

# Scorched States

A Report Card on State Laws Protecting Workers from Heat

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# Acknowledgments

This study was written by Juley Fulcher, Worker Health and Safety Advocate, Congress Watch.

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## Key Findings

- As many as 2,000 workers die and 170,000 workers are injured from laboring in extreme heat every year in the United States.
- Worker heat-stress tragedies disproportionately strike workers who are poor, Black and Brown.
- Every workplace illness, injury and fatality caused by heat stress is avoidable, and relatively simple preventative measures – water, shade and breaks -- have proven extremely effective at protecting workers.
- The federal government has failed to issue rules to protect workers from excessive heat, although the Occupational Safety and Health Administration is working on a heat standard. That new rule is not expected to be finalized until 2026 or beyond.
- A handful of states have taken action where the federal government has failed. California, Oregon, Washington, Colorado, and Minnesota have issued heat stress standards.
- Maryland OSHA has made substantial progress in developing an indoor/outdoor heat standard and, despite recent hiccups, California has also made good progress in developing an indoor heat standard. Both states could issue standards within a few months.
- Most states have failed to act to protect workers, even as the climate crisis worsens and summer heat records are repeatedly shattered around the country.
- The Texas and Florida state legislatures have blocked efforts by local governments to protect workers from heat stress.
- Climate change is dramatically increasing workplace heat stress dangers – supercharging longer summers, more record-breaking extreme heat days, and intransigent heat domes that create longer and hotter heat waves reaching every corner of the country.

# Introduction

Fifty million workers in the U.S. will face excruciating heat in the coming months. For some, that heat will be fatal.<sup>1</sup>

The right to a safe workplace is a basic human right.<sup>2</sup> Exposure to excessive heat is one of the most dangerous problems facing workers today. Tens of thousands of workers suffer heat illnesses, injuries and fatalities every year in the U.S.

The toll of unaddressed workplace heat stress on workers' lives and well-being is immeasurable. This is a toll disproportionately borne by Black and Brown workers, and low-income workers with limited options for safer employment.<sup>3</sup> Latino workers are three times more likely to die of heat stress.<sup>4</sup> Latinos make up a third of construction workers and 75% of farmworkers in the U.S.,<sup>5</sup> the two jobs with the highest rate of heat fatalities.<sup>6</sup>

The failure of employers to protect employees from workplace heat stress is costing the U.S. economy nearly \$100 billion every year.<sup>7</sup> Employers are losing money in reduced productivity, absenteeism, overtime costs, repair or replacement of equipment vehicles and property due to accidents, increased workers' compensation premiums, lawsuits for negligence, and loss of reputation and goodwill.<sup>8</sup>

Every workplace injury and fatality caused by heat stress is avoidable, and relatively simple preventative measures have proven extremely effective at protecting workers. It is both the social and legal responsibility of employers to create a work environment safe from heat hazards.

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<sup>1</sup> Aryn Baker, *Extreme Heat is Endangering America's Workers — And Its Economy*, TIME (August 3, 2023), <https://tinyurl.com/5ydt9x9k>.

<sup>2</sup> *All about OSHA*, TOCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, U.S. DEPARTMENT OF LABOR, OSHA 3302-02R 2023, <https://tinyurl.com/3j8w9rpu>.

<sup>3</sup> See, e.g., Juley Fulcher, *Boiling Point: OSHA Must Act Immediately to Protect Workers from Deadly Temperatures*, PUBLIC CITIZEN (June 2022), <https://www.citizen.org/article/boiling-point/>.

<sup>4</sup> *Climate Change: Heat And Drought*, HISPANIC ACCESS FOUNDATION (accessed May 8, 2024), <https://bit.ly/3rDPhSv>.

<sup>5</sup> Oriana González, *Latino Farm Workers More Likely to Die from Extreme Heat*, AXIOS (September 7, 2021), <https://bit.ly/4bfRXYp>.

<sup>6</sup> Diane Gubernot, Brooke Anderson & Katherine Hunting, *Characterizing Occupational Heat-Related Mortality in the United States, 2000-2010: An Analysis Using the Census of Fatal Occupational Injuries Database*, 58(2) AMERICAN JOURNAL OF INDUSTRIAL MEDICINE 203, 203-211 (Feb. 2015), <https://bit.ly/3j2wV70>.

<sup>7</sup> Luke A. Parsons, Yuta J. Masuda, Timm Kroeger, Drew Shindell, Nicholas H. Wolff and June T. Spector, *Global Labor Loss Due to Humid Heat Exposure Underestimated for Outdoor Workers*, 17(1) ENVIRONMENTAL RESEARCH LETTERS 014050 (2022), <https://bit.ly/3DXvrWn>.

<sup>8</sup> See, e.g., Juley Fulcher, *The Cost of Inaction: The Failure of Employers to Mitigate the Effects of Heat Stress on Workers Causes Preventable Heat-Related Illness, Injury and Fatalities and Costs the U.S. Economy Nearly \$100 Billion Each Year*, PUBLIC CITIZEN, (October 4, 2022), <https://tinyurl.com/43fvuhwa>.

The Occupational Safety and Health Administration (OSHA) is responsible for protecting the safety and health of workers. The agency is tasked with promulgating rules to reduce hazards in the workplace, educating employers and holding employers accountable when they fail to put appropriate safety measures in place.

Fifty years ago, the National Institute for Occupational Safety and Health (NIOSH) studied the effects of heat stress on workers and recommended that OSHA adopt an occupational heat standard. Though efforts are underway to do so, we are still years away from seeing a federal heat standard.

A handful of state and local governments have stepped in to create protections from heat stress for their workers. As policymakers look to the guidance provided by NIOSH and experts in occupational hygiene, the state standards bare many similarities but differ in key ways. The standards vary in the industries regulated and the details of protocols employers are required to put in place to protect workers.

### Background

Despite the horrifying images of ever more brutal hurricanes, tornadoes and floods we frequently see in the news, extreme heat is the leading weather-related killer.<sup>9</sup> Globally, nearly half a million people die each year because of extreme heat.<sup>10</sup> The problem is rapidly intensifying. The last 10 years have been the hottest on record, with 2023 surpassing them all.<sup>11</sup> The northern hemisphere experienced its hottest summer in 2,000 years.<sup>12</sup>

Recent decades have been the warmest in the last 150 centuries in the U.S.<sup>13</sup> Record-setting temperatures and heat waves are becoming the new norm.<sup>14</sup> Extreme temperatures in the contiguous U.S. are expected to increase faster than temperature averages.<sup>15</sup>

The summer of 2023 saw the thermometer top out at eye-popping temperatures throughout much of the U.S. Hundreds of millions of people across the nation saw

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<sup>9</sup> Jonathan Erdman, *America's Top Weather Killer is Not Tornadoes, Flooding, Lightning or Hurricanes – It's Heat*, THE WEATHER CHANNEL (June 21, 2022), <https://bit.ly/3yjimpy>.

