OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT

CALHEATSCORE USER GUIDE

AUGUST 2026

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Authorship

This guide was authored by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment, the UCLA Luskin Center for Innovation, the Los Angeles Regional Collaborative for Climate Action and Sustainability, and the California Governor's Office of Land Use and Climate Innovation.

Introduction Overview

In many communities across California, extreme heat is not just uncomfortable, it can be dangerous, especially for those who may be more vulnerable. Families living in older apartments without air conditioning, workers spending long hours outdoors, elders living alone, and communities with fewer resources to fight the heat often feel the health impacts first. Local government, businesses, non-profits, Tribes, and communities can work together to collectively increase resilience to extreme heat.

Given this need for information and action, the California Department of Insurance's Climate Insurance Work Group in 2021 recommended that the state develop an extreme heat ranking system. The new system would use rankings, similar to hurricane categories or other systems, to help communities interpret risk and prepare for dangerously hot conditions. Assembly member Luz Rivas authored Assembly Bill (AB) 2238, which was signed into law by Governor Gavin Newsom in 2022. This law was created in response to growing concerns from communities, researchers, and public health leaders about the increasing dangers of extreme heat. To address this need, the CalHeatScore tool was released on December 30, 2024.

CalHeatScore is a public health tool to help Californians stay informed, ready, and safe when temperatures rise. The purpose of CalHeatScore is to reduce heat-related illness and save lives by translating complex weather and health data into easy-to-understand health risk alerts. This tool raises awareness of extreme heat events and equips individuals (including parents, seniors, and caregivers) as well as organizations (such as local governments, non-profits,

and businesses) to act together in planning for, mitigating, and surviving extreme heat events.

CalHeatScore is built for Californians to raise awareness of extreme heat-health impacts and to connect communities to local resources to keep themselves safe.

Public Health Basis

Heat is a serious and growing concern in California. Every year, extreme heat leads to illness, emergency room visits, and deaths, many of which can be prevented with timely information and resources. Extreme heat contributes to more deaths than all other climate-related hazards, including wildfires and floods.[1,2] A single heatwave in California can result in hundreds of heat-related emergency department visits and deaths as well as billions of dollars in economic losses.[3] As the climate continues to change, the State is experiencing more frequent, severe, and longer-lasting episodes of extreme heat, posing even greater danger to Californians. Not everyone is impacted by heat the same way. Some communities face higher health risks because of where they live, the work they do, or the resources they have access to. Harmful risks from heat can be avoided by providing advanced warning and guidance from early warning systems.

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[1] Phillips, Anna M., Tony Barboza, Ruben Vives, and Sean Greene. "Heat Waves Are Far Deadlier Than We Think. How California Neglects This Climate Threat." *Los Angeles Times*, October 7, 2021.
[2] NWS Office of Climate, Water, and Weather Services. *Summary of Natural Hazard Statistics for 2024 in the United States*. (2026).
[3] California Department of Insurance. *Impacts of Extreme Heat to California's People, Infrastructure, and Economy*. (2024).

How It Works

The tool provides timely, health-specific information on upcoming heat conditions affecting communities across California. CalHeatScore is developed based on climate and public health data, as well as forecasted weather conditions, and then reports ZIP code-level heat scores to help Californians prepare and plan for dangerous heat. This tool was and will continue to be shaped not only by state and local agencies, but by community members, workers, and Tribal partners who share their lived experiences with extreme heat. Their input helped ensure that CalHeatScore reflects real-world conditions. It also can highlight where communities may face greater challenges adapting to heat, such as limited access to cooling, healthcare, or transportation.

Key features include:

- **Localized Heat-Health Scores:** Provides scores from 0 to 4 that indicate the magnitude of heat-related health risks for California communities at the ZIP code level.
- **Daily Updates:** Delivers seven-day forecasts of heat-health risks, updated daily.
- **Local Population Profiles:** Provides local sociodemographic profiles on some populations most impacted by heat, including children, older adults, outdoor workers, linguistically isolated communities, and those without health insurance, to show where adaptive capacity (the ability to adapt to heat) is lowest.
- **Resource Connections:** Directs users to nearby locally relevant resources, such as the locations of cool centers.

CalHeatScore Cohort Listening Sessions

In 2025, the Office of Environmental Health Hazard Assessment (OEHHA) worked with the Los Angeles Regional Collaborative for Climate Action and Sustainability (LARC) and the UCLA Luskin Center for Innovation, as well as the Governor's Office of Land Use and Climate Innovation (LCI) to recruit and form CalHeatScore User Cohorts to learn how the tool can be useful in supporting California Native Tribes, older adults, and outdoor and warehouse workers. The purpose of the cohorts was to engage in rich dialogue, feedback, and discussion on how cohort members face challenges posed by extreme heat, how helpful they find CalHeatScore data and messaging, and how they think the tool can be used, among other topics.

To help inform future improvements to CalHeatScore, the lived experiences and expertise of California Native Tribes, older adults, and outdoor and warehouse workers are considered though tool development and are reflected in Section 3 of the CalHeatScore User Guide.

Cohort members met three times in 2025 to engage with OEHHA and collaborators. Engagement is ongoing into 2026 and this cohort process represents one example of how OEHHA is committed to ongoing engagement with the public and gathering feedback. OEHHA recognizes these cohorts were not necessarily fully representative of input from these three groups, but an important first step in partnership. OEHHA will continue to improve and refine the tool based on this partnership to ensure it is user-friendly and robust.

HOW TO USE THIS GUIDE

This guide is broken into three sections to help you:

- **Section 1:** Navigate the CalHeatScore tool.
- **Section 2:** Know what can increase your individual heat-health risk and what you can do to help protect yourself, your family, and community.
- **Section 3:** Learn how to integrate CalHeatScore and related protective actions into your organization, business, or local government.

The following information is intended as general guidance to accompany the use of the CalHeatScore system. This guidance is not medical advice and should not replace consultation with medical professionals.

Section 1. Navigating and Understanding the CalHeatScore Tool

The step-by-step instructions below walk you through how to access and navigate the CalHeatScore tool.

Steps

Step 1: Access the CalHeatScore Mapping Tool

- Go to the CalHeatScore website.
- Click on the link that says “CalHeatScore Mapping Tool” (**IMAGE 1**).
- Agree to the terms and conditions (**IMAGE 2**).
- To choose not to see this page in the future, click on the box next to “Do not show again”.

IMAGE 1

Screenshot of CalHeatScore Website

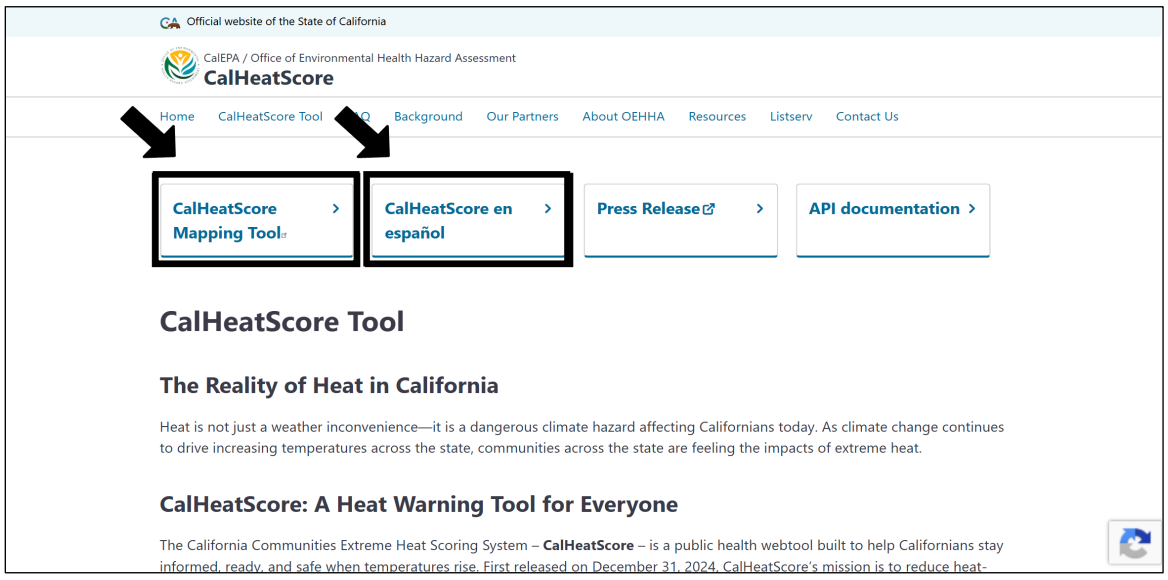
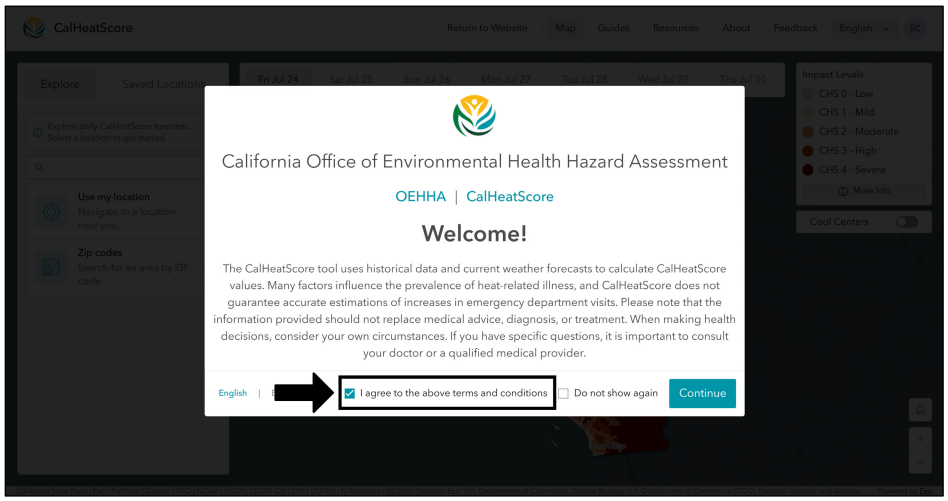


IMAGE 2

Screenshot of Website's Terms and Conditions



Step 2: Find Your ZIP Code or Chosen Location

This feature allows you to focus on your community and others important to you. It enables organizations to focus on the communities they serve. There are several ways to navigate to your location of interest[4] (**IMAGE 3**).

A. Go to the search box (magnifying glass icon) on the middle left-hand side of the screen to type in your ZIP code or chosen address.
   - Click on the preferred location in the drop-down menu.

