

Heat Illness/Injury and OSHA's National Emphasis Program

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SafetyResources

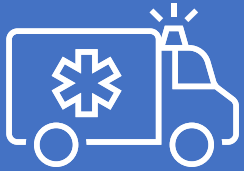
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For Those Wanting a CEU for Attending

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asspceu@gmail.com
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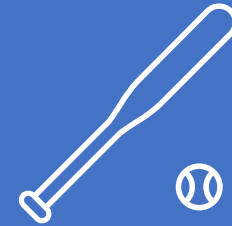
BACKGROUND



20+ yrs. as EMT,
Emergency
Paramedic, Special
Rescue, and SWAT
Medic



Master Firefighter 5
Categories (I'm old
now it's Firefighter III)



10 yrs. Youth, HS,
NCAA Div. III Women's
Fastpitch Softball
Umpire

- Includes 2 assignments to
16U World Series crew***

Recent History

- October 27th, 2021- OSHA releases the Advanced Notice.... (ANPRM) Heat Injury Illness Prevention in Outdoor and Indoor Work Settings. There were many “professional” discussions ranging from “this will be intense and a challenge” to “this will never see the light of day”.
- April 8th, 2022- OSHA introduces a National Emphasis Program for Outdoor and Indoor Heat-Related Hazards.

June of 2022

- Late May/Early June 2022 OSHA through their DYK, or Quick Take series reviewed the NEP
- Week of June 13th we experienced our 1st Heat Wave with temps ranging 90-99 degrees and high humidity- there was no acclimation period for outdoor workers'
- Many Companies, Contractor groups/org, and Consulting services sent out notices for Special "Tool Box Talk" to occur on Monday 6/13 before starting work, and to make preparations for their employees

Since Then

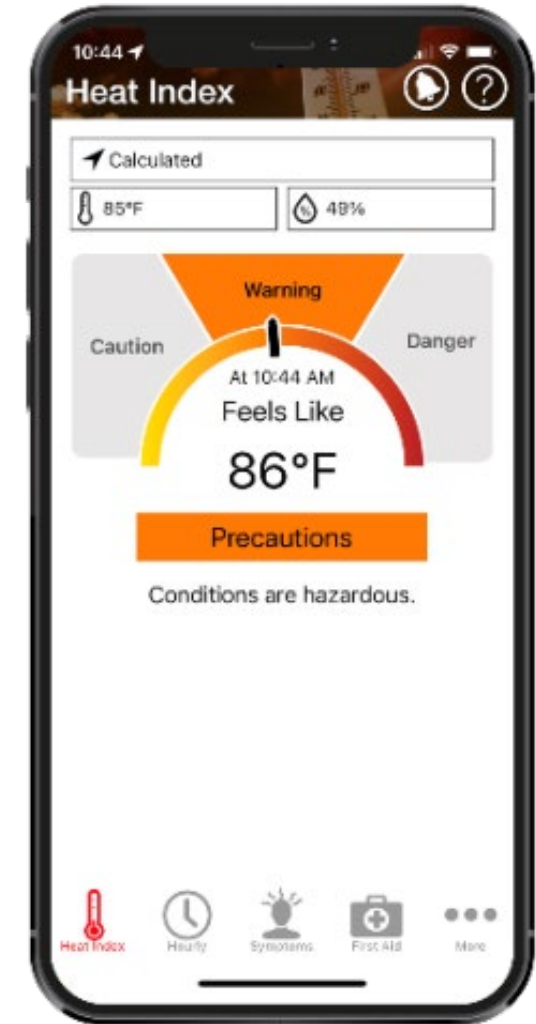
- Ironically IOSHA did NOT sign onto this particular NEP (I just learned this 8/24 at the CCS Safety Director's Meeting- IOSHA Update)
- The Deputy Director did say that while no stop and investigate/inspect as directed in the NEP, any inspection could be expanded to include this if conditions/observations warranted it under the General Duty clause.
- Additionally, there is an effort underway to cross train CoSHOs to enlarge the available pool of inspectors, while the Department Head positions will remain intact.

