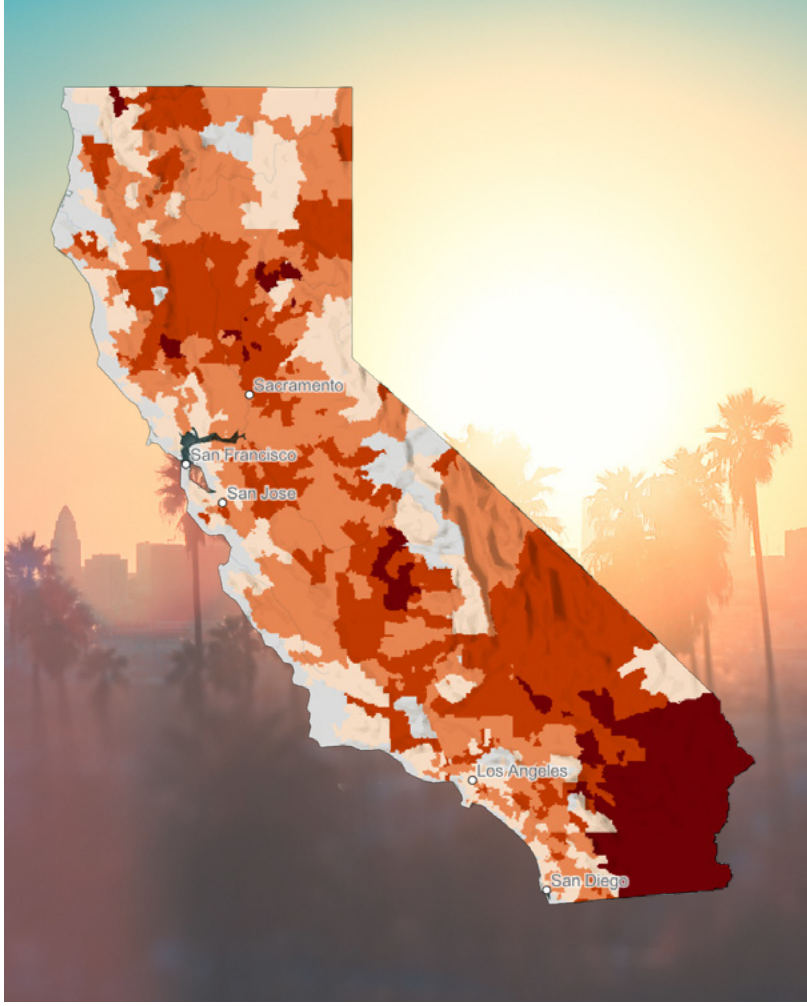

CALIFORNIA'S EXTREME HEAT ACTION PLAN

A State Strategy for Protecting Californians from Extreme Heat

AUGUST 2026

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Stream restoration project in Santa Rosa funded through the California Department of Water Resource's Urban Streams Restoration Program. Credit: Xavier Mascareñas, California Department of Water Resources.

EXECUTIVE SUMMARY

California's 2026 Extreme Heat Action Plan outlines the state's approach to reducing heat risk and building resilience to a hotter future.

The 2026 Extreme Heat Action Plan outlines the current efforts, recommends future actions, and highlights progress made by state agencies in recent years. The plan is organized around four action tracks:

- **Build Public Awareness and Notification:** partnering with heat vulnerable communities, deploying multi-modal communication tools in the languages Californians speak, and increasing access to state-of-the-art decision-making resources to support planning for heat events.

- **Strengthen Community Services and Response:** strengthening heat-vulnerable communities - including workers, families, tribes, and people experiencing homelessness - by funding resilience and response efforts that prioritize local decision-making and collaborative partnerships.

- **Increase Resilience of our Built Environment:** taking steps to bolster the resilience of critical infrastructure to minimize the risk of infrastructure failings through innovative solutions including passive cooling, grid hardening through covered conductors and undergrounding of energy infrastructure, targeted and strategic use of microgrids, and use of cool materials.

- **Utilize Nature-based Solutions:** scaling and prioritizing nature-based solutions that cool neighborhoods, schools, and the state's diverse natural ecosystems to protect communities and nature.

The 2026 Extreme Heat Action Plan was guided by input from communities across the state. Californians attended in-person and virtual workshops, completed an online survey, and submitted comment letters articulating their extreme heat priorities. With the severity of extreme heat only anticipated to increase in the coming years, there is no time to waste in ensuring Californians stay safe and healthy in a hotter future. The State of California is statutorily required to update the Action Plan every three years per Senate Bill 306 (Caballero, 2023).

California Indian Manpower Consortium outreach event to spread awareness on heat health risks. Credit: California Indian Manpower Consortium, Inc.

EXTREME HEAT IN CALIFORNIA

California is on the frontlines of climate change. Record-breaking wildfires, floods, and droughts across the state have captured global attention in recent years. These disasters are highly visible and widely reported. Yet worsening extreme heat, already one of the most dangerous climate change impacts to Californians, often receives less attention.[1]

California's 2026 Extreme Heat Action Plan (Action Plan) outlines the state's continued commitment to reducing the risk of extreme heat for Californians, especially communities most at risk including children, seniors, people with disabilities, outdoor workers, and medically vulnerable individuals.

THE SCIENCE AND IMPACT OF EXTREME HEAT

Globally, temperatures continue to rise at an alarming pace. The past decade was the warmest on record, and California is increasingly experiencing the effects of these global trends. 2024 was the warmest year in the 175-year observational record. All ten years from 2015 to 2024 were individually the ten warmest years on record.[2] These global trends are increasingly evident in California, with summer 2024 being the state's hottest summer on record.[3]

Temperatures across California have steadily risen since recordkeeping began in 1895, and the warming is accelerating. Annual temperatures have already increased by more than 1°F across most of the state, with some regions warming by more than 2°F. By 2050, California's average daily maximum temperature is projected to increase by as much as 6° F, and 9° F by 2100.[4]

Extreme heat events are defined as unusually hot days or nights compared to average conditions. These events are becoming more common, more severe, and longer lasting in California. Since 1950, hotter-than-average days and nights have become more frequent, especially over the last decade. Heat health events, or heat events severe enough to affect public health, are also expected to worsen throughout the state. By 2050, these events are projected to last two weeks longer in the Central Valley and four to ten times more often in the Northern Sierra region.[5]

Extreme heat is already the deadliest climate change-driven hazard in California. Heat waves in cities are projected to cause two to three times more

1 https://ajph.aphapublications.org/doi/abs/10.2105/AJPH.2022.307117
2 https://wmo.int/publication-series/state-of-global-climate-2024
3 https://www.noaa.gov/news/us-sweltered-through-its-4th-hottest-summer-on-record
4 Bedsworth, L., D. Cayan, G. Franco, L. Fisher, S. Ziaja. (California Governor's Office of Planning and Research, Scripps Institution of Oceanography, California Energy Commission, California Public Utilities Commission). 2018. Statewide Summary Report, California's Fourth Climate Change Assessment. Publication number: SUMCCCA4-2018-013, 10.
5 Bedsworth, L., D. Cayan, G. Franco, L. Fisher, S. Ziaja. (California Governor's Office of Planning and Research, Scripps Institution of Oceanography, California Energy Commission, California Public Utilities Commission). 2018. Statewide Summary Report, California's Fourth Climate Change Assessment. Publication number: SUMCCCA4-2018-013, 10.

heat-related deaths by mid-century.[6] During California's record breaking 10-day heat wave in September 2022, deaths increased by approximately 5%, resulting in 395 more deaths than expected. The greatest increases in deaths were experienced among adults aged 25-64, Hispanic Californians, and in the South Coast region.[7]

EXTREME HEAT IN VULNERABLE COMMUNITIES

While extreme heat affects all Californians, some communities face far greater risks. Climate vulnerability refers to the degree to which natural, built, and human systems are at risk of exposure to climate change impacts. Vulnerable communities experience heightened risk and increased sensitivity to climate change and have less capacity and fewer resources to cope with, adapt to, or recover from climate impacts. These disproportionate effects are caused by physical (built and environmental), social, political, and/or economic factors, which are exacerbated by climate impacts.

Certain populations are especially vulnerable to heat exposure, including older adults, infants and young children, pregnant people, and people with chronic illnesses. Additionally, some groups may have heightened vulnerability from increased exposure to heat, such as outdoor workers, people experiencing homelessness, and people in urban communities. People with disabilities and others with access and functional needs can also face greater risk during extreme heat. Medical devices may be disrupted during power outages and emergency information and resources are not always accessible to everyone who needs them.

People facing multiple forms of marginalization, inequality, and heat health risks will experience the impacts of extreme heat more intensely and face more barriers to recovery. California must continue to center climate vulnerable communities in the state's efforts to address extreme heat.

INTERSECTION OF EXTREME HEAT WITH OTHER CLIMATE HAZARDS

Increased temperatures intensify many other climate hazards across California - accelerating evaporation, drying vegetation and soils, and worsening drought conditions. These heat impacts can intensify both wildfires, through the increase in material that can burn, and flash floods, through hardened soil that is less able to absorb rainfall.

Extreme heat events can also worsen air pollution and reduce air quality, increasing risks to public health. Heat, and intersecting hazards, directly affect plants and animals resulting in reduced fitness, increased stress, migration, and death. These shifts result in significant cultural impacts to tribes, where plants

6 Ostro, B., Rauch, S., & Green, S. (2011). Quantifying the health impacts of future changes in temperature in California. *Environmental Research*, 111(8), 1258–1264. https://doi.org/10.1016/j.envres.2011.08.013.
7 https://www.cdph.ca.gov/Programs/OHE/CDPH%20Document%20Library/Climate-Health-Equity/CDPH-2022-Heat-Wave-Excess-Mortality-Report.pdf

and animals that have been used as traditional food, medicine, materials, or in ceremony are no longer present.

California's hotter future poses serious risks to California and threatens our health and safety, economy, food and water security, critical infrastructure, and natural ecosystems. As the state responds to current heat emergencies, it must also continue preparing for increasingly severe and interconnected climate impacts in the decades ahead.

MULTIPLE BENEFITS OF EXTREME HEAT ACTION

Implementing and investing in extreme heat action delivers important environmental, social, and economic benefits across California, such as:

- reduced risk of heat-related illnesses and lowered associated healthcare costs,
- improved mental and physical wellbeing through increased access to green spaces and other outdoor cooling amenities,
- improved attendance in schools as well as a reduction in the impact of excessive heat on cognitive function,
- reduced productivity losses associated with worker heat stress,
- increased carbon storage through greening,
- protected wildlife through conservation and restoration of land and coastal waters
- reduced greenhouse gas emissions associated with electricity use through passive cooling efforts, and
- minimized disruptions to businesses caused by power outages or transportation system failures during heat events.

CALIFORNIA'S RESPONSE

HISTORY OF THE EXTREME HEAT ACTION PLAN

In 2022, the Newsom Administration released an Extreme Heat Action Plan outlining an all-of-government strategy to protect Californians from increasing heat severity and more frequent extreme heat events. The Plan identified clear, coordinated state actions to support communities and residents staying safe and healthy in a hotter future. The substance and organization of the 2022 Extreme Heat Action Plan was guided by extensive public engagement, including multiple public workshops, and consultations with California Native American tribes. The 2022 Action Plan served as an update to the "Preparing California for Extreme Heat: Guidance and Recommendations" report released in 2013.

In 2023, the Legislature passed Senate Bill (SB) 306 (Caballero), which directed the Governor's Office of Land Use and Climate Innovation and the California Natural Resources Agency to update the Extreme Heat Action Plan every three years in coordination with state agencies and partners. SB 306 also reinforced the need for a coordinated, cross-sector approach to reduce heat risks, strengthen community resilience, and improve public health outcomes across California.

INTERSECTION WITH OTHER STATE CLIMATE PLANS

California's Extreme Heat Action Plan focuses on preparedness, risk reduction, and long-term resilience. It emphasizes proactive, sustained actions that reduce risks before emergencies occur while strengthening long-term resilience to worsening heat impacts over time.

California is working to ensure that extreme heat considerations are integrated throughout critical plans and processes. California's Extreme Heat Action Plan intersects with and complements several key state climate plans, including:

- California's Climate Adaptation Strategy which provides an overarching state framework for building community, economic, and environmental resilience to climate impacts, such as fire, floods, heat, drought, and sea level rise.
- California's Climate Change Assessments which contribute to the scientific foundation for understanding climate-related vulnerability at the local scale and informing resilience actions, while also directly informing state policies, plans, programs, and guidance, to promote effective and integrated action to safeguard California from climate change.
- The Extreme Temperature Response Plan which describes state operations during an extreme temperature warning and provides guidance for state agencies, local governments, tribes, and non-governmental organizations (NGOs) in preparation for their heat and cold/freeze response plans and other related activities.
- The California Adaptation Planning Guide which provides guidance to local jurisdictions and other entities to develop climate adaptation plans or to incorporate climate adaptation planning into their existing planning documents.
- The State Hazard Mitigation Plan which articulates a science-based risk reduction strategy to support decision-making across state and local government to equitably promote community resiliency.

2026 EXTREME HEAT ACTION PLAN UPDATE

The process to develop the 2026 Extreme Heat Action Plan prioritized and integrated community and public engagement and consultations with California Native American tribes as well as ongoing state interagency coordination and collaboration.

Early engagement and outreach began in Summer 2025. Three virtual sessions and a survey provided important input from the public to inform the draft 2026 Extreme Heat Action Plan. During the public comment period, three virtual and three in-person workshops were held to gather feedback, as well as written public comment, which informed the final Extreme Heat Action Plan.

The 2026 Extreme Heat Action Plan includes actions from 60 state agencies, departments, boards, commissions, and conservancies.

SUMMARY OF PROGRESS 2022 – 2025

Since the 2022 Extreme Heat Action Plan, California has advanced extreme heat technologies, policies, investments, and partnerships to expand the resources required to adapt to a warmer future. Numerous actions listed in the 2022 Plan have been completed, including those that called for regionally specific vulnerability assessments, an urban heat island effect index, an analysis on heat-related illnesses by industry and occupation, and an assessment of the impact of increased temperatures on electric grid operation.

Further examples of progress since 2022 include:

INVESTMENTS

- Authorized $2.2 billion for the Energy Savings Assistance program, providing no-cost weatherization services to low-income residents such as attic insulation, weatherstripping, energy efficient appliances, and door and building envelope repairs.
- Approved over $98.6 million to build community resilience centers in neighborhoods most impacted by extreme heat and other climate disasters. The resilience centers will serve as emergency response facilities to alleviate the impacts of extreme heat events, while offering community services and programs throughout the year.
- Awarded nearly $32 million across 45 projects through the Extreme Heat and Community Resilience Program in support of local, regional, and tribal efforts to mitigate extreme heat impacts. About two-thirds of these projects are focused on local heat planning efforts.
- Funded $89 million through the Fairground and Community Resilience Centers Program to provide safe shelter, kitchen, and sanitation facilities

during emergencies, including extreme heat, nearly $5 million on water use efficiency and crop breeding to develop heat and drought resistant crop varieties and irrigation strategies, and just over $88 million in water and energy saving technologies for farmers and ranchers.

- Invested approximately $8 million through the Riverine Stewardship Program to restore rivers, streams, and creeks to support native fish survival under extreme conditions, including increasing water temperatures and drought.
- Funded over $1 million to three integrated pest management (IPM) technical assistance projects to support underserved populations in large urban areas suffering from effects of extreme heat. Projects included broad public education on how to sustainably manage these pests.
- Planted 166,285 trees through the California Conservation Corps, supporting projects in nurseries, state parks, public wildlands, and urban areas.
- Allocated over $500 million in sustainable groundwater management planning and implementation grants across the state, including through the Sustainable Groundwater Management Grant Program, to support local actions to manage groundwater in a hotter, drier climate.
- Planted over 92,000 trees and 140,000 native plants and converted 45 acres of land for urban greening through the California Climate Action Corps program as well as provided over 26,000 trees to community members. Planting trees and native plants helps cool the air, provide shade, reduce the urban heat island effect, and protect local biodiversity.
- Expanded outreach and education to improve heat illness prevention by establishing the Rural Strategic Engagement Program and Agricultural Enforcement Task Force and Outreach Unit.
- Strengthened local heat resilience efforts by connecting and supporting 48 local health jurisdictions through regular convenings on heat planning, surveillance, and communications.
- Launched the Equitable Building Decarbonization (EBD) Program, which reduces heat vulnerability of low- and moderate-income households by retrofitting heating and cooling systems and building envelopes. Several multifamily and single-family buildings have enrolled in the program and building energy assessments and retrofit work is underway.
- Awarded $160 million in Green Schoolyards Grants which are designed to reduce extreme heat exposure through the strategic planting of trees and removing impervious, heat-absorbing surfaces. This funding helped plant 6,000 trees with many acres of pavement removed and transformed into natural spaces with gardens, outdoor classrooms, and nature-based curricula and benefitted more than 94,000 students who attend 219 urban public schools and non-profit childcare facilities across California.