B. Click on the "Use My Location" button.
   - Note: location services must be enabled on the device.

C. Click on the "ZIP codes" button.
   - This will bring up a search box to type in the ZIP code of interest.

D. Select a ZIP code from the "Saved Locations" tab.

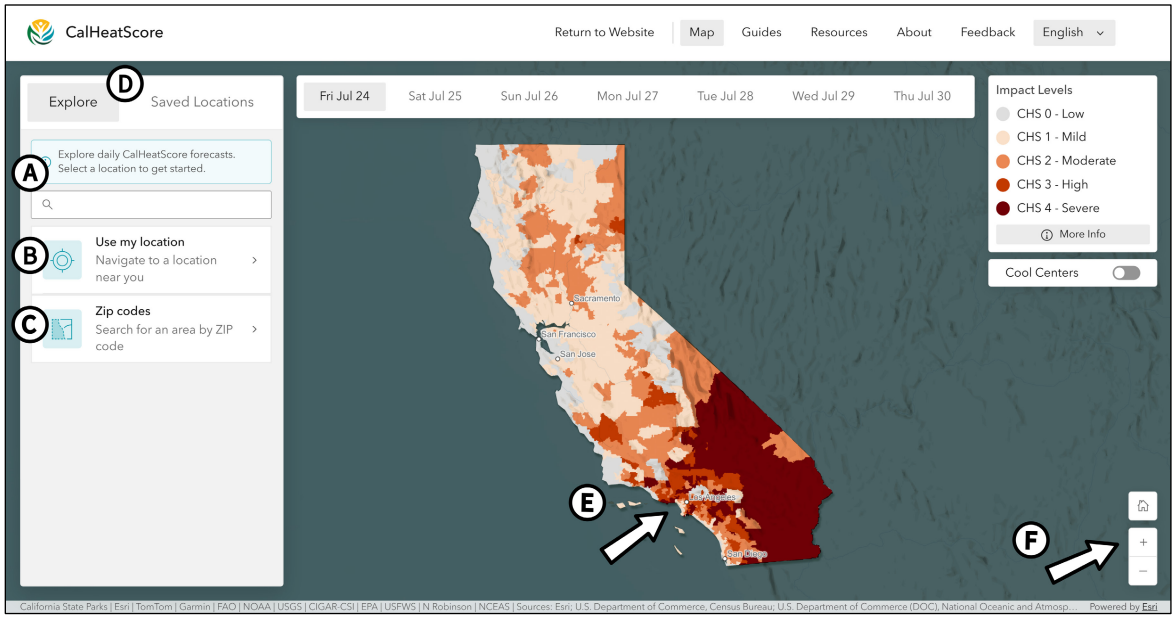
E. Select a ZIP code by clicking on the CalHeatScore map.

[4] The lettered list corresponds to the letter markups in the associated image.

F. Use +/- to navigate to your area.

IMAGE 3

Screenshot of Search Box



Step 3: View ZIP Code-Specific Information

This feature allows you to view your local CalHeatScore and where it falls in the scoring system. Additional related information shows historical weather conditions and number of people impacted. Once a ZIP code is selected (**IMAGE 4**):

A. The left panel provides informational content about that location's temperature profile, including the selected day's CalHeatScore, forecasted maximum air temperature, "feels like" temperature, historical average and record maximum air temperatures, and the total population.
B. There is also a link to the local county's resource center page. This link takes you to a new window with extreme heat resources provided by the county in which the ZIP code is located. If a ZIP code crosses two county boundaries, both county links are provided.

C. At the bottom of the panel are graphs of the forecast CalHeatScore, and associated “feels like” temperature for the upcoming 7 days.

D. Below the graphs is a “Save Location” button that allows the user to save a chosen location to a saved list that can be easily accessed from the “Saved Locations” tab on the ZIP code search page shown in **IMAGE 3**.

E. The map will zoom in on the chosen ZIP code and immediate surrounding area.

Click on the dates in the menu on top of the map to see how the CalHeatScore for your selected date is forecasted to change for the upcoming six days (**IMAGE 5**).

IMAGE 4

Screenshot of Temperature Tab on the CalHeatScore Webtool

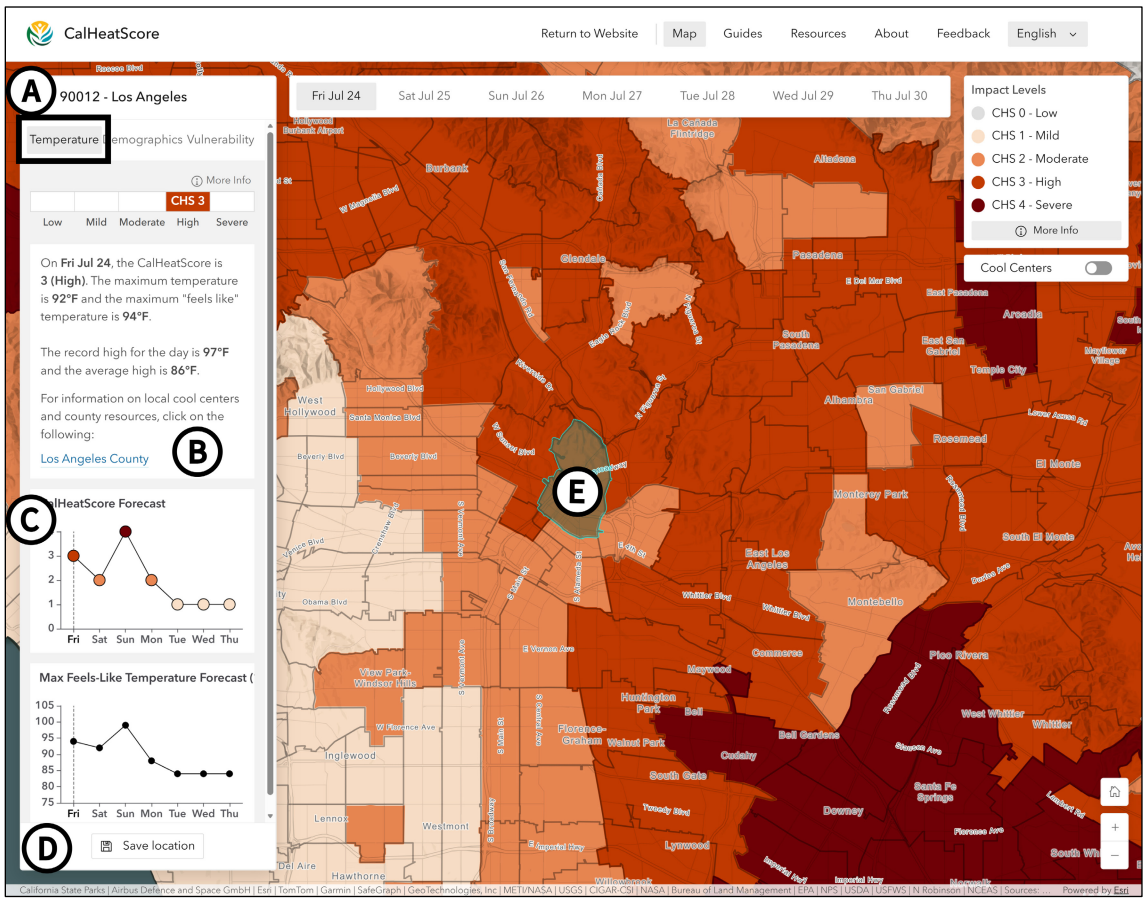
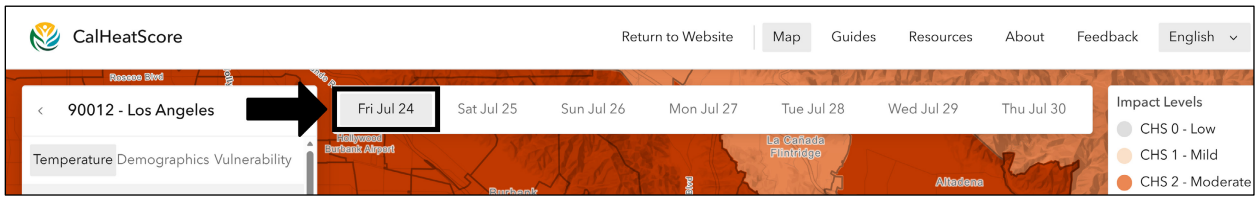


IMAGE 5

Screenshot of Choose Day Feature on the CalHeatScore Webtool



Step 4: Interpret CalHeatScore Value

At the top of the screen, the header has various buttons with additional content and links. The “Guides” button content includes the “CalHeatScore Impact Grid” that explains the meaning of each CalHeatScore.

- Click on the “Guides” button in the header at the top of the screen (**IMAGE 6**).
- Review the “Impact Levels Expanded” table (**IMAGE 7**).
  - The CalHeatScores are in the left most column.
  - The middle column has the “Impact Level”, ranging from “Low” to “Severe”.
  - The right most column has the meaning of each score.
- Below the “Impact Levels Expanded” table are additional links to resources related to heat-vulnerable groups (**IMAGE 8**).

IMAGE 6

Screenshot of the “Guides” Tab on the CalHeatScore Webtool

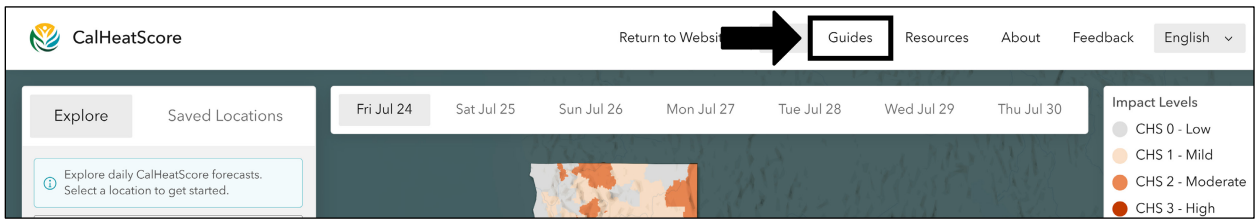


IMAGE 7

Screenshot of the "CalHeatScore Impact Levels Expanded Table"

