POLICY BRIEF

Extreme Heat is Killing America's Workers

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By Adam Dean and Jamie K. McCallum

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EXECUTIVE SUMMARY

Extreme heat is rapidly becoming one of the most dangerous and least regulated workplace hazards in the United States. As climate change drives hotter, longer, and more frequent heat waves, millions of workers – especially in agriculture, construction, warehousing, and transportation – face increasing risks of injury, illness, and death. Heat kills, and long before it's fatal, it impairs cognition, increases fatigue, and increases the risk of accidents while driving direct physiological harm, including heat stroke and organ failure. In 2023 alone, high temperatures contributed to an estimated 28,000 workplace injuries. Despite clear scientific evidence and well-established solutions that are low-cost and relatively easy to implement, the United States lacks a comprehensive federal standard to protect workers from heat exposure, leaving worker safety dependent on employer discretion and uneven state policies.

This regulatory failure reflects a coordinated campaign by large corporations, trade associations, and allied political actors to resist enforceable heat protections. Major business groups – including the U.S. Chamber of Commerce, the so-called Coalition for Workplace Safety, and industry associations in construction, agriculture, and logistics – have opposed federal efforts to protect workers from extreme heat, characterizing the U.S. Department of Labor's proposed regulations as "rigid," "burdensome," and "impracticable." Companies like Amazon and the United Parcel Service (UPS) that employ hundreds of thousands of workers subjected to extreme workplace temperatures make public statements about their commitments to worker safety while actively lobbying to weaken or block heat regulations. In fact, the Occupational Safety and Health Administration (OSHA) has cited UPS and Amazon for hundreds of safety violations, including heat-related incidents.

This opposition extends into state policy. In Florida and Texas, industry groups successfully backed laws that prevent local governments from requiring basic workplace protections, like water and rest breaks. In other states, business coalitions have delayed and diluted legislation while opposing federal action at the same time. This multi-tiered corporate campaign to prevent enforceable standards from taking hold anywhere is hurting, and in some cases killing, workers.

Heat-related illness and death are both widespread and preventable. California's heat standard, which mandates common-sense requirements including water, shade, rest, acclimatization, and adequate enforcement, was associated with a 33% reduction in heat-related deaths among outdoor workers. Extending similar protections nationwide could prevent as many as 1,500 worker deaths each year. However, not all standards are equally effective. States that have implemented clear-cut standards with explicit temperature triggers have seen improvements, while those with weaker standards that give employers more flexibility lack enforceability and leave workers vulnerable.

The evidence is unequivocal: strong, enforceable heat standards save lives. Yet, federal policymakers have failed to adequately protect workers and regulations in Washington remain stalled. Without a national standard, worker protection will continue to depend on geography, leaving millions exposed to growing, deadly, and preventable harm.

OSHA should finalize a robust federal heat standard that establishes clear, enforceable requirements for water, shade, rest, acclimatization, and emergency response, using precise triggers and strong enforcement mechanisms. In the absence of federal leadership, states must act by adopting specific, enforceable, and well-monitored protections.

As extreme heat intensifies, the cost of inaction will be measured in lives lost. The question facing policymakers is no longer whether effective protections exist, but whether they have the political will to stand up to those unscrupulous employers lobbying hard to block them.

Introduction

The last three years were the hottest three years on record.[1] As climate change accelerates, heat waves are becoming hotter, longer, and more frequent. In 2023 alone, high temperatures caused an additional 28,000 injuries across the United States.[2] In early spring 2026, the Southwest was rocked by record-breaking heat waves. Triple-digit temperatures arrive more frequently and earlier than ever before, exceeding seasonal norms. Such extreme heat poses deadly risks for workers, especially those in outdoor industries like construction, agriculture, and transportation. Heat strains the body and impairs the mind, increasing the risk of heat stroke, injury, and death.