So still Our EE Protection Efforts Remain in Effect

- Both the Proposed Rule and NEP are for Indoor and Outdoor Workers
- For today's purposes I'm going with a GI and Construction perspective
- Methodologies are the same

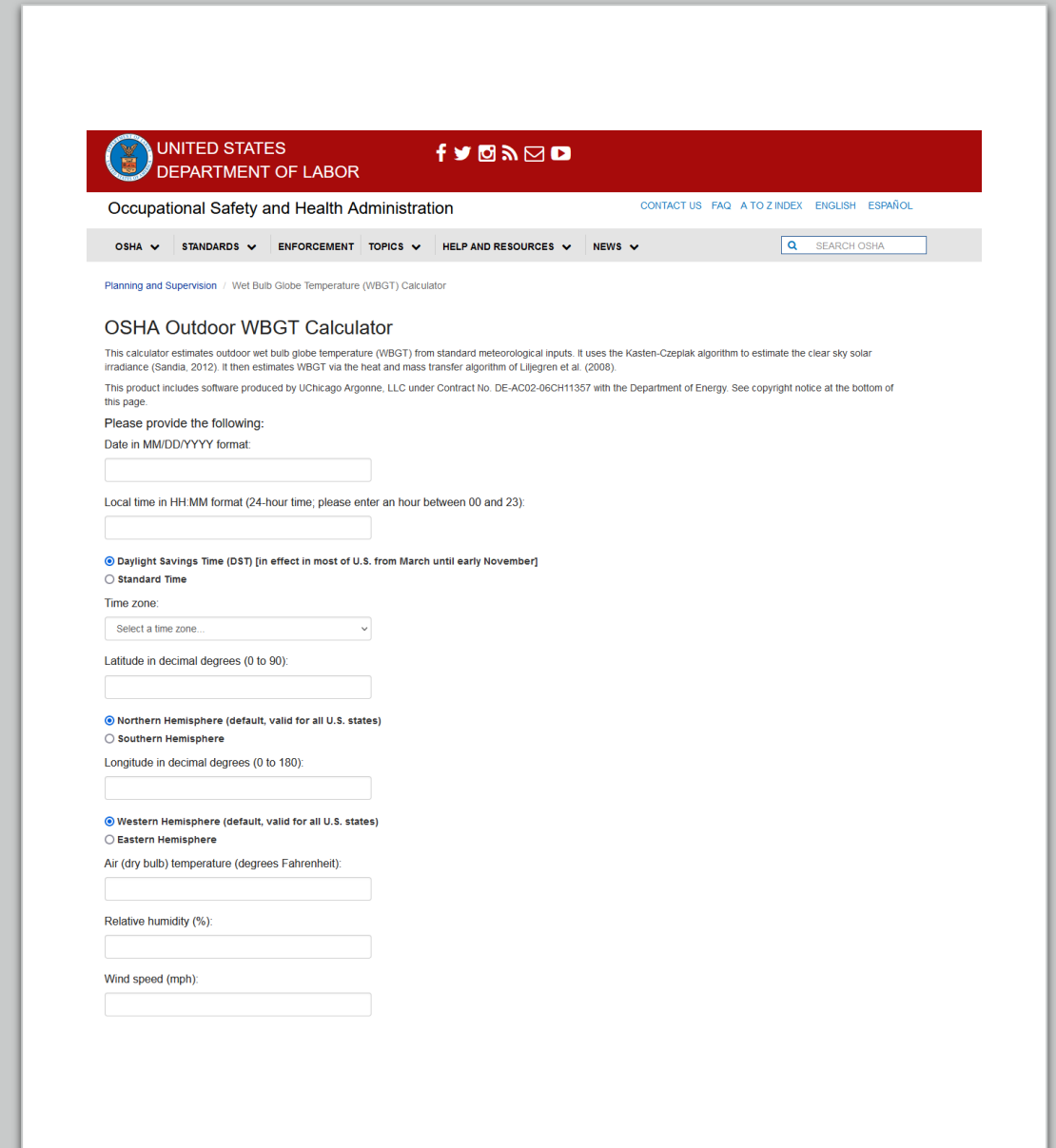
Methodologies

- For you techie types there's now an app for that!!! DOL, OSHA, CDC, and NIOSH developed it for both Android and iPhone use that has both an English or Spanish language version. Using your location and available data it calculates the Heat Index (HI) and advises a threat level and if chosen a list of precautions for the given level. Additionally, you can activate an Hourly HI function.
- It's free assuming you've paid your taxes
- For whatever reason it has received only 3 of 5 stars in the rating



Methodologies (cont'd)

- If you're one that loves to input data and has the time to do so, between meetings to discuss the last meeting and set the agenda for the next meeting, or are not juggling several job sites at the same time- then this one is for you!
- The OSHA Outdoor WBGT Calculator has you input some 16 different pieces of data such as your Longitude/Latitude, relative humidity, barometric pressure, solar irradiance among others to then determine the (HI)



The screenshot shows the OSHA Outdoor WBGT Calculator web page. The header features the United States Department of Labor logo and social media icons. The main navigation bar includes links for CONTACT US, FAQ, A TO Z INDEX, ENGLISH, and ESPAÑOL. Below this is a secondary navigation bar with dropdown menus for OSHA, STANDARDS, ENFORCEMENT, TOPICS, HELP AND RESOURCES, and NEWS, along with a search bar labeled 'SEARCH OSHA'. The page title is 'Planning and Supervision / Wet Bulb Globe Temperature (WBGT) Calculator'. The main heading is 'OSHA Outdoor WBGT