- Authorized $450 million for extreme heat mitigation through the "Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond Act of 2024."
- Launched the Distributed Electricity Backup Assets Program, which has awarded over $85 million to deploy clean and efficient distributed energy assets focused on providing emergency supply or load reduction to increase resilience during extreme weather events.
- Onboarded eligible hospitals with emergency departments to the California Syndromic Surveillance (CalSyS) program to strengthen the state's ability to track heat-related illness in near real time.
- Extended funding by $75 million in ratepayer and greenhouse gas reduction fund incentives for TECH Clean California to install low emission heat pump technologies that can support home cooling with an emphasis on low income and disadvantaged communities.
- Provided $2.5 million in funding for urban tree planting within disadvantaged communities adjacent to High-Speed Rail projects.

POLICY

- Passed SB 306 (Caballero, 2023) requiring the State of California to update its Extreme Heat Action Plan by July 1, 2026, and every three years thereafter.
- Set a new heat standard establishing required safety measures for indoor workplaces to prevent heat illness among workers. This standard applies to most workplaces where the indoor temperature reaches 82°F.
- Updated the Model Water Efficient Landscape Ordinance (MWLEO) so guidance on water efficient landscaping, which supports better water management under increasing temperatures, is easier to understand, implement, and enforce by cities and counties.
- Advanced efforts to ensure residential dwelling units maintain the recommended maximum safe indoor air temperature, as part of the implementation of Assembly Bill 209 (Committee on Budget, 2022).
- Created over a dozen utility and third-party demand response programs to support the grid and avoid electric reliability emergencies.
- Developed a Strategic Reliability Reserve, which provides funding for energy generation, efficiency upgrades, improved demand response, increased distributed generation, and long-duration storage, reducing the threat to grid during extreme heat events.

TOOLS

- Developed the nation's first extreme heat scoring tool called the California Communities Extreme Heat Scoring System(CalHeatScore) to provide early warnings of heat-health risks so communities can plan ahead and be ready when extreme heat hits. It also links Californians to local resources, like nearby cooling center locations.
- Launched the Vulnerable Communities Platform, which identifies California communities most vulnerable to the impacts of climate change, including extreme heat, and allows users to look at the intersection of climate impacts with relevant social and demographic factors.

PLANNING & GUIDANCE

- Released the Extreme Temperature Response Plan outlining actions the State of California may take in support of state agencies and local government when an extreme temperature event is anticipated or has occurred. It incorporates lessons learned from previous extreme temperature responses and current best practices for state and local governments.
- Set targets to strategically harness the equivalent of more than half of California's land to fight the climate crisis. Examples of targets that will significantly boost heat-readiness include: (1) 17,300 acres per year of urban tree canopy cover protection from 2030-2045, (2) 37,400 acres per year of urban and community greening and forestry activities from 2030-2045, (3) 200,000 new trees planted per year from 2030-2045 in communities lacking tree canopy cover.
- Launched HeatReady, a statewide multiethnic public awareness and outreach campaign to disseminate accurate and timely information and resources to Californians – meeting them where they are, in the languages they speak.
- Quantified the uninsured and insured costs of seven recent extreme heat events across the state, and estimated their total economic impacts amounted to $7.7 billion, affecting nearly the entire population of California.
- Developed guidance for schools, coaches, and caregivers to prevent heat illness among children and adolescents and incorporated it into the California Department of Education's Extreme Weather Guidelines to assist school districts in developing extreme heat safety policies.

HOW TO READ THE PLAN

Each track contains goals to address extreme heat, and actions within these goals are categorized into two action types:

- ***Established actions*** are underway and being implemented. Most established actions within the plan feature examples that highlight current programs, tools, or initiatives. The examples listed are non-exhaustive and intended to provide a sense of the work currently taking place under the given action.
- ***Recommended actions*** would address important needs, and implementation may require additional or new resources.

HeatReady California outreach at the Elk Grove Multicultural Festival to empower communities as they prepare for extreme heat events. Credit: Elk Grove Multicultural Festival.

ACTION TRACK A: BUILD PUBLIC AWARENESS AND NOTIFICATION

INTRODUCTION

Extreme heat is a threat to social and economic prosperity, and significantly impacts public safety and health, especially in California's most vulnerable communities. As heat continues to intensify – both in severity and duration – it becomes even more critical that Californians have the resources and information they need to prepare for and respond to this challenge.

This track includes actions focused on strengthening the state's partnerships with heat-vulnerable communities, expanding multi-modal communication tools centered on heat awareness, and increasing access to vital tools and resources that help decision-makers plan for heat events.

This track is organized around three goals:

- GOAL 1: Build public awareness about extreme heat through directed communications campaigns.
- GOAL 2: Support actionable climate science and research to inform risk assessments and decision-making.
- GOAL 3: Improve accuracy and accessibility of heat modeling and data to inform decision-makers.

Los Angeles Regional Collaborative: Heat Education, Ambassadors, and Training (LARC-HEAT) partners with local transit agencies to run Public Service Announcements on transit. Credit: Mason Lehman, LARC-HEAT.

GOAL 1: BUILD PUBLIC AWARENESS ABOUT EXTREME HEAT THROUGH DIRECTED COMMUNICATIONS CAMPAIGNS

The actions within this goal demonstrate the state's commitment to providing timely and actionable information to communities most at risk from extreme heat, including individuals experiencing housing insecurity, outdoor workers, older adults, young children, and people with certain health conditions.

Established Actions

TRACK A - GOAL 1, E1: Drive public awareness campaigns and outreach efforts, prioritizing communities most at risk from extreme heat.

- The 99 Calor Campaign distributed Heat Illness Prevention materials, discussion guides in multiple languages, and external communications about the Department of Industrial Relations Division of Occupational Health and Safety's Heat Illness Prevention Standard to outdoor workers.
- The Office of Emergency Services released a #BeattheHeat Campaign and collection of Summer Heat Resources.
- The Office of Emergency Services' California State Warning Center is used as a situational awareness pass through for heat alerts, watches, and warnings received daily by the National Weather Service for all emergency management partners, including tribal emergency managers.
- The Office of Emergency Services maintains the 2025 Extreme Temperature Response Plan. This document contains recommendations on communicating with the public during extreme heat events.

- The Department of Public Health's Center for Preparedness and Response disseminates information to local health jurisdictions and emergency networks and coordinates communications through the CA Health Alert Network
- The Governor's Office of Emergency Services' Hazard Mitigation, Technical Assistance Division assists jurisdictions in identifying the most viable funding source to implement extreme heat mitigation projects
- The Department of Aging hosted a focused public awareness campaign across Department of Aging communication platforms including the website, social media, and partner networks to elevate the importance of extreme heat preparedness for older adults and people with disabilities. This included distributing information on the importance of extreme heat preparedness to individual callers seeking statewide and local assistance and resources via the California Aging and Adult Information Line (CAAIL).
- The Department of Aging, in partnership with the Governor's Office of Emergency Services and Department of Rehabilitation, developed and distributes the statewide Emergency Preparedness Guide which outlines clear steps for staying safe during extreme heat, PSPS, and other climate-driven hazards.
- The California Workplace Outreach Project, administered by the Department of Industrial Relations, is a statewide initiative that funds and supports CBOs to deliver worker-centered education on labor rights, safety, and health protections, including heat-related illness prevention. Key elements include teaching workers signs, symptoms, prevention strategies for heat illness, and their right to shade, water, rest breaks, and safe temperatures.
- The Coachella Valley Mountains Conservancy's Coachella Defensores de Tierras Publicas provides conservation stewardship, education on natural habitats, and hands-on outdoor experiences for youth and young adults, including climate-impact awareness and safe outdoor recreation in high-heat environments.
- The Department of Education's Emergency Services Team (EST) distributes Risk Weather Reports from the Governor's Office of Emergency Services and the National Weather Service to County Offices of Education (COEs) for major weather events, asking them to share the information with districts in their county. EST also shares reports with private schools and advocacy organizations. COEs and districts are advised to contact their county Emergency Operations Center if conditions escalate.

Agencies: Health and Human Services Agency; Department of Aging, Department of Public Health | Labor Workforce and Development Agency; Department of Industrial Relations | Governor's Office of Emergency Services | Governor's Office of Land Use and Climate Innovation | Department of Education

TRACK A - GOAL 1, E2: Support employers to protect worker health from extreme heat.

- The Department of Public Health is conducting outreach to organizations representing employers, with a focus on smaller employers and those employing vulnerable worker populations, to inform them about extreme heat risks, applicable regulations, and resources for assistance in minimizing heat risks.

  Agency: Health and Human Services Agency; Department of Public Health

TRACK A - GOAL 1, E3: Conduct outreach and provide guidance to prevent heat related illnesses among children, seniors, and people with disabilities in the care of licensed facilities.

- The California Department of Social Services educates facility staff and residents on extreme heat and heat-related illness prevention.

  Agency: Health and Human Services Agency; Department of Public Health, Department of Social Services; Department of Aging

TRACK A – GOAL 1, E4: Install trailhead and interpretative signage educating visitors on heat safety and desert ecology.

- The Coachella Valley Mountains Conservancy installed 15 interpretive signs across the City of Desert Hot Springs, developed with community members. Signs describe nearby natural habitats, ecology, and conservation concepts, and were installed bilingually in English and Spanish.

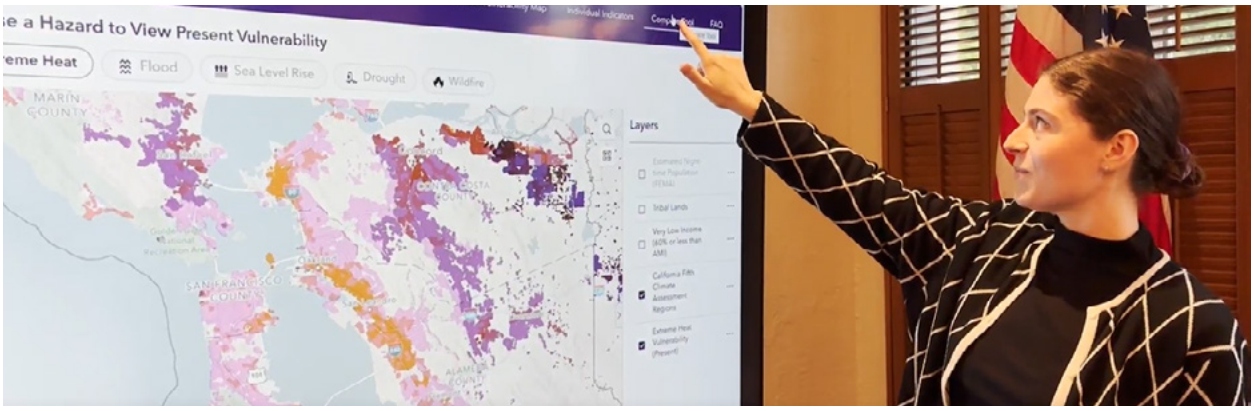
  Agency: Natural Resources Agency; Coachella Valley Mountains Conservancy

Recommended Actions

TRACK A - GOAL 1, R1: Support public awareness campaigns that build upon current efforts to bolster extreme heat event preparedness actions and adaptation strategies.

- Public awareness efforts should be culturally and linguistically appropriate, accessible, and directed at vulnerable populations who are disproportionately impacted by the effects of extreme heat.
- Outreach efforts should leverage local partners and harness trusted messengers to deliver information on resiliency in a community-focused manner.

Agencies: Governor's Office of Land Use and Climate Innovation | Governor's Office of Service and Community Engagement; California Volunteers | Governor's Office of Emergency Services | Environmental Protection Agency; State Water Resources Control Board | Labor and Workforce Development Agency; Department of Industrial Relations | Natural Resources Agency; State Lands Commission, Department of Water Resources, Delta Stewardship Council, Coastal Commission | Health and Human Services Agency; Department of Public Health | Department of Food and Agriculture



Demonstration of the Vulnerable Communities Platform, a tool to identify priority communities for long-term climate adaptation planning.

GOAL 2: SUPPORT ACTIONABLE CLIMATE SCIENCE AND RESEARCH TO INFORM RISK ASSESSMENTS AND DECISION-MAKING

The actions found within this goal are focused on data, tools, and resources that improve the state's capacity to identify and support heat vulnerable communities.

Established Actions

TRACK A - GOAL 2, E1: Identify the characteristics of populations that are vulnerable to heat and communities that are highly resilient to heat. Use statistical approaches to determine vulnerable subgroups (i.e., by age, education level, income, and other demographic indicators) for regions or counties.

- The Department of Public Health's Climate Change & Health Vulnerability Indicators for California (CCHVIs) and their visualization platform estimate vulnerability by census tract or smallest scale available for every county in California, including population sensitivity and adaptive capacity indicators related to extreme heat.
- The Fourth Climate Change Assessment's California Heat Assessment Tool was developed for local and state health practitioners to better understand heat vulnerability and identify where actions can be taken to prevent and reduce public health impacts of extreme heat events.
- The Office of Environmental Health Hazard Assessment has contributed to a growing body of literature linking harmful health effects to increasing

temperatures and heat waves and has helped identify groups who are most vulnerable to heat-related mortality and illness.

Agencies: Health and Human Services Agency; Department of Public Health | Environmental Protection Agency; Office of Environmental Health Hazard Assessment | Governor's Office of Land Use and Climate Innovation

TRACK A - GOAL 2, E2: Maintain an open, accessible, user-friendly, and integrated platform that holistically identifies communities vulnerable to climate change impacts, including heat.

- The Governor's Office of Land Use and Climate Innovation Vulnerable Communities Platform (VCP) provides a comprehensive overview of a community's vulnerability to all major climate hazards, including extreme heat, wildfire, sea level rise, flooding, and drought. The platform is intended to facilitate future adaptation action by identifying areas of increased hazard exposure alongside social vulnerability to pinpoint key challenges that can be addressed with actions to improve resilience. The platform also includes comparisons of other tools or climate data sources, connections to funding opportunities and planning guidance, and a helpdesk for one-on-one climate adaptation support. The VCP is intended to provide support to local governments in fulfilling adaptation planning requirements, community organizations in applying for climate-related grants, and state agencies in prioritizing funding and outreach.

  Agencies: Governor's Office of Land Use and Climate Innovation in partnership with relevant agencies.

TRACK A - GOAL 2, E3: Support actionable research and science to inform heat adaptation and resilience actions.

- The Indicators of Climate Change in California describe how California's climate is changing, including increasing frequency and severity of extreme heat events, and how these changes are affecting the state.
- The Office of Environmental Health Hazard Assessment's Recent Research on Climate Change is a compilation of information relevant to climate change and its impacts as a source of current and emerging scientific information on climate change, including extreme heat.
- The Office of Environmental Health Hazard Assessment conducts and releases human health studies relating increased temperatures to adverse health outcomes.
- The Governor's Office of Land Use and Climate Innovation, in partnership with the Strategic Growth Council, Natural Resources Agency and California Energy Commission, lead the publication of California's Climate Change Assessments. California's Climate Change Assessments contribute

to the scientific foundation for understanding climate-related vulnerability throughout California. The California Energy Commission administers grant funds for tribes, tribal organizations, and tribal-serving non-governmental organizations (NGOs) to conduct tribally led climate change research, assessments, and similar projects in support of these assessments. California's Fifth Climate Change Assessment is due to roll out in Fall of 2026.

Agencies: Health and Human Services Agency; Department of Public Health | Environmental Protection Agency; Office of Environmental Health Hazard Assessment | Governor's Office of Land Use and Climate Innovation | Strategic Growth Council | Natural Resources Agency; Energy Commission

TRACK A - GOAL 2, E4: Develop regionally specific vulnerability assessments that identify communities with the highest social vulnerability to climate impacts, meaning communities with high sensitivity and low adaptive capacity to climate impacts, including extreme heat.

- The Delta Stewardship Council adopted its Adaptation Plan in June 2025. The Plan builds off the Vulnerability Assessment conducted in 2021 and proposes strategies to address how Delta communities, infrastructure, and ecosystems can adapt to climate change in a manner consistent with the Council's resilience goals. Public awareness related to the findings of extreme heat vulnerability are valuable components of the work.
- The Tahoe Conservancy's Integrated Vulnerability Assessment of Climate Change in the Lake Tahoe Basin provides residents, visitors, businesses, and public agencies with state-of-the-art information on how patterns of temperature and precipitation will change, and how these patterns will affect the things people care about.
- The Department of Water Resources' Climate Action Plan is the Department's guide to addressing climate change in the programs, projects, and activities over which it has authority. The Department of Water Resources released its first ever State Water Project Adaptation Strategy in August 2025. The strategy identifies actions to maintain reliable water deliveries to 27 million Californians in the face of climate change.
- The California Department of Forestry and Fire Protection California's 2017 Forest and Rangelands Assessment addresses urban heat impacts in Chapter 3 (Urban Forestry).

