance, so mayors can direct communications to go out to warn residents and healthcare providers. This gives residents time to create a plan to stay cool and for hospitals to prepare for an increase in heat-related illnesses. Communications can go out through social media, media outlets, and emergency alert systems.
- **Appoint a team to lead these efforts:** Create a chief heat officer position or name a task force to lead day-to-day action in the community. The City of Jacksonville, FL, has a [mayor-appointed task force](#) that implements its heat response plan.
- **Integrate extreme heat into your planning efforts, even if your community hasn't experienced it historically.** The CDC's [heat and health tracker](#) indicates that extreme heat

is affecting *all* areas of the country, making preparedness critical. In fact, [the data found](#) that the community most at risk to health impacts from extreme heat was in Idaho, not in a southern state that traditionally faces high temperatures.

- **Create incentives for projects that incorporate cooling infrastructure.** Cities can offer expedited permits for buildings that incorporate green tactics like cool roofs, energy efficiency measures, and sustainable landscaping.
- **Work with other levels of government, educational institutions, and community partners to create programming and funding that support your ability to help your community.** While mayors can take tangible action in their communities, there also needs to be a coordinated effort with the state and federal government to secure additional funding for projects, create integrated response plans, and call for nationwide policies.

Additional Resources:

- Use these [instructions from Climate Mayors](#) to film a video that highlights how you are bringing extreme heat solutions to your community.
- Learn [how to adapt your city to extreme heat](#) from C40 Cities.
- Example of an [extreme heat action plan](#) from Miami-Dade County and a [heat action roadmap](#) from Tucson.
- [Briefing](#) from the Robert Wood Johnson Foundation on improving health as climate change fuels worsening heatwaves.
- [Data](#) on heatwave risk perceptions across the country from Yale Program on Climate Change Communications.
- [Framework for a Heat-Ready Nation from Ten Across](#) analyzes measures to protect people, livelihoods, and communities from extreme heat and spotlights solutions and planning efforts.
- [Mapping tool](#) from the CDC with information on the risk of heat-related illnesses.
- [Research and reports](#) from the Smart Surfaces Coalition.
- [Policy ideas brief](#) from the Federation of American Scientists.