A growing body of international scientific evidence shows that extreme heat is already one of the most dangerous climate-related threats facing the world:

- A comprehensive global mortality study estimates that between 2000 and 2019, more than five million annual deaths were associated with extreme heat, with heat-related mortality increasing sharply over that period.[3]

- From 2018 to 2022, the average person worldwide experienced 86 days per year of health-threatening temperatures.[4]

- Europe's summer of 2022 offers a stark illustration: researchers estimate that nearly 62,000 excess deaths attributable to heat occurred across 35 countries.[5] In the United States, the scientific evidence is equally alarming.[6]

- A recent study found that the odds of workplace injuries occurring begin to increase when local weather exceeds 85 degrees.[7] The likelihood of workplace injury when the heat index exceeds 110 degrees is 22% higher than at 80 degrees.

Extreme heat poses a wide swath of risks to worker health and safety: increased cardiovascular strain, impaired renal function, and elevated respiratory risk.[8] High temperatures impair cognition, slow reaction time, and increase fatigue, heightening the risk of injuries not obviously related to temperature, such as slips, falls, equipment mishandling, and vehicle accidents.[9] As a result, official workplace injury statistics undercount heat-related incidents, masking the true extent of the hazard.

Protecting workers from extreme heat is straightforward and inexpensive. Providing workers with cool water, ample shade, rest breaks, acclimatization, and monitoring saves lives. California's heat standard, the first state-level protection enacted in 2005, was associated with a 33% reduction in heat-related deaths among outdoor workers.[10] Extending these protections to all American workers could prevent roughly 1,000 deaths each year.

Despite these risks and the relative simplicity of prevention, heat remains one of the least-regulated workplace hazards in the country. At the federal level, OSHA has long failed to provide comprehensive protections against heat-related risks on the job. The Biden administration moved to begin a federal rulemaking process, but legislative efforts on Capitol Hill stalled while Republican lawmakers introduced measures designed to block future OSHA action.[11] Upon returning to office in 2025, the Trump administration halted the pending rulemaking and later stripped inspection targets from OSHA's heat enforcement program – a move that labor leaders said replaced proactive oversight with voluntary compliance just as extreme heat grows more deadly.[12] In the absence of durable federal standards, several states have led the way by enacting protections for workers exposed to extreme weather. Others, however, have adopted weak standards unlikely to improve safety, or gone further by barring local governments from establishing protections of their own.

It's imperative that policymakers safeguard workers from the dangers of extreme heat in the workplace. Left to their own devices, many large employers fail to protect workers from heat-related dangers in the workplace with devastating human consequences.

The Human Cost of High Heat at Work

On a blistering day in May 2008, María Isavel Vásquez Jiménez, a 17-year-old pregnant farmworker, was tying grapevines in a vineyard outside Stockton, CA, as temperatures climbed past 100 degrees. It was only her second day on the job, often the most dangerous time for farmworkers who have not yet acclimated to heat. According to investigators, she had little access to shade or cool drinking water. After hours working in direct sun, she collapsed. Supervisors did not call an ambulance. Instead, they drove her to a nearby parking lot, where her fiancé tried to revive her using a wet cloth. By the time she reached medical care, her body temperature had reached 108 degrees. She died two days later.[13]

Jiménez's death reminded local residents, especially those in the migrant farmworker community, of a worker years earlier who met a similar fate. In 2004, Asunción Valdivia, a 53-year-old grape picker working in California's Central Valley, collapsed from heat stroke as temperatures climbed past 100 degrees. Instead of being taken directly to a hospital, he was told to sit in a truck with the air conditioning running and died shortly afterward.[14] Federal legislation directing OSHA to issue a federal heat standard is named in his honor.[15]

Two decades later, similar stories continue to unfold. In 2024, a 36-year-old Baltimore sanitation worker named Ronald Silver II collapsed while collecting trash during a period of extreme heat. Like agricultural labor, sanitation work involves sustained physical exertion outdoors, often on tight schedules that leave little room for recovery. On that day, Silver was exposed to high temperatures for hours. He began to show signs of heat distress, crawling to a stranger's doorstep in search of water. He died later that day.[16] Sanitation and food harvesting workers both face pressures that discourage stopping for breaks. Heat slows the body, but the job demands speed. The result is a familiar pattern, as workers are forced, encouraged, and incentivized to push past physiological warning signs until those signals become catastrophic.

