



Heat Illness Prevention for Indoor and Outdoor Workers - *What Employers Need to Know*

David Hornung
Heat and Ag Program Coordinator

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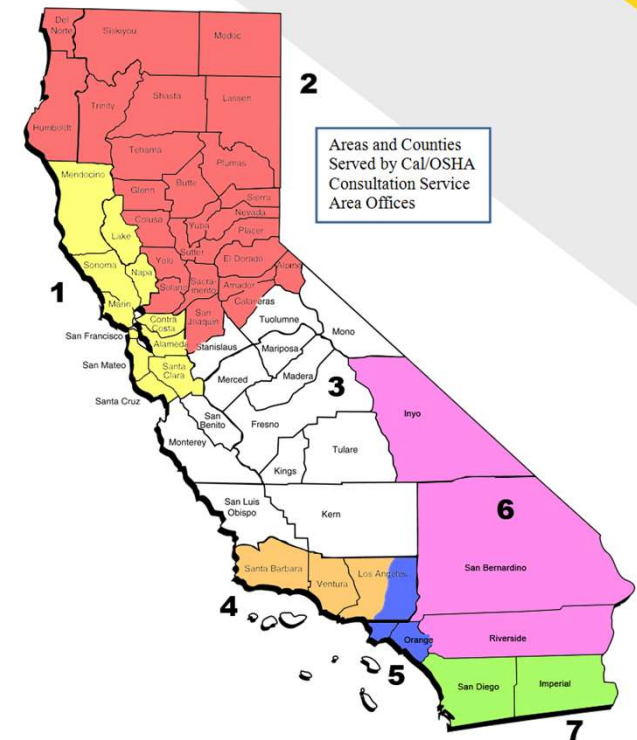
Today's Topics

- Why Heat Matters?
- What is Heat Illness?
- Review the regulations for indoor heat and outdoor heat
- Review heat illness preventive measures
- Heat-related resources