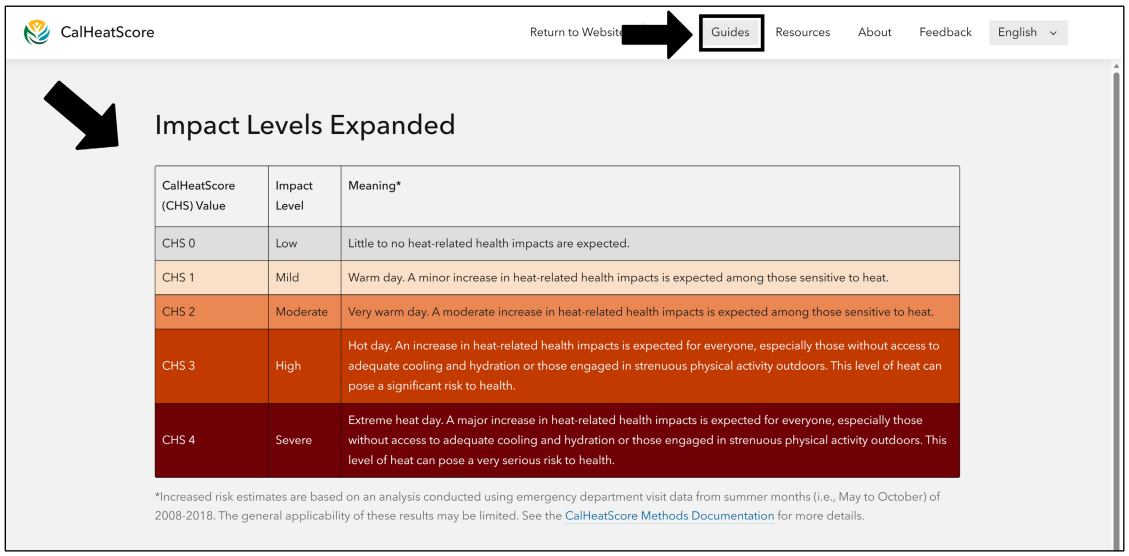
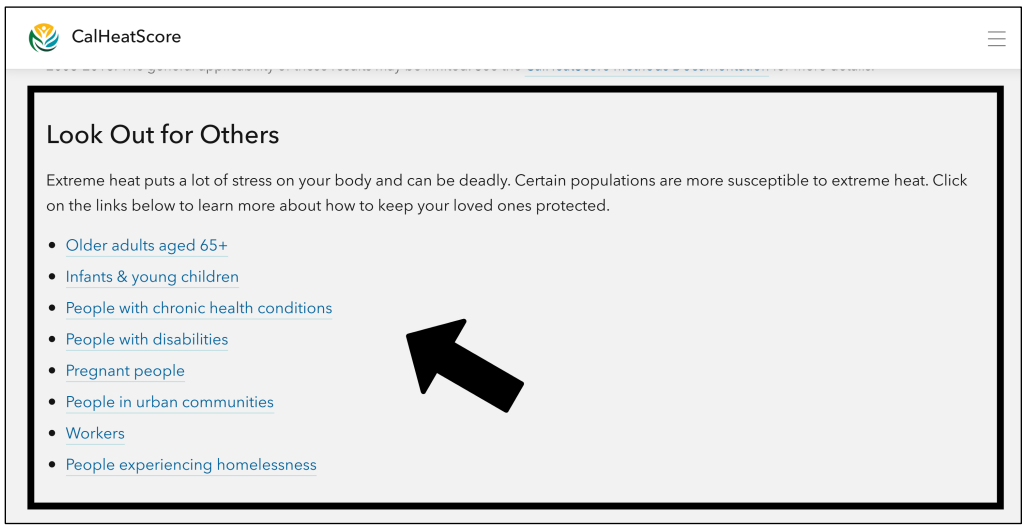


IMAGE 8

Screenshot of Additional Hyperlinks to Resources



Step 5: See Additional Demographic Information About the Selected ZIP Code

This information helps show how heat-health risk is shaped not only by temperature, but can be amplified by social and demographic conditions, like age, work, language access, and health care access. For instance, the age and

race/ethnicity profiles of your community can help you understand the proportion of different groups that may be sensitive to heat. The health insurance, outdoor workers, and linguistic isolation profiles point to additional groups that may be at higher risk.

The “Demographic” features can help with heat awareness education.

- At the top of the ZIP code-specific data window (left-hand panel), next to the “Temperature” button is the “Demographics” button, which presents age and race/ethnicity profiles for the ZIP code. Scroll up/down using the bars to the right of the demographic categories to view all categories (**IMAGE 9**).
- To the right of the “Demographics” button is the "Vulnerability" button, which presents profiles for health insurance, outdoor workers, and linguistic isolation (**IMAGE 10**).

IMAGE 9

Screenshot of “Demographics” Subpage on the CalHeatScore Webtool

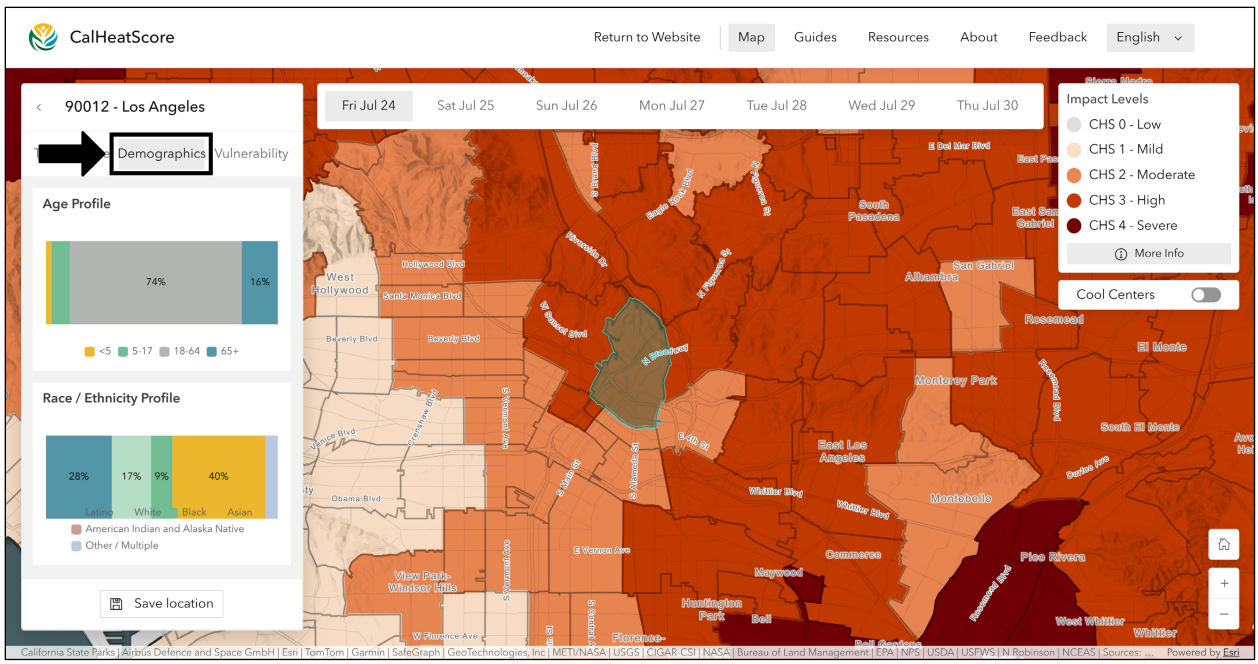
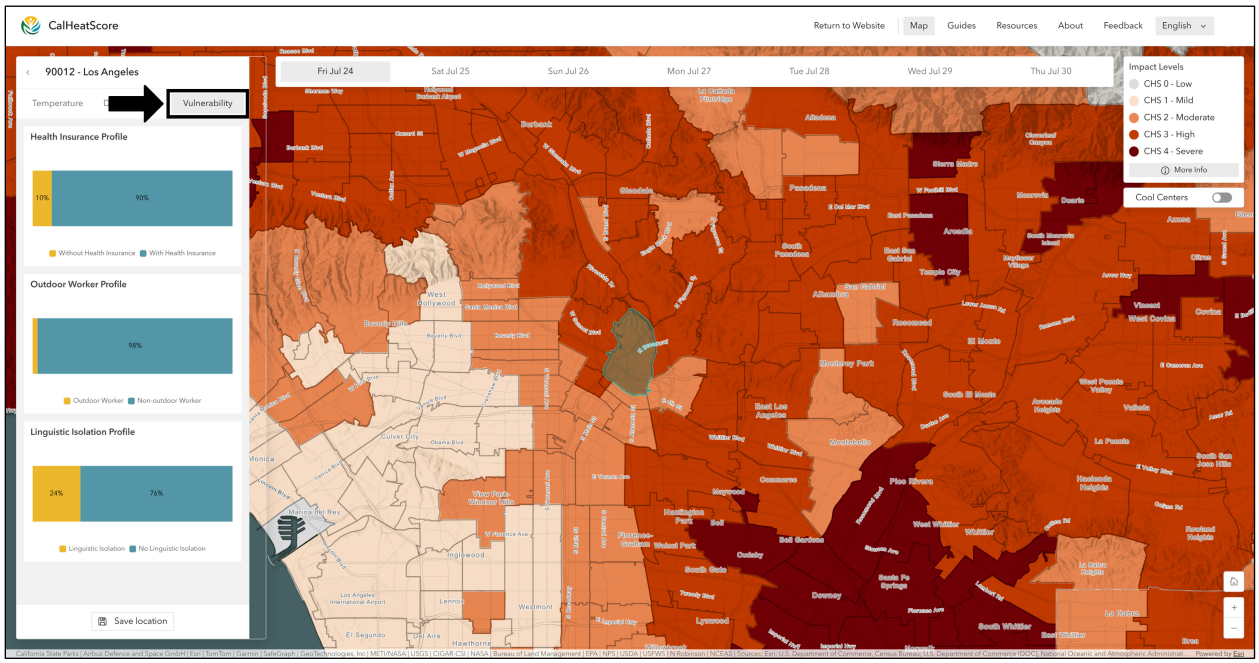


IMAGE 10

Screenshot of "Vulnerabilities" Subpage on the CalHeatScore Webtool



Step 6: Find Cool Centers

This feature enables users to locate critical information about where to go if they need to get cool. Cool centers can help you regulate your body temperature in times of high heat and allow respite.