A similar dynamic has emerged in the logistics sector, where companies like UPS and Amazon have built delivery systems around speed. In August 2023, Christopher Begley, a 57-year-old UPS driver in Farmersville, TX, collapsed while delivering packages during a severe heat wave with temperatures exceeding 100 degrees, and died a few days later.[17] He worked for UPS for nearly three decades. After becoming ill on his route, Begley was taken home rather than immediately hospitalized. His condition deteriorated over the following days as his organs began to fail.

In California, Esteban Chavez Jr., a 24-year-old UPS driver, collapsed and died while delivering packages during a heat wave after being found unconscious inside his truck.[18] Reports from coworkers described UPS delivery vehicles as "hot boxes," with internal temperatures far exceeding outdoor conditions.[19] These deaths expose the same underlying structure: prolonged heat exposure, limited rest, and production pressures that discourage interruption.

Across these cases in agriculture, sanitation, and logistics, the mechanism is consistent. Heat impairs the body gradually. It increases fatigue, slows cognition, and reduces the ability to make safe decisions. Workers become more likely to trip, fall, mishandle equipment, or misjudge risk. In extreme cases, the body loses its ability to regulate temperature entirely, leading to heat stroke, organ failure, and death. Yet, these outcomes rarely appear as "heat deaths" in official records.[20] Instead, they are often coded as cardiac events, accidents, or unexplained medical emergencies, obscuring their true cause.

What unites these stories is not simply exposure to heat, but exposure without protection. Jiménez lacked water and shade. Silver lacked sufficient rest and recovery in a high-intensity job. Begley and Chavez lacked enforceable limits on working conditions in extreme temperatures. In each case, the hazard was known. What was missing was the political will to implement basic safety standards that ensure the humane treatment of working people.

The persistence of heat-related deaths in the United States reflects a deep failure. It is not simply that employers neglect safety, but that the regulatory system allows them to do so. Without binding standards, the decision to slow work in extreme heat is left to those who bear the cost of interruption. In practice, that means that the burden of protection falls on workers least able to demand it.

OSHA's proposed federal heat standard would apply across all of these settings where workers are exposed to hazardous heat.[21] By establishing uniform, enforceable requirements for water, shade, rest breaks, acclimatization, and monitoring, the rule is designed precisely to address the kinds of conditions that led to these deaths. As extreme heat intensifies, delaying action will only multiply the all-too-human tragedies of the past into the future.

A Coordinated Corporate Campaign Against Heat Regulation

Corporate resistance to OSHA's proposed heat standard has been both broad and strategic. It is not led by a single firm or sector, but coordinated across trade associations, lobbying groups, and corporate coalitions. Across these venues, a consistent vocabulary

emerges: The proposed rule is described as "rigid," "one-size-fits-all," "overly burdensome," and "impracticable."

The U.S. Chamber of Commerce articulated the most sweeping version of this critique, warning that the rule would result in "micromanaging workplaces" and impose "unreasonable burdens," calling on OSHA to withdraw it entirely.[22] The Chamber's position is notable because it speaks on behalf of thousands of large corporations, transforming diffuse employer interests into a unified political force.

Similarly, the Coalition for Workplace Safety (CWS)[23] argued that a binding rule would be "unduly burdensome and cost prohibitive," warning that without employer "flexibility," regulation could "fail to effectively protect workers."[24] This inversion – claiming that enforceable protections might harm workers – runs throughout employer testimony. It reflects a broader strategy of reframing regulation as more damning and dangerous than the risks of heat itself.

Retail and distribution groups advanced a parallel position. The National Retail Federation and National Association of Wholesaler-Distributors called for a "balanced standard" that would maximize employer discretion over rest breaks, cooling periods, acclimatization, and monitoring.[25] In effect, these proposals would replace enforceable protections with flimsy guidelines that exist on paper but maintain managerial prerogative.