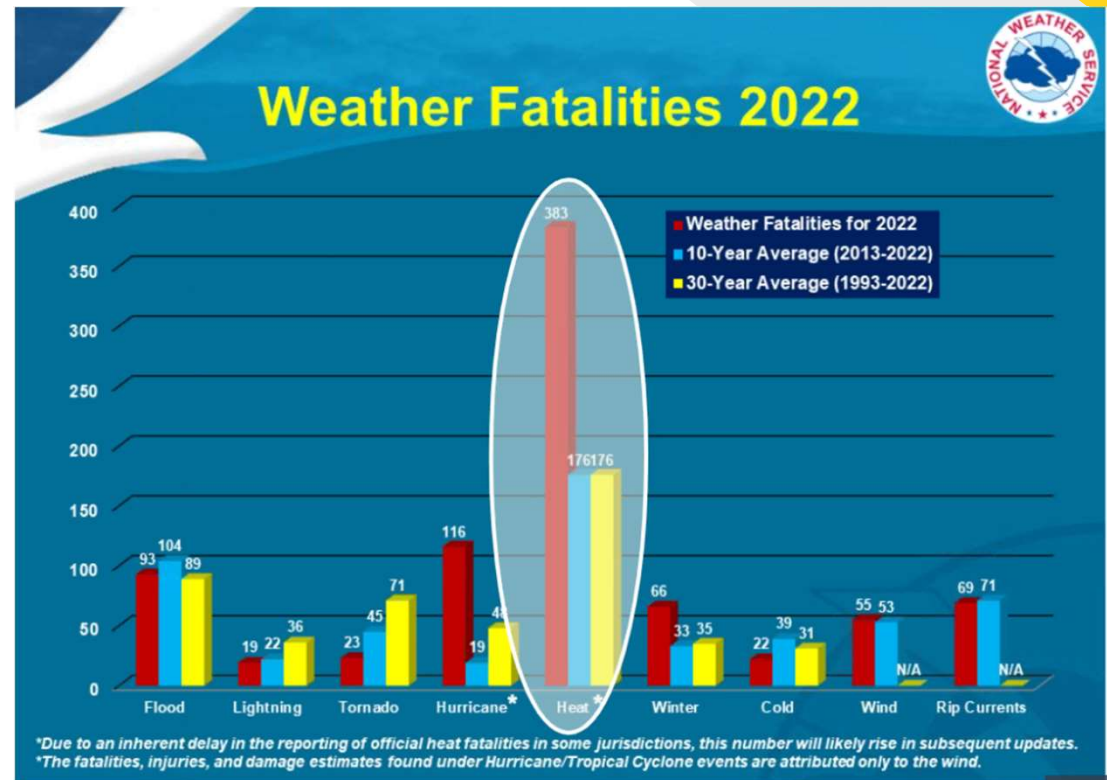
Cal/OSHA's Role in California

- The Cal/OSHA has jurisdiction over every employment and place of employment in California
- Enforcement
 - 26 Field Offices
 - Workplace Accidents
 - Complaints
- Consultation
 - On-site Visits
 - Offsite Consultation (Telephone Support)
 - Educational Materials



Why heat matters?

- Heat is the leading climate-related killer
- Studies show heatwaves trending hotter, longer, and more frequent with less overnight relief
- Studies of worker's compensation data show there are over 1000 heat-related each year in California



What is Heat Illness?

- **Heat illness** is a serious medical condition resulting from the body's inability to cope with a heat load.
- Types of heat illness include:
 - heat cramps
 - heat exhaustion
 - heat stroke, which can lead to death



What is Heat Illness?

- Some symptoms of heat illness include:
 - Headache, fatigue, dizziness, confusion, muscle pain and spasms, elevated heart rate, heavy sweating, hot/dry skin, nausea/vomiting, and fainting/unconsciousness.
- The longer a person goes without assistance in excessive heat, the more likely they are to become seriously ill.

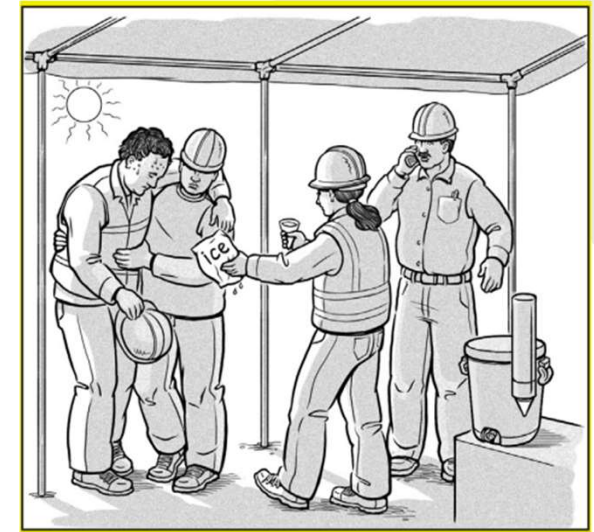


Risk Factors for Heat Illness?

- Age, weight, level of physical fitness
- Degree of acclimatization and metabolism
- Use of alcohol or drugs or medications
- Dehydration
- Medical Conditions (diabetes, hypertension)

2023 Year in Review

- 26th warmest summer in California
 - Warmest year ever recorded on Earth
- There were 45 confirmed heat-related illnesses reported to Cal/OSHA (down from 82 in 2022)
- Cal/OSHA received and investigated 183 heat-related complaints (down from a high of 251 in 2022)
- Strong continued enforcement – 257 proactive high heat inspections (a record high)



Title 8 CCR Section 3395 – Outdoor Heat Illness Prevention

- Regulation has remained unchanged since 2015.
- Some requirements of the standard:
 - Access to Water (c)
 - Access to Shade (d)
 - High Heat Procedures (e)
 - Acclimatization (g)
 - Employee and Supervisory Training (h)
 - Written Procedures Including Emergency Response (i)/(f)

Title 8 CCR Section 3396 – Indoor Heat Illness Prevention

- Applies to most workplaces where the indoor temperature reaches 82°F.
- Effective date TBD after approval from OAL.