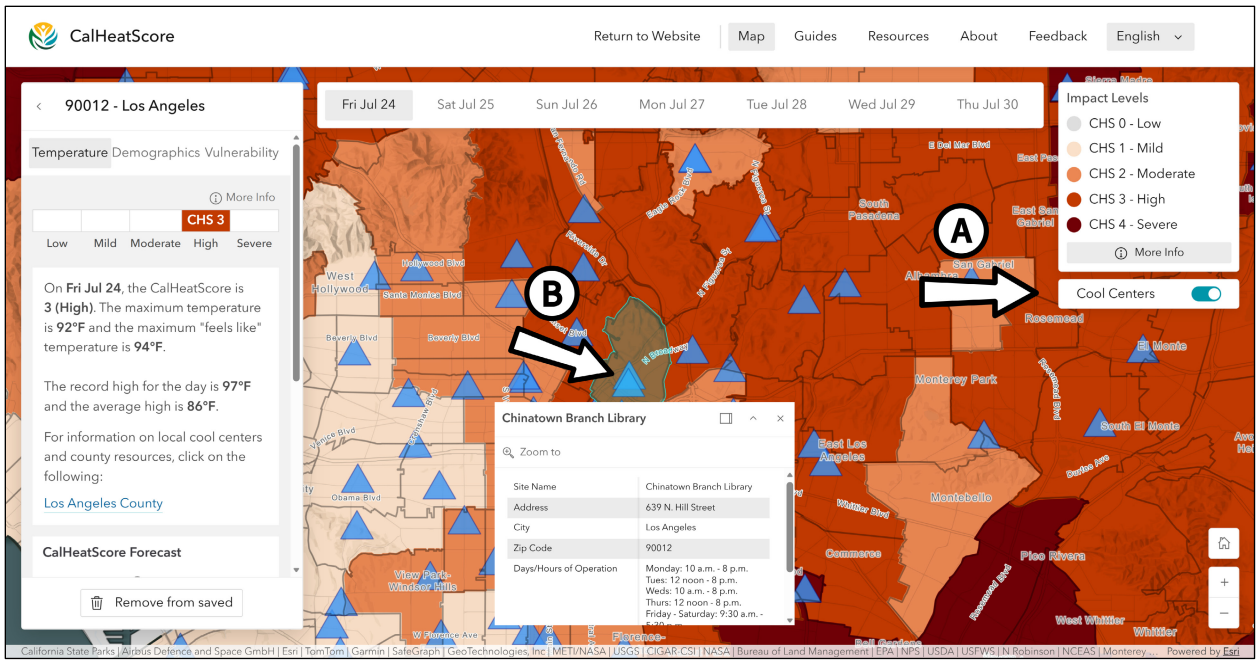
A. View cool centers near the selected ZIP code by toggling the "Cool Centers" setting Impact Levels legend, in the far right of the map (**IMAGE 11**).
B. Blue triangles indicate cool center locations.
C. Click on the blue triangle for an individual cool center to view specific information about that location, such as the address, name, and phone number.

Note: Cool centers data are maintained directly by local governments. Cool center mapping is an ongoing project from CalHeatScore and not all cool

centers in California are available on this map. Always visit your county website to confirm cool center information, as it may change. The California Office of Emergency Services (CalOES) also maintains a list of cool center resources by county on their website.

IMAGE 11

Screenshot of 'Cool Centers' Layer on the CalHeatScore Map



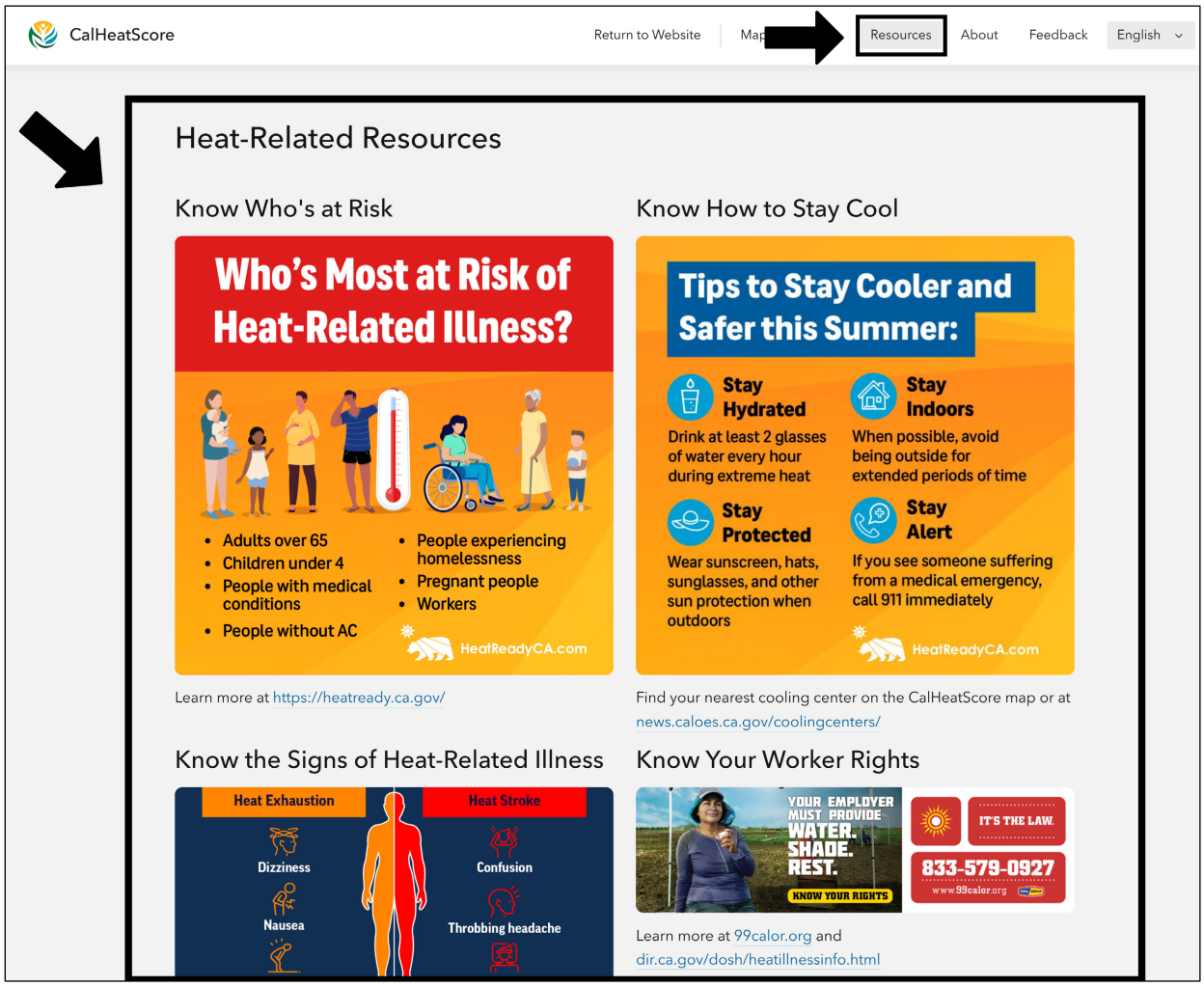
Step 7: See Additional Resources

This content provides users with additional heat-related infographics about who is at most risk, how to stay cool, signs of heat-related illness, and information about workers' rights.

- View the additional resources content by navigating to the Resources button in the Header ribbon (**IMAGE 12**).

IMAGE 12

Screenshot of 'Resources' Subpage on the CalHeatScore Webtool



Step 8: See Information About CalHeatScore

This content provides users with information about the CalHeatScore tool, including a brief history, context, and partners.

View the About CalHeatScore content by navigating to the About button in the Header ribbon (**IMAGE 13**).

IMAGE 13

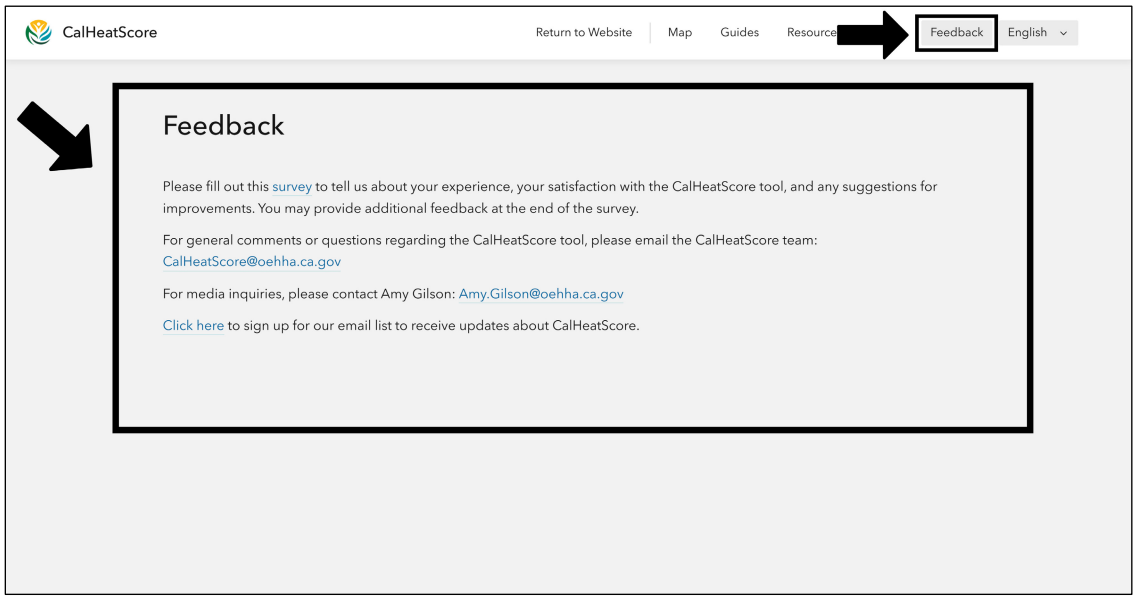
Screenshot of 'About' Subpage on the CalHeatScore Webtool

Step 9: Provide Feedback on the CalHeatScore Tool

The CalHeatScore team is committed to improving the content and user experience of the tool. To contact the CalHeatScore team, or to fill out the User Experience Survey, click on the Feedback button on the Header ribbon (**IMAGE 14**).

IMAGE 14

Screenshot of 'Feedback' Subpage on the CalHeatScore Webtool

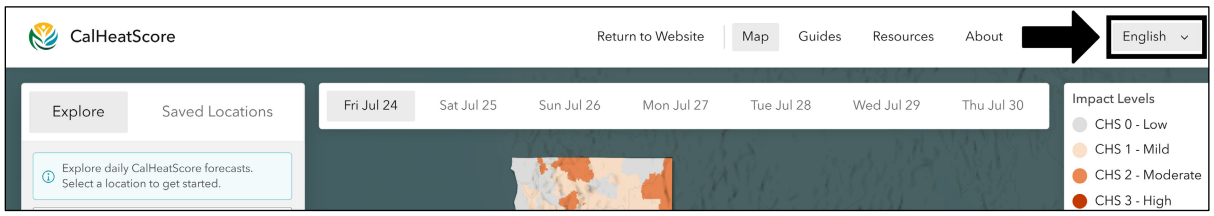


Step 10: Change the Language of the Tool

Currently, content on the CalHeatScore tool is available in both English and Spanish. To change the language on the tool, click on the drop-down arrow at the far right of the Header ribbon (**IMAGE 15**).