Agencies: Natural Resources Agency; Delta Stewardship Council, Tahoe Conservancy, Department of Water Resources, Department of Forestry and Fire Protection | Governor's Office of Land Use and Climate Innovation

TRACK A - GOAL 2, E5: Maintain and further develop CalHeatScore, California's early heat warning system. Ensure CalHeatScore protects public health, is geared toward populations at risk and is locally relevant.

- CalHeatScore incorporates zip code level historical heat and health data with current weather modeling to display a public health map, updated daily, which ranks forecasted heat conditions and impacts in California communities over the next 7 days. This tool highlights vulnerable groups most susceptible to extreme heat, offers tips to stay safe, and lists important resources such as nearby cooling centers. CalHeatScore is listed as one of the extreme heat tools in Governor's Office of Emergency Services' Extreme Temperature Response Plan.
- CalHeatScore is designed to be a complementary resource to several of the state's extreme heat mitigation and planning programs. Th Office of Environmental Health Hazard Assessment collaborates frequently with other state agencies, including the California Department of Public Health, the Governor's Office of Emergency Services, the California Department of Insurance, and the Governor's Office of Land Use and Climate Innovation to expand the utilization and applicability of CalHeatScore for extreme heat planning across the state.
- The California Department of Insurance conducted and published, Impacts of Extreme Heat to California's People, Infrastructure, and Economy, a report on past extreme heat events and the effectiveness of insurance coverage. This report, which provided an assessment of the impacts and costs of recent extreme heat events, informed the development of CalHeatScore and supports ongoing efforts in extreme heat resilience planning across the state.

Agencies: Environmental Protection Agency; Office of Environmental Health Hazard Assessment | Health and Human Services Agency; Department of Public Health | Governor's Office of Emergency Services | Governor's Office of Land Use and Climate Innovation | Department of Insurance

TRACK A - GOAL 2, E6: Identify and promote heat resilience strategies with health co-benefits.

- The Department of Public Health's Climate Change and Health Equity Branch provides health equity analysis and input to local and state agencies' climate change-related plans, policies, and investments, including those regarding heat resilience strategies. In addition, the Branch hosts the California Building Resilience Against Climate Effects (CalBRACE) Toolkit, which is a collection of resources that includes tools, reports, and guides to help local health departments and tribes assess, plan, and monitor to reduce and prevent health risks associated with climate change.

- The Governor's Office of Land Use and Climate Innovation's Adaptation Clearinghouse supports a community of practice on adaptation and resilience and includes a suite of resources on extreme heat, such as examples of local heat adaptation plans, including identification of those that also provide health benefits.
- The California Air Resources Board is studying the health benefits of heat adaptation strategies such as cooling centers using community-based research techniques for vulnerable communities in Kern County in the San Joaquin Valley.

Agencies: Governor's Office of Land Use and Climate Innovation | Health and Human Services Agency; Department of Public Health | Environmental Protection Agency; California Air Resources Board, Office of Environmental Health Hazard Assessment

TRACK A - GOAL 2, E7: Evaluate energy and cost-efficient strategies that could provide protection against heat and air pollution for vulnerable populations.

- The California Public Utilities Commission's Environmental and Social Justice (ESJ) Action Plan commits the Commission to increasing investment in clean energy resources to benefit Environmental and Social Justice communities, especially to improve local air quality and public health and to increase climate resiliency. The Public Utilities Commission approved version 2.0 of the Environmental and Social Justice Action Plan on April 7, 2022.
- The California Public Utilities Commission published its 2025 annual report of the Environmental and Social Justice (ESJ) Action Plan on November 28, 2025, which highlights key successful efforts and impactful results in embedding the principals of ESJ across the agency's regulatory responsibilities. The report provides the status of non-strategic objectives and 94 action items the California Public Utilities Commission committed to implement, resulting in 85% completion.
- The California Public Utilities Commission oversees various energy efficiency programs, including the Energy Savings Assistance program which provides low-income eligible customers with no-cost home weatherization and energy efficiency measures, and ventilation and air conditioning system equipment. These investments help these customers during extreme heat events, while reducing energy consumption and costs.
- The California Air Resources Board is conducting ongoing research on the cost effectiveness of local health adaptation strategies that will provide critical information to maximize health benefits and address the needs of vulnerable and priority communities.
- The Department of Housing and Community Development researches and develops residential building standards in the California Green

Building Standards Code that promote areas such as water efficiency, material conservation, building environmental quality, and electric vehicle charging. Building standards are developed through a public process administered by the Building Standards Commission and are equitable in their application to the diverse populations of California. The Department of Housing and Community Development will continue to solicit public input to support efforts that promote health and safety, and innovation related to design and construction of residential buildings.

Agencies: Natural Resources Agency; Energy Commission, Department of Forestry and Fire Protection | Public Utilities Commission | Environmental Protection Agency; California Air Resources Board |Government Operations Agency; Building Standards Commission | California Housing and Homelessness Agency; Housing and Community Development

TRACK A - GOAL 2, E8: Address the impacts of extreme heat events and wildfires on health through hazard assessments and support science-based guidance for state agencies, medical and public health providers, school authorities, and the public.

- The Office of Environmental Health Hazard Assessment's Wildfire Smoke fact sheet, Protect Yourself from Smoke and Extreme Heat, includes information about actions individuals can take to protect themselves and their families.
- The California Air Resources Board is conducting research on the health and economic impacts of combined climate stressors such as heat, wildfires, and air pollution to better understand impacts across the state and in vulnerable and priority communities.

Agency: Environmental Protection Agency; Office of Environmental Health Hazard Assessment, California Air Resources Board

TRACK A - GOAL 2, E9: Continue to incorporate extreme heat and impacts on energy demand into Integrated Energy Policy Report forecasts.

- The California Energy Commission adopts an Integrated Energy Policy Report every two years and an update every other year. The Energy Commission uses these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety.

Agency: Natural Resources Agency; Energy Commission

TRACK A - GOAL 2, E10: Support analyses of heat-related illnesses, including equity analyses, and produce reports and visualizations to inform public health action.

- The Department of Public Health routinely publishes analyses of health impacts of heat events, such as the Excess Mortality During September 2022 Heat Wave in California report.

  Agency: Health and Human Services Agency; Department of Public Health

TRACK A - GOAL 2, E11: Support research that quantifies the economic impacts of excess deaths and illness from past extreme heat events and develop decision-support tools to project these impacts under future climate change scenarios to guide heat adaptation and resilience actions.

- The Energy Commission supports the development of the next generation of climate scenarios/projections and facilitates broad access to that data through the Cal-Adapt Analytics Engine. The projections provide a robust foundation for research to assess the economic impacts of excess mortality and illness associated with past extreme heat events, as well as for the development of decision-support tools. Cal-Adapt was funded by electric ratepayers through the Public Utilities Commission's Electric Program Investment Charge program.

  Agencies: Health and Human Services Agency; Department of Public Health | Governor's Office of Land Use and Climate Innovation | Natural Resources Agency; Energy Commission | Public Utilities Commission

TRACK A - GOAL 2, E12: Develop innovative insurance projects to reduce heat risk and help communities withstand and recover from extreme heat events.

- The California Department of Insurance is piloting innovative insurance projects to reduce the economic burden of disruptions and costs associated with heat events.

  Agency: Department of Insurance

Recommended Actions

TRACK A - GOAL 2, R1: Support the development of a framework for designing studies that assess the impact of heat exposure on individuals (personal heat exposure assessment studies).

Agency: Environmental Protection Agency; Office of Environmental Health Hazard Assessment

A CivicSpark Fellow prepares a mobile biometeorological instrument for data collection at a school bus stop. Credit: Sacramento Metropolitan Air Quality Management District.

GOAL 3: IMPROVE ACCURACY AND ACCESSIBILITY OF HEAT MODELING AND DATA TO INFORM DECISION-MAKERS

The actions listed in this goal are focused on quantifying the impact of extreme heat on California communities and expanding heat-related data access for local decision-makers.

Established Actions

TRACK A - GOAL 3, E1: Develop an urban heat island effect index, including a definition consistent with the legislative intent in Assembly Bill 296 (Skinner, 2012), and assess the extent and severity of the urban heat island effect for California cities to inform quantifiable reduction goals.

- The Office of Environmental Health Hazard Assessment launched CalHeatScore, California's extreme heat ranking system, in 2025. CalHeatScore uses local data on heat and health to map out risks and provide early warnings to communities. Future versions of CalHeatScore will incorporate finer-scale urban heat island effect measurements into the calculation of heat-health risk, ensuring communities affected by the urban heat island effect are more prepared and resilient to extreme heat.

  Agencies: Environmental Protection Agency; California Air Resources Board | Governor's Office of Land Use and Climate Innovation | Government Operations Agency; Department of General Services, Building Standards Commission | Natural Resources Agency; Energy Commission, Department of Forestry and Fire Protection

TRACK A - GOAL 3, E2: Conduct analysis on heat-related illnesses by industry and occupation to inform tailored prevention activities.

Agency: Health and Human Services Agency

TRACK A - GOAL 3, E3: Collect and maintain observed and projected heat-related data to inform heat adaptation actions.

- Cal-Adapt delivers critical climate data and cutting-edge tools to empower communities, researchers, and decision-makers to take climate action now. It also includes an extreme heat days tool where users can learn how many extreme heat days will occur in the future.
- As mandated by Senate Bill 101 (Skinner, 2023), the Extreme Heat and Community Resilience Program at the Governor's Office of Land Use and Climate Innovation is responsible for producing a "Strategies to Reduce Public Health Impacts of Extreme Heat" report that evaluates current and potential strategies to mitigate the public health impacts of extreme heat and enhance community resilience to increasing temperatures throughout the state. The final report is due February 1, 2027.

Agencies: Natural Resources Agency; Energy Commission | Governor's Office of Land Use and Climate Innovation | Environmental Protection Agency

TRACK A - GOAL 3, E4: Report near real-time data on heat-related illnesses during heat waves through implementation of a robust, statewide syndromic surveillance system.

- The Department of Public Health recently became the state's site administrator for the Centers for Disease Control and Prevention's syndromic surveillance data system was granted legal authority to collect and require syndromic data submissions from hospitals with emergency departments (SB 159, Senate Committee on Budget and Fiscal Review). These are significant steps toward establishing a centralized, statewide syndromic surveillance program to collect near-real time and standardized syndromic data across the state on climate-related illnesses, including those resulting from extreme heat.

Agency: Health and Human Services Agency; Department of Public Health

CASE STUDY:
California Communities Extreme Heat Scoring System (CalHeatScore)

Lead Agency: California Environmental Protection Agency, Office of Environmental Health Hazard Assessment

Partners and Collaborators: California Department of Insurance, California Department of Public Health, Governor's Office of Emergency Services, Governor's Office of Land Use and Climate Innovation

Purpose of Program: CalHeatScore is a new public health webtool developed to help protect people from extreme heat. CalHeatScore provides daily rankings ranging from 0 to 4 to indicate levels of human health risk from extreme heat impacts. CalHeatScore provides early warnings, real-time information, education, and local resource connections to help individuals and their communities prepare for and respond to extreme heat events. The purpose of CalHeatScore is to reduce heat-related illness and save lives by translating complex weather and health data into easy-to-understand heat warnings.

Impact of Program: In 2025, the CalHeatScore webtool was visited more than twenty-three thousand times across the year. Additionally, the majority of the 2025 CalHeatScore Annual Survey respondents indicated that the tool was easy to use and that the scores are easy to understand.

Website Link:

English: CalHeatScore Website and CalHeatScore Mapping Tool

Spanish: CalHeatScore Website and CalHeatScore Mapping Tool

A CalHeatScore team member presents on the tool at a conference session titled 'GIS for Good.'

Visión y Compromiso outreach event with farmworkers in the Central Valley to prepare for extreme heat. Credit: Visión y Compromiso.

ACTION TRACK B: STRENGTHEN COMMUNITY SERVICES AND RESPONSE

INTRODUCTION

Extreme heat disproportionately impacts California's most vulnerable communities, including California Native American tribes, rural populations, outdoor workers and those working in non-climate-controlled facilities, people experiencing homelessness, and economically disadvantaged residents. Rising temperatures are placing increasing strain on public health systems, emergency response networks, local economies, and essential community infrastructure across the state, all of which play a critical role in delivering cooling services, conducting outreach, and protecting public health during heat emergencies.

This track focuses on strengthening communities' capacity to actively respond during heat events through investments in enhanced social support systems, increased protection of outdoor and frontline workers, local economic stability, and coordinated planning efforts with local and regional partners.

This track is organized around three goals:

- GOAL 1: Invest in social resilience.
- GOAL 2: Protect California's workers and economy from the impacts of extreme heat.
- GOAL 3: Support local planning and response measures to extreme heat events.

The Ceres Community Project's new Center for Food, Youth & Community in Santa Rosa acts as a year-round hub and provides emergency shelter, power, and resources during climate disasters.

GOAL 1: INVEST IN SOCIAL RESILIENCE

The actions within this goal are focused on building a community's capacity and resources to respond to extreme heat.

Established Actions

TRACK B - GOAL 1, E1: Convene health and social service providers from multiple sectors, including state and local agencies, to advance extreme heat mitigation and adaptation strategies that foster social cohesion and community resilience.

- Planning and Investing for a Resilient California provides guidance for state
- agencies to help identify climate vulnerable communities for investment, conduct community engagement, and apply an "equity checklist" to decisions and projects.
- California Climate Investments Technical Assistance Program supports communities in applying to the California Climate Investments programs, several of which fund projects that can mitigate extreme heat. This assistance aims to level the playing field for applicants that may lack the capacity to access funds successfully.
- The California Health in All Policies (HiAP) Task Force, led by the Strategic Growth Council, in partnership with the Public Health Institute and the Department of Public Health, convenes over 25 state government departments and agencies to advance health, equity, and environmental sustainability. As the first state-level initiative of its kind in the United States, it has become a national and international model for promoting policies that improve health outcomes.

- The Office of Environmental Health Hazard Assessment is developing vulnerability mapping techniques and also working across multiple sectors to engage with healthcare providers.

  Agencies: Governor's Office of Land Use and Climate Innovation | Strategic Growth Council | Environmental Protection Agency; California Air Resources Board; Office of Environmental Health Hazard Assessment | Health and Human Services Agency; Department of Public Health

TRACK B - GOAL 1, E2: Support Community Resilience Centers that advance community-led efforts to build new or retrofit existing facilities that will serve as centers to help vulnerable residents withstand the impacts of extreme heat, wildfires, power outages, flooding, and other emergency situations brought about by climate change.

- The Strategic Growth Council's Community Resilience Centers program funds new construction and upgrades of neighborhood-level resilience centers to provide shelter and resources during climate and other emergencies. The program also funds year-round services and ongoing programming that builds overall community resilience.
- The Department of Food and Agriculture's Fairground Climate Bond Program focuses on enhancing the ability of those facilities to serve as multirole community, staging, and evacuation centers to provide community resilience benefits during a disaster, state of emergency, local emergency, or de-energization event. The program also focuses on deploying communications and broadband infrastructure at those facilities to improve their capability to serve as multirole community, staging, and evacuation centers and enhance local telecommunications service.

  Agencies: Department of Food and Agriculture | Strategic Growth Council

Recommended Actions

TRACK B - GOAL 1, R1: Develop a "Cool Buddy" program to identify heat-vulnerable people and reach out and check on them during heat events.

- Multiple grantees from the Governor's Office of Land Use and Climate Innovation's Extreme Heat and Community Resilience Program are developing cool buddy programs for local adoption. The Governor's Office of Land Use and Climate Innovation aims to uplift best practices from these efforts towards a statewide initiative.

  Agencies: Governor's Office of Land Use and Climate Innovation | Governor's Office of Emergency Services

Cal/OSHA provides information on workers' rights, heat illness prevention, wildfire smoke hazards, bird flu, and wildlife fire cleanup.

GOAL 2: PROTECT CALIFORNIA'S WORKERS AND ECONOMY FROM THE IMPACTS OF EXTREME HEAT

The actions within this goal prioritize advancing temperature standards and other health-related measures for indoor and outdoor workers.

Established Actions

TRACK B - GOAL 2, E1: Evaluate the Department of Industrial Relations Division of Occupational Safety and Health's Heat Illness Prevention Standard (Title 8, California Code of Regulations, Section 3395) to determine its effectiveness and whether revisions are necessary.