Calculator'. The text explains that the calculator estimates outdoor wet bulb globe temperature (WBGT) from standard meteorological inputs using the Kastén-Czeplak algorithm. It also mentions that the product includes software produced by UChicago Argonne, LLC under Contract No. DE-AC02-06CH11357 with the Department of Energy. The form prompts the user to provide the following information:

- Date in MM/DD/YYYY format:
- Local time in HH:MM format (24-hour time; please enter an hour between 00 and 23):
- Daylight Savings Time (DST) [in effect in most of U.S. from March until early November]: ☒ Daylight Savings Time (DST) [in effect in most of U.S. from March until early November] ☐ Standard Time
- Time zone:
- Latitude in decimal degrees (0 to 90):
- Northern Hemisphere (default, valid for all U.S. states) ☒ Northern Hemisphere ☐ Southern Hemisphere
- Longitude in decimal degrees (0 to 180):
- Western Hemisphere (default, valid for all U.S. states) ☒ Western Hemisphere ☐ Eastern Hemisphere
- Air (dry bulb) temperature (degrees Fahrenheit):
- Relative humidity (%):
- Wind speed (mph):

Final Methodology

- If you are a KISS fan here's the one for you. Mind you you'll have to put down your phone and watch/listen to local TV or radio.
- The NEP accepts using condition determinations from the National Weather Service (NWS) and the National Oceanic Atmospheric Administration (NOAA) for (HI). Terms such as Heat Advisory, Excessive Heat Watches and Warnings all based around the (HI). In these modes of media usually reported as "Feels Like"
- There are 4 (HI) Categories- Caution of 80-90 deg HI, Extreme Caution of 91-103 deg HI, Danger 103-124 deg HI, and Extreme Danger 126 and above deg HI.
- It should be noted that employees not acclimated are subject to heat illness effects even at the Caution level.