IMAGE 15

Screenshot of 'Language' Toggle on the CalHeatScore Webtool



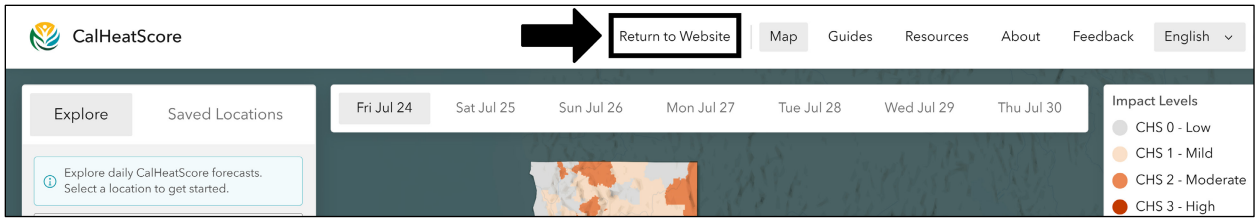
Step 11: Return to CalHeatScore Website

The "Return to Website" button, on the left side of the header ribbon, will take you to the main CalHeatScore website (**IMAGE 16**). Clicking on the "Return to Website" button will open the main CalHeatScore website in a new window.

To return to the tool from the main CalHeatScore website, either navigate to the CalHeatScore tool tab, which should still be open, or press the "CalHeatScore mapping Tool" button from the main CalHeatScore website (**IMAGE 1**).

IMAGE 16

Screenshot of 'Return to Website' Button on the CalHeatScore Webtool



The CalHeatScore tool is available on and compatible with most device and browser types, including mobile phones and tablets.

Section 2. Consider Your Heat-Health Risk When Using CalHeatScore

Californians can use CalHeatScore to learn when to prepare, and make decisions to protect themselves, families, and communities, from health impacts due to extreme heat.

Heat-health risk can change depending on:

- your health,
- your age,
- the places you spend time,
- the activity you are doing, and
- the resources available to you.

This section is organized by three main physical factors that can affect your body's ability to stay cool: personal health, place, and physical activity.

It also considers social factors that amplify those risks by constraining your ability to access information, resources or take protective actions. Some social and economic conditions can make it harder for some people to stay safe, even when they know what to do.

Physical Factors: The Three P's

1. **Personal Health:** The physical condition of your body.
2. **Place:** The physical conditions of your environment.
3. **Physical Activity:** The physical effort and time involved in your activities.

Examples of Social Factors That Amplify Physical Risk

1. **Personal Health Amplifiers:** Health status (e.g., chronic illness, pregnancy), socio-demographic factors (e.g., age, race/ethnicity) limited access to medical care, or low awareness of risk due to social and/or linguistic isolation.
2. **Place Amplifiers:** Lack of indoor cooling in key settings—such as home, work, or school—and inability to travel to or occupy cooler environments.
3. **Physical Activity Amplifiers:** Inability to opt out of strenuous activities or take protective measures like rest and hydration breaks, especially at work.

Personal Health: Identify Your Potential Health Risks

How Do Health Factors Affect Heat-Health Risk?

Hot days can affect anyone because there is a limit to our body's natural cooling ability. However, our bodies respond to heat differently based on our health factors. The body cools itself by sweating, moving warm blood closer to the skin so heat can escape, and by using your heart and blood circulation to keep heat moving away from your body.[5] When these processes are impaired, disrupted, or not yet developed, your body's natural ability to stay cool diminishes. Age, health conditions, medications, substances, dehydration, and other personal factors can influence your body's natural cooling processes and make overheating more likely.

How Do Social Factors Affect Heat-Health Risk?

[5] Ebi, Kristie L., Anthony Capon, Peter Berry, Carolyn Broderick, Richard de Dear, George Havenith, Yasushi Honda, *et al.* "Hot Weather and Heat Extremes: Health Risks." *The Lancet* 398, no. 10301 (2021): 698-708.

Some people have less ability to manage personal health risks due to barriers such as limited access to medical care, transportation, cooling resources, or timely information due to technological, social, or linguistic isolation. These constraints can delay prevention, recognition of symptoms, and response to heat exposure.

Do I (or Those I Care for) Have Increased Heat-Health Risk Due to Health Factors?

Determine if you, or someone you are responsible for, identify with any of the following populations with increased heat-related health risks (not an exhaustive list):

- **Children 5 Years or Younger:** Young children's bodies heat up faster, have a lower capacity to sweat, and take longer to acclimatize to heat than adults. Plus, their brains may not yet sense or respond to overheating. Children remain at higher risk than adults until 9-12 years because their sweat glands do not fully develop until puberty.[6]
- **Adults 65 Years or Older:** Older adults' bodies respond more slowly to signs of overheating and have reduced capacity to cool themselves by sweating and increased blood flow to the skin. These age-related changes begin gradually in mature adulthood and become more significant in older age.
- **Pregnant Individuals:** Pregnant women can have difficulty regulating their body temperature and face increased strain on key body functions

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[6] Amano, Tatsuro, Sota Yasuda, Shotaro Yokoyama, Shoma Oshima, Yumi Okamoto, Junto Otsuka, Hanano Kato, *et al.* "Biological Maturation and Sex Differences of Cholinergic Sweating in Prepubertal Children to Young Adults." *Annals of the New York Academy of Sciences* 1547, no. 1 (2025): 183-91.

needed to cool down. These physiological changes increase risk for the pregnant person, but can also impact fetal development, leading to low birth weight and preterm birth, which can have lifelong consequences for the child.

- **People with Chronic Health Conditions:** Chronic conditions such as heart, kidney, and lung disease, as well as Type I and II diabetes, all make it harder for the body to thermoregulate and maintain other key physiological functions.
- **People Taking Certain Medications:** Those who take medications such as diuretics, antihistamines, antidepressants, and other prescriptions may have impaired ability to sweat, circulate blood, or even send thirst signals.
- **People with Mental and Behavioral Health Conditions:** Individuals with mental health conditions are at risk because certain medicines (like antidepressants, beta-blockers, and other medications) and substances (drugs and alcohol) can interfere with the body's ability to thermoregulate. Substances also interfere with the body's signals that it is overheating; increase dehydration; and impair judgment. Finally, hot conditions can impair judgement, impacting self-care.[7]
- **People with Disabilities:** Individuals with disabilities have a disproportionately high heat-related health risk, and experience poorer health outcomes, even death, during extreme heat. Mobility issues can impact a person's ability to relocate to a cool space. Some health conditions and medications can interfere with the body's ability to thermoregulate. Some types of disabilities can affect a person's capacity to

[7] "Tips for Preventing Heat-Related Illness." California Department of Public Health, 2025.

take self-protective actions.[8] Inaccessibility and lack of inclusion of disabilities in planning, communication, transportation, public warning, and information systems make it harder for individuals with disabilities to prepare for and respond to an extreme heat event.[9] People with disabilities often face higher heat risk, not because of the disability itself, but because infrastructure is not always designed to support accessibility during emergencies (transportation, communication, cooling access).

- **People Who Are Not Yet Acclimatized:** People who are not used to (i.e., "acclimatized" to) hot conditions are at higher risk than others in the same environment because their bodies have not yet adjusted. Acclimatization is a gradual process that occurs over a period of one to two weeks as your body improves its ability to cool down.[10] Unseasonably high heat during the spring, fall, or winter also has an impact on people who are not yet acclimatized to hot weather.

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[8] National Council on Disability. *The Impacts of Extreme Weather Events on People with Disabilities*. (2023).
[9] Izutsu, Takashi. *Disability-Inclusive Disaster Risk Reduction and Humanitarian Action: An Urgent Global Imperative: United Nations World Conference on Disaster Risk Reduction and the Progress Thereafter*. United Nations (2019).
[10] "Acclimatization." Heat Stress, U.S. Centers for Disease Control and Prevention, 2026.

Using CalHeatScore to Prepare with Health Risk in Mind

CalHeatScore identifies when conditions in your area may increase heat-health risks across a population. Action steps include:

- Regularly check the CalHeatScore website and click on your ZIP code.
- Consider your location and activities if CalHeatScores are forecasted to rise. See the following two sections for more information.
- During a heat event, check on your friends, family, and pets, and have someone do the same for you. Know the symptoms of heat-related illness. If you know someone who belongs to one of the heat-sensitive groups listed above, check on them twice a day during a heat wave. Watch for signs of heat exhaustion or heat stroke.
- Consult the resources and information below and be ready to help.

Resources

Start Here

- Heat Illness Prevention Guidance and Resources (Cal/OSHA)
- Tips for Preventing Heat-Related Illness (California Department of Public Health, CDPH)
- Tips for Treating Heat-Related Illness (CDPH)
- Know the Warning Signs and Symptoms of Heat-Related Illnesses (U.S. Centers for Disease Control and Prevention, CDC)
- Be Disaster Ready: Extreme Heat and Personal Documents Checklist, available in English, Spanish, Chinese, Filipino, Korean, and Vietnamese (Listos California)
- Create Your Personalized Extreme Heat Plan (HeatReadyCA)

Learn How to Keep Heat-Sensitive Groups Safe During Extreme Heat

- Children (CDPH)
- Seniors (CDPH)
- Pregnant Individuals (CDPH)
- People Experiencing Homelessness (HeatReadyCA)
- People with Chronic Health Conditions (HeatReadyCA)
- Linguistically Isolated Households (CHPH)
- Pets (CDPH)
- Mental Health and Drugs and Alcohol (SAMHSA)
- Medications (AARP)

Place: Identify Your Environmental Risk

How Does the Environment Affect Heat-Health Risk?

The places where you live, work, learn, and play have a major role in heat exposure. When the weather gets hot, not all places heat up equally, and not all places provide the same access to resources to help our bodies cool down.

Indoor settings that lack mechanical cooling features like air conditioning (AC) or heat pumps, and passive cooling features like ventilation, shading, and insulation will heat up and stay hotter than indoor spaces that have these features. Outdoor settings that lack shade do not protect the body from direct sun exposure. Outdoor spaces with shade and have vegetation, water features, and ventilation will generally be cooler than sun-exposed asphalt.

How Do Social Factors Affect Place-Specific Heat-Health Risk?

Heat-health risk is amplified when social factors limit if and when people can moderate time spent in hot environments. Work schedules, caregiving responsibilities, disabilities, or institutional rules may require people to remain in hot places during peak heat even when conditions are unsafe. Certain individuals like renters, workers, and incarcerated individuals, for instance, have limited control over conditions in the places they occupy. Others with limited access to cool spaces at home, transportation, or timely information may have limited ability to relocate to reduce heat exposure. Inability to leave or modify hot settings amplifies heat-health risk. Access to cooling spaces may vary due to jurisdictional boundaries, land ownership, or governance structures, particularly in rural or Tribal areas.

Do My Daily Activities Take Me to Hot Places?

