

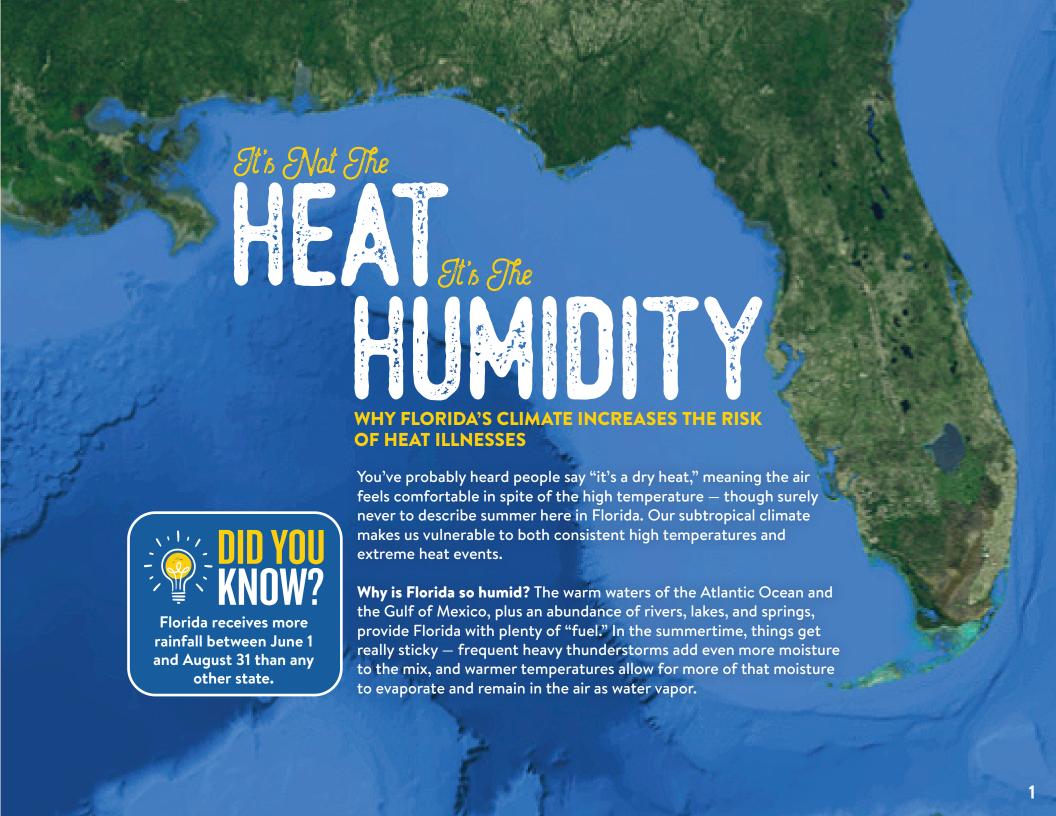


### In This Issue

Hurricanes, tornadoes, wildfires, and floods get a lot of attention, but extreme heat is the nation's leading weather-related killer. As extreme heat events have become more common, so have heat-related illnesses. According to the Department of Labor, the three-year average of workplace deaths caused by heat has doubled since the early 1990s. In response to this increase, OSHA has instituted a new National Emphasis Program "to identify and eliminate or reduce worker exposures to occupational heat-related illnesses and injuries."

Inside this special feature edition of OUTLOOK, you will learn how to recognize and treat heat-related illnesses, how to reduce or prevent heat hazards, and why Florida's weather puts its workers at greater risk.

It's Not the Heat, It's the Humidity $-$ Why Florida's Climate Increases the Risk of Heat Illnesses	
Florida Weather Facts & Stats	3
Recognizing, Preventing, & Treating Heat-Related Illnesses	4
Heat-Related Illness Chart	7
The Deadly Damage Done by Heat Exposure	8
Heat Stress & PPE	10
Outlook Snapshot — Workers' Compensation Claims	10
DRM Training — Webinars & eLearning	11
References / Resources	11
Safety & Loss Prevention OUTLOOK Online Library	13
Credits	14



Believe it or not, Florida is not the most humid state in the nation — that title belongs to Alaska, with Florida at number two. It's the combination of heat and humidity that puts Floridians more frequently at risk of heat-related illnesses.

Several other states (Arizona, Nevada, New Mexico, etc.) commonly experience temperatures well into the 100s — much higher than those typical during a Florida summer — but Florida's high humidity makes the air feel more uncomfortable even at lower temperatures. How the air actually feels (sometimes called the "real feel temperature") is measured using the heat index. Here are some examples of how the heat index can be used:

In June of 2013, the temperature in Death Valley, CA reached 129°F, one of the hottest on record. However, the dew point remained in the 30s, a relative humidity of less than 5%. This made the air feel about 15° cooler than the actual temperature — a heat index around 115° (still dangerously hot).

The average summer day in Florida is nowhere near that hot — typically around 90°F — but dew points in the 70s give us a relative humidity around 60%, putting the heat index around 100°F. And that's just the average — many Florida cities see 50 or more days with temperatures above 90° each year.

Temperature (°F) **NWS Heat Index** 80 82 84 86 88 108 110 90 98 100 Relative Humidity (%) 105 113 122 **131** 86 93 100 108 117 127 100 87 95 103 112 121 **132** Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity Caution Extreme Caution Extreme Danger Danger

**Humidity** is the amount of moisture present in the air.

**Relative humidity** is the percentage of the air currently saturated by water vapor compared to the maximum amount possible at a given temperature.