<sup>10</sup> Qi Zhao, Yuming Guo, Tingting Ye, Antonio Gasparrini, Shilu Tong, Ala Overenco *et al.*, *Global, Regional, and National Burden of Mortality Associated with Non-optimal Ambient Temperatures from 2000-2019: A Three-Stage Modeling Study*, 5(7) THE LANCET PLANETARY HEALTH E415-E425 (July 1, 2021), <https://bit.ly/3tLPZB>.

<sup>11</sup> *Global Temperature – Latest Annual Average Anomaly: 2023*, THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA) (accessed May 16, 2024), <https://tinyurl.com/4544ntcp>.

<sup>12</sup> Jan Esper, Max Torbensohn and Ulf Büntgen, *2023 Summer Warmth Unparalleled Over the Past 2000 Years*, NATURE (May, 2024), <https://doi.org/10.1038/s41586-024-07512-y>.

<sup>13</sup> USGCRP (U.S. Global Change Research Program), *Climate Science Special Report: Fourth National Climate Assessment, volume I*. (2017), Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.). <https://science2017.globalchange.gov>.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

triple digit temperatures.<sup>16</sup> Intransigent heat domes sat over large swaths of the country all summer, causing brutal heat waves that lasted for weeks. The extraordinary heat that blanketed the U.S. set nearly 10,600 daytime high temperature records between May 1, 2023 and September 30, 2023, as well as more than 13,400 records for highest overnight minimum temperatures,<sup>17</sup> the meteorological defining factor for heat waves.<sup>18</sup>

After experiencing the warmest winter on record,<sup>19</sup> the summer of 2024 is again expected to see far hotter temperatures than average<sup>20</sup> and significant heat waves throughout the U.S.<sup>21</sup> While the sizzling heat was felt the worst in the southern Plains, the Southeast and the West Coast last summer,<sup>22</sup> the relentless heat is predicted to impose a particularly high toll on the Great Lakes, Upper Midwest and Northeast in the summer of 2024.<sup>23</sup> The extreme outdoor heat will be accompanied by challenges in keeping indoor temperatures safe. The hot sun roasts buildings made with materials that absorb heat and lack proper cooling systems, causing indoor temperatures to swell beyond the outdoor temperature.

The human body has a complex regulatory system designed to keep our core temperature about 98.6 degrees. Heat stress refers to strain on that system as it tries to keep the body cool. Heat stress is a function of internally generated heat (metabolic heat), external environmental heat and other factors that reduce the effectiveness of our natural bodily cooling systems. The ambient temperature and radiant heat sources like direct sunlight and heat-generating machinery add to heat stress.<sup>24</sup>

Metabolic heat production increases as workload increases. Sweat is produced so that the process of evaporation can release body heat and blood is pumped to the surface of the skin to be cooled by the surrounding air. However, high humidity reduces the evaporation of sweat and high environmental temperatures introduce more heat into the blood at the surface of the skin.

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<sup>16</sup> Li Cohen, *U.S. Officials are Bracing for Another Summer of Dangerous Heat. These Maps Show Where It's Most Likely to Happen.*, CBS NEWS (April 30, 2024), <https://cbsn.ws/3ykkFsB>.

<sup>17</sup> *Data Tools: Daily Weather Records*, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), NATIONAL CENTERS FOR ENVIRONMENTAL ADMINISTRATION INFORMATION, (accessed May 12, 2024), <https://tinyurl.com/jdymmhfe>.

<sup>18</sup> *Climate Change Indicators: Heat Waves*, U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) (viewed on May 15, 2024), <https://tinyurl.com/56dwreew>. A heat wave is defined as two or more consecutive days when the daily minimum heat index (overnight lows) exceeds the 85th percentile of historical July and August temperatures (1981–2010) for that area.

<sup>19</sup> *The U.S. Had Its Warmest Winter on Record: Season Capped Off by the Third Warmest February on Record*, NOAA (March 8, 2024), <https://bit.ly/4bCjFOQ>.

<sup>20</sup> Madeline Scheinost, *Summer 2024 Temperature Outlook: It Could Be One of the Nations Hottest*, THE WEATHER CHANNEL (April 18, 2024), <https://bit.ly/3QKOctQ>.

<sup>21</sup> Andrew Wulfeck, *New Summer Weather Outlook Looks Toasty Across Much of U.S. As June Looms Less Than 50 Days Away*, FOX WEATHER (April 19, 2024), <https://bit.ly/3V0ccT9>.

<sup>22</sup> Juley Fulcher, *Mapping Five Months of Deadly Heat: Workers Faced Extreme Heat in Counties from Coast to Coast*, PUBLIC CITIZEN (October 18, 2013), <https://bit.ly/3WGPxlI>.

<sup>23</sup> Brian Lada, *Sizzling Summer Ahead: Accuweather Issues, 2024 U.S. Summer Forecast*, ACCUWEATHER (May 1, 2024), <https://bit.ly/4bgyjeS>.

<sup>24</sup> RECOMMENDED HEAT STANDARD: OCCUPATIONAL EXPOSURE TO HEAT AND HOT ENVIRONMENTS, NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH, CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) (2016), <https://bit.ly/3ivb7sd>. [hereinafter NIOSH RECOMMENDED HEAT STANDARD (2016).]

As the body's natural thermoregulatory systems strain to keep the body cool, heat-related illness can occur. Heat illnesses range in severity from mild heat rash to more severe illnesses such as rhabdomyolysis, acute kidney injury, heat stroke and heat-stress induced cardiac arrest. Workers who survive these more critical heat-related illnesses are often burdened with long term health effects, including muscle damage, organ damage and chronic kidney disease. Excessive heat in the workplace can also exacerbate existing chronic conditions like diabetes, kidney disease, COPD and cardiac disease, complicating the health care of these workers and potentially shaving years off their lives.

The symptoms of heat-related illnesses include heavy sweating, fatigue, nausea, headache, loss of balance and cognitive function, fainting, muscle cramps, and more. These symptoms can easily lead to accidents with a range of consequences to one or more people, including injuries, long-term disabilities or even fatalities.

### **Federal Efforts to Issue a Protective Heat Standard**

In 1970, Congress passed the Occupational Safety and Health Act (OSH Act),<sup>25</sup> a clear declaration that our national workforce deserves a safe and healthy workplace. Signed into law by President Richard Nixon, the OSH Act created the Occupational Safety and Health Administration (OSHA) with a directive to issue and enforce workplace safety standards. However, both OSHA and the Act that created it were seen as highly contentious by industry from the start.<sup>26</sup>

Under corporate pressure, the goals of the OSH Act have been undermined in both Republican and Democratic administrations.<sup>27</sup> Each effort by OSHA to create a new standard has been met by cries that regulating the hazard would cripple entire industries. Despite the fact that no industry has crumbled in the face of new safety requirements, the process of developing standards has become more arduous over the years.