Title 8 CCR Section 3396 – Indoor Heat Illness Prevention

- Some requirements of the standard:
 - Access to Water (c)
 - Access to Shade (d)
 - Implement control measures under certain (e)
 - Acclimatization (g)
 - Employee and Supervisory Training (h)
 - Written Procedures Including Emergency Response (i)/(f)

Where we were last year

Indoor heat rules

New proposed regulation and updated Heat SEP

- Heat Illness Prevention in Indoor Places of Employment
 - The March 31, 2023 notice of proposed rulemaking initiated the formal rulemaking process
 - Proposed regulation can be viewed here: <https://www.dir.ca.gov/OSHSB/Indoor-Heat.html>
- Cal/OSHA revised its Heat Special Emphasis Program (Heat SEP) in October 2022 to include indoor heat hazards
 - All valid, formal, indoor heat-related complaints will be addressed via onsite inspection
 - View the Heat SEP here: <https://www.dir.ca.gov/DOSHPol/Heat-SEP.pdf>



Final Indoor Heat Proposal

Similar to 3395

3395 Outdoor Heat (<i>Maria Isabel Vasquez Jimenez</i> Heat Illness Standard)	3396 Indoor Heat
(a) Scope	(a) Scope
(b) Definitions	(b) Definitions
(c) Provision of Water	(c) Provision of Water
(d) Access to shade	(d) Access to Cool-Down Areas
(e) High-heat procedures	(e) Assessment and Control Measures
(f) Emergency Response Procedures	(f) Emergency Response Procedures
(g) Acclimatization	(g) Acclimatization
(h) Training	(h) Training
(i) Heat Illness Prevention Plan	(i) Heat Illness Prevention Plan

Comparison Table

Requirement	Outdoor Heat (T8CCR 3395)	Indoor Heat (T8CCR 3396)
Scope and Application	<ul style="list-style-type: none"> Applies to outdoor workplaces 	<ul style="list-style-type: none"> Applies to indoor workplaces when the indoor temperature is greater than 82°F
Provide Clean Drinking Water	<ul style="list-style-type: none"> Provide access to potable water that is fresh, suitably cool, and free of charge Located as close as possible to work areas 	<ul style="list-style-type: none"> Provide access to potable water that is fresh, suitably cool, and free of charge Located as close as possible to work areas and cool-down areas
Access to Shade and Cool-Down Areas	<ul style="list-style-type: none"> For outdoor workplaces, shade must be present when temperatures are greater than 80°F. When temperatures are less than 80°F, shade must be available upon request For indoor workplaces, provide access to at least one cool-down area which must be kept at a temperature below 82°F Shade and cool-down areas must be: <ul style="list-style-type: none"> Blocked from direct sunlight Large enough to accommodate the number of workers on rest breaks so they can sit comfortably without touching each other 	

(a) Scope

(a)(1) $\geq 82^{\circ}\text{F}$: Entire regulation **except** subsection (e)
“Assessment and Control Measures”

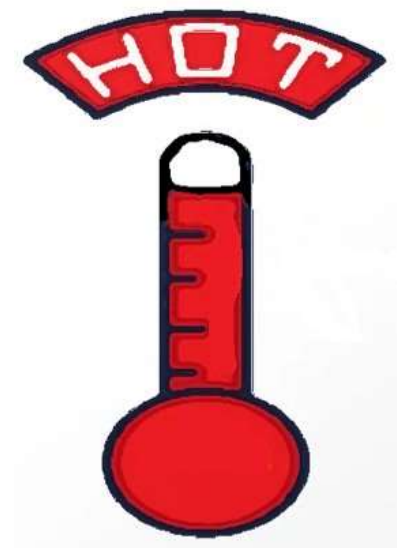
(a)(2) Entire regulation **including** subsection (e)

$\geq 87^{\circ}\text{F}$ or $\geq 87^{\circ}\text{F}$ heat index

$\geq 82^{\circ}\text{F}$ for:

(a)(2)(C) Clothing restricts heat removal

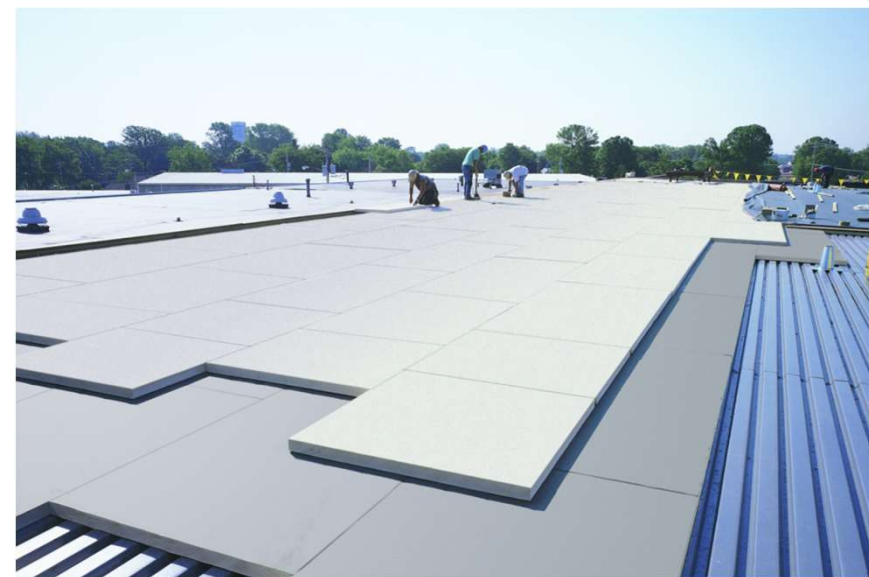
(a)(2)(D) High radiant heat areas



(b) Key definitions

“ENGINEERING CONTROL” means

Control or device that removes or reduces hazardous conditions or creates a barrier between the employee and the hazard.



(b) Key definitions

Examples of **ENGINEERING CONTROLS**:

- Isolation of hot processes
- Isolation of employees from sources of heat
- air conditioning
- Cooling fans, cooling mist fans, evaporative coolers
- Natural ventilation (when cooler outdoors)
- Local exhaust ventilation
- Shielding from a radiant heat source
- Insulation



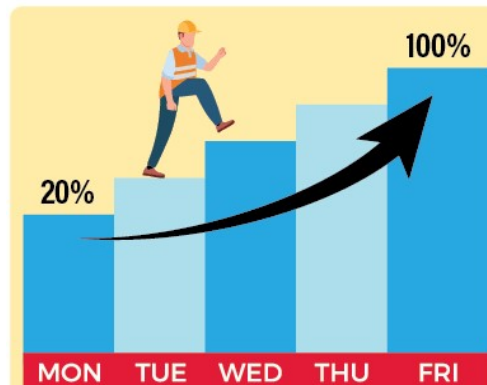
(b) Key definitions

“**ADMINISTRATIVE CONTROL**” means:

Method to limit exposure to a hazard by adjustment of work procedures, practices, or schedules.



Prevent Heat Illness at Work



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.



(b) Key definitions

Examples of **ADMINISTRATIVE CONTROLS**:

- acclimatizing employees
- rotating employees
- scheduling work earlier or later in the day
- using work/rest schedules
- reducing work intensity or speed
- reducing work hours
- changing required work clothing
- using relief workers

What must employers do?

Heat Illness Preventative Measures

Control measures

Employers must start with feasible engineering controls, then add administrative controls if those are not enough to reduce the temperature and heat index to below 87°F (or temperature to below 82°F for employees working in clothing that restricts heat removal or high radiant heat areas).

- Engineering Controls
- Administrative Controls
- PPE



(b) Key definitions

“INDOOR”

- Space that is under a ceiling or overhead covering that restricts airflow and is enclosed along its entire perimeter by walls, doors, windows, dividers, or other physical barriers that restrict airflow, whether open or closed.
- All work areas that are not indoor are considered outdoor and covered by section 3395.