- A study published in September 2025 by the Workers Compensation Research Institute (WRCI) found that "California's 2005 heat standard led to fewer work-related injuries on hot days". The Department of Industrial Relations is working on revisions to the standards in connection with AB 2234 (Rivas & Grayson, 2022).
- The California Department of Public Health's Occupational Health Branch provides revision recommendations to both indoor and outdoor heat standards as part of the Assembly Bill 2243 Heat Illness Prevention process. The Department's ongoing research includes analysis of trends in occupational heat-related illness and the potential impacts of these standards.

Agencies: Labor and Workforce Development Agency; Department of Industrial Relations | Health and Human Services Agency; Department of Public Health

TRACK B - GOAL 2, E2: Convey necessary worker protection measures to regulated entities.

- The Division of Occupational Safety and Health's Heat Health Illness Prevention Network is a voluntary public/private partnership established to increase both employers' and employees' awareness of the hazard of heat illness and the importance of heat illness prevention measures through the provision of timely and essential information.
- The Department of Public Health continues to conduct outreach to organizations representing employers, with a focus on smaller employers and those employing vulnerable worker populations to inform them about extreme heat risks, applicable regulations and resources for assistance in minimizing risks.

Agencies: Labor and Workforce Development Agency; Department of Industrial Relations | Health and Human Services Agency; Department of Public Health

TRACK B - GOAL 2, E3: Support and advance heat trainings that focus on employers and workers in industries with outdoor work.

- The Division of Occupational Safety and Health's Heat Illness Prevention Standard update includes assurance of adequate water, shade, and rest breaks.
- The Division of Occupational Safety and Health has developed and published a suite of education and training materials, consultation services e-tool, and sample procedures for employers to accompany the Heat Illness Prevention Standard. This effort focuses on driving prevention through easily accessible information for workers and employers to be coupled with directed enforcement before and during periods of high risk.

Agencies: Labor and Workforce Development Agency; Department of Industrial Relations | Department of Food and Agriculture; Governor's Office of Land Use and Climate Innovation

TRACK B - GOAL 2, E4: Evaluate the effectiveness of engineering and administrative controls to mediate employee exposures to high heat; develop new methods of protection.

- The Department of Industrial Relations provides consultations to aid employers in evaluating the effectiveness of engineering and administrative controls, as well as implementing strategies for ensuring employee safety from heat-related illnesses. UC Berkeley's Labor Occupational Health Program is conducting a study of this work due in 2026.

  Agencies: Labor and Workforce Development Agency; Department of Industrial Relations

TRACK B - GOAL 2, E5: Implement the 'Heat Illness Prevention in Indoor Places of Employment' standard approved by the Occupational Safety and Health Standards Board.

- On June 20, 2024, the Board approved California Code of Regulations, Title 8, section 3396, "Heat Illness Prevention in Indoor Places of Employment". It establishes required safety measures for indoor workplaces to prevent worker exposure to risk of heat illness. The Division of Occupational Safety and Health has developed resources for this regulation and is conducting outreach and education efforts to employers and workers. Indoor heat standards for correctional facilities are in development.

  Agency: Labor and Workforce Development Agency; Department of Industrial Relations

TRACK B - GOAL 2, E6: Evaluate occupational health risks due to excess heat and strategies to reduce those risks.

- The Division of Occupational Safety and Health's Outdoor Heat Illness Prevention Standard is based on literature evaluating occupational health risks and strategies for reducing those risks.
- This is an ongoing effort by the Department of Industrial Relations as part of rulemaking required by AB 2243 (Garcia, 2022) (Heat Illness and Wildfire Smoke Standards).

  Agencies: Labor and Workforce Development Agency; Department of Industrial Relations | Department of Food and Agriculture | Health and Human Services Agency; Department of Public Health

TRACK B - GOAL 2, E7: Support business continuity during extreme heat events and create economic opportunity through investments in heat adaptation actions.

- The Governor's Office of Business and Economic Development's Business Investment Services raises awareness of climate risks in the business community and assists businesses to operate with minimal interruption during and after extreme climate events or emergencies.

  Agency: Governor's Office of Business and Economic Development

TRACK B - GOAL 2, E8: Protect workers from occupational exposure to excessive heat and provide information on occupational protections and available resources.

- The California Department of Public Health's Worker Heat Effects and Tracking (HEAT) Program provides prevention and education resources to employers and workers in high-risk occupational settings.
- The California Department of Insurance is piloting an initiative to bring heat insurance, direct cash support, and resilience to heat-exposed sidewalk vendors in Los Angeles. In addition to cash assistance, this parametric insurance product seeks to provide tailored information with early warnings, along with heat-impact-reducing actions that allow sidewalk vendors and other outdoor workers in Los Angeles to protect their health and income in the face of rising heat conditions.

  Agencies: Health and Human Services Agency; Department of Public Health | Labor and Workforce Development Agency; Department of Industrial Relations | Department of Insurance

TRACK B - GOAL 2, E9: Identify educational opportunities and strategic enforcement strategies to protect workers impacted by extreme heat from heat illness and other health and safety and labor law issues.

- The California Department of Public Health's Occupational Health Branch provides heat safety education to outdoor employers, indoor employers, and workers, as well as conducts ongoing analysis of occupational heat-related illness to identify opportunities for prevention.
- The Labor and Workforce Development Agency expanded heat illness prevention education and outreach for California farmworkers through the establishment of the Rural Strategic Engagement Program.

  Agencies: Labor and Workforce Development Agency; Department of Industrial Relations | Health and Human Services Agency; Department of Public Health

TRACK B - GOAL 2, E10: Conduct enforcement of outdoor workplaces during periods of high heat to ensure compliance with established outdoor worker heat illness prevention regulations, as well as enforcement of existing requirements under the Injury and Illness Prevention Program for indoor heat hazards.

- The Division of Occupational Safety and Health's Agricultural Enforcement Task Force and Outreach Unit conducts proactive agricultural inspections to ensure compliance with heat illness prevention requirements.

Agency: Labor and Workforce Development Agency; Department of Industrial Relations

TRACK B - GOAL 2, E11: Following passage of an occupational heat illness prevention standard for indoor work environments (see Track B, Goal 2, E5), conduct directed enforcement and education campaigns.

Agency: Labor and Workforce Development Agency; Department of Industrial Relations

TRACK B - GOAL 2, E12: Build resilience through training partnerships and apprenticeships in jobs and careers that address extreme heat.

- The California Workforce Development Board has invested over $200 million in its High Road Training Partnership: Resilient Workforce Program which advances a field of practice that addresses urgent questions of climate change, income inequality, and economic competitiveness through regional workforce strategies. The board also invested $7.5 in its Oil and Gas Well Capping program to create employment opportunities while reducing California's carbon footprint.

Agency: Labor and Workforce Development Agency; California Workforce Development Board

TRACK B – GOAL 2, E13: Advance an indoor heat standard for correctional facilities through rulemaking.

- The Division of Occupational Safety and Health has begun the process to develop an indoor heat standard for correctional facilities to address increasing risks from extreme heat. The rulemaking process will establish requirements for heat monitoring, prevention, response, training, and other protective measures for correctional staff.

Agency: Labor and Workforce Development Agency; Department of Industrial Relations

Recommended Actions

TRACK B - GOAL 2, R1: Support grants for industry-based partnerships that strengthen California's resilience to extreme heat.

- Build workforce programs and training infrastructure to meet employer needs and provide promising career pathways for individuals from underserved communities vulnerable to extreme heat.

  Agency: Labor and Workforce Development Agency; California Workforce Development Board

TRACK B - GOAL 2, R2: Work with agricultural networks, farmers, and farm workers in the Delta to understand what the agricultural community needs to address extreme heat.

- Conduct outreach with agricultural networks, farmers, and farmworkers to understand needs. Improve awareness and resources among vulnerable groups, including farm workers, through appropriate linguistic, accessible outreach.

  Agency: Natural Resources Agency; Delta Stewardship Council

TRACK B - GOAL 2, R3: Work with California Native American tribes and partners to understand vulnerabilities of fisheries to extreme heat events.

Agencies: Natural Resources Agency; Department of Fish and Wildlife, Ocean Protection Council | Strategic Growth Council | Governor's Office of Land Use and Climate Innovation

TRACK B – GOAL 2, R4: Collaborate with other state agencies on developing workforce standards for infrastructure and energy saving projects that address extreme heat challenges.

Agency: Labor and Workforce Development Agency; California Workforce Development Board

Residents give input on Kounkuey Design Initiative's Shade Equity Master Plan for the Eastern Coachella Valley.

GOAL 3: SUPPORT LOCAL PLANNING AND RESPONSE MEASURES TO EXTREME HEAT EVENTS

The actions within this goal highlight the state's climate adaptation planning and implementation resources, including grants, guides, and technical assistance for local practitioners.

Established Actions

TRACK B - GOAL 3, E1: Assess state, regional, and local hazard mitigation plans, heat contingency plans, and other hazard planning documents for potential incorporation and/or refinement of heat impacts according to climate projections. Promote the integration of climate change research into state and local hazard identification and risk assessment planning efforts.

- The Governor's Office of Emergency Services' State Hazard Mitigation Plan integrates climate change considerations throughout the document as climate change, including extreme heat, has the potential to affect the severity, frequency, and location of hazardous events. The Plan was last updated in August 2023. The next Plan update will be released by August 2028.
- The Governor's Office of Emergency Services' Hazard Mitigation Section reviews local hazard mitigation plans (LHMPs) for compliance with SB 1000 (Leyva, 2016) and SB 379 (Jackson, 2015) which require climate considerations in local planning components. Additionally, the Section maintains the California Adaptation Planning Guide, which provides guidance to local jurisdictions and other entities to develop climate adaptation plans or to incorporate climate adaptation planning into their existing planning documents.

- The Governor's Office of Emergency Services' Public-Private Partnerships maintains and updates the Extreme Temperature Response Plan, which provides state and federal information, resources, and best practices for local governments to prepare for extreme heat (and cold) response.
- The Governor's Office of Land Use and Climate Innovation is responsible for adopting and revising the State General Plan Guidelines for the preparation and content of general plans for all cities and counties in California. A core component of the General Plan is the Safety Element which is focused on reducing the "potential short and long-term risk of death, injuries, property damage, and economic and social dislocation resulting from fires, floods, droughts, earthquakes, landslides, climate change, and other hazards". The updated plan will be released in 2027.
- The Department of Public Health's Guide to Health Equity-Centered Local Heat Planning is intended to assist local jurisdictions with incorporating health equity into new or existing heat action and planning efforts. Strategies or elements from the guide can comprise a new or updated stand-alone heat plan or be incorporated into Local Hazard Mitigation Plan updates, Climate Action and Adaptation Plans, General Plan Safety Elements or Public Health Emergency Preparedness Plans.

  Agencies: Governor's Office of Emergency Services | Governor's Office of Land Use and Climate Innovation | Health and Human Services Agency; Department of Public Health

TRACK B - GOAL 3, E2: Maintain and update a comprehensive Adaptation Clearinghouse, including resources to support local, regional, and tribal heat planning activities.

- The Governor's Office of Land Use and Climate Innovation maintains the State Adaptation Clearinghouse, which is a comprehensive, searchable database of resources to support local, regional, and statewide climate adaptation planning and decision-making.

  Agency: Governor's Office of Land Use and Climate Innovation

TRACK B - GOAL 3, E3: Assure the continuity of operations, care, and health and safety of patients/residents and workforce at licensed facilities during heat-related events.

- During a heat-related emergency, the Department of Public Health's Licensing and Certification Program's response activities include advising health care facilities on caring for patients/residents during extreme heat conditions, monitoring of heat-related occurrences reported by health care facilities until resolved, and investigation of patient/resident heat-related complaints.

  Agency: Health and Human Services Agency; Department of Public Health

TRACK B - GOAL 3, E4: Support grants to local, regional, and tribal governments, and community-based organizations for climate adaptation, resource management, and resilience planning activities.

- The Governor's Office of Land Use and Climate Innovation's Adaptation Planning Grant Program provides funding to help fill local, regional, and tribal planning needs, provides communities with the resources to identify climate resilience priorities, and supports the development of a pipeline of climate resilient infrastructure projects across the state.
- The Regional Climate Collaboratives Initiative, managed by the Strategic Growth Council, enables community-rooted and cross-sectoral partners to deepen their relationships and develop the processes, plans, and projects that will drive and sustain climate action.
- The Strategic Growth Council's Tribal Capacity Building Program provides funding and technical assistance to California Native American tribes, enhancing their staff capacity to advance tribes' climate-related work. The goal of the Pilot Program is to help tribes develop long-term capacity to secure funding and implement tribal-led climate solutions.
- The Coachella Valley Mountains Conservancy funds the Living Desert's Native American Conservation Workforce Development Program, providing paid conservation internships for Tribal members across the Coachella Valley, incorporating both Western science and Traditional Ecological Knowledge[8] to build climate resilience on Tribal lands.
- Through California's Fifth Climate Change Assessment Tribal Research Grant Program, the state is investing in tribally led climate change research initiatives. This effort is supported by a collaborative multi-agency team to leverage existing expertise and roles across state agencies, including the Governor's Office of Planning and Research, California Natural Resources Agency, California Energy Commission, and California Strategic Growth Council.

  Agencies: Governor's Office of Land Use and Climate Innovation | Strategic Growth Council | Natural Resources Agency; Coachella Valley Mountains Conservancy; Energy Commission

8 Tribal stewardship expertise, commonly referred to as Traditional Knowledge or Traditional Ecological Knowledge, blends the complexity of hunting and gathering knowledge, study of biology, and keen attention to environmental cues and microclimate variations with active cultural, ceremonial, and management practices to live in close relation to the lands and waters; California Natural Resources Agency. (March, 2026). *Tribal Stewardship Policy*. https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Tribal-Affairs/Tribal-Stewardship-Policy.pdf

TRACK B - GOAL 3, E5: Facilitate an Extreme Heat and Community Resilience Program to coordinate state efforts and support local and regional heat adaptation efforts.

- The Governor's Office of Land Use and Climate Innovation's Extreme Heat and Community Resilience Program funds and supports local, regional, and tribal efforts to reduce the impacts of extreme heat. The Program also supports the state's efforts to address extreme heat and the urban heat island effect.

  Agency: Governor's Office of Land Use and Climate Innovation

TRACK B - GOAL 3, E6: Support the development of local and tribal heat action plans that include a broad suite of actions to reduce the ambient temperature to counteract the Urban Heat Island effect and reduce risks during extreme heat events.

Agencies: Governor's Office of Land Use and Climate Innovation | Strategic Growth Council

TRACK B - GOAL 3, E7: Provide guidance and technical assistance to local health departments, tribal health programs, and community-based organizations to develop local and regional climate change and health strategies and actions.

- The Department of Public Health's Climate Change and Health Equity Branch convenes a community of practice of local health department staff to share resources, strategies, and build skills to advance climate action.
- The Department of Public Health provides climate and health equity technical assistance to tribes, resulting in projects like the Pala Band of Mission Indians' Tribal Heat Mitigation Strategy and Tribal Heat Mitigation Planning Starter Kit.

  Agency: Health and Human Services Agency; Department of Public Health

TRACK B – GOAL 3, E8: Require licensed health care facilities to have contingency plans in place to quickly address loss of power during extreme heat events to protect children, seniors, and people with disabilities in their care.

- Under Title 22 of the California Code of Regulations, licensed health care facilities must ensure that patients and residents are protected from heat-related health risks during power outages or when air conditioning is unavailable.

  Agency: Health and Human Services Agency; Department of Public Health

TRACK B – GOAL 3, E9: Maintain existing health guidance as well as develop new resources and collaborations to address emerging needs and specific heat health harms (i.e., infant and child health, heat and substance use, etc.).

- The Department of Public Health has various health resources and guidance related to extreme heat, including population-specific information like the Safe Pregnancies in Extreme Heat webpage.

  Agency: Health and Human Services Agency; Department of Public Health

TRACK B – GOAL 3, E10: Support local governments and tribes in installing hydration stations to increase access to water for vulnerable populations in public spaces.

- The Strategic Growth Council's Community Resilience Centers Program is funding local governments and community-based organizations to install hydration stations in resilience center campuses.

  Agencies: Governor's Office of Land Use and Climate Innovation | Strategic Growth Council

TRACK B – GOAL 3, E11: Support California communities in developing disaster preparedness plans that incorporate extreme heat and are more inclusive of the needs of people experiencing homelessness.

- The California Interagency Council on Homelessness has created the Homeless Emergency and Active Readiness Toolkit (HEART), which provides a framework to help local jurisdictions in California improve coordination between emergency planning and response agencies and homelessness response systems. Its goal is to ensure that local emergency planning and response efforts effectively address the needs of people experiencing homelessness, particularly people experiencing unsheltered homelessness. The toolkit offers resources and tools to support both emergency planning and homelessness response agencies in incorporating these needs more comprehensively into disaster planning efforts.