Not to be outdone, the Associated Builders and Contractors rejected OSHA's proposal as a "rigid, one-size-fits-all approach," arguing that the "very nature of construction" makes uniform standards inappropriate.[26] The irony is hard to miss: construction is already governed by one of the densest regulatory codes in American industry. OSHA regulations span dozens of subparts and hundreds of specific rules covering everything from scaffolds and trenching to ladders, cranes, silica, fall protection, electrical systems, and protective gear.[27] Worksites change and therefore they argue that rules must not bind – an odd claim in an industry already bound every day by countless other safety regulations.

The American Petroleum Institute echoed this logic, warning that adopting the rule "as is" would have "significant adverse impacts" on the industry and urging OSHA to abandon fixed thresholds.[28] The objection here is not to heat protection itself, but to its enforceability, which is a key determinant of the regulations' impact. Once temperature triggers require rest or cooling, employers lose the ability to force workers to continue operating in dangerous conditions to protect production timelines.

Some opponents have questioned whether OSHA has the authority to regulate heat at all. The National Federation of Independent Business (NFIB) captured this argument most clearly, asserting that "not every misfortune in society calls for burdensome federal government regulation" and suggesting that heat may fall outside OSHA's authority.[29] By

reframing heat as a general condition of life rather than a workplace hazard, this position seeks to remove it from the domain of labor regulation entirely. Funnily enough, NFIB urged New Jersey lawmakers to suspend their efforts to enact a state-level heat standard and instead "allow the forthcoming OSHA standard to apply uniformly across the country."[30] Dozens of other trade associations, including NFIB, have supported federal legislation that would prevent OSHA from finalizing the Biden-era heat standard proposal or any future similar federal heat standard.[31]

The most revealing objections often appear in the details. The American Farm Bureau Federation criticized requirements for shaded rest areas, noting that in some fields "the nearest natural shade [...] may be miles away," and objecting to rules that exclude equipment-based shade.[32] What is presented as a logistical constraint becomes, in practice, an argument against requiring protection at all.

If construction and agriculture reveal the spatial limits of heat protection, the logistics industry reveals its temporal limits. UPS, in its formal comments, argued that employers "need flexibility and discretion to develop customized heat safety solutions," urging OSHA to reconsider prescriptive requirements.[33] Amazon's position is also revealing. While insisting that worker well-being is its "top priority" and pointing to internal heat mitigation policies, Amazon's lobbying tactics have revealed a different approach. In Rhode Island, lobbyists hired by Amazon opposed a proposed state heat safety rule, aligning with broader business efforts to block the legislation.[34] This is not an isolated case. Across multiple states, large employers have intervened early in the policy process to prevent enforceable standards from emerging at all.[35]

In fact, OSHA has cited UPS and Amazon for hundreds of safety violations including heat-related incidents, with fines exceeding $2 million.[36] Heat has accounted for a significant share of injuries in these workplaces, including cases requiring hospitalization. Meanwhile, UPS has spent more than $18 million lobbying against regulatory issues in recent years.[37] These companies would rather spend their money opposing new safety practices than implementing them.

The pattern becomes even clearer when we follow these efforts into state politics. In Florida, the Associated Builders and Contractors supported SB 460 and HB 917 – legislation that would have lowered the minimum working age for scaffolding and roofing jobs to include 16- and 17-year-olds.[38] Beyond the obvious safety hazards associated with such work (e.g., burns from hot tar, accidents on or falls from tall ladders), these jobsites also have elevated risks of heat exposure for teens. Industry players have demonstrated a broader pattern of efforts to further expose young workers to health and safety risks. Repeated attempts to pass state-level heat safety legislation failed under pressure from business groups, including Associated General Contractors and the Florida Home Builders Association, which lobbied against such efforts and, in some cases, celebrated their

defeat.[39] (The Florida Home Builders Association boasted of having "successfully defended the industry" against requirements for heat illness prevention plans.) The eventual outcome was not compromise but preemption: The state enacted a law prohibiting local governments from requiring heat protections altogether.