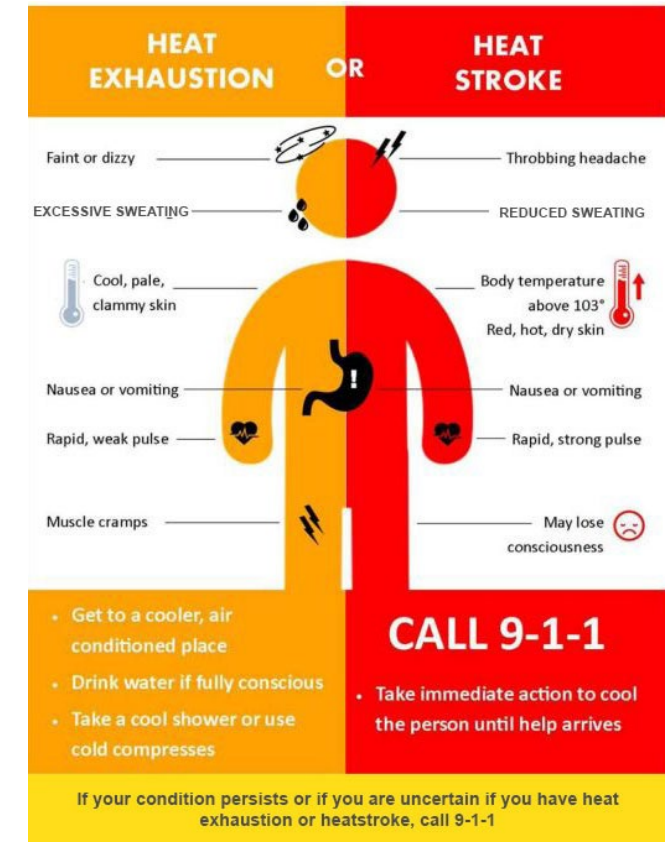
Category	Heat Index	Possible heat disorders for people in high risk groups
Extreme Danger	130°F or higher (54°C or higher)	Heat stroke or sunstroke likely.
Danger	105 - 129°F (41 - 54°C)	Sunstroke, muscle cramps, and/or heat exhaustion likely. Heatstroke possible with prolonged exposure and/or physical activity.
Extreme Caution	90 - 105°F (32 - 41°C)	Sunstroke, muscle cramps, and/or heat exhaustion possible with prolonged exposure and/or physical activity.
Caution	80 - 90°F (27 - 32°C)	Fatigue possible with prolonged exposure and/or physical activity.

Conditions and S&S and Solutions

- First item of note: These signs and symptoms are NOT necessarily progressive!
- Second item is Our Goal/Emphasis should be PREVENTION versus intervention, but since stuff happens
- Heat Cramps- earliest sign of Heat Illness and can be large muscle groups- back, legs, neck or fine muscle groups, such as forearms and hands
- Treatments- move to a cool(er) shaded area, hydrate relax stretch affected muscles, hydrate. If the cramps don't subside within an hour seek medical attention

Conditions and S&S and Solutions

- Heat Exhaustion- headache, pale clammy skin-> profuse sweating, nausea/vomiting, mental confusion, lack/loss of coordination. More likely to be noticed by a co-worker
- Treatments- safely stop work, move to a cool area, loosen clothing, apply cool wet cloths (*Ammonia water) to the head, neck, armpits, stomach, and sip cool drinks (NOT Sugary or carbonated). Call EMS as this person needs medical attention and support



Conditions and S&S and Solutions

- Heat Stroke- TRUE MEDICAL EMERGENCY Life Threatening Event- Hot red DRY skin, headache, confusion-> loss of consciousness. The body has LOST its ability to regulate internal temperature.
- Treatments- Call EMS!!! Remove clothing apply cool water over the body, use ice if available, NPO even if still conscious. DRASTIC Medical Intervention is required.
- In my opinion we should NEVER get to this point on the Heat Illness scale. It is a Failure of Management/Supervision

PREVENTION

- Know the Conditions (HI)- Daily crew briefings, clearly communicate the hazard review S&S and your mitigation plan
- Pre-Plan for a cool space
- Have large volume of cool water/specific hydration products available
- If possible increased number of breaks, and/or assignment rotation
- Institute (increased) wellness checks
- Require hydration throughout the shift
- NO ONE WORKS ALONE
- Ensure Emergency Communications are available and working

Your Turn

- QUESTIONS
- COMMENTS
- CONCERNS

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THANK YOU