  Agencies: California Housing and Homelessness Agency; Housing and Community Development; California Interagency Council on Homelessness | Health and Human Services Agency; Department of Public Health, Department of Social Services | Governor's Office of Emergency Services | Governor's Office of Land Use and Climate Innovation

Recommended Actions

TRACK B - GOAL 3, R1: Support local jurisdictions in integrating extreme heat adaptation strategies into Local Coastal Plans.

- Develop guidance for updating local coastal programs to increase climate change resilience and sustainability along the coast, including by addressing extreme heat through land use and building measures such as green building design, smart growth and planting trees/landscaping that reduce the impacts, occurrence, and severity of extreme heat events.
- Assist local governments in updating local coastal programs and processing permits for climate change resilience and sustainability plans and projects that address extreme heat.

Agency: Natural Resources Agency; Coastal Commission

TRACK B - GOAL 3, R2: Work with tribal and local governments, and community-based organizations to bolster protections for unhoused populations during extreme heat events.

- Coordinate with tribal and local governments on climate action and adaptation plans to incorporate strategies on how to aid unhoused populations during extreme heat events.
- Support training for first responders to help them anticipate the variety of illnesses (not limited to heat illnesses like heat stroke or dehydration) that are associated with excess heat, including mental health and cognitive impacts, in addition to training on effects of heat with certain medications.
- Work with local governments and Continuums of Care to support community-level plans supporting people who are medically vulnerable, including providing access to resilience centers and/or cooling centers in the event of power shutoffs.

Agencies: Environmental Protection Agency; Office of Environmental Health Hazard Assessment | Health and Human Services Agency; Department of Social Services, Department of Public Health | Governor's Office of Emergency Services

TRACK B - GOAL 3, R3: Collaborate with health agencies, care systems, and climate-health organizations to support planning efforts that protect patient health, safety, and service continuity in the face of increasing global temperatures.

Agency: Health and Human Services Agency; Department of Public Health, Emergency Medical Services Authority, Department of Health Care Services

TRACK B – GOAL 3, R4: Conduct outreach and engagement with coroners to improve documentation of heat as a contributing or leading cause of death.

Agency: Health and Human Services Agency; Department of Public Health

TRACK B - GOAL 3, R5: Support behavioral interventions, including conducting outreach and engagement with hospitals and medical clinics, to improve clinical evaluation protocols for patients experiencing heat-illness and heat stroke.

Agency: Health and Human Services Agency; Department of Health Care Services, Department of Public Health

TRACK B - GOAL 3, R6: Convene an interagency state working group that facilitates opportunities for a more coordinated, effective approach to extreme heat through the Integrated Climate Adaptation and Resiliency Program Extreme Heat and Community Resilience Program.

- Coordinate periodic inventories of the state's efforts to adapt to extreme heat and update California's Extreme Heat Action Plan as part of the update to the state's Climate Adaptation Strategy.

  Agency: Governor's Office of Land Use and Climate Innovation in partnership with relevant agencies.

CASE STUDY:

Worker HEAT (Heat Effects and Tracking) Program, Occupational Health Branch (OHB), Center for Healthy Communities

Lead Agency: California Department of Public Health

Partners and Collaborators: Riverside University Health System, UCLA's Labor Occupational Safety and Health Program, County of Monterey Health Department, UC Berkeley's Labor and Occupational Health Program, and the UC Davis Western Center for Agricultural Health and Safety.

Purpose of Program: Protect California's workers from the dangerous effects of heat.

Impact of Program: The Worker HEAT program set out to understand how heat affects workers and to provide workplaces with the tools to reduce the associated health risks. The team produced clear, accessible data briefs on occupational heat-related illness (HRI), including key findings of emergency department visits from 2016 – 2023 and an analysis of workers' compensation claims from 2000 – 2022. The program also elevated worker voices in health equity and climate initiatives.

In addition, Worker HEAT provided critical outreach funds to the Riverside University Health System and the County of Monterey Health Department to spotlight local trends. This investment strengthened syndromic surveillance capacity, enabling real-time detection of emerging heat-illness patterns.

Moreover, the heat team partnered with three University of California worker centers—UCLA, UC Berkeley, and UC Davis—to bring heat illness prevention and worker rights education to workers directly. Together, they engaged roughly 4,300 workers and advocates, boosting awareness of HRI and worker-protection regulations in California.

Website Link: Worker Heat Effects and Tracking (HEAT) Program

Training Materials for Agricultural Employers and Workers: Heat Prevention Training Materials

Multilingual Materials: Visit Campo Seguro

Community health worker training to prevent heat illness.

Destination Crenshaw incorporates heat infrastructure and climate resilience into its design to alleviate the urban heat island effect along the Crenshaw corridor in Los Angeles.

ACTION TRACK C: INCREASE RESILIENCE OF OUR BUILT ENVIRONMENT

INTRODUCTION

Extreme heat impacts California's built environment and the critical infrastructure systems that communities rely on every day including transportation, energy, and food systems. During extreme heat events, these systems are also essential for emergency response and public safety. As temperatures increase and heatwaves become more frequent and severe, disruptions and failures across infrastructure systems can compound risks. Strengthening critical infrastructure and investing in heat resilient communities can reduce vulnerabilities, improve emergency response, and better protect public health during extreme heat events.

This track includes actions focused on a variety of infrastructure solutions including active and passive cooling of buildings, grid hardening through covered conductor and undergrounding of energy infrastructure, targeted and strategic use of microgrid solutions to help communities maintain power during extreme heat events, and use of cool materials to reduce the impact of the urban heat island effect.

This track is organized around four goals:

- GOAL 1: Protect critical infrastructure.
- GOAL 2: Support heat resilient and cooler communities through relevant regulations and codes.
- GOAL 3: Invest in cool buildings and surfaces.
- GOAL 4: Utilize science-based frameworks and tools.

The Public Utility Commission's Energy Efficiency team works with UC Santa Barbara on an HVAC Energy Efficiency project.

GOAL 1: PROTECT CRITICAL INFRASTRUCTURE

The actions within this goal focus on increasing the resilience of energy, food, and transportation systems to extreme heat events.

Established Actions

TRACK C - GOAL 1, E1: Protect energy systems from the impacts of extreme heat.

- The Public Utilities Commission continues to assess the impact of extreme heat and other climate impacts to utility infrastructure and addresses the need to protect energy supplies to essential services across several rulemakings and programmatic activities, including:
    - The Climate Adaptation Program, which calls for climate vulnerability assessments every three years from California's three large energy utilities. The Climate Adaptation Vulnerability Assessment (CAVA) process examines the vulnerability of electric and gas infrastructure and operations to extreme weather, including extreme heat. The vulnerability assessments focus on underserved communities as well as critical infrastructure when providing plans for potential mitigation efforts.
    - The Microgrid Incentive Program provides $200 million for microgrid development in vulnerable and underserved communities in California. The program is currently being implemented and the second and final round of funding will be authorized in 2026.

- Previous Public Utilities Commission decisions require utilities to identify risks associated with utility infrastructure, such as an increasing frequency of heatwaves, and to propose investments to mitigate those risks. For example, rising temperatures and an increased frequency of heatwaves may require changes to the type of electrical equipment utilities purchase and install to keep the grid running, or how that equipment is maintained, to maintain an acceptable level of reliability.

Agencies: Natural Resources Agency; Energy Commission | Public Utilities Commission | Governor's Office of Land Use and Climate Innovation

TRACK C - GOAL 1, E2: Increase energy resilience during extreme heat events.

- The Joint Agency Root Cause Analysis (2021) and Summer 2023, 2024, and 2025 Reliability Analysis identified potential improvements for grid reliability in extreme heat events, some of which have been completed, while others are in process. Examples of these improvements include but are not limited to the following:
    - The Public Utilities Commission is tracking progress on generation and battery storage projects that are currently under construction in California to address any Commission-related barriers and to assess the impacts of supply chain and trade issues that are affecting identified online dates. Since 2020, the Public Utilities Commission has driven the buildout of over 31,000 MW of new electric resources. Over 22,000MW of new electric resources are under contract and in development pursuant to the Public Utilities Commission's orders.
    - The Independent System Operator, Public Utilities Commission, and Energy Commission have developed contingency measures and communication protocols to better coordinate their responses to future grid challenges resulting from extreme heat events.
- The Public Utilities Commission's 2021 emergency reliability proceeding resulted in increases in "reserve margin" resources, which increased reliability when demand is higher than predicted and/or there are system disruptions. The proceeding also resulted in the Emergency Load Reduction Program, a voluntary program that pays customers who reduce their electricity demand in the event of a grid reliability event. This program provides the state's investor-owned utilities and the Independent System Operator an additional tool to rely on when there is increased demand during extreme heat events that also coincide with electric grid emergencies.
- The Public Utilities Commission has directed utilities to ensure new strategically placed utility-scale microgrids can make resources available to the grid to avoid outages, as well as authorized several demand-side

measures to reduce electricity demand during times of high grid stress. These utility-scale microgrids came online in SDG&E territory in 2024.

- The Public Utilities Commission has prohibited large electric utilities from disconnecting residential customers when temperatures are above 100 degrees based on a 72-hour look-ahead period.
- The Public Utilities Commission oversees the utilities' preparation for and execution of Public Safety Power Shutoffs (PSPS) events. In September 2023, the Public Utilities Commission established the PSPS Citation Program which provides Commission staff with a tool to swiftly cite utilities for lack of compliance with PSPS guidelines. The program encourages complete and timely compliance with the PSPS guidelines and deter violations.
- The Governor's Office of Emergency Services supports emergency management integration related to power outage conditions, including partnering on Public Safety Power Shutoffs and supporting coordination and information-sharing during outages that elevate health and safety risks during extreme heat.
- The Governor's Office of Emergency Services supports integration across critical infrastructure lifelines and emergency management for grid resilience during extreme heat, including participation by their Homeland Security Division/Critical Infrastructure Protection team in the Independent System Operator's California Electricity Resiliency Group to share threat and hazard information and address interdependencies that can affect electricity reliability during extreme heat events.

Agencies: Natural Resources Agency; Energy Commission | Public Utilities Commission | Governor's Office of Land Use and Climate Innovation | Governor's Office of Emergency Services

TRACK C - GOAL 1, E3: Support communities seeking to invest in heat-resilient transportation infrastructure.

- The Department of Transportation's Sustainable Transportation Planning Grant Program awarded $50 million in Climate Adaptation Planning Grants to local, regional, and tribal partners to plan for climate change impacts in their communities including but not limited to extreme heat.
- The High-Speed Rail Authority collaborates with communities and stakeholders regarding climate-resilient station area planning. Planning for station site design work includes collaboration with surrounding communities on the use of the station facilities and designs that minimize heat/maximize shading, as well as active transportation access to the station.

- The Department of Transportation partners with UC Davis to support research related to reducing the urban heat island through cool pavements and supports localities seeking to adopt cool pavement technology.

  Agencies: State Transportation Agency; Department of Transportation, High-Speed Rail Authority | Strategic Growth Council

TRACK C - GOAL 1, E4: Address food system vulnerabilities to extreme heat.

- The Department of Food and Agriculture is working to increase adoption of climate smart agriculture practices that improve crops' resilience to extreme heat.
- The Department of Food and Agriculture is working to increase capacity for the disposal of livestock and poultry carcasses during extreme heat event through A.B. 411: The Caring About The Terrain, Livestock, and Ecosystems (C.A.T.T.L.E) Act, which legalized the small-scale composting of livestock carcasses on-farm.

  Agency: Department of Food and Agriculture

TRACK C - GOAL 1, E5: Identify relevant heat-related risks to the state's fish hatcheries and upgrade facilities accordingly to operate efficiently under extreme heat and drought conditions while protecting vulnerable fish populations; provide support for tribal hatcheries seeking to undertake these actions.

- The California Department of Fish and Wildlife is updating incubation and rearing enclosures, and water treatment and monitoring systems to many of the state's over 80-year-old hatcheries to be resilient to climate-change, warming temperatures, and drier conditions for recreational and conservation hatchery production programs.

  Agency: Natural Resources Agency; Department of Fish and Wildlife

TRACK C - GOAL 1, E6: Utilize demand forecasts to prepare energy systems for heat and other weather-related extremes.

- The Energy Commission improves the state's energy demand forecast to better reflect the impacts of a changing climate on demand by incorporating newly available climate change data.

  Agency: Natural Resources Agency; Energy Commission

TRACK C - GOAL 1, E7: Protect and secure energy infrastructure on state lands.

- The Public Utilities Commission requires clearances around utility poles and wires as part of Public Utilities Commission General Order 95, thereby mandating utilities do vegetation management around their assets within the state.

  Agencies: Natural Resources Agency; State Lands Commission, Department of Forestry and Fire Protection, Office of Energy Infrastructure Safety, California Energy Commission | Public Utilities Commission

Recommended Actions

TRACK C - GOAL 1, R1: Support the development, protection, and security of energy infrastructure on tribal lands.

- Utilities are required to maintain infrastructure and related vegetation if their infrastructure goes through tribal lands. Process and procedures for entering tribal lands and maintaining infrastructure shall be agreed upon with the tribe. This can be accomplished through written agreements or written terms in rights-of-way.

  Agencies: Natural Resources Agency; California Energy Commission, Office of Energy Infrastructure Safety | Public Utilities Commission | Governor's Office of Land Use and Climate Innovation | Strategic Growth Council

Track C - Goal 1, R2: Implement alternate methods for the disposal of livestock and poultry carcasses during extreme heat events to avoid overwhelming critical rendering infrastructure, when possible.

Agencies: Department of Food and Agriculture | Environmental Protection Agency; Department of Resources Recycling and Recovery, California Air Resources Board, State Water Resources Control Board | Governor's Office of Emergency Services

Homeowners in East Porterville receive water through a distribution system designed by the California Department of Water Resources. Credit: Florence Low, California Department of Water Resources.

GOAL 2: SUPPORT HEAT RESILIENT AND COOLER COMMUNITIES THROUGH RELEVANT REGULATIONS AND CODES

The actions within this goal focus on supporting policies aimed at ensuring access to cool spaces, including for populations and communities most vulnerable to extreme heat.

Established Actions

TRACK C - GOAL 2, E1: Review and incorporate changes as appropriate to state and local regulations, industry practices for buildings, and land use and design elements to identify opportunities to accelerate the adoption of cooling strategies for both indoor and outdoor environments.

- The Governor's Office of Land Use and Climate Innovation provides technical assistance to local governments to support Senate Bill 379 (Jackson, 2015) implementation, which requires cities and counties to update their safety elements to address climate adaptation and resiliency strategies applicable to their jurisdiction.
- The California Green Building Standards Code, Title 24, Part 11 of the California Code of Regulations (CALGreen) includes measures that help mitigate the health risks of extreme heat events in the built environment.

Agencies: Government Operations Agency; Building Standards Commission | Natural Resources Agency | Governor's Office of Land Use and Climate Innovation | Environmental Protection Agency; California Air Resources Board | Health and Human Services Agency; Department of Public Health | California Housing and Homelessness Agency; Housing and Community Development

TRACK C - GOAL 2, E2: Improve access to indoor cooling options, including air conditioning, passive cooling, and other energy-efficient, low-cost methods that avoid high global warming potential refrigerants. Identify and address barriers that prevent vulnerable populations from using these cooling strategies.

- The Department of Public Health administers the Community Health Workers, Healthy Homes and Healthy Families Pilot Program in Tulare County. Community health workers help patients access energy-saving and weatherization services that reduce exposure to heat, wildfire smoke, and air pollution to improve health and comfort at home.
- The Public Utilities Commission's Extreme Weather Rulemaking reinstated Flex Alert funding in 2020. This funding supports a statewide media campaign that improves consumers' awareness about energy use during peak hours and helps safeguard grid stability during extreme heat events. The Public Utilities Commission is considering extending funding through the end of 2026 in its Demand Response rulemaking (R.25-09-004).
- The Public Utilities Commission's Decision D.16-11-022 directed the three large electric utilities to include funding for cooling centers in their General Rate Cases. These cooling center locations include government-run senior centers, community centers, parks and recreation sites, and public buildings. The funding is approximately $200,000 per year to support 400 cooling centers across the state within the large electric utilities' jurisdictions.
- The Energy Commission's Research and Development programs fund several active projects that focus on improving building envelope performance in both new constructions and retrofit situations. Envelope improvements can reduce heating and air condition use in homes. The projects build on completed research projects that promote cool surfaces and technologies, focus on reducing actions that increase heat risk and reduce indoor heat exposure, and increase load flexible buildings to mitigate extreme heat.
- The Strategic Growth Council's Community Resilience Centers Program provides funding for tribes, local governments, and community-based organizations to construct and retrofit community resilience centers, which can act as cooling centers during extreme heat events.