(c) Provision of Water

- Similar to 3395
- Drinking water also required in cool-down areas

Drink water even if you aren't thirsty every 15 minutes.



(d) Access to Cool-Down Areas

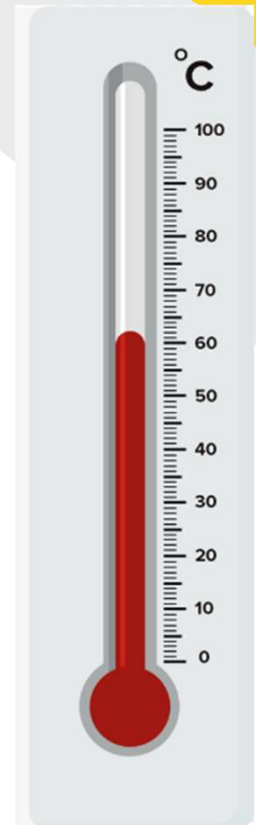
- Similar to 3395
- Indoor cool-down area must be less the 82°F unless not feasible



(e) Assessment and Control Measures

(e)(1)

- Measure temperature & heat index; record whichever is greater
- Identify & evaluate other heat illness environmental risk factors
- Effective procedures for active involvement of employees & union representatives in:
 - Planning, conducting, and recording measurements
 - Identifying & evaluating other heat illness environmental risk factors



(e) Assessment and Control Measures

EXCEPTION (A) to (e)(1):

- Employer may assume a work area is subject to one or more of the conditions listed in subsection (a)(2).
- Comply with subsection (e)(2).

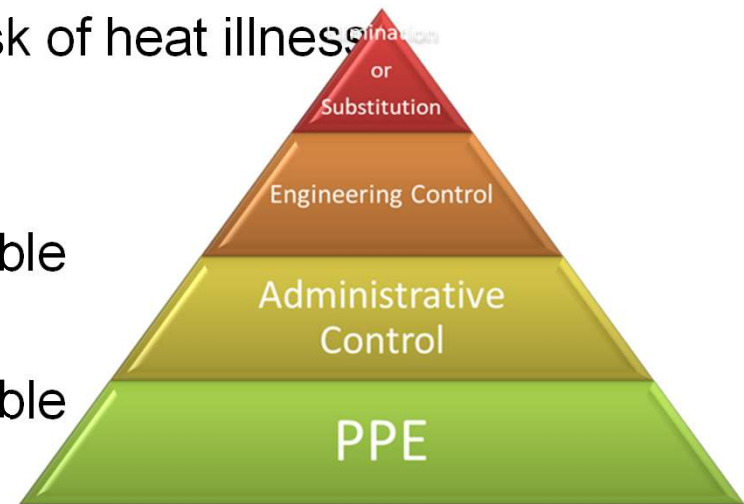
EXCEPTION (B) to (e)(1):

- Vehicles with effective and functioning air conditioning

(e) Assessment and Control Measures

(e)(2) Use control measures to minimize risk of heat illness

- (e)(2)(A) Engineering Controls
 - 1. Reduce temp/heat index to below levels listed in subsection (a)(2) or the lowest feasible level.
 - Exception: controls which are infeasible
 - 2. Use engineering controls to minimize the risk of heat illness to the extent feasible.
 - Exception: controls which are infeasible
- (e)(2)(B) Administrative Controls
 - Minimize risk of heat illness to the extent feasible
- (e)(3)(C) Personal heat-protective equipment.
 - Minimize risk of heat illness to the extent feasible



Feasibility

- Not defined in the proposal because:
 - Complexity
 - Determination varies depending on:
 - Individual circumstances of the work environment
 - Conditions where engineering or administrative controls will be implemented
- Guidance documents can describe scenarios & examples
 - Infeasible engineering control examples:
 - Unoccupied locations with short-term/intermittent exposures
 - Administrative controls feasible – limit time in spaces when the temp is over the threshold
 - Controls would contradict other legal requirements
 - Burn units where high temperatures are needed for patient safety

