

# HOW TO REDUCE HEAT STRESS HAZARDS

## Engineering Controls - lower temperature; increase air movement.

- Try various shielding, ventilation, insulation, and humidity reduction methods
- Use spot cooling fans, evaporative cooling, air conditioning, general ventilation, and local exhaust ventilation at points of high heat production
  - When temperatures exceed 95°F, increasing air movement becomes ineffective in cooling

## HEAT IS A YEAR-ROUND JOB HAZARD IN SOME WORKPLACES ON CAMPUS.

## Work Practice Controls - Water, Shade, Rest

- Provide water (not caffeinated beverages), and have a hydration plan. Drink 8 ounces every 15-20 minutes; 32 ounces per hour. Don't wait until you're thirsty.
- Provide breaks in a cooler environment and removal of PPE during breaks.
- Establish work-rest cycles that increase in frequency and duration of rest breaks.
- Acclimate to the hot work environment, and take time to acclimate after long periods of time away from the hot environment (i.e., after vacations). You lose acclimation after 3- 4 days away from working in hot environments.
- Wear light, loose clothing that permits evaporation of sweat, preferably cotton.

**BE AWARE OF THE SIGNS OF HEAT STRAIN, FOR YOURSELF AND YOUR FELLOW CO-WORKERS. FOLLOW RECOMMENDED ENGINEERING AND WORK PRACTICE CONTROLS. REPORT ANY CONCERNS TO YOUR MANAGEMENT OR EHS.**

**UCONN** | UNIVERSITY OF CONNECTICUT

ENVIRONMENTAL HEALTH AND SAFETY

## HEAT STRESS TRAINING GUIDE

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Heat is a year-round job hazard in some workplaces on campus. During summer months, employees have a greater risk of experiencing heat related illnesses. When a person works in a hot environment, the body must get rid of excess heat to maintain a stable internal temperature. It does this mainly through circulating blood to the skin, and by sweating.

When the air temperature is close to (or warmer than) normal body temperature, blood circulated to the skin cannot lose its heat. Sweating then becomes the main way the body cools off, but sweating is only effective if the humidity level is low enough to allow for evaporation and if the lost fluids and salts are replaced.

If the body cannot get rid of excess heat, it will store it. When this happens the body's core temperature rises and the heart and breathing rates increase. When heat gain exceeds heat loss, symptoms of heat strain (the physiological response to heat stress) can develop. There is no specific standard or temperature for identification of heat stress.

### Symptoms of Heat Exhaustion

- Heat rash
- Heavy sweating
- Headache
- Cramps
- Nausea/vomiting
- Intense thirst
- Rapid pulse
- Fatigue and weakness

#### Action:

**Move employee to cool environment, take steps to initiate cooling, provide fluids and allow to rest.**



### Symptoms of Heat Stroke A true medical emergency

- High body temperature
- Hot, red, dry or damp skin
- Rapid pulse
- Chills
- Difficulty breathing
- Disorientation, erratic behavior
- Fainting/collapse
- Convulsions

#### Action:

**Contact 911 immediately and take steps to cool the victim!**

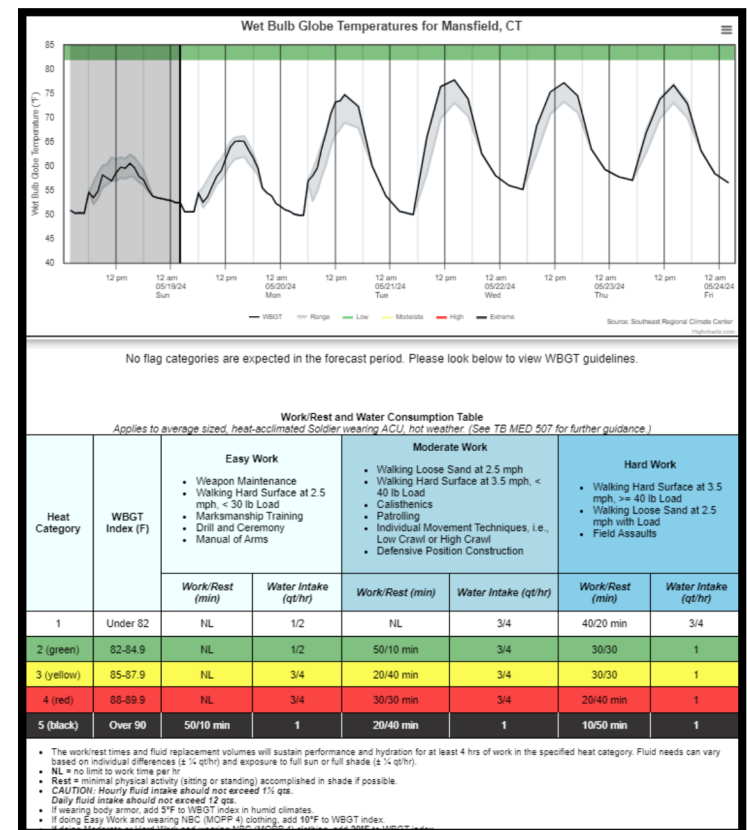


# HEAT STRESS MEASUREMENTS

Wet-Bulb Globe Temperature (WBGT) is a way to measure heat stress on the body, incorporating temperature, humidity, wind speed and radiant heat, the intensity of the sun. Scan the QR Code to access this tool, select your location and the "military" reading. This will provide predictive WBGT measurements over a week, with recommendations:



### Example:



### Additional Resource:

This NIOSH document covers establishing **work/rest schedules**: (<https://www.cdc.gov/niosh/mining/UserFiles/works/pdfs/2017-127.pdf>) to help decrease the risk of heat-related illness. It takes into consideration temperature and work intensity, but also allows adjustments for sunlight and humidity by adding values to the temperatures.