Heat related deaths increasing in AZ

Almost 1500 people died from heat exposure due to excessive temperatures in Arizona from 1992 to 2009

522 Heat related deaths in 2021-2020 (General population)

84% increase over 2019

It’s getting hotter

Heat is the number one weather related killer in Arizona.
Source National Weather Service
Myths about Heat related illness

• If they aren't convulsing, it's not serious

• Sports drinks are necessary when working in the heat

• Heat affects everyone equally

• Youth can't handle the heat as well as adults

• Heat related illnesses only happen to those employees working outdoors
<table>
<thead>
<tr>
<th>#</th>
<th>Summary Nr</th>
<th>Event Date</th>
<th>Report ID</th>
<th>Fatality</th>
<th>SIC</th>
<th>NAICS</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>155818.01</td>
<td>04/14/2023</td>
<td>0627700</td>
<td>X</td>
<td>332312</td>
<td></td>
<td>Employee Is Killed When Stuck In Chest By Flying Plug</td>
</tr>
<tr>
<td>2</td>
<td>152546.01</td>
<td>01/01/2023</td>
<td>0418800</td>
<td>X</td>
<td>115115</td>
<td></td>
<td>Employee Is Killed Due To Heat Illness While Farming</td>
</tr>
<tr>
<td>3</td>
<td>152347.01</td>
<td>12/19/2022</td>
<td>0111400</td>
<td>X</td>
<td>236220</td>
<td></td>
<td>Employee Is Overcome By Ammonia And Dies</td>
</tr>
<tr>
<td>4</td>
<td>150471.01</td>
<td>08/08/2022</td>
<td>0950633</td>
<td>X</td>
<td>561730</td>
<td></td>
<td>Employee Dies From Heat Stroke After Landscaping</td>
</tr>
<tr>
<td>5</td>
<td>149624.01</td>
<td>08/07/2022</td>
<td>0950612</td>
<td></td>
<td>923120</td>
<td></td>
<td>Employee Suffers Heat Illness</td>
</tr>
<tr>
<td>6</td>
<td>153034.01</td>
<td>08/29/2022</td>
<td>0950621</td>
<td>X</td>
<td>922120</td>
<td></td>
<td>Employee Dies Due To Heat Stroke</td>
</tr>
<tr>
<td>7</td>
<td>149541.01</td>
<td>08/22/2022</td>
<td>0418200</td>
<td>X</td>
<td>488190</td>
<td></td>
<td>Employee Is Killed By Possible Heart Attack Or Heat Exhaus</td>
</tr>
<tr>
<td>8</td>
<td>149045.01</td>
<td>08/19/2022</td>
<td>0950623</td>
<td>X</td>
<td>237310</td>
<td></td>
<td>Employee Dies From Heat Stroke After Working In Hot Environm</td>
</tr>
<tr>
<td>9</td>
<td>148722.01</td>
<td>08/08/2022</td>
<td>0625400</td>
<td>X</td>
<td>561730</td>
<td></td>
<td>Employee Suffers Heat Stroke And Dies While Digging Trench</td>
</tr>
<tr>
<td>10</td>
<td>148346.01</td>
<td>07/29/2022</td>
<td>0420300</td>
<td>X</td>
<td>541320</td>
<td></td>
<td>Employee Dies Of Heat Stroke</td>
</tr>
<tr>
<td>11</td>
<td>148202.01</td>
<td>07/28/2022</td>
<td>0454732</td>
<td>X</td>
<td>611310</td>
<td></td>
<td>Employee Dies Of Possible Heart Attack</td>
</tr>
<tr>
<td>12</td>
<td>151030.01</td>
<td>07/25/2022</td>
<td>0419400</td>
<td>X</td>
<td>561730</td>
<td></td>
<td>Employee Experiences Heat Stroke And Drowns</td>
</tr>
<tr>
<td>13</td>
<td>148177.01</td>
<td>07/25/2022</td>
<td>0454722</td>
<td>X</td>
<td>326112</td>
<td></td>
<td>Employee Dies Due To Natural Causes</td>
</tr>
<tr>
<td>14</td>
<td>148071.01</td>
<td>07/20/2022</td>
<td>0454722</td>
<td>X</td>
<td>811310</td>
<td></td>
<td>Employee Dies Of Heart Attack During Heat</td>
</tr>
<tr>
<td>15</td>
<td>148380.01</td>
<td>07/11/2022</td>
<td>0625700</td>
<td>X</td>
<td>541370</td>
<td></td>
<td>Employee Dies Due To Heat Exposure</td>
</tr>
<tr>
<td>16</td>
<td>147773.01</td>
<td>07/09/2022</td>
<td>0523300</td>
<td>X</td>
<td>811310</td>
<td></td>
<td>Employee Dies From Cardiac Arrhythmia</td>
</tr>
<tr>
<td>17</td>
<td>147838.01</td>
<td>07/07/2022</td>
<td>0627100</td>
<td>X</td>
<td>531311</td>
<td></td>
<td>Employee Dies From Heat Exhaustion</td>
</tr>
<tr>
<td>18</td>
<td>147767.01</td>
<td>07/06/2022</td>
<td>0453710</td>
<td>X</td>
<td>561730</td>
<td></td>
<td>Employee Dies From Heat Exhaustion</td>
</tr>
<tr>
<td>19</td>
<td>147643.01</td>
<td>07/05/2022</td>
<td>0551800</td>
<td>X</td>
<td>338360</td>
<td></td>
<td>Employee Dies From Cardiac Arrest</td>
</tr>
<tr>
<td>20</td>
<td>147712.01</td>
<td>07/05/2022</td>
<td>0751910</td>
<td>X</td>
<td>562998</td>
<td></td>
<td>Employee Dies From Heat Stroke After Working In Confined Spa</td>
</tr>
</tbody>
</table>
Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings

A Proposed Rule by the Occupational Safety and Health Administration on 10/27/2021

AGENCY:
Occupational Safety and Health Administration (OSHA), Labor.

ACTION:
Advance notice of proposed rulemaking (ANPRM).

SUMMARY:
OSHA is initiating rulemaking to protect indoor and outdoor workers from hazardous heat and is interested in obtaining additional information about the extent and nature of hazardous heat in the workplace and the nature and effectiveness of interventions and controls used to prevent heat-related injury and illness. This ANPRM provides an overview of the problem of heat stress in the workplace and of measures that have been taken to prevent it. This ANPRM also seeks information on issues that OSHA can consider in developing the standard, including the scope of the standard and the types of controls that might
Applies ADOSH wide. Goal- Reduce exposure to heat-related hazards resulting in illnesses, injuries and deaths.

Includes:

Changes to current inspections
New Programmed inspections
Data Collection – Specific Coding
New Outreach activities
NWS – Triggers Programmed planned inspections
Violations can result in General Duty Citations

Inspections:

Site Scheduling – Appendix A – Tables 1 & 2
OSHA 300 log review
Records review - Heat related emergencies
Interview employees
Does employer have a program
Document the proactive steps
Document the hazards related to heat

Ref: OSHA Technical Manual Section III: Chapter 4
The Four Environmental Factors

Temperature
Ambient air temperature

Humidity
Amount of moisture in the air

Physical Work

Air velocity
Circulating air

THE HEAT EQUATION

<table>
<thead>
<tr>
<th>Relative Humidity</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>70%</td>
<td>100°F 100°C</td>
</tr>
<tr>
<td>60%</td>
<td>95°F 35°C</td>
</tr>
<tr>
<td>50%</td>
<td>90°F 32.2°C</td>
</tr>
<tr>
<td>40%</td>
<td>85°F 29.4°C</td>
</tr>
<tr>
<td>30%</td>
<td>80°F 26.7°C</td>
</tr>
</tbody>
</table>

When the body is unable to cool itself through sweating, serious heat illnesses may occur. The most severe heat-induced illnesses are heat exhaustion and heat stroke. If actions are not taken to treat heat exhaustion, the illness could progress to heat stroke and possible death.

American Conference of Governmental Industrial Hygienists (ACGIH)
Causal Factors

- Age, weight, degree of physical fitness
- Degree of acclimatization, metabolism
- Use of alcohol or drugs

... as well as a variety of medical conditions such as hypertension all affect a person’s sensitivity to heat.
Causal Factors

Prior heat injury predisposes an individual to additional injury

Type of clothing worn must be considered

Physical exertion

Medications

And more.......
A plan or program (not mandated to be in writing) to discuss / address the following:

- **Acclimatization** ...(keep in mind vacation breaks)
- **Water** are they doing about water (CDC recommends 50-60° (where possible))
- **Rest periods**
- **Cooling areas** such as shade structures or the availability of shade or an area to cool off.
- **Training** – Symptoms, signs, prevention strategies

There should also be a plan in the event of a heat emergency

As the Inspector consider:

- **Air movement**
- **Clothing**
- **Physical activity level**
- **Machinery or equipment** that produces radiant heat
- **Site Location**
Heat Illness Prevention

Every year, dozens of workers die and thousands more become ill while working in hot or humid conditions. OSHA’s Heat Illness Prevention campaign educates employers and workers on heat hazards and provides resources to keep workers safe.

Employer Responsibilities
Employers can keep workers safe in the heat.

Learn More

Information for Workers
Understand workers’ rights and what workers should know about heat illness.

Learn More

More Resources on Heat
Heat illness is serious, but you can prevent it.

Learn More

Featured Resources

- Hazard Alert: Extreme Heat Can Be Deadly to Workers (PDF)
- Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings
- OSHA National Emphasis Program – Outdoor and Indoor Heat-Related Hazards
- Protecting Workers from the Effects of Heat (PDF)
- Personal Risk Factors and Heat Exposure (PDF)
- See all OSHA publications about Heat

Join our mailing list
By subscribing, you will receive our newsletter on heat illness prevention, The Heat Source.

Subscribe