(f) Emergency Response Procedures

- Similar to 3395



(g) Acclimatization

- Similar to 3395
- Closely observe employees during a heat wave when no effective engineering controls are in use to lower temperature
- Closely observe for 14 days employees newly assigned to work:
 - $\geq 87^{\circ}\text{F}$ or $\geq 87^{\circ}\text{F}$ heat index
 - $\geq 82^{\circ}\text{F}$ or $\geq 82^{\circ}\text{F}$ heat index for clothing restricts heat removal
 - $\geq 82^{\circ}\text{F}$ (a)(2)(D) High radiant heat areas



**Watch out for
each other**

(h) Training

- Similar to 3395
- Added note to subsection (h)
 - Where employees are covered by section 3395 and this section, the training program for this section can be integrated into section 3395 training.



(i) Heat Illness Prevention Plan

- Similar to 3395
- The indoor heat illness prevention plan may be included as part of the outdoor heat illness prevention plan in section T8 CCR 3395



For Additional Information

Visit the Cal/OSHA Heat Illness Webpage:

<http://www.dir.ca.gov/DOSH/HeatIllnessInfo.html>

- Fact sheets, guidance documents, FAQs
- Updated Heat Illness Prevention Model Plan
 - Include combined indoor & outdoor plan
- eTools

Cal/OSHA Heat Illness Prevention Guidance and Resources [▶ español](#)

⚠ Indoor Heat Requirements

On June 20, 2024, the Occupational Safety and Health Standards Board approved California Code of Regulations, Title 8, [section 3396](#), "Heat Illness Prevention in Indoor Places of Employment". This standard applies to most workplaces where the indoor temperature reaches 82°F. It establishes required safety measures for indoor workplaces to prevent worker exposure to risk of heat illness. The Office of Administrative Law (OAL) has 30 working days to review the proposal. The Standards Board requested that the regulation take effect immediately after OAL approval.

For outdoor heat illness prevention, refer to Title 8, [section 3395](#).

Below is information about the current [Outdoor Heat Illness Prevention Standard](#), and the pending [Indoor Heat Illness Prevention Standard](#). The Indoor Heat standard was approved on June 20 and is pending review by the Office of Administrative Law (OAL). OAL has 30 working days to review the proposal.

[Comparison of Indoor and Outdoor Heat Illness Prevention Standards](#)

Cal/OSHA

Emergency Response

- [Avian Influenza \(H5N1\) Guidance and Resources](#)
- [Respirable Crystalline Silica Standards and Resources](#)
 - [Emergency Temporary Standard on Respirable Crystalline Silica for General Industry](#)
- [Worker Safety and Health in Wildfire Regions](#)

Quick Links

- [File a workplace safety complaint](#)
- [Obtain a free consultation](#)
- [Important Cal/OSHA updates](#)
- [Public records requests](#)
- [Cal/OSHA Training Academy](#)
- [OSHA Log 300 Reporting](#)

Contact us by email:

heat@dir.ca.gov

Cal/OSHA Consultation Service

Cal/OSHA Consultation Services Branch

Cal/OSHA provides consultative assistance to employers and employees through a variety of services including:

- On-site Visits
- Educational Outreach [e](#)
- Offsite Consultation (Telephone Support)
- Partnership Programs
- Educational Materials:
 - * Publications
 - * eTools
 - * Industry-Specific Webinars on COVID-19 for Employers and Supervisors

General Industry	Construction Industry	Agricultural Industry	Partnership Programs
<ul style="list-style-type: none"> • Ergonomics • Lockout/Tagout • Effective IIPP • Hazcom Program i • Confined Space i • FAQs 	<ul style="list-style-type: none"> • Construction Guide i • Ladder Safety • Effective IIPP • Youth in Construction • FAQs 	<ul style="list-style-type: none"> • Heat Illness Prevention • Effective IIPP • FAQs 	<ul style="list-style-type: none"> • Cal/VPP Star • Cal/VPP Construction • SHARP • Golden Gate