**The heat index** is how the air feels with the effect relative humidity has on the actual air temperature.

The **dew point** is the temperature at which the relative humidity is 100%, at which point condensation forms (typically fog or dew).

Summer's higher temperatures cause the dew point to rise and water to evaporate more quickly, filling the air with humidity.

The more humid the air, the more difficult it is for the more humid the air, the more difficult it is for the more difficult it is f

How hot is too hot? The CDC considers heat levels "extreme" when temperatures are much hotter than the local average for that time of year. What's too hot for a Minnesotan will be quite different than that of a Floridian. Tourists from cooler locations who visit Florida will struggle more to keep cool than an acclimatized resident. (See pg. 5 for more on acclimatization.)

As unpleasant as it is, feeling uncomfortable isn't what makes humid heat so dangerous. The problem lies in the body's temperature regulation system — more specifically, perspiration. When the body heats up, sweat glands release moisture that cools the skin as it evaporates.

When the air is already full of moisture, sweat has nowhere to go, leaving the body unable use this method to cool itself. In spite of this, the body continues to produce more sweat, which can lead to dehydration, as well as depleting us of salt and other important minerals. When sweat isn't working, the body works harder to cool itself in other ways, such as increasing blood flow, that can actually raise body temperature and put a strain on the cardiovascular system.

Though a "dry heat" may feel less oppressive, it can be just as dangerous. Low humidity can make it easier to keep cool through sweat evaporation, but

extremely high temperatures (like those seen in Death Valley in the earlier example) can still damage the brain and other organs.

Think about getting into your car after it's been parked in the sun — it can feel like an oven, even when the humidity is low. Australian chef Matt Moran drove this point home on a balmy day in 2015 when he used his car to cook a lamb steak.

It took only 90 minutes for this lamb steak to go from raw to well done after being placed inside a car on an 80°F day. The cabin temperature reached a scorching 167°. Just imagine the damage extreme temperatures can do on your body.



# FLORIDA WEATHER FACTS & STATS

Despite its nickname "The Sunshine State," Florida ranks tenth on the list of the sunniest states in America. Unsurprisingly, the desert states of Arizona, New Mexico, and Nevada are in the top three.

Florida is home to seven of the top 50 hottest cities in the U.S., based on the average number of days per year with temperatures above 90°: Fort Myers (99), Orlando (98), Tallahassee (91), Tampa (87), Gainesville (85), Jacksonville (82), West Palm Beach (75), and Miami (68).

The hottest city in Florida is Fort Myers, with an average temperature around 85°, while Crestview boasts the coolest average — around 53°. The most humid Florida cities are Key West and Orlando.

Jacksonville, Orlando, and Miami feel hotter than other Florida cities due to the "heat island" effect — paved surfaces, stagnant air, and a lack of vegetation in urban landscapes make cooling more challenging.

### Recognizing, Preventing, and Treating

### HEAT-RELATED ILLNESS

Oppressive heat can make working outdoors not just uncomfortable, but deadly. The good news is that occupational heat illnesses are preventable if precautions are taken.

While individual and situational risks may vary, anyone working near a heat source, whether it be construction work in the hot sun or cooking over a hot stove, is in danger of occupational heat illness. Those employees (and their employers) must know how to recognize occupational heat hazards, prevent or mitigate heat stress, and treat heat-related illnesses when they occur.

#### STEP 1: RECOGNIZING HEAT HAZARDS

Occupational heat exposure is a combination of four factors:

- Environmental Conditions These include air temperature, humidity, radiant heat sources (e.g., ovens or furnaces, as well as surfaces that retain heat, such as roofs or paved roads), and air movement.
- Metabolic Workload The amount of heat generated by the body is called the metabolic rate, which can be measured in watts or calories. The harder the body works, the higher the metabolic rate. A person doing very heavy labor overheats much more quickly than someone with a light workload (see chart for examples). Intense physical labor can lead to heat illness even in cooler conditions.
- Engineering Controls / Work Practices Factors specific to each worksite and/or job task, such as personal protective equipment, airflow, availability of water, etc., may increase or decrease the risk of heat illness (e.g., heavy or protective clothing such as HAZMAT suits or firefighting gear can prevent

WORKLOAD LEVEL	EXAMPLES	TYPICAL METABOLIC RATE
REST	- Sitting at ease - Thinking or reading	100-125 watts 85-108 kcal/hour
LIGHT	<ul> <li>Walking up to 1.5 mph</li> <li>Light manual work (writing, typing, sewing)</li> <li>Hand &amp; arm work (intermittent use of small bench tools, inspection/assembly/sorting of light materials)</li> <li>Arm&amp; leg work (driving a car, operating a foot switch or pedal)</li> <li>Stading watch</li> </ul>	125-235 watts 109-202 kcal/hour
MODERATE	<ul> <li>Walking up to 3.5 mph</li> <li>Sustained hand &amp; arm work (hammering nails, using hand tools, scrubbing)</li> <li>Arm &amp; leg work (off-road operation of trucks, tractors, or other construction equipment)</li> <li>Arm &amp; trunk work (drilling, plastering, weeding, hoeing, picking produce, pushing or pulling light carts, sweeping or mopping floors)</li> </ul>	235-360 watts 203-310 kcal/hour
HEAVY	<ul> <li>Walking up to 4.5 mph</li> <li>Intense arm &amp; trunk work (carrying heavy material, shoveling or digging)</li> <li>Shoveling or digging</li> <li>Sawing, sanding, or chiseling hard wood</li> <li>Hand mowing, grinding, &amp; cutting</li> <li>Stacking lumber or concrete</li> <li>Roofing or road construction</li> <li>Landscaping or felling trees</li> </ul>	360-465 watts 311-400 kcal/hour
VERY HEAVY	<ul> <li>Walking or running faster than 4.5 mph</li> <li>Any activity done at or near maximum pace</li> <li>Climbing stairs, ladders, or ramps</li> <li>Rapid marching or fitness training</li> <li>Intense shoveling or digging</li> <li>Using an axe or sledgehammer</li> <li>Brick or stone masonry</li> <li>Firefighting</li> </ul>	>465 watts >401 kcal/hour

