

# Extreme Heat

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Temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks are defined as extreme heat. Humid or muggy conditions, which add to the discomfort of high temperatures, occur when a "dome" of high atmospheric pressure traps hazy, damp air near the ground. Excessively dry and hot conditions can provoke dust storms and low visibility. Droughts occur when a long period passes without substantial rainfall. A heat wave combined with a drought is a very dangerous situation.

## Definitions:

**Excessive Heat Watch** is conditions are favorable for an excessive heat event to meet or exceed local Excessive Heat Warning criteria in the next 24 to 72 hours.

**Excessive Heat Warning** is when heat Index values are forecast to meet or exceed locally defined warning criteria for at least 2 days (daytime highs=105-110° Fahrenheit).

**Heat Advisory**—Heat Index values are forecast to meet locally defined advisory criteria for 1 to 2 days (daytime highs=100-105° Fahrenheit).

**Heat Wave** is a prolonged period of excessive heat, often combined with excessive humidity.

**Heat Index** is a number in degrees Fahrenheit (F) that tells how hot it feels when relative humidity is added to the air temperature. Exposure to full sunshine can increase the heat index by 15 degrees.

**Heat Cramps** are muscular pains and spasms due to heavy exertion. Although heat cramps are the least severe, they are often the first signal that the body is having trouble with the heat.

**Heat Exhaustion** typically occurs when people exercise heavily or work in a hot, humid place where body fluids are lost through heavy sweating. Blood flow to the skin increases, causing blood flow to decrease to the vital organs. This results in a form of mild shock. If not treated, the victim's condition will worsen. Body temperature will keep rising and the victim may suffer heat stroke.

**Heat Stroke** is a life-threatening condition. The victim's temperature control system, which produces sweating to cool the body, stops working. The body temperature can rise so high that brain damage and death may result if the body is not cooled quickly.

**Sun Stroke** is another term for heat stroke.

## Emergency Information

Heat kills by pushing the human body beyond its limits. Under normal conditions, the body's internal thermostat produces perspiration that evaporates and cools the body. However, in extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature.

Most heat disorders occur because the victim has been overexposed to heat or has overexercised for his or her age and physical condition. Other conditions that can induce heat-related illnesses include stagnant atmospheric conditions and poor air quality.

A prolonged drought can have a serious economic impact on a community. Increased demand for water and electricity may result in shortages of resources. Moreover, food shortages may occur if agricultural production is damaged or destroyed by a loss of crops or livestock.

### First Aid for Heat-Induced Illnesses

Extreme heat brings with it the possibility of heat-induced illnesses. The following table lists these illnesses, their symptoms, and the first aid treatment.

Condition	Symptoms	First Aid
<b>Sunburn</b>	Skin redness and pain, possible swelling, blisters, fever, headaches	<ul style="list-style-type: none"> <li>• Take a shower using soap to remove oils that may block pores, preventing the body from cooling naturally.</li> <li>• Apply dry, sterile dressings to any blisters, and get medical attention.</li> </ul>
<b>Heat Cramps</b>	Painful spasms, usually in leg and abdominal muscles; heavy sweating	<ul style="list-style-type: none"> <li>• Get the victim to a cooler location.</li> <li>• Lightly stretch and gently massage affected muscles to relieve spasms.</li> <li>• Give sips of up to a half glass of cool water every 15 minutes. (Do not give liquids with caffeine or alcohol.)</li> <li>• Discontinue liquids, if victim is nauseated.</li> </ul>
<b>Heat Exhaustion</b>	Heavy sweating but skin may be cool, pale, or flushed. Weak pulse. Normal body temperature is possible, but temperature will likely rise. Fainting or dizziness, nausea, vomiting, exhaustion, and headaches are possible.	<ul style="list-style-type: none"> <li>• Get victim to lie down in a cool place.</li> <li>• Loosen or remove clothing.</li> <li>• Apply cool, wet clothes.</li> <li>• Fan or move victim to air-conditioned place.</li> <li>• Give sips of water if victim is conscious.</li> <li>• Be sure water is consumed slowly.</li> <li>• Give half glass of cool water every 15 minutes.</li> <li>• Discontinue water if victim is nauseated.</li> </ul>

		<ul style="list-style-type: none"> <li>• Seek immediate medical attention if vomiting occurs.</li> </ul>
<b>Heat Stroke (a severe medical emergency)</b>	High body temperature (105+); hot, red, dry skin; rapid, weak pulse; and rapid shallow breathing. Victim will probably not sweat unless victim was sweating from recent strenuous activity. Possible unconsciousness.	<ul style="list-style-type: none"> <li>• Call 9-1-1 or emergency medical services, or get the victim to a hospital immediately. Delay can be fatal.</li> <li>• Move victim to a cooler environment. Removing clothing</li> <li>• Try a cool bath, sponging, or wet sheet to reduce body temperature.</li> <li>• Watch for breathing problems.</li> <li>• Use extreme caution.</li> <li>• Use fans and air conditioners.</li> </ul>