Identify if you, or someone you are responsible for, have increased heat-health risks due to:

- **Homes Without Sufficient Cooling:** Most people spend more time at home than any other setting,[11] especially nighttime hours, when resting in a safely cool place helps core body temperatures stabilize. Homes without air conditioning or that have poor ventilation, insulation, and limited cooling from shade can be hotter than outdoor conditions. In particular, renters living in older homes or mobile homes may lack sufficient cooling.
- **People Experiencing Homelessness:** People living without formal housing are especially at risk because of constant exposure to outdoor elements. Temporary shelters like tents can be hotter than outdoor conditions because the materials trap heat and reduce ventilation.[12] Additionally, the most stable encampment sites tend to be highly sun-exposed.[13] By virtue of lacking shelter, water, and other basic necessities needed to adapt when it gets hot, the unhoused account for a disproportionate number of heat fatalities (e.g., nearly half of all fatalities in Los Angeles and Sacramento, two cities that track it).[14]
- **Hot Neighborhoods:** Some neighborhoods have few trees, multi-story buildings, awnings, and other vertical objects to protect people directly

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[11] DeShazo, J.R., Lolly Lim, and Gregory Pierce. *Adapting to Extreme Heat in California: Assessing Gaps in State-Level Policies and Funding Opportunities*. UCLA Luskin Center for Innovation (2021).
[12] Karanja, Joseph, Jaime Vieira, and Jennifer Vanos. "Sheltered from the Heat? How Tents and Shade Covers May Unintentionally Increase Air Temperature Exposures to Unsheltered Communities." *Public Health in Practice* 6 (2023): 100450.
[13] Gabbe, C. J., Jamie Suki Chang, Morayo Kamson, and Euichan Seo. "Reducing Heat Risk for People Experiencing Unsheltered Homelessness." *International Journal of Disaster Risk Reduction* 96 (2023): 103904.
[14] Lin, Summer. "Heatwaves Are Killing More L.A. Homeless People Who Can't Escape the Broiling Sun." *Los Angeles Times*, February 19, 2023.

from the sun. Shade deserts — areas lacking adequate shade infrastructure — exist throughout major urban regions.[15] Others may have a lot of asphalt and other sources of urban heat that create hotter conditions especially in the late afternoon and evening.

- **Hot Schools and Schoolyards:** Not every school or classroom in California has access to air conditioning. Without this, temperatures can exceed levels ideal for teachers to educate and students to learn. In schoolyards, heat can create unhealthy conditions for students playing sports or enjoying recess. Researchers have documented surface temperatures of 145°F and above in California schoolyards.[16]
- **Public Spaces:** Heat protection in public spaces is not evenly available across California. Outdoor public spaces like plazas and markets that lack trees and awnings may not provide sufficient protection from the heat. However, indoor public spaces like libraries are important sites for finding relief from the heat. Some public places are designated cooling centers and may be located in the CalHeatScore tool.
- **Parks and Other Recreational Spaces:** Parks and trails can serve as a cooling refuge during periods of high heat if well-shaded with vegetation or shade structures. Sites with water features like splashpads, pools, and natural water bodies also provide opportunities for cooling through submersion and spray. Some recreation centers maintain indoor facilities that may be cooling sites. But not all parks and recreation sites are cool. Sun-exposed sports facilities like soccer or baseball fields, basketball

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[15] Burstein, Mara E. "National Shade Map from UCLA and American Forests Launched to Combat Deadly Urban Heat." *UCLA Newsroom*, June 2, 2025.
[16] Callahan, Colleen, Lauren Dunlap, Michelle Gallarza, Rae Spriggs, and V. Kelly Turner. *Protecting Californians with Heat-Resilient Schools*. UCLA Luskin Center for Innovation (2023).

courts, and even open green space do not provide protection from the sun when it's very hot.

- **Outdoor and Indoor Worksites:** Second to the home, the workplace is where Californians tend to spend more time than in any other setting. Many workers cannot choose when or where they work, so worker heat-health risks must be addressed through both awareness and workplace protections. Outdoor environments, such as agricultural fields and construction sites, can elevate heat-health risk due to inadequate access to cool and/or shaded spaces. Indoor environments, such as warehouses, without sufficient air conditioning can also elevate heat-health risk.
- **Transit/Personal Vehicles:** Heat exposure can occur for public transit users while waiting for buses or above-ground rail transit. These areas tend to be near streets and parking lots with lots of asphalt and may have minimal shaded space. Moreover, idling vehicles can create additional heat. Vehicles left in sun exposed parking lots can also get dangerously hot.
- **Prisons:** Incarceration facilities are among the hottest sites because they frequently lack consistent mechanical cooling indoors and are designed with heavy building materials and few windows. Outdoor spaces are designed to maximize visibility and typically lack vertical structures like shade trees and structures outdoors.[17]
- **Air Polluted Places:** Indoor and outdoor places with high levels of pollution, such as from smog or wildfire smoke, can amplify heat-heat risk during hot days. Studies show that the combination of high temperatures

[17] DeShazo, J.R., Lolly Lim, and Gregory Pierce. *Adapting to Extreme Heat in California: Assessing Gaps in State-Level Policies and Funding Opportunities*. UCLA Luskin Center for Innovation (2021).

and poor air quality significantly increases health risks, leading to increased hospital admissions and mortality.[18] Communities already overburdened by pollution sometimes face the combined effects of heat and poor air quality.

Using CalHeatScore with Environmental Risk in Mind

CalHeatScore shows when conditions in your ZIP code are expected to increase heat-related health risks. When CalHeatScore levels rise:

- Avoid direct sun and other high-risk places, when possible, especially during the hottest times of the day. Cover windows with drapes or shades and weather-strip doors and windows.
- Try to spend time in air-conditioned indoor spaces. If you do not have air conditioning at home or work, or cannot afford to run it, go to air-conditioned places like cooling centers, libraries, community centers, and shopping malls. Even a few hours spent in air conditioning can help. See the resources below to find these places.
- Check if your utility provider provides rate assistance (see resources below).

[18] World Health Organization. *The Synergies of Heat Stress and Air Pollution and Its Health Impacts: Technical Brief*. World Health Organization (2025).

Resources

Workers, Know Your Rights

- In CA, employers must provide water, rest, and shade. Learn more at the 99 Calor website.
- Heat Safety at Work (CDPH)
- Pregnant Workers Fairness Act: rights to accommodations such as extra rest, water, changed uniform (U.S. Equal Employment Opportunity Commission)

For Help If the Power Goes Out

- Power Outage Resources (California Public Utilities Commission)

Find Indoor, Air-Conditioned, or Shady Outdoor Places Near You

- Cooling Centers and Resources (California Governor's Office of Emergency Services)
- CalHeatScore: connects daily heat scores to resources including cooling centers
- Local Library Mapping Tool (California State Library)
- California State Parks Mapping Tool (California State Parks)
- Tree Equity Score: for tree and shade maps (American Forests)

Find Public Transportation Services That Can Provide Temporary Heat Relief

- 511 Real Time Traveler Information (California Department of Transportation)
- California Public Transportation Maps (Transit Link)

Check Out Programs to Help You Pay Energy Bills

- Assistance for Paying Energy Bills (California Department of Community Services and Development, CSD)
- Home Energy Efficiency webpage (CSD):
  - Low-Income Home Energy Assistance Program
  - Weatherization Assistance Program
  - Low-Income Weatherization Program
- California Alternate Rates for Energy (CARE) / Family Electric Rate Assistance Program (California Public Utilities Commission)
- Local or regional utility providers (such as PG&E, SCE, or SDG&E or your city's utility) usually have similar programs to provide energy efficiency and weatherization services or help pay utility bills.

Physical Activity: Identify Your Potential Behavioral Heat-Health Risk

How Does Physical Activity Increase Heat-Health Risk?

What you do during hot days could increase how hard your body must work to cool down. For instance, if you are physically active when it's hot outside, your body may work twice as hard to cool you down. Time of day, clothing choices, hydration, and breaks from the heat all influence how effectively your body can cool itself. When it's hot outside, everyday activities can push your body beyond its cooling capacity, which is why changing what you do, when you do it (and where) becomes so important. Not everyone can change their activity when it's hot outside as work, school, and caregiving responsibilities often limit flexibility.

How Do Social Factors Affect My Place-Specific Heat-Health Risk?

Social factors can limit people's ability to reduce or modify physical activity during hot conditions. Work requirements, school schedules, or organized sports may require participation even when conditions are unsafe. Workers, for instance, have limited control over work pace, break timing, clothing, or access to cooling resources like water and shade. Children have limited control over school bell schedules and curriculum, extracurricular sports, and limited developmental ability to recognize signs of overheating and/or ask for help. Generally, individuals that cannot modify what they do and when they do it are at elevated risk.

Do I Engage in Behaviors That Increase My Heat-Health Risk?

Identify if you, or someone you are responsible for, have increased heat-health risks due to the following behaviors:

- **High-Effort Activities, Even Short Periods:** When it's hot outside, your body is already working hard to cool itself, leaving less energy available for extra cooling associated with high-effort activities. Running, outdoor work, or vigorous play can raise your internal temperature quickly, even on cool days.
- **Lower-Effort Activities with Long Exposure Times:** Tasks like walking, house chores, or sitting outside for hours can add up. Cumulative heat exposure across the day and week can compound, leaving you heat-stressed during hot weather.
- **Time of Day:** Midday into late afternoon are typically the hottest and most dangerous times to be active outdoors. That is because the sun is directly overhead and most environments provide minimal shading at midday. On the hottest days, even the evening time can be dangerous for individuals

that are exposed to extreme heat during the day. Warm evenings may be too hot to allow the body's core temperature to return to safe levels overnight.

- **Clothing and Gear:** Wearing dark and non-breathable clothing, or heavy protective gear associated with some jobs, sports, and recreational activities, can trap heat. Individuals, especially youth, who participate in exercise or sports outdoors during high-heat days face additional risks. Increased heat production from exertion, in combination with clothing or gear (e.g., helmets, insulated clothing) that limit effective cooldown makes athletes at risk of severe heat illness.
- **Limited Hydration:** Not drinking enough water, or consuming substances such as alcohol or caffeine, dehydrates and limits your body's ability to sweat and makes heat illness more likely.

Using CalHeatScore with Behavioral Risk in Mind

CalHeatScore is updated daily to show when conditions are expected to raise heat-related health risks in your area. If your score is high, it's a signal to adjust plans or make behavior changes that could include:

- Reduce physical activity, especially during the hottest hours between 10am and 5pm, and take breaks. Night is a critical time to allow the body to cool down.
- Reschedule outdoor work or recreation to other days or early morning or evening times.
- Wear lightweight, light-colored, and loose-fitting clothes. If in the sun, wear sunscreen and a wide-brimmed hat.
- Stay hydrated by drinking more water than normal and don't wait until you're thirsty. Take cool showers or baths. This helps to cool your body temperature.