heat and moisture from escaping; a worksite that receives direct sun will be much hotter than a shaded area, etc.). Engineering controls such as fans, tents, cooling towels, etc. can mitigate the risk from dangerous environmental conditions. (See pg. 10 for more about staying safe from heat stress while using PPE.)

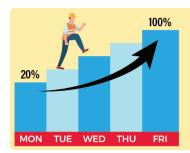
Individual Risk Factors — These include a person's age (younger people sweat more), body mass (greater body mass means more skin surface area, which aids in both increased blood flow and evaporative cooling), fitness level (fitter people tend to be at reduced risk), chronic conditions (certain diseases and disorders, or the medication used to treat them, can increase the risk of heat stress), and most importantly, acclimatization to heat.

Any one of these four factors individually can cause heat stress; when combined, the risk multiplies. Every factor must be considered when assessing the risk.

#### **STEP 2: PREVENTING HEAT STRESS**

The easiest way to prevent heat stress is to avoid heat hazards altogether, though exposure to heat at work cannot always be avoided, especially in the summertime — according to the U.S. Bureau of Labor Statistics, nearly half of all jobs require working outdoors for at least part of the time. Workplaces with known heat hazards need to develop and implement a heat illness prevention plan based on the four factors listed above.

• Training & Supervision — Employees at every level must be made aware of heat hazards in the workplace, know how to recognize the symptoms of heat stress (in themselves and others), and be prepared to take action should a heat-related injury occur. (See chart on page 7.) Employees may feel pressure to work beyond safe parameters and put themselves in danger — supervisors need to create a "culture of heat safety" by putting heat stress mitigation measures in place and encouraging employees to comply with them.



**Ease into Work.** Nearly 3 out of 4 fatalities from heat illness happen during the first week of work.

Build a tolerance to heat by increasing intensity by 20% each day.

- Acclimatization the process in which a person's body becomes accustomed to heat exposure, which can take up to two weeks after starting work in a hot environment. This applies to both new workers and those returning after an absence of two weeks or more. Almost half of occupational heat-related deaths occur on a worker's very first day on the job, and over 70% occur within the first week. OSHA recommends acclimatizing workers by starting the first day at 20% of a normal workload and increasing it no more than 20% each day. On the first hot day of the season and during heat waves, even seasoned employees should decrease their output to
- Monitoring the Weather Weather forecasts such as those provided by the National Weather Service can be used to prepare in advance of extreme heat events. In addition, OSHA's free Heat Safety Tool App allows users to view current temperature and humidity levels, heat index, and heat injury threat level for their location, as well as providing tips on prevention and first aid instructions.
- Water, Rest, Shade Employers should have cool drinking water available and easily accessible and encourage workers to drink it, even if they don't feel thirsty (at least 4 cups of water per hour). A shaded space to cool down should be provided tents, fans, and/or portable air conditioners can help.

50% and increase from there.



recover from the heat

Take breaks in a shady or cool area

 Adjustments in Work Practices and/or **Equipment** — Employees should be provided with or encouraged to wear loose-fitting, lightweight clothing made from breathable, moisture-wicking, or cooling fabrics whenever possible. Personal protective equipment (PPE) such as bulletproof vests, surgical gowns, and gloves add to heat **stress** — workers who require it should be given more frequent breaks to remove their PPE and cool off. Fans can help increase airflow and aid in evaporative cooling. Use tents to shade work areas and equipment that heats up quickly in the sun (surfaces such as black roofs and metal left in direct sunlight can heat up as much as 40-50°).



Drink cool water even if you are not thirsty



Wear a hat and dress for the heat



Verbally check on workers wearing face coverings

 Adjusted Work Schedule — Shift the working hours to earlier in the day or even at night, with the help of outdoor industrial lighting. Doing the heaviest labor during the coolest hours can not only prevent heat injuries but also increase productivity as employees need fewer breaks.

#### STEP 3: TREATING HEAT ILLNESSES

Even workplaces with excellent heat stress mitigation measures and high compliance by employees need to know how to recognize the symptoms of heat-related illness and what to do should they occur. Supervisors should encourage employees to report symptoms immediately — signs of heat-related illness should ALWAYS be taken seriously and acted upon quickly.

The <u>chart on page 7</u> lists each heat-related illness — **heat rash**, **heat cramps**, **heat syncope**, **heat exhaustion**, and **heat stroke**, along with the symptoms and first aid treatment.