OSHA issued nearly 50 standards in its first three decades addressing a wide range of dangers in the workplace — toxic chemicals, hazardous waste, asbestos, blood-borne pathogens, falls from roofs and scaffolding, industrial accidents, and noise.<sup>28</sup> An increasing number of procedural requirements have been imposed by statutes and executive orders since 1980. Combined with institutional apprehension in setting standards following adverse court decisions, the number of standards finalized has dropped dramatically since 2000 and the average time needed to develop a standard currently stands at seven to eight years.<sup>29</sup>

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<sup>25</sup> Occupational Safety and Health Act, 29 U.S.C. 656(a) (1970).

<sup>26</sup> Jim Morris, *How Politics Gutted Workplace Safety*, SLATE (July 7, 2015), <https://bit.ly/4bDzMMa>.

<sup>27</sup> *Id.*

<sup>28</sup> *Workplace Safety and Health: Multiple Challenges Lengthen OSHA's Standard Setting*, U.S. GOVERNMENT ACCOUNTABILITY OFFICE (April, 2012), <https://bit.ly/3N8oHG3>.

<sup>29</sup> *Id.*



In 2021, the Biden administration initiated the rulemaking process on a standard to prevent heat-related illnesses, injuries and fatalities in both indoor and outdoor workers. OSHA has worked diligently to complete each step in the process and will hopefully be able to issue a proposed rule in the coming months. A change in the political winds could derail further progress on development of the standard. But even if the process remains on track, a finalized federal occupational heat standard is likely still a couple of years away.

## Comparison of State Heat Standards

With no federal workplace safety standard in place to protect workers from extreme heat, states have been left to find ways to protect their workers. OSHA has approved 22 states and Puerto Rico to institute their own job safety and health programs, allowing them to issue state standards that are more comprehensive than federal OSHA standards.<sup>30</sup> A number of these states have attempted to implement workplace protections against heat stress with varying success.

Each state has their own procedures for developing workplace safety and health standards. Like efforts at the federal level, state OSHAs struggle with the business lobby to create protective standards. The ability to issue heat standards and the elements of those standards lie at the crossroads between science and political expedience.

Currently five states have workplace heat stress rules in place – California,<sup>31</sup> Oregon,<sup>32</sup> Washington,<sup>33</sup> Colorado,<sup>34</sup> and Minnesota.<sup>35</sup> The rules vary in the type of industries covered, and the expectations and requirements for employers.

### Industries Covered

The Minnesota occupational heat stress rule was the first created. The minimalistic rule addresses only indoor heat stress, though its reach includes all indoor workplaces. In 2005, California created the first heat standard with detailed requirements for worker protection. It covers all outdoor industries, though additional employer requirements during high heat conditions are limited to agriculture, construction, landscaping, oil and

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<sup>30</sup> OSHA State Plans: How Many States Have Their Own?, OSHA (June 2, 2022), <https://www.osha.com/blog/state-plans>. There are six additional states with State Plans that cover only public sector employees.

<sup>31</sup> Cal. Code of Regs. Tit. 8, § 3395 (2005), *Heat Illness Prevention in Outdoor Place of Employment*, <http://bit.ly/3p0xOy7> [hereinafter California Heat Standard].

<sup>32</sup> Or. Admin. R. 437-002-0156 (2022) – *Heat Illness Prevention (General Industry)*, <https://bit.ly/3QNXzAP>; and Or. Admin. R. § 437-004-1131 – *Heat Illness Prevention (Agriculture)*, <https://bit.ly/3yfaB3X>. [hereinafter Oregon Heat Standard].

<sup>33</sup> Wash. Admin. Code § 296-62-095 through § 296-62-09560 (2023), <https://bit.ly/4azu9xD>; § 296-307-097 through § 296-307-09760 (2023), <https://bit.ly/3ybwWiM>. [hereinafter Washington Heat Standard].

<sup>34</sup> 7 Colo. Code Regs. § 1103-15-1 (2022), <https://bit.ly/3Ppb33O>. [hereinafter Colorado Heat Standard].

<sup>35</sup> Minnesota Administrative Rules, 5205.0110 (1997) – *Indoor Ventilation and Temperature in Places of Employment*, <http://bit.ly/3vqqE8Q>; 5206.0700, subparts 1 and 3 – *Training Program for Harmful Physical Agents*, <https://tinyurl.com/4am9czce>; 5206.1100 – *Labeling Harmful Physical Agents*, <https://tinyurl.com/4b3dz5bw>. [hereinafter Minnesota Heat Standard].

gas extraction, and transportation or delivery of related materials. Washington has a pair of heat standards, one addressing agriculture and the other covering the remaining outdoor industries, with the exception of firefighters.

Oregon has the most comprehensive coverage, addressing indoor and outdoor workplaces. However, workplaces where heat is generated from the work process itself – such as bakeries – are exempt,<sup>36</sup> as are emergency operations directly involved in the protection of life or property or the restoration of essential services. The Colorado heat standard is limited to the agriculture industry but covers both outdoor and indoor workplaces.

**Table 1: Coverage of State Heat Standards**

State	Indoor/Outdoor	Industries Covered	Trigger Temperatures
California	Outdoor	All, but only select industries covered by high heat requirements	80°F† 95°F
Oregon	Indoor/Outdoor	All	80°F (Heat Index)* 90°F (Heat Index)
Washington	Outdoor	All, except firefighters	80°F 90°F 100°F
Colorado	Indoor/Outdoor	Agriculture	80°F 95°F
Minnesota	Indoor	All	77°F – heavy work 80°F – moderate work 86°F – light work

†Multiple “trigger” temperatures are used to address the increased heat stress danger as temperatures rise or workload increases. Each standard requires employers to implement a different set of protocols to protect workers at each trigger temperature.

\*The heat index is a combination of ambient temperature and relative humidity that reflects the heat experienced by the body.

### Trigger Temperatures

Many factors contribute to heat stress including workload, clothing and personal protective equipment (PPE), exposure to direct sunlight and heat-generating machinery, acclimatization, and the age and health of workers. In order to protect workers in a way that’s practical and economical for employers, a heat standard must rely on the best estimates of when the risk of heat illnesses, injuries and death increase.

Based on existing research on the physiology of heat stress and records of heat illnesses and fatalities, 80°F has been identified as a reasonable “trigger” point to begin taking precautions against heat stress in the workplace.<sup>37</sup> Accordingly, the California,

<sup>36</sup> Pursuant to OAR 437-002-0144(2), “Where processes create harmful or hazardous temperature and humidity conditions, measures shall be taken to control the conditions or to control the effect on the employee.” However, no explanation of such measures is provided. [https://oregon.public.law/rules/oar\\_437-002-0144](https://oregon.public.law/rules/oar_437-002-0144).

<sup>37</sup> Zaw Maung and Aaron W. Tustin, *Heat Death Line: Proposed Heat Index Alert Threshold for Preventing Heat Related Fatalities in the Civilian Workforce*, 30(2) NEW SOLUTIONS: A JOURNAL OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH POLICY (June 17, 2020), <https://doi.org/10.1177/1048291120933819>.