The result is a form of regulatory paralysis. Even as extreme heat intensifies and millions of workers face increasing exposure, the federal government has yet to establish a binding national standard.

It would be a mistake to reduce this story to a handful of bad actors. What emerges instead is a coordinated system of opposition, spanning corporations, trade associations, and state governments. The danger is not just to deny that heat is a risk, but to insist that common-sense protections are "too burdensome," "too rigid," or "not feasible," especially because we already know the consequences of inaction. In fact, we need more than a patchwork of local, state, or industry-specific protections.

Toward a Federal Heat Standard

For years, OSHA has relied on voluntary guidance, awareness campaigns, and tools like heat safety apps to encourage employer compliance. But these measures have proven insufficient to meet the moment as temperatures and the death toll rise in tandem.

As labor advocates have emphasized in the public record, this absence is not merely a technical gap but a systemic failure. Testifying before OSHA, National Association of Letter Carriers President Brian L. Renfroe stated plainly: "Heat illness does not just sicken my members. On occasion, it kills them," adding that "these injuries and deaths are preventable" and that "a nationwide heat standard [...] is the only way to truly mitigate the dangers that heat poses."[40] In written testimony, he further described the rule as "long overdue," noting that heat-related illness and injury occur "all the time" in the absence of enforceable protections.[41]

Policy experts have reinforced this urgency at scale. Testimony submitted to OSHA by the Economic Policy Institute notes that the proposed rule would extend protections to approximately 36 million workers, while warning that without a federal standard workers will continue to face a "piecemeal approach" to protection that leaves many exposed to preventable harm.[42] Similarly, union advocates have described the federal rule as "the ultimate solution" for ensuring consistent and meaningful protection across industries.[43]

We need real federal action to protect workers from this growing hazard. The Asunción Valdivia Heat Illness, Injury, and Fatality Prevention Act of 2025 would be a life-saving solution, but in the absence of congressional action, OSHA should move to finalize the strongest possible version of its proposed rule.[44]

The results in states that have implemented enforceable protections demonstrates both the feasibility and the effectiveness of such regulation. The core insight is that protecting workers from heat requires specific, enforceable obligations, not general recommendations.

At the center of OSHA's approach are four foundational protections: water, shade, rest, and acclimatization. Each directly targets a distinct mechanism through which heat harms the body.

- **Adequate hydration** helps maintain core temperature and cardiovascular stability, preventing the dehydration that accelerates heat stress.
- **Access to shade** or cooling interrupts exposure, allowing the body to dissipate accumulated heat rather than continue to absorb it.
- **Rest** is critical because heat illness is cumulative: Sustained exertion in high temperatures overwhelms the body's ability to regulate itself, making periodic recovery essential.
- **Acclimatization** addresses a different but equally important risk by recognizing that workers new to hot conditions are far more vulnerable until their bodies gradually adapt.

Taken together, these protections operate as a system: Without water, cooling, and rest, the body breaks down; Without acclimatization, even short exposures can become deadly. Their importance lies not in any single element, but in how they collectively transform heat from an unmanaged hazard into a controllable workplace risk.

Without federal action, some workers may never get the workplace protections they desperately need. Continued reliance on voluntary guidance and fragmented state action will leave millions of workers exposed to preventable harm. If the federal government can act to set the floor, it must establish the strongest standards possible, as many states will not go above and beyond the federal minimums.

Lessons from State-Level Heat Protection Efforts

In the absence of federal leadership, it will be up to states to protect workers. The good news is that is already happening with some success. The bad news is that it varies widely.