#### If a worker experiences:

Headache or nausea

Weakness or dizziness

Heavy sweating or hot, dry skin

Elevated body temperature

Thirst

Decreased urine output

#### Take these actions:

- Sive cool water to drink
- Remove unnecessary clothing
- Move to a cooler area
- >> Cool with water, ice, or a fan
- >> Do not leave alone
- Seek medical care (if needed)



### RHABDO — STRIATED MYO — MUSCLE LYSIS — BREAKDOWN

Rhabdomyolysis ("rhabdo") is a serious medical condition caused by overexertion, heat exposure, and/or direct trauma to the muscles (e.g., crush injuries). Damaged muscle tissue breaks down and releases proteins and electrolytes into the bloodstream, which can them damage major organs and cause permanent injury or even death.

Early recognition and treatment is essential to prevent and repair damage. Unfortunately, symptoms may not appear for several days, which can make it difficult to connect the dots back to the original exposure or injury.

Symptoms include muscle pain and weakness, unusually dark urine, nausea and vomiting, and seizures. Dehydration can make rhabdo worse as it impairs the body's ability to flush away loose muscle proteins.

**HEAT RASH** is a skin irritation caused by excessive sweating during hot, humid weather. It develops when perspiration is trapped under the skin, clogging pores and sweat ducts, typically in skin folds where clothing causes friction.

**HEAT SYNCOPE** is an episode of dizziness and/ or fainting, either while standing too long or getting up too quickly, caused by dehydration and lack of acclimatization.

HEAT CRAMPS occur when excessive sweating depletes moisture levels and causes an imbalance of electrolytes, which are essential minerals such as sodium, potassium, calcium, and magnesium. They may also be a symptom of heat exhaustion.

**HEAT EXHAUSTION** occurs when the combination of high temperatures, humidity, and physical activity cause the body to overheat and become dehydrated, usually due to excessive sweating. If left untreated, symptoms can lead to heat stroke.

HEAT STROKE, the most serious form of heat-related illness, occurs when the body becomes too overheated and unable to regulate temperature. A person experiencing heat stroke will often stop producing sweat, making it difficult for the skin to cool itself. This causes the body's temperature to rise very quickly and can result in permanent injury or death if emergency treatment is not given.

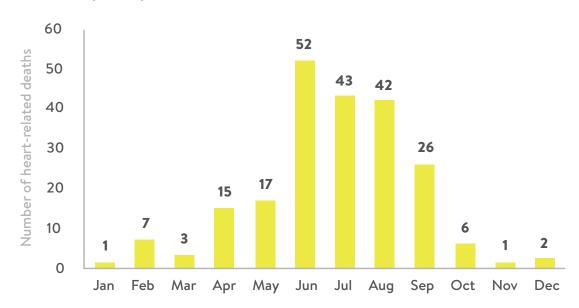
SYMPTOMS	FIRST AID	WHEN TO SEEK MEDICAL CARE
<ul> <li>A cluster of red pimples or blisters, typically on the neck, chest, groin, and elbow &amp; knee creases</li> <li>Occasionally causes red lumps deep under skin</li> <li>Sometimes itchy or painful</li> </ul>	<ul> <li>Move to a cooler, less humid work environment if possible</li> <li>Keep rash area dry</li> <li>Powder may be applied for comfort (do not use ointments or creams)</li> </ul>	<ul> <li>If pain, swelling, redness, or warmth last longer than a few days</li> <li>If rash does not resolve itself within a few days</li> </ul>
<ul> <li>Dizziness or lightheadedness while standing or upon rising from sitting or lying down</li> <li>Fainting</li> </ul>	<ul> <li>Stop physical activity</li> <li>Sit or lie down in a cool place</li> <li>Slowly drink water, clear juice, or a sports drink</li> </ul>	<ul> <li>If symptoms continue after first aid has been administered</li> <li>Call 911 if the person remains unconscious for longer than a minute</li> </ul>
<ul> <li>Painful, involuntary muscle cramps or spasms</li> <li>Typically occur in the abdomen, arms, shoulders, or legs</li> </ul>	<ul> <li>Stop physical activity</li> <li>Rest in a cool place</li> <li>Drink water and eat a snack, or drink a sports drink (electrolytes can help)</li> </ul>	<ul> <li>If cramps do not go away within in an hour</li> <li>If dizziness, nausea, shortness of breath, or rapid heartrate are also present</li> </ul>
<ul> <li>Heavy sweating</li> <li>Cool, moist skin with goosebumps</li> <li>Weak, rapid pulse</li> <li>Syncope (see above)</li> <li>Fatigue, headache, nausea</li> <li>Muscle cramps</li> <li>Elevated body temperature</li> <li>Decreased urine output</li> </ul>	<ul> <li>Stop physical activity</li> <li>Rest in a cool place</li> <li>Drink water or sports drinks</li> <li>Apply cold compresses or wash face, head, &amp; neck with cool water</li> </ul>	<ul> <li>If symptoms do not resolve or get worse even after first aid has been administered</li> <li>If heat stroke is suspected (see symptoms below)</li> </ul>
Heat exhaustion symptoms listed above, plus:  - Body temperature >104°F  - Altered mental state or behavior (confusion, slurred speech, etc.)  - Change in normal sweat amount (hot/dry skin or profuse sweating)  - Nausea with vomiting  - Flushed skin  - Rapid breathing & heart rate  - Seizures	- Call 911 IMMEDIATELY  - Move person indoors or to a cool, shaded area  - Remove outer layers of clothing  - Cool the skin quickly by any means available (cool tub or shower, hose, ice packs, etc.)  - Place wet towels or ice packs on the person's head, neck, armpits, and groin area  - Use fans to speed cooling	- IMMEDIATELY CALL 911 and stay with the person until medical help arrives  - Can lead to permanent disability or death if left untreated
	<ul> <li>A cluster of red pimples or blisters, typically on the neck, chest, groin, and elbow &amp; knee creases</li> <li>Occasionally causes red lumps deep under skin</li> <li>Sometimes itchy or painful</li> <li>Dizziness or lightheadedness while standing or upon rising from sitting or lying down</li> <li>Fainting</li> <li>Painful, involuntary muscle cramps or spasms</li> <li>Typically occur in the abdomen, arms, shoulders, or legs</li> <li>Heavy sweating</li> <li>Cool, moist skin with goosebumps</li> <li>Weak, rapid pulse</li> <li>Syncope (see above)</li> <li>Fatigue, headache, nausea</li> <li>Muscle cramps</li> <li>Elevated body temperature</li> <li>Decreased urine output</li> <li>Heat exhaustion symptoms listed above, plus:</li> <li>Body temperature &gt;104°F</li> <li>Altered mental state or behavior (confusion, slurred speech, etc.)</li> <li>Change in normal sweat amount (hot/dry skin or profuse sweating)</li> <li>Nausea with vomiting</li> <li>Flushed skin</li> <li>Rapid breathing &amp; heart rate</li> </ul>	- A cluster of red pimples or blisters, typically on the neck, chest, groin, and elbow & knee creases - Occasionally causes red lumps deep under skin - Sometimes itchy or painful  - Dizziness or lightheadedness while standing or upon rising from sitting or lying down - Fainting  - Painful, involuntary muscle cramps or spasms - Typically occur in the abdomen, arms, shoulders, or legs  - Stop physical activity - Sit or lie down in a cool place - Slowly drink water, clear juice, or a sports drink  - Stop physical activity - Rest in a cool place - Drink water and eat a snack, or drink a sports drink (electrolytes can help)  - Heavy sweating - Cool, moist skin with goosebumps - Weak, rapid pulse - Syncope (see above) - Fatigue, headache, nausea - Muscle cramps - Elevated body temperature - Decreased urine output  - Heat exhaustion symptoms listed above, plus: - Body temperature > 104°F - Altered mental state or behavior (confusion, slurred speech, etc.) - Change in normal sweat amount (hot/dry skin or profuse sweating) - Nausea with vomiting - Rapid breathing & heart rate