Resources

Learn About How to Protect Yourself/Others Who Exercise or Are Physically Active

- Heat and Athletes: important information to stay safe (CDC)
- Law Requiring Training in Heat Illness for all California Coaches: training and other resources about identifying and preventing heat illness that meet the requirements for California coaches (California Interscholastic Federation)

- Resources for Athletes and Athletic Directors (Korey Stringer Institute)

Learn About How to Protect Yourself When Working in Hot Conditions

- Heat and Workers: important information to stay safe (CDC)
- Workplace Recommendations: see *Section 2* of this Guide that applies to employers, businesses, and organizations (CDC)

Summary: Staying Safe During High Heat Days

Heat-health risks are rarely caused by one factor. They emerge from the interaction of your health, environment, and behavior. Understanding this intersection can help you identify when you, your family, or your community are most at risk, and take actions that matter most in your particular context.

Ask yourself these questions to assess your individual* heat-health risk:

1. Do I have personal health circumstances that make it harder for my body to cool?
2. Where and when do I spend time during the day, and how hot do those places get?
3. Do I participate in activities that could increase how hard my body has to work to cool down?

*You can ask these same questions for your friends, family, and pets, or for a broader group or community.

Follow These Three Steps

- **Before It Gets Hot:** Monitor CalHeatScore for early warning about upcoming heat events and prepare by identifying cooling centers or otherwise proactively planning to avoid places and behaviors that would increase your heat-health risk (see above).
- **When Temperature Rises**: Adjust your environment and behavior with your heat-health risk and CalHeatScore in mind. If heat stress is observed, seek cooling centers or other places to adequately cool off.
- **After Heat Event:** Rest, reflect, and make adjustments for next time.

Section 3. Using CalHeatScore in Your Institution

General Decisions for Organizations, Businesses, and Local Governments

This section builds upon the heat-health risk information provided in the previous section by focusing on how organizations, businesses, and local government agencies can use CalHeatScore to protect Californians who are at greater risk of heat-health impacts. The following three steps provide general suggestions as a starting point to help institutions prepare (**TABLE 1, TABLE 2, TABLE 3**). Each institution will have unique considerations. See **TABLE 4** for additional guidance to address nuances relevant to specific types of institutions.

TABLE 1

Step 1—Plan Before CalHeatScore Rises

Level of Action	Questions to Ask	Use CalHeatScore and its Heat-Health Risk and Population Vulnerability Data to Guide Your Preparation and Actions*
For Your Systems	What policies, resources, and protocols should the organization follow during heat events?	• Develop or review your organization's extreme heat plan that includes emergency protocols tied to your CalHeatScore and heat safety guidelines. • Educate leadership about roles and available resources when health-based risk levels are elevated.
	Who is responsible for checking and communicating about CalHeatScore levels?	• Designate an employee on your team whose role is to regularly check your CalHeatScore and facilitate organizational alerts and emergency protocols, per your organization's extreme heat plan. • Have a protocol for communicating heat-health risks and other heat information to personnel. • Ensure there is an up-to-date list of emergency and staff contacts available to all staff. A list of staff emergency contacts should also be available to management.

Level of Action	Questions to Ask	Use CalHeatScore and its Heat-Health Risk and Population Vulnerability Data to Guide Your Preparation and Actions*
For Your Personnel	Are all personnel heat-aware?	• Train staff on how to recognize the signs and symptoms of heat-related illnesses, and to know what immediate actions to take if they see those symptoms. • Ensure that supervisors and staff know how to stay safe during a heat event, including drinking extra water and instructing supervisors to give extra breaks.
	Can staff and other workforce members function safely during high-heat days?	• Ensure that staff know your organization's plan for work modifications if heat-related protocols are in place. This may include taking extra breaks and rescheduling strenuous activity to avoid the hottest times. • Comply with existing laws and Cal/OSHA Heat Illness Prevention Standards (see the *Resources* section, below).

Level of Action	Questions to Ask	Use CalHeatScore and its Heat-Health Risk and Population Vulnerability Data to Guide Your Preparation and Actions*
For Your Clients/Patients/ Stakeholders Served	Do the people you serve (e.g., students, patients, clients, community members) have access to heat-related information?	• Prepare a heat communications plan that integrates CalHeatScore into education, outreach, and alerts. • Use CalHeatScore health-informed risk levels to activate graduated actions, including alerts, access to cooling resources, and wellness checks for vulnerable groups. • Present information in accessible format, considering reading level, fluency, language, and technological capacity.
	Can the people you serve function safely?	• Identify whether additional resources, including cool spaces, will be needed to meet increased demand during a heat event. • Decide/confirm how welfare checks will be undertaken and by whom (e.g., daily phone calls, daily visits). Ensure all staff are updated. • Revise and update any existing patient/client care plans.

Level of Action	Questions to Ask	Use CalHeatScore and its Heat-Health Risk and Population Vulnerability Data to Guide Your Preparation and Actions*
For Your Building(s) and Surrounding Area	Are buildings and equipment maintained to support indoor thermal conditions consistent with applicable health or occupational guidance during high-heat events?	• Incorporate CalHeatScore into facility emergency protocols. • Check that your air-conditioners/HVAC systems have been serviced recently and are working properly to maintain safe temperatures that meet indoor temperature standards. • Prepare for a potential heat-related power outage by having extra water and food on site, backing up any important information, and having a plan for anything critical that would be impacted by a power outage.
	Are outdoor spaces designed to reduce heat exposure and stress?	• Assess your needs and invest in heat mitigation measures such as shade structures, trees/vegetation, hydration stations, and cool rest areas, especially in locations serving sensitive populations.

*_Note:_ See the *Resources* section below for more information.

TABLE 2

Step 2—Respond as CalHeatScore Rankings Rise

Level of Action	Key Decisions and Actions
For Your Systems	• Monitor CalHeatScore daily and act upon high-score warnings. • Implement your heatwave plan, which may include alternate work hours to avoid heat exposure.
For Your Personnel	• Actively monitor and manage the health and safety of volunteers and staff.
For Your Clients/Patients/ Stakeholders	• Disseminate CalHeatScore-based alerts and communicate heat event safety messages. • Check in on those with high heat-health risks.
For Your Building(s)/ Surrounding Area	As per your organization's heat plan, you may: • Use alternative working locations. • Open cooling centers or otherwise ensure access to air-conditioned spaces for your employees and clients/residents/other stakeholders. • Adjust hours of operation and make this information accessible.

TABLE 3

Step 3—Recover and Reflect After Elevated CalHeatScores

Level of Action	Key Decisions and Actions
For Your Systems	• Review institutional performance during the heat event, using CalHeatScore data to assess how well your organizational policies, procedures, and protocols aligned with health outcomes.
For Your Personnel	• Determine whether any employees exhibited any heat-health risk symptoms during the heat event, how this was addressed, and whether anything could be done to better protect employees in future heat events.
For Your Clients/Patients/ Stakeholders	• Assess how the heat event impacted your clients/patients/stakeholders and whether anything could be done to minimize risk in future heat events.
For Your Building(s)/ Surrounding Area	• Assess how your facilities and equipment dealt with the heat event and whether/what could be done to best prepare for future heat events.

Specific Decisions for Certain Types of Institutions

Building off the general guidance for institutions (**TABLE 1**, **TABLE 2**, **TABLE 3**), the following considerations and additional guidance address nuances relevant to specific types of institutions. The following suggested preparations and actions for institutions to consider are derived from best practices as documented in the literature.

*In addition to a literature review, feedback from experts serving specific heat-vulnerable communities informed the recommendations that follow for organizations serving seniors, organizations serving at risk workers, and Tribes (see the *Introduction Overview* section for an overview of this cohort consultation process).

TABLE 4

Guidance for Specific Types of Institutions

Institution	Context	Additional Decisions and Actions to Consider*
Organizations Serving Seniors*	• Older adults experience heat stress at lower temperatures than most people, meaning that even mild heat or activity can trigger negative health effects. Yet, research shows that older adults are more likely to perceive low heat-health risk.[19] This difference between vulnerability and awareness highlights the need to strengthen communication and accessibility in heat alerts and education.[20] • Participants in CalHeatScore's Older Adult Cohort shared that seniors are more likely to face	• Encourage caregivers and younger family members to check the CalHeatScore and help older relatives plan accordingly. • Deliver messages about heat events and protective action using sources trusted by the seniors your organization serves. Trusted sources could include senior centers, churches, community centers, community clinics/doctors' offices, and resident/tenant communities. Trusted messengers could include family, friends, healthcare providers, faith leaders, and members of social groups like Rotary Clubs. • Send emergency alerts to cell phones from trusted sources. Do not rely on email. • Consider using local news and radio as key mediums to reach a senior audience.

[19] Howe, Peter D., Jennifer R. Marlon, Xinran Wang, and Anthony Leiserowitz. "Public Perceptions of the Health Risks of Extreme Heat across Us States, Counties, and Neighborhoods." *Proceedings of the National Academy of Sciences* 116, no. 14 (2019): 6743-48.
[20] Sutton, Jeannette, C. Ben Gibson, Nolan Edward Phillips, Emma S. Spiro, Cedar League, Britta Johnson, Sean M. Fitzhugh, and Carter T. Butts. "A Cross-Hazard Analysis of Terse Message Retransmission on Twitter." *Proceedings of the National Academy of Sciences* 112, no. 48 (2015): 14793-98.

Institution	Context	Additional Decisions and Actions to Consider*
	mobility issues due to both health and transportation constraints, resulting in social isolation at home. They are also less likely to be online compared to younger generations.	• Use large fonts and simple language, translate into local languages, and include ADA-accessible delivery.
Organizations Serving At-Risk Workers*	• Outdoor and physically demanding jobs increase heat-health risk, and many work environments (e.g., agricultural fields, roofs, loading docks, warehouses) trap heat or lack adequate cooling. • In addition to heat illnesses (see *Section 2*), research shows that high temperatures lead to higher rates of occupational injuries not typically categorized as heat illness (e.g., falling from ladder).[21] • Workers may lack the ability to take safety precautions if	• Recognize that risk can't be managed by increasing worker awareness alone: encourage or directly adopt/revisit workplace safety protocols and precautions that comply with state standards and consider the heat-health risks specific to the workers you serve. • Work with supervisors, labor unions, and worker support groups to establish protocols including when heat-related health alerts are sent, and what content to include in the alerts. • If staff work outdoors, provide plenty of water and adequate personal protective equipment (e.g., sun-safe hat, sunglasses, sunscreen). Also provide masks if air pollution is elevated (heat and air pollution are correlated and together increase

[21] Park, R. Jisung, Nora Pankratz, and A. Patrick Behrer. *Temperature, Workplace Safety, and Labor Market Inequality*. IZA Discussion Paper, no. 14560 (2021).