Washington and Colorado heat rules are all applicable when the workplace temperature has reached 80°F and the Oregon heat standard institutes requirements at a heat index<sup>38</sup> of 80°F. Exactly what is required of employers at these base heat triggers, however, varies greatly from state to state.

Obviously, the danger to workers increases as temperatures increase. For this reason, additional protocols are required when temperatures reach “high heat” triggers under the heat standards of California, Washington, Colorado<sup>39</sup> and Oregon.

The Minnesota heat standard limits acceptable indoor temperatures — ranging from 77°F to 86°F — based on workload.

### **Breaks in a Cool Area and Hydration**

Providing workers with consistent access to cool drinking water and adequate “cool down” breaks in a shaded or air-conditioned space are simple, but important, heat stress mitigation tools.

#### **Break Schedules**

As environmental heat, metabolic heat production, and conditions limiting heat dissipation (humidity, clothing, personal protective equipment) increase, so does the necessity of recovery periods. Periodically stopping physical exertion helps diminish heat generated by the body, allowing heat dissipation to exceed heat production. The combination of these three factors is used to determine appropriate occupational exposure limits, such as the NIOSH Recommended Exposure Limits (RELs) and the American Conference of Governmental Industrial Hygienists Threshold Limit Values (ACGIH TLVs).<sup>40</sup> While use of these formulas to determine break time necessary to counteract heat stress is advised under the NIOSH guidelines,<sup>41</sup> many employers will struggle with the complicated calculations. NIOSH developed a simpler work/rest table<sup>42</sup> for this reason. However, occupational heat standards can benefit from even greater simplicity.

None of the state standards require breaks at their base temperature trigger levels. They are, however, required under high heat conditions. Washington requires 10-minute rest breaks every two hours when the temperature reaches 90°F. At 100°F, 15-minute breaks are required every hour. California requires 10-minute rest breaks every two hours when the temperature reaches 95°F. However, this requirement only applies to jobs in agriculture. Under “increased risk” conditions, including temperatures of 95°F or higher,

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<sup>38</sup> The heat index is a combination of ambient temperature and relative humidity that reflects the heat experienced by the body.

<sup>39</sup> The Colorado heat standard identifies “increased risk conditions” with any of the following circumstances: (1) the ambient temperature reaches 95°F, (2) the air quality reaches unhealthy levels, (3) work shifts last longer than 12 hours, (4) workers wear heavy clothing or gear, or (5) it is within a worker’s the first four days on the job.

<sup>40</sup> NIOSH RECOMMENDED HEAT STANDARD (2016).

<sup>41</sup> *Id.*

<sup>42</sup> *Heat Stress Work/Rest Schedules*, NIOSH (2017), <https://bit.ly/2XmGO7t> [*hereinafter* Work/Rest Schedules (2017)].

employers must provide 10-minute breaks every two hours under the Colorado heat standard.

The Oregon heat standard provides employers with three options for developing rest/break schedules when the heat index reaches 90°F. Under the first option, the employer may design a schedule with a minimum of 10 minutes every two hours when the heat index reaches 90°F and 15 minutes every hour when the heat index reaches 100°F. The schedule must be further adjusted based on the use of PPE, the effect of work clothing, workload and exposure to direct sunlight - factors that may increase the minimum number and/or duration of required breaks. The second option for employers to develop a required rest/break schedule when the heat index reaches 90°F is to use the table provided by NIOSH. Option three is a simple work/rest schedule of 10-minute breaks every two hours when the heat index reaches 90°F, 20-minute breaks every hour when the heat index reaches 95°F, hourly 30-minute breaks when the heat index reaches 100°F, and hourly 40-minute breaks with a heat index of 105°F or greater.

California, Oregon,<sup>43</sup> Washington, and Colorado all require employee access to rest breaks that are adequate to address their cool down and recovery needs whenever the employee experiences overheating or signs and symptoms of heat-related illness.

While the Minnesota standard is silent about alternatives to maintaining the workplace temperature limits, guidance provided by the Minnesota Occupational Safety and Health Administration (MNOSHA) indicates that the employer may reduce employees' time spent in the heat and/ or reduce employees' workload in lieu of reducing the temperature.<sup>44</sup> The guidance goes on to state that the rest/breaks required to compensate for extreme temperatures may be longer than the work periods.

### **Cool Location**

California, Colorado, Washington and Oregon all require that outdoor workers have access to open-air shade that is as close as practical to the site of work. Employers can provide access to equivalent alternatives if providing shade is not safe or feasible, such as climate-controlled environments or cooling vests. While Minnesota allows the use of breaks in cool areas to reduce the two-hour time-weighted average temperature workers are exposed to in order to meet the required temperature limits, Minnesota guidance states that breaks do not have to be in a cooler area.

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<sup>43</sup> While the Oregon standard does not explicitly indicate the employee right to cool-down breaks when necessary to address overheating, the required heat illness prevention plan must include details on where heat-affected employees may cool off and recover.

<sup>44</sup> *Heat Stress*, MINNESOTA DEPARTMENT OF LABOR AND INDUSTRY, OCCUPATIONAL SAFETY AND HEALTH DIVISION (August, 2012), <https://bit.ly/3UYEajf>.

## Hydration

When coupled with conditions or practices that accelerate bodily heat dissipation, such as a cool environment and adequate hydration, breaks can be even more effective. The body can lose upwards of one liter of water per hour with physical exertion in high heat, which lowers blood volume and puts additional strain on the heart.<sup>45</sup> All five state heat standards require that workers have consistent access to cool drinking water and the opportunity to consume it. Colorado goes a step further, also requiring that workers have adequate time to use the restroom.

## Acclimatization

Employees who are not accustomed to working in hot environments are at increased risk for heat illness. Over 70% of known heat-related fatalities occur during an employee's first week on the job.<sup>46</sup> In fact, a review of heat fatalities conducted by OSHA identified that more than half of heat-related deaths occurred on the first day of work.<sup>47</sup> In addition to new employees, workers returning from a period of absence from the job are also at increased risk of heat-illness and death.<sup>48</sup>

The body's tolerance for heat stress can be increased to accommodate greater physical exertion in hot conditions.<sup>49</sup> As with all forms of physical conditioning, this can be accomplished through gradual increases in exposure to heat stress.<sup>50</sup> Appropriate acclimatization may include reduced heat exposure time and/or physical workload demands, as well as extra monitoring precautions.

Both Oregon and Minnesota require acclimatization plans that include a gradual increase in time spent working in the heat and/or workload for new employees. Under the Oregon standard, employers may use either the NIOSH-recommended acclimatization plan or develop their own plan that integrates the difference between acclimated and unacclimated workers, the effects of clothing and PPE, personal and environmental risk factors, re-acclimatization, and cooling garments. However, wildland firefighters are exempt from acclimatization requirements. The Oregon standard indicates that acclimatization usually requires 7 to 14 days for fit individuals but may require longer for workers with underlying medical conditions. The Minnesota Heat Stress Guide requires approximately one week of gradual increase in workload and time spent working in high heat.