### **HEAT-RELATED ILLNESS**

It's summer in Florida, and your lawn has grown nearly half a foot since last week. Even the early morning air is too hot to offer relief. But you pull out the mower anyway, trying to beat the inevitable afternoon rain. You've already broken a sweat before the first blade of grass is cut. The exertion of pushing the mower through the thick St. Augustine turf causes your body temperature to rise, and you feel your heart rate increase as it works harder to cool you off by increasing blood flow to the skin and producing sweat - a LOT of sweat. Somehow in spite of all this sweating, you don't feel much cooler, and your body has now been depleted of fluids and minerals. Your heart can no longer handle the strain. You feel weak and dizzy (heat syncope). Your head and muscles ache (heat cramps). Goosebumps form on your skin (heat exhaustion). You stopped sweating half an hour ago, but you didn't notice because the humid air didn't allow your perspiration to evaporate. Confused and lethargic, you stop the mower and sit down in the shade to rest, but it is too late — your body's organs are shutting down, and its most vulnerable tissues have already begun to die. If you're lucky, someone will find you in time to issue emergency medical attention. If not, you will succumb to heat stroke, the most dangerous and deadly heat-related illness.

# THE DEADLY DAMAGE DONE BY HEAT EXPOSURE

Sound dramatic? According to the CDC, around 700 people die from heat exposure in the U.S. each year. A **recent study** published in the journal *Environmental Epidemiology* claims that number may be much higher — around 5,600 deaths. Even the lower estimate makes extreme heat the most deadly of all weather-related hazards. The number of heat deaths in Florida jumps dramatically each year in June.



Monthly total number of heat-related deaths in Florida from 2010 to 2020. Credit: Serap Gorucu, UF/IFAS

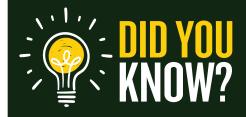
In addition to heat-related illnesses, Florida's Department of Health reports that heat exposure can also cause or exacerbate several other health issues, including:

- Cardiovascular issues. The stress put on the body to maintain thermal equilibrium in hot environments has been directly linked to adverse cardiac events such as heart disease, irregular heartbeat, heart attacks, and heart failure, even in previously healthy individuals.
- Mental & behavioral disorders. People with dementia, mood and stress disorders, addiction, and schizophrenia are at increased risk of episodes and/or death during extreme heat events. This can be due to heat directly affecting the brain, medications used to treat such disorders increasing the risk (see chart for examples), or the nature of the disorder itself for example, schizophrenia decreases the body's ability to regulate temperature.
- **Respiratory diseases** such as asthma, bronchitis, pneumonia, and emphysema. Air quality often gets worse during hot, humid weather, making people with these conditions struggle to breathe even more.
- Other illnesses such as diabetes and kidney disease. Diabetes causes inadequate dilation of blood vessels in the skin and a decreased sweat response, and dehydration puts people at greater risk of renal failure.
- Short-term infertility in both men and women.

Heat stress can also affect fine motor performance, which can lead to more injuries and deaths.

Often when heat exposure causes or aggravates one of these conditions, the resulting illness or death does not get counted as heat-related; this makes it difficult to get accurate data and tells us that heat-related illnesses are surely being undercounted.