Cal/OSHA Consultation Service
Toll-Free Number 1-800-963-9424

- LA/Orange
1 Centerpointe Drive, Suite 150
La Palma, CA 90623
(714) 562-5525
- San Fernando Valley
6150 Van Nuys Boulevard, Suite 307
Van Nuys, CA 91401
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Sacramento, CA 95825
(916) 263-0704
- San Francisco Bay Area
1515 Clay Street, Suite 1103
Oakland, CA 94612
(510) 622-2891

Or you can email them at InfoCons@dir.ca.gov

NWS HeatRisk

- <https://www.wrh.noaa.gov/wrh/heatrisk/>



National Weather Service
National Oceanic and Atmospheric Administration

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EXPERIMENTAL NWS POTENTIAL HEAT RISKS

Tue
4/10

Wed
4/11

Thu
4/12

Fri
4/13

Sat
4/14

Sun
4/15

Mon
4/16

Click map for potential heat risks and NWS forecast for a location.

HeatRisk More Information

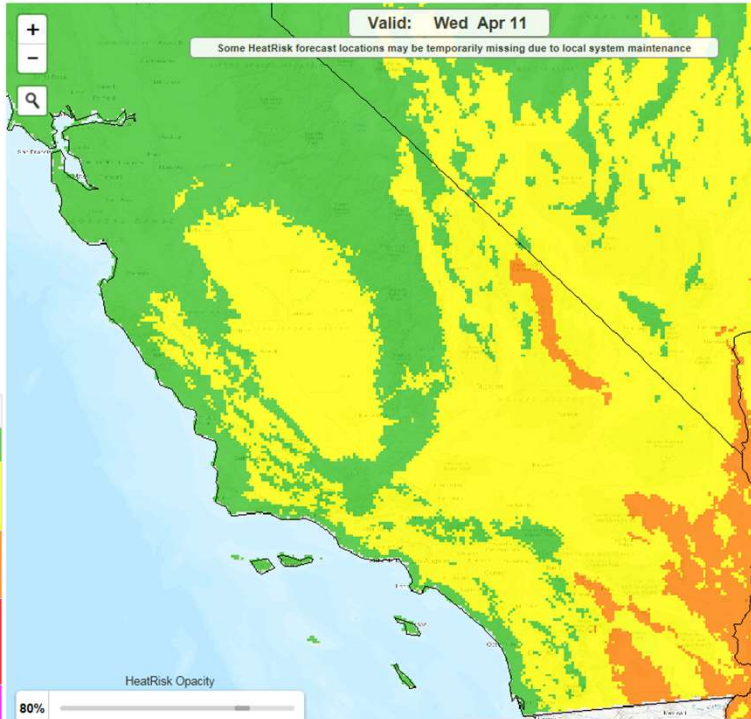
Heat affects everyone differently. In order to better address heat risk and allow you to prepare for upcoming heat events, the NWS has developed the experimental HeatRisk forecast. The NWS HeatRisk forecast provides a quick view of heat risk potential over the upcoming seven days. The heat risk is portrayed in a numeric (0-4) and color (green/yellow/orange/red/magenta) scale which is similar in approach to the Air Quality Index (AQI) or the UV Index. In a similar way, it provides one value each day that indicates the approximate level of heat risk concern for any location, along with identifying the groups who are most at risk. This product is supplementary to the official NWS heat watch/warning/advisory program and is meant to provide continuously available heat risk guidance for those decision makers and heat sensitive populations who need to take actions at levels that may be below current NWS heat product levels.