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<sup>45</sup> Chin Leong Lim, *Fundamental Concepts of Human Thermoregulation and Adaptation to Heat: A Review in the Context of Global Warming*, 17 INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH 7795 (Oct. 24, 2020), <https://bit.ly/2XTy5d1>.

<sup>46</sup> *Protecting New Workers*, OSHA (accessed May 5, 2024), <https://tinyurl.com/2fu92ude>.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> *Heat Stress Acclimatization*, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, CENTERS FOR DISEASE CONTROL AND PREVENTION (accessed May 5, 2024), <https://tinyurl.com/hbf5pefp>.

California and Washington don't have requirements for gradually increasing workload or heat exposure, but they both require new employees to be closely observed for symptoms of heat illness for 14 days. Washington also requires 14-day observation of employees returning after an absence of seven or more days. Both California and Washington require close observation of all employees during heat waves.

Colorado has no specific acclimatization requirements but does oblige employers to train employees on the importance of acclimatization.

## Training

Just as workers, supervisors and managers must learn how to perform their job duties, they must also learn how to maintain a safe and healthy workplace. Armed with information on the impact of heat stress and guidance on how to avoid heat-related illness, injury and death, employees are able to protect themselves.

All five states require new workers to be trained on the prevention and management of heat stress. All but California require annual worker trainings, as well. The Minnesota standard does not require training of supervisors. The other states require training of new supervisors while Washington, Oregon, and Colorado also require annual supervisor training. Details of the required trainings are varied.

All five states require training in the signs and symptoms of heat illness and the urgency of addressing the problem quickly. This includes information on basic first aid measures when a worker overheats. Workers must be trained on the importance of reporting signs of heat illness to a supervisor. All states require training on the variety of environmental and personal risk factors that impact heat stress and the importance of hydration in avoiding heat illness. And all five state standards require workers and supervisors to be trained on employer responsibilities under the respective heat standard and the procedures that employer uses to meet those responsibilities.

Both Oregon and Minnesota require employers to keep written or electronic records of all trainings including the dates of trainings, who conducted the trainings, and the names of employees who completed the trainings. The records must be made available to the respective state OSHA upon request.

## Emergency Response

When the body's cooling systems shut down in high heat conditions, body temperature can rise to 106°F or higher in 10-15 minutes, causing organ systems to shut down. This is a heat stroke, and it can be deadly. Fast action is critical to survival. What happens in the first 5-10 minutes of a heat-related crisis can determine whether a worker lives or dies.<sup>51</sup>

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<sup>51</sup> Morrissey et al., *Heat Safety in the Workplace*, 5(8) GEOHEALTH e2021GH000443 (July 31, 2021), <https://doi.org/10.1029/2021GH000443>.

The California, Oregon, Washington, and Colorado standards require all workers and supervisors to be trained in implementing emergency response protocols, including when emergency medical services should be called and how to ensure emergency medical personnel are able to reach the worker in distress.

**Table 2. Training Requirements in State Standards**

Topic	California	Oregon	Washington	Colorado	Minnesota
Signs, symptoms and urgency	✓	✓	✓	✓	✓
Environmental and personal risk factors	✓	✓	✓	✓	✓
Importance of hydration	✓	✓	✓	✓	✓
Importance of acclimatization or acclimatization plan details	✓	✓	✓	✓	
Basic first aid	✓	✓	✓	✓	✓
Importance of taking a break when needed	✓		✓	✓	✓
Emergency response protocol	✓	✓	✓	✓	
Importance of reporting to employer	✓	✓	✓	✓	✓
Employer responsibilities and procedures under standard	✓	✓	✓	✓	✓
Whistleblower rights	✓	✓		✓	
Name and address of manufacturer of equipment creating/contributing to heat					✓
<b>Additional Supervisor Training</b>					
Procedures to implement standard	✓	✓		✓	
Procedures when signs of heat illness appear, including emergency procedures	✓	✓	✓	✓	
Monitoring heat	✓			✓	
Responding to heat advisories	✓				
Using engineering or administrative controls (e.g., air-conditioning and scheduling work in cooler hours of day)			✓		

**Whistleblower Rights**

Neither the federal nor state OSHAs have the capacity to monitor all places of employment for unsafe work conditions. The agencies rely on information from workers. But employees who report workplace safety problems, either directly to the employer or the relevant state or federal OSHA, put their jobs at risk. Workers should be

vigorously protected from all forms of employer retaliation for reporting unsafe conditions that could lead to heat illness or injury and, critically, workers must be educated on that right. Heat standards in California, Oregon and Colorado require workers to be trained on their whistleblower rights, though Colorado permits employers to provide the information to workers in writing alone.

## State Heat Standards Under Development

In addition to the five states with heat standards, efforts have been made in a number of other states to protect workers from heat stress. Legislators in at least 10 states have sponsored bills, often in multiple legislative sessions, setting specific heat protection requirements for employers or directing their state OSHAs to develop a protective heat standard. States where bills have been introduced include: Arizona,<sup>52</sup> Florida,<sup>53</sup> Massachusetts,<sup>54</sup> Minnesota,<sup>55</sup> Rhode Island,<sup>56</sup> Nevada,<sup>57</sup> New Jersey,<sup>58</sup> New York,<sup>59</sup> Texas<sup>60</sup> and Virginia.<sup>61</sup> So far, none of the bills introduced in these state legislatures have passed.

Some state OSHAs have developed proposed heat standards, but have been unsuccessful in receiving the necessary approval to implement the proposed standards. Examples are Nevada<sup>62</sup> and Virginia.<sup>63</sup> Regulations proposed by Nevada OSHA (NV OSHA) must be approved by the Nevada Legislative Commission, but the Commission failed to act on the heat standard proposed by NV OSHA in 2022.<sup>64</sup> In Virginia, standards proposed by Virginia Occupational Safety and Health (VOSH) must be approved by the Virginia Safety and Health Codes Board. Despite a unanimous vote by the Board in 2019 directing VOSH

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<sup>52</sup> Daniel Gonzales, *Arizona Lawmaker Files Bill to Protect Workers from Heat After Yuma Farmworker Death*, ARIZONA REPUBLIC (January 27, 2024), <https://tinyurl.com/mtvdntvt>; See, e.g., State of Arizona Senate, 56th Legislature, Second Regular Session 2024, S.B. 1416, <https://tinyurl.com/v6xy7had>.

<sup>53</sup> Amy Green and Victoria St. Martin, *Florida Legislators Ban Local Heat Protections for Millions of Outdoor Workers*, INSIDE CLIMATE NEWS (March 19, 2024), <https://tinyurl.com/4zyfp9c6>; See, e.g., Florida Senate — 2024, SB 762, <https://tinyurl.com/3kdf5k5t>.