Though only 0.5% of all federal inspections done by the Occupational Safety & Health Administration (OSHA) in the past five years were heat-related, 75% of those were in direct response to injuries reportedly caused by worksite heat hazards. This highlights the fact that much more needs to be done to prevent heat-related injuries in the workplace.



### Some medications increase the risk of heat-related illnesses:

- Antihistamines & other cold/allergy medicines - Medications to treat Parkinson's disease	decrease the body's ability to sweat & cool itself
<ul> <li>Blood pressure medications</li> <li>Pills to reduce fluid retention</li> <li>Caffeine &amp; alcohol</li> <li>Medicines with side effects such as diarrhea or vomiting</li> </ul>	cause dehydration by removing water & electrolytes from the body
<ul> <li>- Medicines to treat bipolar disorder</li> <li>- Medicines to treat atrial fibrillation</li> <li>- Some anti-seizure medicines</li> <li>- Medication delivered from patches for conditions such as pain &amp; hypertension</li> </ul>	raise drug levels in the body to unsafe proportions if dehydration occurs
- Beta blockers used to treat heart conditions - Some blood pressure medicines	decrease the skin's ability to rid itself of excessive heat by decreasing blood flow to the skin
- Stimulants used to treat ADHD such as Adderall & Ritalin - Illegal stimulants such as cocaine, ecstasy, & methamphetamine	increase body temperature
- Acne medicines such as Retin-A & Tazorac - Antibiotics such as Bactrim & tetracyclines	increase sun sensitivity & risk of sunburn

### HEAT STRESS & PPE

Personal protective equipment (PPE) can be essential in protecting

workers against exposure to dangerous chemicals, viruses, and foreign objects; unfortunately, it can also become a hazard in itself by increasing heat stress. Many types of PPE trap excess body heat and moisture inside, reducing the body's ability to cool itself. Plus the extra weight and bulk increases the effort needed to perform work duties, which raises the **metabolic rate** and causes workers to heat up even faster.

Here are some ways to prevent heat stress caused by PPE:

**Start off cool.** Lower your body temperature before putting on your PPE by sitting in the a.c., drinking cold fluids, and/or using devices such as cooling towels or ice vests.

**Take frequent breaks.** Remove the PPE at regular intervals to allow your body to cool.

**Stay hydrated.** Drink extra fluids, eat regularly to ensure electrolyte balance, and avoid alcohol.

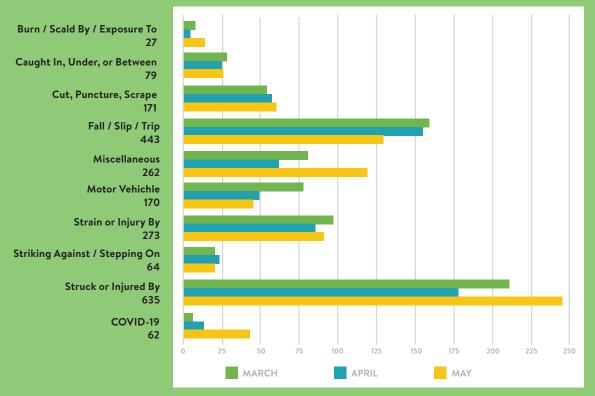
**Get acclimatized.** Remember that your body needs time to adjust to the heat caused by PPE just as it would any other hot environment.

**Recover between shifts.** Consecutive days of exposure to heat stress can increase the risk of illness.

**Upgrade your PPE.** Recent developments in PPE fabric technology are more lightweight and allow heat and moisture to escape; some even cool the skin.

### **OUTLOOK SNAPSHOT**

2021 STATE OF FLORIDA WORKERS' COMPENSATION CLAIMS BY CAUSE



**Total WC claims for March—May 2022: 2186** — Although this is a 31% decrease in total claims over the previous three-month total of 3131, this was solely due to the drop in "COVID-19" claims.

**Total claims excluding those for COVID-19: 2124** — This is a 21% increase from the previous three-month total of 1750. Claims in every category rose during this period, some significantly:

- "CAUGHT IN, UNDER, OR BETWEEN" claims nearly doubled, jumping from 41 to 79.
- "STRIKING AGAINST/STEPPING ON" claims saw an increase of almost 50%, from 43 to 64.
- "STRAIN OR INJURY BY" claims increased from 206 to 273.

"BURN/SCALD BY/EXPOSURE TO" claims remained the same after the previous period's 89% increase. "MISCELLANEOUS" includes subcategories such as "Absorption/Ingestion/Inhalation," "Cumulative,"

"Foreign Matter," "Natural Disasters," and "Other Than Physical Cause Of Injury." (COVID-19 claims fall under this category but have been separated out and are not included in the monthly totals on the main graph.)



### **E-Learning**

from the

### **DIVISION OF RISK MANAGEMENT**

The safety training required per section 284.50, F.S. for all newly appointed safety and alternate safety coordinators, previously available solely in webinar format, is now being provided through online training modules available at your convenience.

The following online training modules are now available on the People First Learning Management System:

SAFETY COORDINATOR ORIENTATION

ACCIDENT INVESTIGATIONS

PROMOTING EMPLOYEE SAFETY

AWARENESS

**FACILITY & EQUIPMENT INSPECTIONS** 

NEW!