**Updated**

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**Source**

Federal Emergency Management Agency

Michigan State Police - Emergency Management & Homeland Security Division

American Red Cross

Washtenaw County Public Health Department

National Weather Service

**More Information**

<http://www.fema.gov/>

<http://www.ready.gov/>

[http://www.michigan.gov/msp/0,1607,7-123-1593\\_3507---,00.html](http://www.michigan.gov/msp/0,1607,7-123-1593_3507---,00.html)

<http://www.crh.noaa.gov/dtx/>

<http://www.weather.gov/om/heat/index.shtml>

<http://www.bt.cdc.gov/disasters/extremeheat/>

<http://publichealth.ewashtenaw.org>

## **Prevention / Mitigation / Preparedness – Extreme Heat**

Install window air conditioners snugly; insulate if necessary. Contact maintenance for assistance, if needed.

Check air-conditioning ducts for proper insulation.

Install temporary window reflectors (for use between windows and drapes), such as aluminum foil-covered cardboard, to reflect heat back outside.

Keep storm windows up all year.

Weather-strip doors and sills to keep cool air in

Cover windows that receive morning or afternoon sun with drapes, shades, awnings, or louvers. (Outdoor awnings or louvers can reduce the heat that enters a home by up to 80 percent.)

Be aware of University SPG 201.27 on Inclement Weather and how that affects you as an employee.

Listen to local weather forecasts and stay aware of upcoming temperature changes.

Check the contents of your emergency preparedness kit in case a power outage occurs.

## Response – Extreme Heat

Stay indoors as much as possible and limit exposure to the sun.

Stay on the lowest floor out of the sunshine if air conditioning is not available.

Consider spending the warmest part of the day in public buildings such as libraries, schools, movie theaters, shopping malls, and other community facilities. Circulating air can cool the body by increasing the perspiration rate of evaporation.

Drink plenty of water. Persons who have epilepsy or heart, kidney, or liver disease; are on fluid-restricted diets; or have a problem with fluid retention should consult a doctor before increasing liquid intake

Limit intake of alcoholic beverages.

Dress in loose-fitting, lightweight, and light-colored clothes that cover as much skin as possible.

Protect face and head by wearing a wide-brimmed hat.

Check on family, friends, and neighbors who do not have air conditioning and who spend much of their time alone.

Never leave children or pets alone in closed vehicles.

Avoid strenuous work during the warmest part of the day. Use a buddy system when working in extreme heat, and take frequent breaks.

Drought can affect vast territorial regions and large population numbers. Drought also creates environmental conditions that increase the risk of other hazards such as fire, flash flood, and possible landslides and debris flow.

Use a buddy system when working in excessive heat.

Postpone outdoor games and activities.

Baths and showers - Cool baths or showers provide amazing relief from the heat 25 times faster than cool air.

Apply sunscreen to your skin before going out in the sun. Avoid sun exposure particularly between the hours of 10:00 am and 4:00 pm, typically the hottest hours of the day.

Some medications make it harder for the body to control its temperature, putting people taking these medications at higher risk for heat-related illnesses. Medications that may increase the risk of heat-related illness include:

- Antidepressant drugs
- Anti-Parkinson drugs

- Psychiatric drugs
- Some antihistamines (e.g., Benadryl and Chlortripolon)
- Over-the-counter sleeping medications (e.g., Nytol)
- Anti-diarrhea pills (e.g., Lomotil)

Eat well-balanced, light, and regular meals. Watch what you eat and monitor salt intake - Avoid hot foods and heavy meals. They add heat to your body. Try using your stove less. Cook your meals during the cooler part of the day. Check with your doctor before you increase the amount of salt or potassium in your diet. Do not take "salt tablets" without your doctor's permission.

Slow down, stay indoors and avoid strenuous exercise during the hottest part of the day.

Listen to a NOAA Weather Radio for critical updates from the National Weather Service (NWS). Tuning your battery operated radio to local radio stations such as WAAM 1600 AM, WEMU 89.1 or 107.1 FM is also recommended.

## **Recovery – Extreme Heat**

Your first concern after a disaster is your family’s health and safety. You need to consider possible safety issues and monitor family health and well-being.

Be aware of exhaustion. Don’t try to do too much at once. Set priorities and pace yourself. Get enough rest.

If the building has sustained damage contact Plant Operations (734) 647-2059

Be careful of downed power lines, trees, or other debris that would make for a hazardous condition.

Contact the University Risk Management (734) 764-2200 so claims management and other insurance matters can be handled.