Agencies: Health and Human Services Agency; Department of Public Health | California Housing and Homelessness Agency; Housing and Community Development | Natural Resources Agency; Energy Commission | Public Utilities Commission | Governor's Office of Emergency Services | Environmental Protection Agency; California Air Resources Board

TRACK C - GOAL 2, E3: Support local governments with the integration of extreme heat mitigation actions in general plan and housing element updates.

- The Governor's Office of Land Use and Climate Innovation, in partnership with the Department of Housing and Community Development, produced Integration Concepts for General Plan Updates or Other Local Planning Activities in 2020. This outlines concepts for integrating various policy topics and new requirements into General Plan updates, housing element updates, or other local planning updates. This Technical Advisory highlights the importance of extreme heat mitigation for housing in vulnerable communities.
- The Department of Housing and Community Development continues to support local governments in designing and implementing programs through their housing elements, including programs seeking to mitigate the impacts of extreme heat events. Efforts currently in progress by local jurisdictions include: installation of bus shelters; tree planting initiatives to reduce heat islands and encourage active transportation; resources for home retrofits and energy upgrades that increase efficiency during extreme heat events; emergency shelters and cooling centers.

Agencies: Governor's Office of Land Use and Climate Innovation | California Housing and Homelessness Agency; Housing and Community Development

TRACK C - GOAL 2, E4: Support regional sustainable communities' strategies, including the mitigation of urban heat island effect through the Sustainable Transportation Planning Grants Program. Extreme heat mitigation planning activities are included in these grants at the discretion of the applicant in their planning efforts, for instance as part of a comprehensive adaptation plan or sustainable mobility plan.

- The Department of Transportation's Sustainable Transportation Planning Grant Program awarded $50 million in Climate Adaptation Planning Grants to local, regional, and tribal partners to plan for climate change impacts in their communities including but not limited to extreme heat.

Agency: State Transportation Agency; Department of Transportation

TRACK C - GOAL 2, E5: Drive residential heat resilience through building code updates.

- The 2025 California Green Building Standards Code (CALGreen) includes voluntary measures for both residential and non-residential projects, including options to reduce the heat island effect of roofs, sidewalks, patios, driveways, and parking lots. Voluntary measures can be adopted by local jurisdictions to strengthen their building codes.

- The 2022 Energy Code Update encourages the installation of highly efficient electric heat pumps as a baseline technology. Heat pump heating, ventilation, and air conditioning equipment provide an affordable cooling option that also reduces harmful air pollution associated with gas usage. The 2022 Energy Code Update also expands the solar and battery storage standards to certain building types. Battery storage coupled with solar can be a resilience strategy for vulnerable Californians.

  Agencies: Government Operations Agency; Building Standards Commission | Natural Resources Agency; Energy Commission

TRACK C - GOAL 2, E6: Support indoor living and caretaking facilities for vulnerable populations, such as aging and disabled populations, infants, and children.

- The Department of Social Services' Residential Care Facilities for the Elderly Manual of Policies and Procedures mandates that Residential Care Facilities for the Elderly and Continuing Care Retirement Communities have minimum and maximum temperature thresholds and allow residents to adjust temperature.
- The Department of Public Health's Center for Health Care Quality enforces state and federal regulations to keep Skilled Nursing Facilities and other healthcare facilities at a comfortable and safe temperature.
- The Department of Social Services Community Care Licensing Division regulates inspections on childcare facilities licensed by the Division. These facilities must maintain minimum and maximum temperatures in indoor rooms.
- The Department of Aging supports senior centers, adult day programs, and long-term care facilities by consistently sharing practical emergency preparedness tools, trainings, and reminders so they can keep older adults and people with disabilities safe indoors during extreme heat, PSPS, and other events.
- The Department of Aging works closely with the Ombudsman Program to flag facility needs during emergencies and help ensure residents remain safe, connected, and supported when indoor conditions become a concern.

  Agency: Health and Human Services Agency; Department of Social Services, Department of Public Health, Department of Aging

TRACK C - GOAL 2, E7: Bolster correctional facilities' resilience to extreme heat events.

- The Department of Corrections and Rehabilitation requires that all facilities have a heat plan protocol to help reduce the harm to staff and incarcerated populations from extreme conditions.
- The Department of Corrections and Rehabilitation has initiated a trial program in support of its statewide Heat Plan, which will automate temperature readings and replace the current manual process.
- The Department of Corrections and Rehabilitation has begun an Air-Cooling Pilot project at several facilities. The results of the pilot are anticipated in Fiscal Year 2028-2029.

Agency: Government Operations Agency; Department of Corrections and Rehabilitation

TRACK C - GOAL 2, E8: Support climate-smart planning in heat-vulnerable schools.

- The Department of Public Health maintains guidance to support schools in protecting students and athletes from extreme heat.
- The Department of Public Health disseminates resources, training and grants to school-based partners to support climate-resilient schools.
- The Department of Forestry and Fire Protection is partnering with organizations such as Green Schoolyards America to understand canopy equity on schoolgrounds. The Department of Forestry and Fire Protection and the US Forest Service are partnering on analysis of the efficacy of urban heat interventions such as green roofs, reflective paint, or trees, with preliminary findings revealing that trees provide the most significant temperature reductions and are the most cost effective (of the interventions studied). Another analysis between the Department of Forestry and Fire Protection and the US Forest Service is exploring processes, barriers, and efficacy of green schoolyards projects. Temperature readings are being taken before, during installation, and following the Department of Forestry and Fire Protection's green schoolyards grants.
- The Division of the State Architect worked with the Department of Forestry and Fire Protection to address regulatory obstacles in greening campuses through their Green Schoolyards Grants.
- The Department of Education holds quarterly coordination meetings with County Offices of Education on emergency management topics, including extreme weather events. The Emergency Service Team also shares training opportunities and encourages districts to maintain emergency response plans for multiple weather hazards.

- The Division of the State Architect is involved in several activities to support heat-resilient, climate-smart planning in schools, including:
    - Providing cursory reviews for access compliance and prioritization of elements that increased accessibility of the green areas and supporting areas.
    - Partnering with the Office of Public School Construction to provide a metric for applying and securing state energy efficiency grants, which help build heat resilience through projects such as campus greening.
    - Establishing Regional Sustainability Architects to assist schools in project sustainability planning early in the project development process.

Agencies: Government Operations Agency; Department of General Services Division of the State Architect | Department of Education | Natural Resources Agency; Department of Forestry and Fire Protection | Governor's Office of Land Use and Climate Innovation | Health and Human Services Agency; Department of Public Health

TRACK C - GOAL 2, E9: Review and incorporate land use considerations, design elements, building codes, best practices, and other available resources to identify opportunities that accelerate the adoption of cooling strategies.

Agencies: California Housing and Homelessness Agency; Housing and Community Development | Government Operations Agency; Building Standards Commission, Division of the State Architect | Department of Education

Recommended Actions

TRACK C - GOAL 2, R1: Consider allowing or requiring HVAC systems to be designed and installed to meet higher design temperatures aligning with projected future temperatures from climate modeling, rather than historic temperatures.

- This would require the Energy Commission to, through the Energy Code, require HVAC equipment in buildings to be designed and installed to provide sufficient cooling for public health during extreme heat events.

Agencies: Natural Resources Agency; Energy Commission

TRACK C - GOAL 2, R2: Administer and support enforcement of the California Green Building Standards Code (CALGreen).

- Promote building standards that integrate design features such as water efficiency and conservation, air quality, sustainable or cooling materials, and other measures which mitigate the urban heat island effect.

- Work with local building officials to help ensure housing development and construction are compliant with CALGreen to mitigate the health risks of extreme heat events in residential housing.
- Energy efficiency related updates to the California Green Building Standards Code were adopted by the Energy Commission in September 2024 and were approved by the California Building Standards Commission in December 2024.

  Agencies: California Housing and Homelessness Agency; Housing and Community Development | Natural Resources Agency; Energy Commission

TRACK C - GOAL 2, R3: Advise partners on opportunities to increase heat resilience in collaborative projects within both the built and natural environment.

- The California Natural Resources Agency will work with partners across all regions and many sectors to address extreme heat impacts through efforts such as the expansion of habitat and refugia for vulnerable species, reducing risks to residents and workers through energy efficiency programs, and increasing tree canopy cover in urban areas by 10 percent by 2035.

  Agency: Natural Resources Agency and all relevant Departments, Conservancies, Commissions, and Boards

TRACK C - GOAL 2, R4: Implement residential air temperature requirements.

- AB 209 (CA Assembly Budget Committee, 2022) requires the California Department of Housing and Community Development to recommend maximum safe indoor air temperature standards for residential dwellings by January 1, 2025, to address extreme heat. All relevant state agencies are required to consider this state policy when revising, adopting, or establishing policies, programs, and criteria, including grant criteria, that are relevant to achieving the state policy, beginning January 1, 2027.

  Agencies: California Housing and Homelessness Agency; Housing and Community Development | Natural Resources Agency; Energy Commission | Government Operations Agency; Building Standards Commission | Health and Human Services

TRACK C - GOAL 2, R5: Support installation of high-performance envelopes and heat pump HVAC equipment in all buildings, particularly at designated heat shelter facilities in tribal communities and communities most vulnerable to extreme heat events.

- The 2025 update to the Energy Code encouraged heat pumps for space and water heating in most new buildings, and required more efficient systems, including heat pumps, in some alteration projects in existing non-residential buildings. The update also encouraged automation of electric loads to be flexible.
- The Public Utilities Commission is undertaking work on a new Energy Efficiency rulemaking, which opened in April 2025, and evaluating new Energy Efficiency and Energy Savings Assistance program applications from the utilities, which will include evaluation of weatherization programs that are energy and cost efficient and can help support customers experiencing extreme heat and air pollution. This includes incentives for HVAC.

  Agencies: Natural Resources Agency; Energy Commission | Public Utilities Commission

TRACK C - GOAL 2, R6: Explore implementation of indoor and outdoor heat exposure rules for schools.

- New legislation, SB 1248 (Hurtado, 2024), requires the Department of Education to provide statewide guidance for outdoor activities during all extreme weather events. This guidance was released on December 19, 2025, and is available on the California Department of Education website.

  Agencies: Department of Education | Government Operations Agency; Building Standards Commission | Natural Resources Agency; Energy Commission

Shade structure installed by Kounkuey Design Initiative in the Coachella Valley, with funding through the state's Adaptation Planning Grant Program.

GOAL 3: INVEST IN COOL BUILDINGS AND SURFACES

The actions within this goal focus on implementing the use of technologies that cool indoor spaces and reduce the impacts of the urban heat island effect.

Established Actions

TRACK C - GOAL 3, E1: Examine and expand the use of cool, porous, or sustainable materials in pavement.

- The California Green Buildings Standards Code includes voluntary code Section A5.106.11.1: hardscape alternatives, that has strategies for site hardscape alternatives and references American Society for Testing and Materials E1918 or C1549. Once the Department of Transportation completes the standard specification for sustainable or cool pavements pursuant to AB 296 (Skinner, 2012), the Building Standards Commission will consider it for adoption in CALGreen. This could mandate standard specifications for cool or sustainable pavements developed by the Department of Transportation or the Department of General Services, and provide updates for urban greening, hardscape standards, or cool roofs.
- The California Department of Transportation developed the Sustainable Pavement Ideas Repository to provide science-based sustainable pavement guidance.

Agencies: Governor's Office of Land Use and Climate Innovation | Government Operations Agency; Department of General Services, Building Standards Commission | Environmental Protection Agency | California Housing and Homelessness Agency; Housing and Community Development | California State Transportation Agency; Department of Transportation

TRACK C - GOAL 3, E2: Support communities in expanding energy assurance.

- The Department of Community Services and Development's Low-Income Weatherization Program invests in low-income households to provide weatherization services that can protect from extreme heat, and energy efficiency services to enable more affordable and effective cooling (including HVAC, heat pumps, and solar photovoltaic system upgrades).
- The Department of Community Services and Development's Low-Income Home Energy Assistance Program provides low-income households financial assistance to meet immediate residential heating and/or cooling needs. The program also provides HVAC repair and replacement, and weatherization services that address energy efficiency and health and safety.
- The Conservation Corps' Energy Corps Program provides free energy surveys and retrofits for schools and public agencies, including ventilation and air conditioning.
- The Conservation Corps' Training and Workforce Development Program funds energy efficiency projects that provide hands-on training resulting in job skills and work experience to launch meaningful careers.
- The Public Utilities Commission's Energy Savings Assistance Program funds residential retrofits to improve the health, comfort, and safety of low-income customers.

Agencies: Health and Human Services Agency; Department of Community Services and Development | Natural Resources Agency; Conservation Corps | Strategic Growth Council | Governor's Office of Land Use and Climate Innovation

TRACK C - GOAL 3, E3: Provide funding for additional heat pump HVAC equipment to low-income Californians as part of the Technology and Equipment for Cool Heating (TECH) Initiative.

- The Public Utilities Commission launched TECH Clean California, an initiative to accelerate the adoption of low-emissions heat pump technology for residential projects.

Agency: Public Utilities Commission

TRACK C – GOAL 3, E4: Support local governments, tribes, and community organizations in employing cooling infrastructure in parks and public spaces including ramadas, splash pads, and hydrations stations in order to provide Californians with additional shade and cooling amenities.

- The Governor's Office of Land Use and Climate Innovation's Extreme Heat and Community Resilience Program is funding various local governments, tribes, and community organizations to implement cooling infrastructure projects.
- The Strategic Growth Council's Community Resilience Centers Program is funding local governments and community-based organizations to include cooling amenities on resilience center campuses.

Agencies: Governor's Office of Land Use and Climate Innovation | Strategic Growth Council

TRACK C – GOAL 3, E5: Support local governments, tribes and community organizations in increasing the use of mechanical shade structures including shade sails and structural shade installations to create cooler environments in right of ways, parks and other public spaces.

- The Governor's Office of Land Use and Climate Innovation's Extreme Heat and Community Resilience Program is funding various local governments and community-based organizations to install shade structure in parks and other public spaces.
- The Strategic Growth Council's Community Resilience Centers Program is funding local governments and community-based organizations to install shade structures in public spaces adjacent to resilience centers.

Agencies: Governor's Office of Land Use and Climate Innovation | Strategic Growth Council

Recommended Actions

TRACK C - GOAL 3, R1: Develop and implement a program to accelerate protection of low-income households in underserved communities across the state that are impacted by extreme heat.

- Provide for the direct installation of new heat pump HVAC equipment and retrofits of existing air-conditioning systems, and complementary efficiency measures, in existing residential single family or multifamily buildings. Work directly with existing local and statewide affordable housing providers, tribal governments and tribal designated housing entities. The direct install approach will facilitate quick program roll-out and the ability to leverage installation infrastructure already in place for a variety of local, regional, and statewide programs.
- Support development, demonstration, and deployment of accessible cooling technologies such as heat pumps in coordination with the Electric Program Investment Charge and Emerging Technology programs.

Agencies: Natural Resources Agency; Energy Commission | Public Utilities Commission | Environmental Protection Agency; California Air Resources Board | Housing and Financing Agency | Health and Human Services Agency; Department of Community Services and Development | California Housing and Homelessness Agency; Housing and Community Development

TRACK C - GOAL 3, R2: Assess and address the unique outdoor water needs for extreme heat events at institutions such as schools and other community gathering places.

- When implementing the Conservation as a Way of Life regulation, work with water agencies to ensure the unique watering needs of trees and recreational areas are accounted for.
- Support Model Water Efficient Landscape Ordinance implementation and offer technical assistance to tribal governments seeking to adopt similar ordinances. The Model Water Efficient Landscape Ordinance was created as a model for local agencies to enforce minimum standards in landscape design, construction, and management. It achieves this through specific requirements related to soil, plants, irrigation, stormwater, and non-potable water supplies.
- Better understand the tradeoffs of artificial turf compared to grass and other planted groundcover and ensure that guidelines and funding allow for the appropriate application for site specific needs and conditions.

Agencies: Environmental Protection Agency; State Water Resources Control Board | Natural Resources Agency; Department of Water Resources, Department of Forestry and Fire Protection | State Transportation Agency; High-Speed Rail Authority

TRACK C - GOAL 3, R3: Provide funding for external awnings, in coordination with the Electric Program Investment Charge and Emerging Technology Programs.

- Awnings can reduce heat impacts at a relatively low cost, reducing indoor air temperatures. These benefits deliver reduced greenhouse gas emissions and peak demand caused by air conditioning load spikes.

Agencies: Natural Resources Agency; Energy Commission | Public Utilities Commission

TRACK C - GOAL 3, R4: Support Electric Program Investment Charge Research and Development on highly efficient building envelope retrofits.

- These retrofits have the potential to lower peak energy demand during extreme high-heat events while maintaining occupant comfort.