GETTING THE MOST VALUE FROM YOUR SAFETY COMMITTEE

**JOB SAFETY ANALYSIS** 

PEOPLE DMS

### PEOPLE FIRST TIMESHEET USERS:

- Login to People First
- Click on Talent Management
- Click on Learning
- Click on Find Learning
- Type "DFS\_RM" into the search bar for a list of current courses
- Click "Start Course" on the module of your choice

### DRM WEBSITE REGISTRATION

#### **ALL OTHERS:**

- Click the button to access the external registration portal on the Division of Risk Management's website
- Submit your information

This is a single registration process for the People First Learning Management System and will allow access to all of our trainings.

The following online training will be offered via GoToTraining through our Webinar Wednesday program:

WORKERS' COMPENSATION & RETURN-TO-WORK

**RETURNING NOVEMBER 2022** 

### REFERENCES & RESOURCES

- "Individual Responses to Heat Stress: Implications for Hyperthermia and Physical Work Capacity," Foster, Josh; et al.; Frontiers in Physiology; September 11, 2020. https://doi.org/10.3389/fphys.2020.541483
- "FACT SHEET: Biden Administration Mobilizes to Protect Workers and Communities from Extreme Heat," The White House Statements and Releases; September 20, 2021. https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/20/fact-sheet-biden-administration-mobilizes-to-protect-workers-and-communities-from-extreme-heat/
- "New OSHA emphasis program targets heat hazards," Safety + Health; National Safety Council; April 13, 2022. https://www.safetyandhealthmagazine.com/articles/22470-new-osha-emphasis-program-targets-heat-hazards
- "How can health workers and other responders manage heat stress while wearing personal protective equipment (PPE)?" Global Heat Health Information Network; May 17, 2020. https://ghhin.org/faq/how-can-health-workers-and-other-responders-manage-heat-stress-while-wearing-personal-protective-equipment-ppe/
- "Work Clothing and Personal Protective Equipment (PPE),"
  California Department of Industrial Relations; Copyright
  2022. https://www.dir.ca.gov/dosh/etools/08-006/EWP\_
  workClothing.htm
- "4 Ways To Avoid Heat Stress While Wearing Protective Clothing," International Enviroguard; January 5, 2022. https://int-enviroguard.com/blog/heatstress/
- "Heat Stress Imposed by PPE Worn in Hot and Humid Environments," Williams, W. Jon, PhD and Cichowicz, Jaclyn Krah, MA; NIOSH Science Blog; Centers for Disease Control and Prevention; August 6, 2020. https://blogs.cdc.gov/niosh-science-blog/2020/08/06/ppe-heat-stress/?deliveryName=USCDC\_170-DM34861
- "Limiting Heat Burden While Wearing Personal Protective Equipment (PPE)," The National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention; June 18, 2020. https://www.cdc.gov/niosh/topics/heatstress/heat\_burden.html#:~:text=Can%20wearing%20personal%20protective%20equipment,shields%2C%20boots%2C%20and%20gloves)%3A
- "Rhabdomyolysis," The National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention; April 22, 2019.

 $\underline{https://www.cdc.gov/niosh/topics/rhabdo/what.html}$ 

### REFERENCES & RESOURCES Cont'd.

- "Climate Change Indicators: Heat Waves," United States Environmental Protection Agency: April 2021. https://www.epa.gov/climate-indicators/climate-change-indicators-heat-waves
- "Estimating the number of excess deaths attributable to heat in 297 United States counties." Weinberger, Kate R., et al.; Environmental Epidemiology; Volume 4, Issue 3, p. e096; June 2020. https://journals.lww.com/environepidem/Fulltext/2020/06000/Estimating\_the\_number\_ of\_excess\_deaths.1.aspx?context=LatestArticles
- "Heat May Kill More People in the US Than Previously Reported," Samuels, Michelle; Boston University School of Public Health; June 19, 2020. https://www.bu.edu/sph/news/articles/2020/ heat-may-kill-more-people-in-the-us-than-previously-reported/
- "High temperatures result in about 702 deaths in the U.S. each year," Searing, Linda; The Washington Post; June 29, 2020. https://www.washingtonpost.com/health/high-temperatures-result-inabout-702-deaths-in-the-us-each-year/2020/06/26/8a5f0064-b6f5-11ea-a510-55bf26485c93\_
- "What Happens When The Body Overheats?" Interview between Michele Norris and Larry Kenney: All Things Considered; National Public Radio; July 21, 2011.
  - https://www.npr.org/2011/07/21/138586969/what-happens-when-the-body-overheats
- "Protect Yourself From the Dangers of Extreme Heat," Environmental Health Media Toolkits; Centers for Disease Control and Prevention; July 15, 2020.
  - https://www.cdc.gov/nceh/toolkits/extremeheat/default.html
- "Extreme Heat Can Impact Our Health In Many Ways," Centers for Disease Control and Prevention; n/a. https://www.cdc.gov/climateandhealth/pubs/extreme-heat-final\_508.pdf
- "7 Florida Cities Ranked Among 50 'Hottest' In America," Johnson, Don; Patch; June 21, 2018. https://patch.com/florida/landolakes/7-florida-cities-ranked-among-50-hottest-america
- "Cities in Texas, Florida among hottest in America, according to 24/7 Wall St.," Kenyon, Maureen; TC Palm; June 21, 2018. https://www.tcpalm.com/story/news/2018/06/21/cities-texas-floridaamong-hottest-america/720976002/
- "Humidity doesn't just make you sweaty and uncomfortable it can make you sick," Healthy Living; HealthPartners; n/a. https://www.healthpartners.com/blog/humidity-can-make-yousick/#:~:text=Benjamin%3A%20Sweat%20is%20one%20of,unable%20evaporate%20into%20
- "Calculate Temperature, Dewpoint, or Relative Humidity," McNoldy, Brian; University of Miami; n/a. https://bmcnoldy.rsmas.miami.edu/Humidity.html
- "Humidity in Florida," Zierden, David F. and Griffin, Melissa; The Florida Climate Center; Florida State University; n/a. https://climatecenter.fsu.edu/images/docs/Humidity-in-Florida.pdf
- "Heat Forecast Tools," National Weather Service, National Oceanic and Atmospheric Administration; n/a. https://www.weather.gov/safety/heat-index
- "Meteorological Conversions and Calculations Heat Index Calculator," National Weather Service Weather Prediction Center; National Oceanic and Atmospheric Administration; July 3, 2020. https://www.wpc.ncep.noaa.gov/html/heatindex.shtml
- "PM Update: Historic Heat and humidity broil region; excessive heat warning Saturday," Samenow, Jason; The Washington Post; July 22, 2011. https://www.washingtonpost.com/blogs/capitalweather-gang/post/pm-update-historic-heat-and-humidity-broil-region-excessive-heatwarning-saturday/2011/07/05/gIQAPJquTI\_blog.html?itid=lk\_inline\_manual\_5
- "Washington, D.C. can feel hotter than Death Valley at its hottest," Samenow, Jason; The Washington Post; July 3, 2013. https://www.washingtonpost.com/news/capital-weather-gang/ wp/2013/07/03/washington-d-c-can-feel-hotter-than-death-valleys-hottest/