Category	Level	Meaning
Green	0	No Elevated Risk
Yellow	1	Low Risk for those extremely sensitive to heat, especially those without effective cooling and/or adequate hydration
Orange	2	Moderate Risk for those who are sensitive to heat, especially those without effective cooling and/or adequate hydration
Red	3	High Risk for much of the population, especially those who are heat sensitive and those without effective cooling and/or adequate hydration
Magenta	4	Very High Risk for entire population due to long duration heat, with little to no relief

Click map for potential heat risks and official NWS forecast for a location

Valid: Wed Apr 11

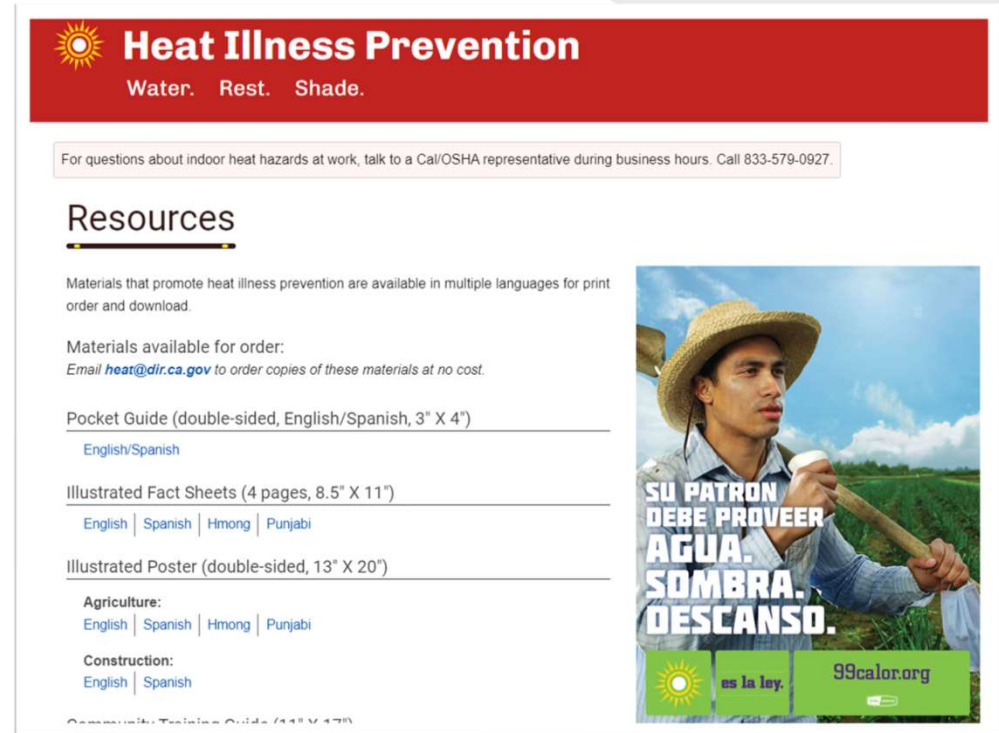
Some HeatRisk forecast locations may be temporarily missing due to local system maintenance



HeatRisk Opacity

Heat Illness Prevention Resources

- Cal/OSHA Heat Resource Page: <https://www.dir.ca.gov/dosh/heatillnessinfo.html>
- Multilingual educational materials can be downloaded free from the www.99calor.org website
- Email heat@dir.ca.gov to get free materials mailed to you



Heat Illness Prevention
Water. Rest. Shade.

For questions about indoor heat hazards at work, talk to a Cal/OSHA representative during business hours. Call 833-579-0927.

Resources

Materials that promote heat illness prevention are available in multiple languages for print order and download.

Materials available for order:
Email heat@dir.ca.gov to order copies of these materials at no cost.

Pocket Guide (double-sided, English/Spanish, 3" X 4")
[English/Spanish](#)


Illustrated Fact Sheets (4 pages, 8.5" X 11")
[English](#) | [Spanish](#) | [Hmong](#) | [Punjabi](#)

Illustrated Poster (double-sided, 13" X 20")

Agriculture:
[English](#) | [Spanish](#) | [Hmong](#) | [Punjabi](#)

Construction:
[English](#) | [Spanish](#)

Community Training Guide (11" X 17")



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Thank you!

Any questions?

**Contact me:
David Hornung
510-502-2513
dhornung@dir.ca.gov**