<sup>54</sup> *State Action on Extreme Heat and Worker Protections*, NATIONAL CAUCUS OF ENVIRONMENTAL LEGISLATORS (November 9, 2023), <https://tinyurl.com/yc349kjd>. [hereinafter NCEL, *State Action on Extreme Heat and Worker Protections* (2023)].

<sup>55</sup> *Id.*

<sup>56</sup> *Rhode Island Proposes Worker Climate Protection*, HEALTHSYSTEMS (April 21, 2024), <https://tinyurl.com/yc8a96a2>; See, e.g., State of Rhode Island General Assembly, January Session, A.D. 2024, S2900, <https://tinyurl.com/mpebxwbv>.

<sup>57</sup> Daniel Rothberg, *Activists Pledge to Continue Pushing for Heat Illness Rules After Regulation, Legislation Falter*, THE NEVADA INDEPENDENT (May 28, 2023), <https://tinyurl.com/ybnzhjk9>. [hereinafter Rothberg, *Heat Illness Rules Falter* (May 28, 2023)].

<sup>58</sup> Sophie Nieto-Munoz, *Lawmakers' Push to Protect Workers from Excessive Heat Criticized by Business Groups*, NEW JERSEY MONITOR (May 7, 2024), <https://tinyurl.com/bdz7jnuu>.

<sup>59</sup> Rebecca Redelmeier, *New York Lags Behind Setting Worker Protections for Extreme Heat*, WAMC (May 14, 2024), <https://tinyurl.com/bf3apepp>.

<sup>60</sup> NCEL, *State Action on Extreme Heat and Worker Protections* (2023).

<sup>61</sup> See, e.g., Virginia General Assembly, 2021 Session, Senate Bill No. 1358, <https://tinyurl.com/4by6er6a>.

<sup>62</sup> Rothberg, *Heat Illness Rules Falter* (May 28, 2023).

<sup>63</sup> Alex Brown, *Virginia Nixes Effort to Issue Heat Safety Rules for Workers*, STATELINE (December 9, 2021), <https://tinyurl.com/vkdf5m88>. [hereinafter Brown, *Virginia Nixes Heat Safety Rules* (2021)].

<sup>64</sup> Rothberg, *Heat Illness Rules Falter* (May 28, 2023).



to develop a heat standard, the Board narrowly voted to reject the proposed heat standard in 2021.<sup>65</sup>

Other state OSHAs have made significant progress in developing standards to protect workers from excessive heat and are likely to have heat standards in place in the coming months.

## Maryland

The Maryland legislature passed a statute in 2020 requiring that the Maryland Occupational Safety and Health (MOSH) develop and issue a workplace heat standard by October, 2022.<sup>66</sup> Under Governor Larry Hogan, the development process was slow and plagued by strong pressure from business interests.<sup>67</sup> The proposal issued by MOSH on Oct 7, 2022, was so regressive that it actually reduced the basic protections already available to workers under the employer's general duty to provide a safe workplace.<sup>68</sup> At the urging of worker advocacy groups, the Maryland General Assembly Joint Committee on Administrative, Executive, And Legislative Review (November 18, 2022) put a hold the proposed heat standard for review of whether it conformed to the legislative intent. Under the new Governor Wes Moore, MOSH began to rewrite the proposed standard.<sup>69</sup> The MOSH Advisory Board discussed its most recent draft at a public meeting on May 2, 2024, a much more substantial proposed standard to address indoor and outdoor heat stress in all industries.<sup>70</sup>

## California (Indoor Protections)

Eight years after the California legislature passed the law requiring the California Division of Occupational Safety and Health (Cal/OSHA) to develop a rule to protect indoor workers from excessive heat,<sup>71</sup> the governor of California pulled the rug out from under final passage of the rule just hours before the scheduled vote.<sup>72</sup>

The Cal/OSHA Standards Board was scheduled to vote on the proposed rule on Thursday, March 21, 2024. Advocates for workers and industries alike expected the

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<sup>65</sup> Brown, *Virginia Nixes Heat Safety Rules* (2021).

<sup>66</sup> Maryland Labor and Employment Code § 5-1201 (2020) — Adoption of Regulations Protecting Employees from Heat Related Illness Caused by Heat Stress, <https://tinyurl.com/y8ndw4tb>.

<sup>67</sup> Nene Narh-Mensah, *Activists Accuse Md. Labor Department of Slow-Walking Heat Protection Regulations for Workers*, WTOP NEWS (August 11, 2022), <https://tinyurl.com/9nz4yyvm>.

<sup>68</sup> Alex Saurman, *Signed Letter Advises Changes to Maryland's Heat Stress Standard Draft*, OCCUPATIONAL HEALTH AND SAFETY (November 11, 2022), <https://tinyurl.com/2zc2sepf>. See, Notice of Proposed Action 22-190-P (Oct. 7, 2022): COMAR 09.12.32 — *Heat Stress Standards*.

<sup>69</sup> Tunisia Gannon, Todd Holden, Wynton Johnson, Tia McCoy-Johnson, Sam Mowery, Oluwadamilola Olaniyan, Wendy Smith, and Rownite Stevens, *Opinion: Time to Turn Up the Heat on Worker Protections*, MARYLAND MATTERS (October 6, 2023), <https://tinyurl.com/bparuav3>.

<sup>70</sup> See, MD Draft Heat Stress Standard, COMAR 09.12.32: *Heat Stress Standards*, <https://tinyurl.com/ymvp24jd>.

<sup>71</sup> Cal. Labor Code § 6720 (2016) — *Relating to Employee Safety*.

<sup>72</sup> Alejandra Borunda, *California Wants to Protect Indoor Workers from Heat. That Goal Is Now in Limbo*, NPR (March 23, 2024), <https://tinyurl.com/4zyebum3>.

rule to pass. But on the eve of the vote, the California Department of Finance pulled its support for the rule and demanded that it be taken off the schedule of the Cal/OSHA Standards Board meeting the following day.<sup>73</sup>

The Department of Finance had already submitted a Standardized Regulatory Impact Assessment (SRIA) – the required cost impact estimate of the proposed indoor heat standard. The original analysis of the proposed rule included an estimated cost of \$1 million for the California Department of Corrections and Rehabilitation to comply with the rule.<sup>74</sup>

However, the Department of Finance pulled its support for the proposed indoor heat rule in the evening of March 20, 2024, claiming to have received information from the California Department of Corrections in February inexplicably adjusting the estimate to billions of dollars to make California prison workers safe from excessive heat.<sup>75</sup>

Members of the CAL/OSHA Standards Board and advocates for workers were outraged at the sudden removal of the indoor heat rule from the March 21st agenda and the Standards Board decided to proceed anyway with a symbolic vote, unanimously passing the proposed indoor heat rule.<sup>76</sup>

On May 10, 2024, Cal/OSHA issued a revised proposed heat standard that would exempt state and local prisons, detention facilities and juvenile facilities from requirements to protect tens of thousands of workers from heat stress.<sup>77</sup> This began a 15-Day Notice for public comment and the Standards Board will have to vote on the standard again. After the vote, the Office of Administrative Law has 100 days to complete a legal review of the Board-approved standard before it can go into effect, possibly pushing implementation of the new standard to the middle of the summer or later.<sup>78</sup>

## Local Efforts to Protect Workers

In states without occupational heat standards, some local governments have tried to create ordinances to protect workers from heat stress. However, strong lobbying by

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<sup>73</sup> *Id.*

<sup>74</sup> Angela Hart and Samantha Young, *Heat Protections for Indoor California Workers in Limbo After Newsom Abandons Rule*, PBS (April 13, 2024), <https://tinyurl.com/ypaduap8>.