- "Does warm air 'hold' more water vapor than cold air?" Williams, Jack; The Washington Post; September 11, 2013. https://www.washingtonpost.com/news/capital-weather-gang/ wp/2013/09/11/does-warm-air-hold-more-water-vapor-than-cold-air/
- "High dew points increase severe weather chances," Friend, Duane; Illinois Extension; University of Illinois Urbana-Champaign; February 21, 2022. https://extension.illinois.edu/news-releases/highdew-points-increase-severe-weather-chances#:~:text=%22Warmer%20air%20can%20hold%20 more,it%20condenses%2C%22%20Friend%20says.
- "Discussion on Humidity," National Weather Service; National Oceanic and Atmospheric Administration; n/a. https://www.weather.gov/lmk/humidity
- "Humidity and Temperature: The Strange Link You Should Know About," Brennan's Heating & Air Conditioning; December 29, 2017. https://www.brennanshvac.com/articles/humiditytemperature-strange-link-know#:~:text=Humidity%20in%20Cool%20Weather,has%20a%20 high%20water%20content.
- "Dew Point vs. Humidity," National Weather Service; National Oceanic and Atmospheric Administration; n/a. https://www.weather.gov/arx/why\_dewpoint\_vs\_humidity
- "Dew points are back on the rise this week but what do the numbers really mean?" Kaye, Rachael; StormWatch7; ABC News 7; Sinclair Broadcast Group, Inc.; June 8, 2020. https://wjla.com/ weather/stormwatch7-weather-blog/dewpoints-are-back-on-the-rise-this-week-but-what-doesthat-really-mean
- "Humidity in Florida," Zierden, David F. and Powell, Emily; The Florida Climate Center; Florida State University; April 29, 2014. https://climatecenter.fsu.edu/topics/humidity
- "Keeping Workers Safe in Florida's Extreme Heat," Taylor, Lori; Safety & Loss Prevention OUTLOOK, Volume 10, Issue 3; Division of Risk Management; Florida Department of Financial Services; July 2019. https://www.myfloridacfo.com/docs-sf/risk-management-libraries/risk-documents/ issue3julsept.pdf?sfvrsn=bc5a122e\_2
- "Safety amid the swelter Be vigilant to prevent heat-related illnesses, injuries," Bottino, Barry; Safety + Health, National Safety Council; July 28, 2019.
  - https://www.safetyandhealthmagazine.com/articles/18668-safety-amid-the-swelter

## Miss a previous issue? Visit the OUTLOOKLIBRATY

Click a cover to view a recent issue:















### or for the complete collection visit:

https://www.myfloridacfo.com/division/risk/loss-prevention/safety-loss-prevention-outlook

#### **SAFETY & LOSS PREVENTION OUTLOOK TEAM:**

Lori Taylor

Managing Editor/Writer

Wendy McSwain

Staff Editor

**Terry Taylor**Creative Director

We look forward to your feedback on how we can better serve you. To submit story ideas, articles, and other suggestions—or to be added to our distribution list, please contact us by clicking on the link below:

**State Loss Prevention Program** 

The Safety and Loss Prevention Outlook newsletter is for informational purposes only. The Department of Financial Services does not endorse or support any websites, products, brands or services referenced herein.

www.myfloridacfo.com/division/risk/

Molly Merry, CPA

**Division Director** 

**Robin Delaney** 

**Assistant Division Director** 

Jeffrey W. Cagle

Chief of Risk Financing & Loss Prevention

Wendy McSwain, MSA

Loss Prevention Section Administrator

Office of the Director (850) 413-4700

State of Florida Loss Prevention Section (850) 413-3121

Bureau of State Liability & Property Claims (850) 413-3122

Bureau of State Employee Workers' Compensation Claims (850) 413-3123

Safety Coordinator Appointment Form (850) 413-3121