California passed the nation's first state-level heat standard in 2005. Since its original passage, the policy has evolved, with enforcement expansions in 2010 and stronger

regulations put into effect in 2015. The initial policy was an important but insufficient first step to protect workers. Ambiguous wording enabled employers to avoid improving working conditions, vulnerable workers shouldered the burden of demanding breaks, and the California Division of Occupational Safety and Health failed to actively enforce the standard. As a result, California's heat standard failed to decrease heat-related deaths among outdoor workers from its initial implementation in 2005 through 2009.[45]

Following the successful campaign by the United Farm Workers catalyzed by the tragic workplace death of María Isavel Vásquez Jiménez, the state dramatically expanded its heat-season inspection program and moved to a proactive enforcement model. This enforcement expansion was associated with a 33% reduction in heat-related deaths among outdoor workers.[46]

In 2015, California rewrote the rule to close loopholes following persistent advocacy and legal campaigns that held the state accountable for the shortfalls of the original regulation. The revised standard lowered the threshold at which employers are required to provide shade to 80 degrees, mandated fresh, cool water, closed loopholes exempting some workers from protection, and increased protections when temperatures exceed 95 degrees. Between 2015 and 2020, worker deaths in California were 51% below trends in neighboring states with similar weather conditions but lacking heat-related workplace protections.[47]

In 2024, there were 2,892 heat-related deaths among outdoor workers. Extending California's heat protections to the entire United States could prevent roughly 1,000 to 1,500 worker deaths per year.[48]

In the absence of a federal heat standard, some states have advanced policies following California's lead. Since 2021, Colorado, Maryland, Nevada, Oregon, and Washington have passed laws that mandate water, shade, and regular rest breaks for all outdoor workers on hot days. While some have passed strong heat standards, others have pursued weak regulations that are unlikely to improve workplace safety.

Maryland's heat standard, for example, is specific and enforceable.[49] The rule applies to both indoor and outdoor workplaces at an eighty-degree threshold and requires potable water, rest, shade or cooling, acclimatization programs, worker and supervisor training, and written heat safety plans. Nevada's law, in contrast, lacks explicit temperature or heat index triggers, instead relying on vague language about hazardous heat.[450] This undermines enforcement and leaves compliance up to interpretation, leaving workers unprotected and employers unaccountable.

Because other states' regulations have been implemented so recently, it's not yet possible to evaluate their effectiveness. However, the evidence from California shows the

necessity for clear guidelines and adequate enforcement for heat standards to be effective in preventing heat-related workplace injury and illness. As Jordan Barab, a former deputy assistant secretary for OSHA, warns, “almost as bad as no heat standard is a weak heat standard that makes everyone believe that workers are well protected, but doesn’t actually contain effective protections that will actually save workers’ lives and protect their health.”[51]

In Texas and Florida, the situation is even more dire. Republican governors have not only failed to adopt a state-level heat standard, they have actively prohibited municipal governments from protecting workers from extreme heat. In June 2023, the governor of Texas signed a law overriding municipal ordinances in cities like Austin and Dallas that required regular water and rest breaks for outdoor workers during extreme heat, effectively barring other localities from reinstating such protections.[52] Opponents dubbed it the “Death Star” bill. Soon after the law passed, Cory Foster, a 35-year-old utility lineman, died while restoring power in a severe heatwave with a heat index around 100 degrees.[53] Authorities linked his death to heat illness. A year later in June 2024, the governor of Florida signed a similar preemption law that forbids counties and cities from enacting their own heat-exposure rules.[54]

Conclusion

The evidence is clear that strong, enforceable heat standards save workers’ lives. California's experience demonstrates that effective heat protection requires three essential elements: clear regulations that close loopholes, robust enforcement with adequate inspections and penalties, and worker empowerment to demand safe conditions without retaliation.

Without a national floor, essential protections depend on shifting political whims and geographic luck, leaving millions of workers exposed simply because of where they live or work. The Trump administration continues to leave OSHA’s proposed rule in limbo, subjecting America’s workers to grave consequences.

With extreme heat expected to increase in the coming years, the cost of inaction is measured in lives lost. Adequately protecting America’s workers with strong, enforceable regulations could prevent as many as 1,500 worker deaths per year. The choice facing policymakers is not whether we can afford to protect workers from extreme heat, but whether we can afford not to.

END

Notes

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