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> Samantha Young, *California Gov. Newsom Offers Compromise to Protect Some Indoor Workers from Heat*, PBS (April 20, 2024), <https://tinyurl.com/4444jk4z>. [*hereinafter* Young, *Gov. Newsom Offers Compromise* (Apr. 20, 2024).]; Fourth Notice of Proposed Modification to California Code of Regulations, Title 8: New Section 3396 of the General Industry, Safety Orders, Heat, Illness Prevention, And Indoor Places of Employment, Department of Industrial Relations, Occupational Safety and Health Standards Board, <https://tinyurl.com/3syterkv>.

<sup>78</sup> Young, *Gov. Newsom Offers Compromise* (Apr. 20, 2024).

corporate interests has blocked those efforts, turning life-saving worker protections into a political tug-of-war. Espousing the goal of creating consistent statewide policy, Republican-controlled state legislatures have passed aggressive preemption laws that have steam-rolled efforts by local governments to protect workers.<sup>79</sup>

## Texas

Texas is one of the hottest states in the country and the impact of heat on workers there is undeniable. For example, data from the Houston Health Department on ER admissions for heat-related illness in 2022 showed that 58% of the illnesses occurred while working and the patients were largely construction workers, warehouse workers, and firefighters.<sup>80</sup>

The cities of Austin and Dallas attempted to address the dangerous conditions facing construction workers. They passed ordinances requiring that construction workers to be given 10-minute water breaks every four hours.

But in July of 2023 Governor Greg Abbott signed HB 2127, the sweeping “Death Star Law,” which bars local governments from issuing regulations across a wide range of categories without approval from the Texas Legislature, including labor regulations.<sup>81</sup> The legislation went as far as specifically preempting rules on rest breaks. In a legal challenge to the new law brought by Houston, El Paso and San Antonio, Travis County Civil District Court Judge Maya Guerra Gamble blocked the Death Star law as unconstitutionally vague under the Texas Constitution.<sup>82</sup> The Texas Attorney General Ken Paxton immediately appealed the ruling and the Appellate Court temporarily suspended Judge Gamble’s ruling, allowing the law to go into effect on September 1, 2023, as planned.<sup>83</sup> It may be 2025 before the Texas Supreme Court issues a final ruling on the statute.<sup>84</sup>

## Florida

For 46 straight days in 2023 Miami’s heat index exceeded 100°F.<sup>85</sup>

In March of 2024, Miami-Dade County was just weeks away from instituting employer requirements to protect workers from heat-related illnesses, injuries and fatalities. In a preemptive strike, fueled by the the Florida Chamber of Commerce and the powerful

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<sup>79</sup> Chris Marr, *Worker Heat Safety Laws Are Latest Focus of Red State Preemption*, BLOOMBERG LAW (April 17, 2024), <https://bit.ly/3UzygUe.>

<sup>80</sup> Sara Willa Ernst, *Heat Wave Spikes 911 EMS Calls in Houston*, HOUSTON PUBLIC MEDIA (June 30, 2023), <https://bit.ly/44G71ZY>.

<sup>81</sup> Francisco Uranga, *Limited Regulations Make Texas Workers Responsible for Preventing On-The-Job Heat Injuries*, THE TEXAS TRIBUNE (July 12, 2023), <https://bit.ly/3UzC6wC>.

<sup>82</sup> Chris Marr, *Judge blocks Texas Death Star Preemption Law*, AG Appeals (2), BLOOMBERG LAW (August 30, 2023); *City of Houston v. State of Texas*, Tex. Dist. Ct., D-1-GN-23-003474, 8/30/23, <https://aboutblaw.com/bagU>.

<sup>83</sup> Matt Sledge, *After Fierce Debate, Texas “Death Star” Law Has Yet to Be Used in Houston, Other Big Cities*, HOUSTON LANDING (November 13, 2023), <https://tinyurl.com/2d8f3929>.

<sup>84</sup> *Id.*

<sup>85</sup> Nicolás Rivero and Alex Harris, *46 Sweltering Days: Miami’s Record Heat Streak Offers a Glimpse at Summers to Come*, MIAMI HERALD (October 3, 2023), <https://bit.ly/4bfR02h>.

agriculture and construction lobbies,<sup>86</sup> Florida lawmakers passed HB 433<sup>87</sup> to prevent it from happening. Taking a page from the Texas Death Star Law, the legislation prohibits local governments from instituting protections for workers. However, the Florida law is much more narrowly targeted.<sup>88</sup>

Instead of prohibiting local governments from instituting a wide range of regulations, the cruel Florida law very specifically attacks heat stress protections. It details a list of prohibited workplace requirements — basic protocols to prevent heat stress including hydration, rest breaks, acclimatization, and any form of training for workers about the dangers of heat illness and how to prevent it. It even prohibits requirements for employers to have the first aid and emergency response protocols necessary to save lives. Finally, the law undermined all pretext of maintaining consistent requirements for employers throughout the state by prohibiting the state government from passing workplace heat stress protections for the next two years.

The law is expected to impact nearly 1.8 million Florida workers, having a disproportionate impact on Latino and undocumented immigrant workers.<sup>89</sup> In Florida, 40% of outdoor workers are Latino, whereas Latinos make up only 30% of the total workforce in the state. While undocumented immigrants make up only 12% of the Florida workforce, they make up 22% of outdoor workers.<sup>90</sup> This pattern of heightened exposure to heat stress is broadly reflected in the national outdoor workforce.

### Phoenix, Arizona

For millions in the American South and Southwest, intense heat waves lasted for weeks in the summer of 2023. Phoenix, Arizona experienced a record-setting 31 consecutive days above 110°F<sup>91</sup> with only a brief intermission — two days with highs of 108°F and

109°F — before suffering through another week surpassing the 110°F mark again.<sup>92</sup> The scorching Phoenix daytime highs were accompanied by 16 consecutive days when overnight lows didn't sink below 90°F.

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<sup>86</sup> Michael Sainato, *Florida Workers Brace for Summer with No Protections: My Body Would Tremble*, THE GUARDIAN (May 4, 2024), <https://bit.ly/4dBDfMS>.