Institution	Context	Additional Decisions and Actions to Consider*
	employees do not have workplace safety protocols and precautions in place.	health risks). When air quality is poor, provide guidance to reduce exposure, such as moving activities indoors when possible. • Beyond workplace notifications, utilize other ways to provide heat-related health information to workers who might be particularly at risk from heat. Trusted messengers may include coworkers, friends, workers' unions, labor and community organizations, worker centers, Promotora networks, schools, and city alerts. • Consider communicating with workers using various relevant means for sharing information: text messages; push alerts; social media such as Facebook groups; WhatsApp and other applications; and websites such as the National Weather Service and IQ Air. Local TV and radio are also useful outlets for information that should be considered as means to spread heat information, especially for individuals who have limited access to online sources.
Tribes*	• Participants in the Tribal Cohort shared that they receive heat information from a variety of sources and that the preferred	• Respect Tribal sovereignty and recognize that each Tribe has its own governance, knowledge systems, and preferred approaches to communication and response.

Institution	Context	Additional Decisions and Actions to Consider*
	source varies depending on the demographics of their community. Youth tend to prefer apps and email, whereas elders tend to prefer in-person check-ins, Facebook, and physical bulletins. • Many residential homes do not have AC and even if a Tribal community does have a cooling center(s), transportation can be a problem for certain Tribal members. In addition, cooling centers may be limited in their communication platforms, lacking social media and/or physical bulletins.	• Consider using CalHeatScore to alert Tribal members to upcoming heat events, using existing communication platforms preferred by individual communities. • During a heat event, utilize trusted messengers, such as friends and family, for in-person check-ins for seniors and other vulnerable community members. Encourage younger family members to check CalHeatScore and help elders plan accordingly. • Consider coordinating a ridesharing network to ensure that those without access to home air conditioning or reliable transportation will have a way to get to a cooling center or some other safe place for heat relief.
Local Governments	• Local governments (towns, cities, counties and their local agencies and departments) provide a wide array of services to their residents relevant to heat-health risk prevention and play a critical role in the coordination necessary for heat-health risk management	• Use CalHeatScore to prioritize communities most impacted by heat. • Communications: Consider using CalHeatScore to develop communication tools at the ZIP code-level, using messaging materials (see *Resources* below for several examples). Coordinate with schools and other trusted information sources to send heat-related messages and consider sharing CalHeatScore information on local news and radio

Institution	Context	Additional Decisions and Actions to Consider*
	across organizations and levels of government. • Elements to consider when heat planning include inter-sectoral coordination, heat-health early warning and alert systems, communications and public outreach, at-risk populations, preparedness of the health and social care systems, long-term urban planning, real-time surveillance, and evaluation.[22]	stations, local newspapers/magazines, and social media. • Responding to Community Priorities: Consider holding listening sessions with residents to hear priorities for local government action to reduce heat-health risk. For example, in the listening sessions conducted to inform this User Guide, participants suggested that local governments could make public transit free during heat events. Participants also suggested that CalHeatScore could be used locally to trigger the opening of cooling centers. • Planning and Coordination: Consider using formal processes such as heat tabletop exercises[23] to strategically integrate CalHeatScore into action across various parts of local government and the community.

[22] "Heat Action Planning." National Integrated Heat Health Information System, National Oceanic and Atmospheric Administration.
[23] Ibid.

Institution	Context	Additional Decisions and Actions to Consider*
Schools and School Districts	• Schools are hubs for their surrounding community. The heat conditions at schools, as well as school preparedness and policies for managing extreme heat, impact multiple aspects of the community. • School districts have discretion to use locally tailored strategies to adjust activities when the weather gets hot. This discretion is necessary because schools are different, with varying climates, access to mechanical cooling, and outdoor shade, which will influence strategies selected. • Many vulnerable community members receive information from schools, which serve as	• Policy and Planning: Follow state and local guidelines for schools,[24] consider CalHeatScore when doing emergency planning, and specifically consider establishing a heat response plan (see *Planning Resources*, below). • Training: Comply with the heat training law for coaches and encourage or require other members of the school community to take a free training[25] in heat illness prevention and response. • Communication: Consider including heat-health alerts in messages to guardians/families of enrolled children; also consider educating children about heat-health risks and encouraging them to discuss those risks at home (see *Communication Resources*, below.) • Prevention: Take steps to cool indoor and outdoor school environments, for example, by installing shade structures where children spend a lot of time outdoors and ensuring air conditioners are properly working in every classroom.

[24] "Health Guidance for Schools on Sports and Strenuous Activities During Extreme Heat." California Department of Public Health, 2026.
[25] "Heat Illness – Sports Medicine." California Interscholastic Federation.

Institution	Context	Additional Decisions and Actions to Consider*
	critical information hubs in communities.	
Medical Facilities and Health Care Providers	• Heat may exacerbate other underlying health issues such as diabetes, kidney dysfunction, and heart disease. Patients may seek medical care for other conditions that are exacerbated by heat, and heat illness is often underdiagnosed. Media coverage of extreme heat and associated health impacts frequently quote physicians referring to heat as a "silent killer."	• Prepare: Use CalHeatScore to anticipate staffing needs and ensure backup power is in place during upcoming heat events. • Coordinate: Communicate with your local/regional health departments and emergency services. • Training: Train emergency responders and medical service providers to recognize, treat, and document subtle signs of heat illness, and how to treat and document. • Patient Care: Ensure that screening and reporting protocols are identifying heat-related illness. Consider coordinating with social workers to connect patients to resources such as cool centers, or to help patients establish a buddy system to check on vulnerable patients during heat events.
Housing Facilities	• People spend a majority of time at home, including nighttime hours that are critical for physiological recovery. • Housing facilities, including new and existing single-family, multi-	• Prepare: Use CalHeatScore as a cue to prepare building cooling systems, ensuring that HVAC systems, ventilation, and fans in private and shared areas are operational. • Manage: Consider using CalHeatScore to inform adjustments to building operations, such as

Institution	Context	Additional Decisions and Actions to Consider*
	family, manufactured, and public housing, have uneven cooling infrastructure. • Rights to cooling are uneven, and tenants have little control over indoor conditions, relying on landlords or building managers to ensure safe conditions. • Cost is a significant barrier to staying cool. Even when air conditioning is available, many Californians cannot afford to run it.	closing blinds, reducing heat-generating activities (e.g., stove cooking), shifting maintenance to cooler times of day, and ensuring open and cooled common areas (e.g., lobbies) can offer relief to residents who cannot adequately cool their individual units. • Communicate: Building managers can provide heat alerts to residents using CalHeatScore levels and the *Communication Resources* (see below) to ensure clear, brief, and instructional messages that help tenants to plan accordingly. • Plan: After a heat event, reflect on whether your housing facility could do anything different to meet tenant needs during heat events.
Sports and Recreation Facilities	• Athletics and recreation can involve high levels of physical activity, which heats the body further, making it harder to stay cool. • Many facilities such as fields, courts, and tracks, are fully sun-exposed, and surfaces like artificial turf, rubber surfaces, and metal	• Use CalHeatScore to inform your decision-making around facility and event scheduling, such as to potentially cancel, shorten, or move activity start and end times. • Provide increased rest, shade, and hydration during planned events. • Communicate clear and timely heat alerts to coaches, parents, and participants.

Institution	Context	Additional Decisions and Actions to Consider*
	equipment can get dangerously hot.	• Designate an indoor, mechanically cooled facility as a backup location and/or emergency cooling shelter.

Note: See *General Decisions*, above, as a starting point for all institutions.

Resources

Communications, Awareness, and Education

- Communicating Heat Risk: A Guide to Inclusive, Effective, and Coordinated Public Information Campaigns (UCLA Luskin Center for Innovation)
- Heat Awareness and Education Campaign Toolkit, including English and Spanish social media, animated videos, flyers and fact sheets, newsletter content, and door hangers (HeatReadyCA)
- Extreme Heat Social Media Material, available in over a dozen languages (Listos California)

Employee Protections

- Template for Businesses to Develop a Heat-Illness Prevention Plan (U.S. Department of Labor, Occupational Safety and Health Administration, OSHA)
- Heat Illness Prevention Guidance and Resources, with links to indoor and outdoor heat illness prevention (California Department of Industrial Relations, Cal/OSHA)
- Emergency Response Procedures (California Department of Industrial Relations, Cal/OSHA)

Tribes

- Extreme Heat Toolkits for Tribes (National Indian Health Board, NIHB)
- Cooling Center Checklist for Tribes (NIHB)

Local Government and Community Organizations

- Extreme Heat and Community Resilience Program: funds and supports local, regional, and tribal efforts to reduce the impacts of extreme heat (California Governor's Office of Land Use and Climate Innovation, LCI)
- Resources to Develop a Heat Action Plan, including tabletop exercises (NOAA; NIHHIS)
- Case Studies of communities that are implementing cooling solutions, creating heat plans, or creating communication materials for specific populations (NOAA; NIHHIS)
- Heat Governance Model for Communities (NOAA; NIHHIS)
- Draft Community Heat Action Checklist: A Tool for Local Governments (The White House)
- Extreme Heat Guidance for Local Health Jurisdictions (California Department of Public Health)

Schools

- Heat Resources (California Department of Education)
- Training and Resources to Prevent Heat Illness (California Interscholastic Federation)
- HeatReady School Resources (Arizona State University)
- Extreme Heat Guidance for Schools (California Department of Public Health)

Medical Facilities

- Clinical Guidance for Heat Health (CDC)
- Heat and Medications - Guidance for Clinicians (CDC)

- Evidence-Based Heatstroke Management in the Emergency Department (Rublee et al., 2021)

Housing

- Extreme Heat Playbook (Department of Housing and Urban Development, HUD)
- Recommended Maximum Safe Indoor Temperature (California Department of Housing and Community Development)

Sports and Recreation

- Resources and Templates for Safe Athletics, including the Standard Operating Template for heat events (Korey Stringer Institute)

Planning

- Guide to Health Equity-Centered Local Heat Planning (CDPH)
- Planning for Urban Heat Resilience (American Planning Association)

Partnerships

The California Environmental Protection Agency's Office of Environmental Health Hazard Assessment leads the development of CalHeatScore in collaboration with other agencies, including the Governor's Office of Land Use and Climate Innovation, the California Department of Public Health, the California Office of Emergency Services, and the California Department of Insurance, to ensure CalHeatScore is a scientifically robust and public health-centered tool. OEHHA also worked with the UCLA Center for Healthy Climate Solutions, Oregon State University, and Applied Climatologists to develop the initial regression model and temperature thresholds behind CalHeatScore.

This public health tool will continue to be shaped not only by state agencies and researchers, but also by community voices, workers, Tribal partners, and local organizations whose experiences with extreme heat will better shape the tool.

calheatscore.calepa.ca.gov