Agency: Natural Resources Agency; Energy Commission

TRACK C - GOAL 3, R5: Streamline the permitting, inspection, and approval processes for the installation of high-efficiency heat pump HVAC equipment across the state.

- Advance grants and incentives to local building departments who can speed up the approval of permits and inspections for high efficiency heat pump HVAC equipment in existing buildings.
- The Public Utilities Commission's TECH Permitting Pilot provides support resources to overcome barriers to achieve simple, streamlined, one-day permit approvals for heat pump water heaters. This program complements and supports efforts already underway to identify permit process best practices and to understand the permitting needs of residential heat pump water heater conversion projects.
- The Department of Housing and Community Development will review regulations that impact the use of space cooling/heating systems in existing manufactured homes and mobile homes, to ensure availability of heat pump technology in this housing category.

Agencies: Natural Resources Agency; Energy Commission | Public Utilities Commission | California Housing and Homelessness Agency; Housing and Community Development

TRACK C - GOAL 3, R6: Support buildings built to Passive House standards.

- Passive House designs can reduce energy consumption in buildings more than 75% beyond current California Building Standards Code and more than 95% beyond existing California building stock. Passive House design focuses on high efficiency windows and insulation, as well as the elimination of thermal bridging and other tight building envelope measures. Passive House design is currently estimated to result in buildings that are 7-13% more expensive, but the resulting energy and broader environmental savings far outweigh the costs. Additionally, incentives for more Passive House construction could transform the market and lead to price decreases beyond what is prevalent today.
- The Energy Commission, as required by AB 368 (Ward, 2025), is evaluating the cost-effectiveness of passive house energy efficiency standards by California climate zone, using commission-adopted metrics such as long-term system cost.

Agencies: Natural Resources Agency; Energy Commission

Cool pavement coating installed as part of the GAF Cool Community Project-Pacoima. Credit: Melanie Torres, Pacoima Beautiful.

GOAL 4: UTILIZE SCIENCE-BASED FRAMEWORKS AND TOOLS

The actions within this goal focus on collecting data and developing resources to further understand the impact of extreme heat on the built environment and increase its resilience.

Established Actions

TRACK C - GOAL 4, E1: Conduct research to assess life-cycle costs and benefits associated with higher-albedo pavement.

Agency: Environmental Protection Agency; California Air Resources Board

TRACK C - GOAL 4, E2: Quantify the equity and resiliency impacts of electricity infrastructure investments.

- The Public Utilities Commission is developing a regulatory and analytical framework for quantitatively assessing the impacts of alternative electricity infrastructure investments on resiliency and equity outcomes.
- The Public Utility Commission's Climate Adaptation and Vulnerability Assessment (CAVA) allows utilities to analyze climate-driven impacts and risks to utility operations, assets and services through the next several decades. The assessment guides the utility's strategic investments to strengthen the energy system to withstand projected changes in environmental or weather-related risks, including extreme heat, and to work with customers to be ready for these challenges.

Agency: Public Utilities Commission

Recommended Actions

TRACK C - GOAL 4, R1: Study the impacts of mitigations to the built environment on reducing health effects from high heat in California.

- Examine mitigation measures in the built environment to reduce urban heat islands and heat effects generally such as cool surfaces, nature-based solutions, including planting shade trees and increasing green spaces, as well as weatherization.
- Understand changes in morbidities and mortalities due to heat-related illness, as well as comfort and quality of life indicators, compare areas where mitigations can be found and areas lacking these mitigations, and study the effects of the different mitigations.
- Examine the impacts of different racial/ethnic and underserved contexts in communities and compare the frequency and efficacy of mitigation measures in different communities.
- Examine the impact of urban heat islands on health, comfort, and quality of life indicators, and examine results by race/ethnicity and other relevant demographic indicators such as income.

Agencies: Environmental Protection Agency; California Air Resources Board | Health and Human Services Agency; Department of Public Health

TRACK C - GOAL 4, R2: In partnership with local and tribal communities, support pilot projects to explore efficacy of built environment and nature-based interventions and to determine which cooling strategies work best given local considerations.

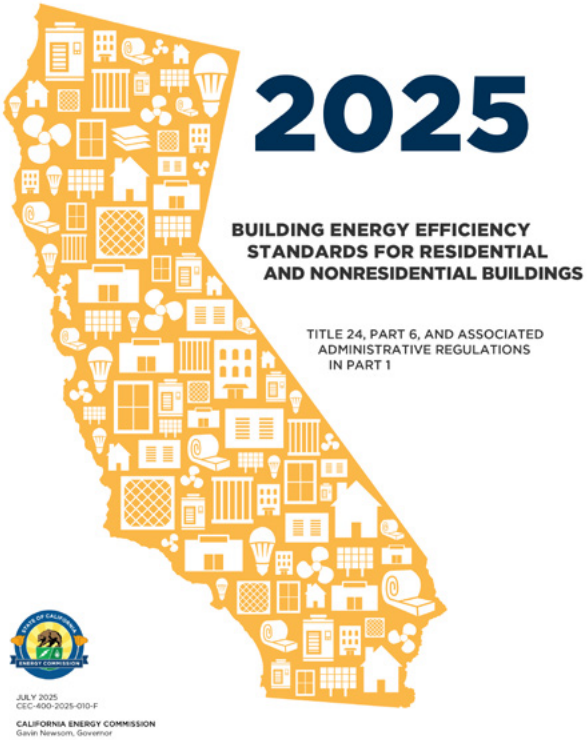
- The Energy Commission's Research and Development programs have several planned research initiatives that focus on energy resiliency and cost-effective building envelope upgrades to existing building and community infrastructure and new construction. The projects build on completed research projects that promote cool surfaces and technologies, focus on reducing actions that increase heat risk and reduce indoor heat exposure, and increase load flexible buildings to mitigate extreme heat.
- Utilize results from the Department of Forestry and Fires Protection's Urban and Community Forestry Program, US Forest Service, and University of California Davis analysis of statewide urban tree canopy cover data to inform high-priority areas for investment in related pilot projects and monitoring efforts.

Agencies: Natural Resources Agency; Energy Commission, Department of Forestry and Fire Protection | Governor's Office of Land Use and Climate Innovation | Health and Human Services Agency; Department of Public Health

CASE STUDY:
2028 Energy Code Update

Lead Agency: Energy Commission

Purpose of Program: As California's primary energy policy and planning agency, the California Energy Commission was mandated by the Warren-Alquist Act to update and adopt building standards that reduce wasteful, uneconomic, inefficient, or unnecessary energy consumption and reduce greenhouse gas (GHG) emissions. Every three years, the California Energy Commission updates the Energy Code, which is published by the California Building Standards Commission as part of the California Building Standards Code (known as Title 24 of the California Code of Regulations).



Impact of Program: The California Energy Commission's efficiency standards for buildings and appliances together have saved Californians more than $100 billion in avoided energy costs over the last 50 years. As a result, California — the U.S. state with the highest population and largest economy (almost $3.9 trillion GDP in 2023) — has the second-lowest per capita energy use in both the residential and commercial sectors according to the US Energy Information Administration.

For the 2028 Energy Code update, the California weather data used to evaluate potential efficiency measures will reflect future weather conditions. These conditions result in increases in cooling energy and decreases in heating energy for residential and commercial buildings, primarily due to the forecasted warmer temperatures in the future. Incorporating future weather conditions for the 2028 Energy Code update will ensure that buildings in compliance with the Energy Code are prepared.

These future weather conditions are based on the latest climate projections data that are also leveraged from California's Fifth Climate Change Assessment.

Website: https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2028-building-energy-efficiency

The 2028 Building Energy Efficiency Standards will apply to newly constructed buildings, additions, and alterations. Proposed standards will be adopted in 2027 with an effective date of January 1, 2029.

Students steward new trees at Parkway Elementary in Sacramento. Credit: Green SchoolYards America.

ACTION TRACK D: UTILIZE NATURE-BASED SOLUTIONS

INTRODUCTION

"Nature-based solutions" describe land management practices that increase the health and resilience of natural systems, unlocking their ability to durably store carbon, protect communities from climate hazards, and deliver multiple other outcomes, including protecting public health, increasing equity, and protecting biodiversity.

Extreme heat and increasing temperatures threaten our communities and compromise our natural systems. California is committed to supporting our natural systems to adapt and promoting the expansion of nature-based solutions across the state to protect communities and nature. Nature-based solutions can build extreme heat resilience in several important ways: plants, especially large-canopied trees, cool communities by providing shade; reflect more solar radiation than pavement, absorbing less heat; and release water vapor through leaves, cooling their surroundings. Restoring and conserving strategic habitats also increases access to climate refugia for California's plants and wildlife.

The actions in this track focus on implementation of nature-based solutions, utilizing best available science, and developing meaningful partnerships. In particular, Tribal stewardship and traditional knowledges are essential to scaling sound nature-based solutions.

This track is organized around three goals:

- GOAL 1: Promote nature-based solutions to reduce extreme heat risks.
- GOAL 2: Support nature's ability to withstand and adapt to increasing temperatures.
- GOAL 3: Reduce heat risk to water supply and systems.

The Porterville Unified School District completes high-impact green schoolyard projects at five Central Valley elementary schools.

GOAL 1: PROMOTE NATURE-BASED SOLUTIONS TO REDUCE EXTREME HEAT RISKS

The actions within this goal focus on implementing nature-based solutions to mitigate the intensity of extreme heat events and their impacts on communities.

Established Actions

TRACK D - GOAL 1, E1: Guide and accelerate nature-based solutions, including planting large canopy trees, protecting and expanding greenspace, and restoring urban streams, to build extreme heat resilience and contribute to California's climate change, biodiversity, public health, economic, energy, and equity goals.

- In 2024, California established the state's first targets to harness the power of nature to achieve carbon neutrality and protect Californians from devastating climate hazards, including extreme heat. Specifically, these targets call for 52,000 acres per year, between 2030 and 2045, of urban tree protection and increased urban and community greening and forestry, as well as 200,000 large canopied, climate-ready trees meaningful to communities planted annually between 2030 and 2045.
- The Department of Forestry and Fire Protection's Urban and Community Forestry Program works to increase tree canopy and vegetative solutions and improve their management in communities throughout California. This includes tree establishment care including watering of trees and installation of water efficient irrigation. Projects in underserved communities can be endowed with additional post grant maintenance funds to assist with long-term success. The program supports tree planting on both public and private property and allows for up to 20% of project budgets

to support engagement, education, and outreach. The Department of Forestry and Fire Protection is tasked through Public Resources Code to administer federal and state grants, technical assistance, education, and outreach, and encourage best practices to be applied by local governments and industry practitioners.

- The Department of Forestry and Fire Protection's Regional Urban Foresters serve as primary contacts for urban forestry expertise, information, training, and technical support for California's communities.
- Assembly Bill (AB) 2251 (Calderon, 2022) set a statewide goal to achieve a 10% increase of tree canopy cover in urban areas by 2035, with priority for increasing tree canopy cover in underserved and low-income communities and low-canopy areas. To achieve this goal, the Department of Forestry and Fire Protection has prioritized three pathways in the draft Urban Forestry Canopy Plan for California: planting new trees, growing existing trees, and protecting existing trees. This plan addresses major topics in urban tree canopy expansion including maintenance, water use, equity, and tree removal.
- California released a Climate Smart Lands Strategy in 2022. It called for scaling land management practices that, among other outcomes, reduce risks from extreme heat and build resilience to future temperature increases.
- The Department of Conservation's Climate Smart Land Management Program (CSLMP) aims to build a resilient, equitable and carbon-neutral future through developing regional and state capacity to increase climate resilience on the state's natural and working lands.
- The Department of Resources Recycling and Recovery's Community Composting for Green Spaces Grant Program provides funding to support community groups operating small-scale composting programs in green spaces within underserved and low-income communities, and to utilize the compost created to expand or improve publicly accessible green spaces.
- The Strategic Growth Council, in partnership with the Department of Conservation, administers The Transformative Climate Communities (TCC) Program, which funds community-led development and infrastructure projects that achieve major environmental, health, and economic benefits in California's most underserved communities. Many of these projects include nature-based solutions, such as urban greening and green infrastructure.
- The Governor's Office of Land Use and Climate Innovation's Extreme Heat and Community Resilience Program (EHCRP) funds and supports local, regional, and tribal efforts to reduce the impacts of extreme heat. The program encourages projects to implement green infrastructure and to utilize nature-based solutions to support the resilience of physical infrastructure solutions.

- The Business, Consumer Services Agency and the Governor's Office of Land Use and Climate Innovation are participating in learning opportunities for innovative construction methods that reduce embodied carbon of housing construction while increasing occupant health, safety, and comfort. This includes the use of bio-based building materials that sequester large amounts of carbon in both healthy soils and biomass, and when converted into building products, lock that carbon into the built environment. These materials, including mineral and plant-based feedstocks, exhibit exceptional thermal performance and fire resilience through their high thermal mass, and can replace traditional insulation products with non-toxic, locally grown alternatives.
- The Natural Resources Agency's Urban Greening Grant Program funds projects that use nature-based solutions—planting trees that provide strategic shade, expanding green spaces that serve as places of refuge during heat waves, and creating green streets and alleyways that capture and clean stormwater—to help communities become more climate resilient.
- Several of the Department of Parks and Recreation's programs fund the creation or improvement of recreational space, providing critical cooling refuges and green infrastructure that mitigate the impacts of extreme heat:
    - The Statewide Park Program creates new parks and recreation opportunities in underserved communities across California.
    - The Per Capita Program provides grants for local park rehabilitation, creation, and improvement to local governments on a per capita basis. Grant recipients were encouraged to utilize awards to rehabilitate existing infrastructure and to address deficiencies in neighborhoods lacking access to the outdoors.
    - The Cannabis Watershed Protection Program improves cannabis impacted ecosystems to ensure public access is safe and enriching and protect and interpret natural and cultural resources.
    - California Volunteers provides grant funding to implement the California Climate Action Corps (CCAC) Fellowship Program. CCAC fellow activities include urban greening initiatives that mitigate the effects of extreme heat, educate communities, and increase resilience, including planting and maintaining drought and heat tolerant trees, native plants, and community gardens.

Agencies: Natural Resources Agency and all relevant Departments, Conservancies, Commissions, and Boards| Environmental Protection Agency | Department of Food and Agriculture | Governor's Office of Land Use and Climate Innovation | Strategic Growth Council | Governor's Office of Business and Economic Development | State Transportation Agency | Business, Consumer Services and Housing Agency| Government Operations Agency | Labor and Workforce Development Agency | Governor's Office of Service and Community Engagement; California Volunteers | Health and Human Services Agency; Department of Public Health

TRACK D – GOAL 1, E2: Partner with California Native American tribes to advance tribal stewardship and nature-based solutions that address extreme heat.

- Partnering with California Native American tribes on climate resilience projects and supporting the study and implementation of tribal expertise and Traditional Ecological Knowledges is a core commitment in the Climate Smart Lands Strategy, the Fifth California Climate Change Assessment, and many other California policies and programs.
- The Governor's Office of Land Use and Climate Innovation is building on lessons learned from California's Fourth Climate Change Assessment in the Fifth Assessment by supporting a more robust Tribal Research Program.
- The Natural Resources Agency established the Tribal Nature-Based Solutions (TNBS) Program, which was allocated $100 million in 2022 and an additional $10 million most recently as part of the 2024 Climate Bond to provide new funding for ancestral land return and tribal nature-based solution projects. This funding will continue to support the return of ancestral lands to California Native American tribes, planning and implementation of habitat restoration projects, protecting the California coast and oceans, advancing wildfire resiliency and cultural fire, and many other multi-benefit nature-based solutions projects across California.
- In March 2026, the California Natural Resources Agency adopted the Tribal Stewardship Policy, setting the goal of meaningful and durable tribal stewardship over at least 7.5 million acres of land and coastal waters. The three pathways to tribal stewardship include (1) tribal access; (2) collaboration; and (3) ancestral land return.

Agencies: Natural Resources Agency and all relevant Departments, Conservancies, Commissions, and Boards | Strategic Growth Council | Governor's Office of Land Use and Climate Innovation.

TRACK D - GOAL 1, E3: Perform high-resolution tree canopy analysis of the state's urban areas. Utilize this analysis alongside data and decision-support tools to strategically reduce risks of extreme heat in vulnerable communities through nature-based solutions.