<sup>87</sup> Fla. Sta. § 488.106 (2024) — *Workplace Heat Exposure Requirements*, <http://laws.flrules.org/2024/80>.

<sup>88</sup> Mason Rowser, *'Death Star' Bill Lands in Texas, Limiting Local Governments Across State*, THE DAILY TEXAN (September 11, 2023), <https://tinyurl.com/52zndycc>.

<sup>89</sup> Nambi Ndugga, Drishti Pillai, and Samantha Artiga, *Florida's Recent Heat Protection Preemption Law Could Disproportionately Affect Hispanic and Non-Citizen Immigrant Workers*, KFF (April 26, 2024), <https://bit.ly/3K1SLnQ>.

<sup>90</sup> *Id.*

<sup>91</sup> The Associated Press, *Phoenix Ends 31-Day Streak of Highs at or Above 110° — By Reaching 108°*, NPR (August 1, 2023), <https://tinyurl.com/3w2zn7bm>.

<sup>92</sup> NOWData — NOAA Online Weather Data, The National Weather Service, NOAA (accessed May 12, 2024), <https://www.weather.gov/wrh/Climate?wfo=psr>.

On March 26, 2024, the Phoenix City Council passed an ordinance to protect all outdoor workers of city contractors and subcontractors from heat stress.<sup>93</sup> The definition of outdoor work environments is work conducted on city-owned, city-leased or city-licensed outdoor property and includes greenhouses, sheds, tents, and jet bridges to aircrafts.<sup>94</sup> The ordinance requires employers to provide — (1) regular breaks and necessary breaks as needed in the shade or air-conditioning; (2) free, accessible and cool drinking water; (3) air-conditioning in vehicles by May 1, 2025; (4) effective acclimatization for newly assigned or reassigned to outdoor workers.<sup>95</sup> And it requires detailed comprehensive training for all employees and contract workers with required elements similar to those found in the Washington heat standard.<sup>96</sup> Failure to comply with the requirements of the Phoenix heat standard could result in cancellation or suspension of the contract.<sup>97</sup>

## Conclusion

Protection from occupational heat illness, injury and death is a matter of human rights and social justice.<sup>98</sup> While some jobs are inherently dangerous, no one should be unnecessarily risking their lives or health to go to work each day. Employers have a responsibility to create a safe workspace.

The five U.S. states that have heat stress standards in place — 1/10<sup>th</sup> of all states — have taken a positive step to protecting workers in their states. Unfortunately, this patchwork of rules is inadequate — leaving the vast majority of workers in the U.S. without any protection from dangerously high heat on the job. Until a federal OSHA heat standard is issued, these workers can only hope to have a benevolent employer who is dedicated to learning about how to protect workers from heat stress and committed to implementing a thorough, well-considered set of protection protocols.

Where no state workplace heat stress standards are in place, a few local communities have tried to provide protections for workers in their jurisdictions. Unfortunately, the business lobby in Texas and Florida has been very effective at quashing these local efforts through the use of preemption laws that prevent local jurisdictions from putting regulations in place that are stronger than state regulations on heat stress. Preemption laws “take power

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<sup>93</sup> Aliya Uteuova, *Phoenix Passes Landmark Rule Requiring Heat Protection for Outdoor Workers*, THE GUARDIAN (March 27, 2024), <https://tinyurl.com/34839s3w>.

<sup>94</sup> Ordinance G-7241 (2024), Phoenix City Code, Chap. 18, Title XI, § 18-411 through § 18-416 — *Contractor Requirements for the Mitigation of Heat-Related Illnesses and Injuries in the Workplace*, [https://phoenix.municipal.codes/CC/18\\_ArtXI](https://phoenix.municipal.codes/CC/18_ArtXI).

<sup>95</sup> *Id.*

<sup>96</sup> *Id.*

<sup>97</sup> *Id.*

<sup>98</sup> Leonidas G. Ioannou, Josh Foster, Nathan B. Morris, Jacob F. Piil, George Havenith, Igor B. Mekjavic, Glen P. Kenny, Lars Nybo & Andreas D. Flouris, *Occupational Heat Strain in Outdoor Workers: A Comprehensive Review and Meta-analysis*, TEMPERATURE (April, 2022), <https://bit.ly/3yxAO3K>.

away from communities to appease corporations,” said Katie Bellinger of the Local Solutions Support Center.

Congress could act today to protect all workers in this country by passing the Asunción Valdivia Heat Illness, Injury and Fatality Prevention Act of 2023 (S.2501/H.R.4897), which would direct OSHA to implement an enforceable interim heat standard right now that would be in effect until a final federal OSHA standard is issued. The bill has the support of the Heat Stress Network — more than 100 workers rights organizations, unions, occupational health groups and experts, climate change organizations, and faith-based organizations — representing millions of workers across the country.<sup>99</sup> Additionally, the Attorneys General of 10 states and the District of Columbia have called upon congress to pass the bill: New York, Connecticut, Illinois, Maryland, Arizona, Colorado, Maine, Massachusetts, New Jersey, Pennsylvania, and the District of Columbia.<sup>100</sup> Despite nearly 100 cosponsors in the U.S. House and 25 cosponsors in the U.S. Senate, the bipartisan bill currently languishes in congressional committees.<sup>101</sup>

Workers lives are at stake.

The federal and state OSHAs have a responsibility to hold employers accountable for workplace safety. And we, as a society, have a responsibility to workers to ensure that they are able to safely make a living and support their families. It is far past time for the federal government to step up and protect workers before what will be the hottest summer of our lives.<sup>102</sup> Congress must immediately pass the Asunción Valdivia Heat Illness, Injury and Fatality Prevention Act of 2023. Yet it would be foolish to place hope in a dysfunctional Congress. States have an equal obligation to protect their workers and the 45 states and District of Columbia that have not yet done so should follow the example of the five that have.

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<sup>99</sup> Juley Fulcher, *Over 120 Organizations Join in Support for Worker Heat Protections: Asunción Valdivia Heat Illness, Injury and Fatality Prevention Act of 2023*, PUBLIC CITIZEN (July 25, 2023), <https://tinyurl.com/5n7hkre4>.

<sup>100</sup> *Ten State Attorneys General Petition Osha for an Emergency Heat Standard: With Summer Approaching, AGs Urge Congress to Pass the Asunción Valdivia Heat Illness, Injury and Fatality Prevention Act*, PUBLIC CITIZEN (February 9, 2024), <https://tinyurl.com/5adzwp67>.

<sup>101</sup> *Asunción Valdivia Heat Illness, Injury and Fatality Prevention Act of 2023 (S.2501/H.R.4897)*, <https://tinyurl.com/3u4523w5>.

<sup>102</sup> *Desantis Signs Law, Banning Water, Breaks and Cooling Measures from Florida Workers*, PUBLIC CITIZEN (April 15, 2024), <https://tinyurl.com/4bfrkp5r>.