- The Department of Forestry and Fire Protection has completed a high-resolution tree canopy analysis of the state using 2018 and 2022 imagery. 2018 imagery is used as a baseline to analyze change between imagery sets. The California Air Resources Board will continue analysis as new imagery is available, anticipated about every two years. Trees are important to combat extreme heat, therefore tracking their distribution can inform where interventions are most needed.
- The California Healthy Places Index: Extreme Heat Edition empowers communities to build healthy, resilient neighborhoods and directs adaptation resources where they're needed most.
- The California Heat Assessment Tool allows planners, policymakers, public health practitioners and community members to explore and understand how extreme heat will impact specific communities across the state.
- The Vulnerable Communities Platform can be used to identify California communities most vulnerable to the impacts of climate change, including extreme heat, by providing data and maps to evaluate and describe the intersection of social and climate vulnerabilities.
- Cal-Adapt delivers critical climate data and cutting-edge tools to empower communities, researchers, and decision-makers to act on climate adaptation and resilience now. In addition to downscaled climate projections for changes in temperature, Cal-Adapt includes tools specifically on extreme heat.

Agencies: Natural Resources Agency; Department of Forestry and Fire Protection | All relevant agencies

TRACK D - GOAL 1, E4: Scale nature-based solutions by mitigating environmental impacts caused by transportation facilities.

- The Natural Resources Agency's Environmental Enhancement and Mitigation Program funds projects that mitigate adverse environmental impacts caused by construction of transportation facilities. Eligible project types are urban forestry; acquisition, restoration, or enhancement of resource lands; and mitigation projects that were beyond the scope of the CEQA lead agency.
- The Department of Transportation's Advance Mitigation Program authorizes the Department to plan and implement advance mitigation solutions for its future transportation projects. This new business practice

allows the Department to reduce delays by proactively obtaining environmental mitigation in advance of, rather than during, transportation projects. The Department of Transportation's Division of Environmental Analysis (DEA) administers the Program and supports the Department's Districts interested in planning and delivering advance mitigation projects.

Agencies: Natural Resources Agency | State Transportation Agency; California Transportation Commission, High-Speed Rail Authority

TRACK D - GOAL 1, E5: Partner with school districts, youth, and community-based organizations to accelerate school greening projects in tribal and climate vulnerable communities across the state.

- The California Schoolyard Forest System is a statewide initiative to increase tree canopy on public school grounds across the state to protect pre-K-12 students from extreme heat and rising temperatures founded by Green Schoolyards America in collaboration with the California Department of Education, Department of Forestry and Fire Protection, and Ten Strands.
- The Department of Forestry and Fire Protection's Urban and Community Forestry Program's Green Schoolyards Grant Program was created in 2022 to fund of planning and implementation of green schoolyards to reduce greenhouse gas (GHG) emissions, mitigate of extreme heat, enhance learning environments, increase water supply, clean air and water, reduce energy use, manage flood and stormwater, enhance recreation, and improve public health.

Agencies: Natural Resources Agency; Department of Forestry and Fire Protection, Coachella Valley Mountains Conservancy | Department of Education | Department of Food and Agriculture | Government Operations Agency; Department of General Services, Division of the State Architect | Strategic Growth Council | Governor's Office of Land Use and Climate innovation

TRACK D - GOAL 1, E6: Promote increased use of green barriers between agricultural fields and residences and schools to increase the area of permeable surfaces and green space, while reducing the potential for offsite movement of pesticides, fertilizers, and dust.

- California's nature-based solution targets include establishing tree line buffers between croplands and communities to reduce chemical exposure and enhance access to green space. Specifically, the target calls for 133 annual acres of tree line buffers by 2030, 185 annual acres by 2038, and 230 annual acres by 2045.
- The Shafter and South Central Fresno Community Emissions Reduction Programs, both administered by the San Joquin Valley Air Pollution Control District, have initiatives focused on vegetative barriers for the purpose of

improving air quality and protecting communities from dust, chemicals, and odors.

- The Department of Education promotes these practices through the Green Ribbon Schools award program and outlines environmental and energy efficiency resources available on their website.

Agencies: Environmental Protection Agency; Air Resources Board, Department of Pesticide Regulation | Natural Resources Agency; Department of Forestry and Fire Protection | Department of Education

Recommended Actions

TRACK D - GOAL 1, R1: Identify and implement opportunities to achieve California's 10% urban tree canopy cover expansion goal and nature-based solutions targets for community and urban greening and forestry, particularly in communities most vulnerable to extreme heat and lacking canopy cover and greenspace, to achieve multiple benefits.

- The 2024 Climate Bond (Proposition 4) included $150M for urban and community greening and forestry to mitigate urban heat island effect, raising temperatures, and extreme heat impacts. At least 40% of the total bond funds will be allocated for projects that provide meaningful and direct benefits to vulnerable populations or disadvantaged communities.

Agencies: All relevant agencies

TRACK D - GOAL 1, R2: Implement the Conservation as a Way of Life regulation, which was adopted by the State Water Board in July 2024.

- Work with Urban Retail Water Suppliers and Community-Based Organizations to promote climate-appropriate shade tree cover at schools and community gathering places.

Agency: Environmental Protection Agency; State Water Resources Control Board

TRACK D - GOAL 1, R3: Provide shade trees and maintenance information to utility customers in tribal and underserved communities that are vulnerable to extreme heat.

- Investing in planting, establishing, and maintaining shade trees in urban areas with low tree canopy cover provides passive cooling in homes and neighborhoods, delivering improved health outcomes, increased access to greenspace, and reduced air conditioning load. It could be modeled after existing successful efforts, such as Sacramento Metropolitan Utility District's shade tree program or Los Angeles' City Plants initiative.

Agencies: Natural Resources Agency; Department of Forestry and Fire Protection

TRACK D – GOAL 1, R4: Continue to invest in tribal sciences, including Traditional Ecological Knowledges.

- Invest in the study and implementation of tribally lead sciences, research, and practices, including Traditional Ecological Knowledges, delivering on robust tribally informed research and solutions for climate resilience and addressing extreme heat.

  Agency: Natural Resources Agency and all relevant Departments, Conservancies, Commissions, and Boards.

TRACK D - GOAL 1, R5: Promote access to beaches, coastal areas, inland waterways, and high-elevation natural areas that can provide refuge from extreme heat events for heat-vulnerable residents.

- A disproportionate number of underserved populations live in areas that are more prone to extreme heat. Many California Native American tribes were forcibly moved away from their ancestral lands. Access projects could include campgrounds and cabins, trails, parking lots, restrooms, hydration stations, etc. along with efforts to reduce barriers to access, such as shuttles, field trip programs, and reservation programs. Access projects could also include projects to provide tribal members with access to their ancestral lands.
- Promote tribal stewardship of ancestral lands that can serve as refuges from extreme heat.

  Agency: Natural Resources Agency and all relevant Departments, Conservancies, Commissions, and Boards.

Dave Meko, research professor at the University of Arizona, demonstrates removing a tree core sample from a bigcone Douglas fir tree in Los Angeles County. Credit: Florence Low, California Department of Water Resources.

GOAL 2: SUPPORT NATURE'S ABILITY TO WITHSTAND AND ADAPT TO INCREASING TEMPERATURES

The actions within this goal focus on increasing the resilience of natural systems and resources to increasing temperatures.

Established Actions

TRACK D - GOAL 2, E1: Identify species, habitats, and ecosystems that are critically vulnerable to extreme heat events and areas that may act as refugia, and connectivity between these areas of refuge, to support biodiversity conservation.
Through the California Sentinel Sites for Nature initiative, the Department of Fish and Wildlife has established a climate-biodiversity sensor network on 40 wildlife areas and ecological reserves across the state. Each site includes equipment for monitoring wildlife presence, movement patterns, and climate variables.

Agency: Natural Resources Agency; Department of Fish and Wildlife, Sacramento-San Joaquin Delta Conservancy; Coachella Valley Mountains Conservancy

TRACK D - GOAL 2, E2: Conserve 30% of California's lands and coastal waters by 2030 (30x30), including protecting climate refugia and corridors for heat-vulnerable plants and wildlife.

- The state's 30x30 goal recognizes that we must act now to protect California's biodiversity, address climate change, and expand access to nature. Pathways to 30x30 was completed in April 2022. As of July 2025, 26.1% of lands and 21.9% of coastal waters are conserved and counting towards 30x30. Progress toward achieving this goal is reported annually and mapped on the California Nature website.

Agency: Natural Resources Agency

TRACK D - GOAL 2, E3: Promote climate smart agricultural practices that build resilience to extreme heat.

- The Department of Food and Agriculture's California Healthy Soils Program incentivizes farmers and ranchers to adopt agricultural management practices that have a multitude of benefits to farms and society. Healthy soils improve resilience to extreme heat by increasing the water infiltration and water holding capacity of soils and allowing roots to better penetrate to access that moisture.
- The Department of Food and Agriculture's Conservation Agriculture Planning Grant Program (CAPGP) funds development of plans to support climate smart management of agricultural lands in California. Among other outcomes, implementation of these plans will reduce risks of extreme heat and other climate risks to California's food supply and economy.
- The Department of Food and Agriculture's State Water Efficiency and Enhancement Program (SWEEP) provides financial assistance in the form of grants to implement irrigation systems that reduce greenhouse gas emissions and save water on California agricultural operations. Projects installed through the SWEEP allow growers to respond to times of extreme heat and crop stress with precise and efficient irrigations.
- The Department of Conservation's Working Lands and Riparian Corridors Program provides grants to restore or enhance working lands and riparian corridors through restoration projects on agricultural lands.

  Agencies: Department of Food and Agriculture | Natural Resources Agency; Sacramento-San Joaquin Delta Conservancy, Department of Conservation | Strategic Growth Council

TRACK D - GOAL 2, E4: Support forest health projects that protect headwaters, retain mountain snowpack and support water storage.

- Through its Watershed Restoration Grants Branch, the Department of Fish and Wildlife continues to fund projects focused on mountain meadow restoration. Recent awards are part of an effort to support critical restoration statewide with new funding for multi-benefit ecosystem restoration and protection projects under drought, climate, and nature-based solutions initiatives.
- The Sierra Nevada Conservancy's Wildfire and Forest Resilience Grant Program funds projects to create and maintain healthy Sierra-Cascade forests and watersheds that are resilient to wildfire, improve downstream water quality and quantity, and securely store carbon. This action was called for in the 2022 report and its implementation is ongoing.

- The California Tahoe Conservancy implements and funds forestry and mountain meadow restoration projects in the Tahoe Basin to enhance ecological services such as wildlife habitat, carbon sequestration, and hydrological function.

  Agency: Natural Resources Agency; Department of Fish and Wildlife, Wildlife Conservation Board, Sierra Nevada Conservancy, Tahoe Conservancy, Conservation Corps, Department of Water Resources

Recommended Actions

TRACK D - GOAL 2, R1: Support projects that plan for and implement infrastructure improvements at recreational sites to prepare for extreme heat.

- Extreme heat events lead to added pressure on recreational sites in forests and on rivers, lakes, streams, and beaches as people seek places to escape high temperatures. Plan for and implement infrastructure improvements at recreational sites to mitigate impacts from overuse, including providing amenities, such as water and shade, and improved safety for people visiting these natural places in a manner that protects biodiversity and habitats.
- Identify opportunities to coordinate and collaborate with local jurisdictions and conservancies, community partners, and other organizations on efforts to implement infrastructure improvement at recreational sites.

  Agencies: Natural Resources Agency; Sierra Nevada Conservancy, Tahoe Conservancy, Department of Fish and Wildlife, Wildlife Conservation Board, Coastal Commission, State Coastal Conservancy, Department of Parks and Recreation, Sacramento-San Joaquin Delta Conservancy, Coachella Valley Mountains Conservancy | Governor's Office of Land Use and Climate Innovation

TRACK D - GOAL 2, R2: Identify opportunities to implement nature-based solutions on state lands that support extreme heat preparedness and resiliency.

- Convene partner agencies and entities to implement strategies on state lands that support extreme heat preparedness and resiliency.
- Engage in community outreach and provide educational resources for lessees and trustees about how they can incorporate cooling strategies in their activities, operations, and infrastructure. Encourage lessees and trustees to implement such strategies in their activities, operations, and infrastructure.
- Utilize ongoing research and experiments, such as forest treatments utilized by demonstration state forests, to inform management practices.

- Create, evaluate, and adapt lease terms and conditions that require incorporation of cooling strategies into lease activities, operations, and infrastructure.

  Agency: Natural Resources Agency; State Lands Commission, Department of Parks and Recreation, Department of Fish and Wildlife, Department of Forestry and Fire Protection

TRACK D - GOAL 2, R3: Improve understanding of the link between elevated temperature and stream ecology.

- Monitor California's streams to provide a robust dataset that can reveal how aquatic life responds to changing temperatures and track cyanobacteria, toxins, and environmental drivers, such as temperature, shaping stream health.
- Support collaborative research partnerships to identify temperature thresholds for key species and develop science-based adaptation strategies.

  Agencies: Environmental Protection Agency; State Water Resources Control Board | Natural Resources Agency; Department of Fish and Wildlife, Wildlife Conservation Board

TRACK D – GOAL 2, R4: Incorporate guidance in grant guidelines that direct applicants to best available information on how extreme heat might impact and be mitigated for conservation and restoration projects.

Agencies: Environmental Protection Agency; State Water Resources Control Board | Natural Resources Agency; Department of Parks and Recreation, Department of Fish and Wildlife, Department of Water Resources

TRACK D – GOAL 2, R5: Improve understanding of the link between elevated future temperatures and changes to California's carbon stocks.

- Develop and implement monitoring, modeling, and assessment frameworks and data products to estimate statewide changes in biomass and soil carbon stocks with climate change, including elevated future temperatures and other related drivers.

  Agency: Environmental Protection Agency; California Air Resources Board

TRACK D - GOAL 2, R6: Manage surface water temperatures to promote survival of native cold-water fish and watershed and ecosystem health in the Bay-Delta watershed.

- Focus on implementing instream flows and cold water management actions included in the Bay-Delta Water Quality Control Plan to promote survival of native cold water fish species, including through development of robust modeling and data to inform decisions, early and transparent planning, collaborative solutions, and where appropriate, consideration of additional, voluntary options that balance multiple beneficial uses.

  Agency: Environmental Protection Agency; State Water Resources Control Board

TRACK D - GOAL 2, R7: Support small, underserved farmers and urban centers through Integrated Pest Management technical assistance and outreach, as part of California's commitment to advancing sustainable pest management.

- Integrated pest management is an ecosystem-based pest management strategy focused on prevention of pests or their damage through techniques such as biological control and the use of resistant varieties of plants or materials.

  Agencies: Department of Food and Agriculture | Environmental Protection Agency; Department of Pesticide Regulation

TRACK D - GOAL 2, R8: Develop a novel insurance product to address the risks facing urban forests and assist communities working to manage and maintain them.

- The California Department of Insurance is collaborating with the University of California, Santa Cruz to advance the design of potential insurance policies to cover risks to urban forests associated with perils such as storms and pests.

  Agency: Department of Insurance

California Conservation Corps members conduct riparian zone restoration.

GOAL 3: REDUCE HEAT RISK TO WATER SUPPLY AND SYSTEMS

The actions within this goal focus on increasing the resilience of California's water quality and supply to extreme heat events.

Established Actions

TRACK D - GOAL 3, E1: Reduce climate risks to drinking water, including increasing temperatures.

- The State Water Resource Control Board's California Drinking Water Needs Assessment identifies small water systems and domestic wells that are failing or at risk of failing to provide access to safe drinking water.
- The Drinking Water Intended Use Plan and Clean Water Intended Use Plan describe the state Water Resources Control Board's plans for implementing the Drinking Water State Revolving Fund and Clean Water State Revolving Fund programs that finance infrastructure improvements to mitigate drinking water risks, support the human right to water, and protect and improve water quality.

  Agency: Environmental Protection Agency; Office of Environmental Health Hazard Assessment, State Water Resources Control Board

TRACK D - GOAL 3, E2: Support environmental restoration and conservation efforts that protect water supply and quality from the impacts of extreme heat.

- California's Water Supply Strategy for a Hotter, Drier Future outlines essential actions to address the challenges posed by climate change, including freeing up to 500,000 acre-feet of water through groundwater recharge

and stormwater capture through green infrastructure. California's Water Resilience Portfolio includes a suite of actions to protect and enhance natural ecosystems and maintain and diversify water supplies.

- The State Water Resource Control Board's 2024 Strategic Work Plan includes consideration for surface water temperature, which plays a key role in reducing fish mortality, improving watershed and ecosystem health, and increasing forest health, which can protect water quality and aquatic habitat.
- The Wildlife Conservation Board's Stream Flow Enhancement Program funds projects that enhance flow in streams to support anadromous fish; support special status, threatened, endangered, or at-risk species; and provide resilience to climate change.
- The California Department of Water Resources is sponsoring a public–private–academic partnership testing new approaches to integrate water conservation, drought resilience, and clean energy through Project Nexus. This $20 million pilot project in the Central Valley places solar panels over canals to assess the impact of integrating solar infrastructure with water delivery systems to reduce water evaporation in canals, generate renewable energy, improve water quality, and reduce canal maintenance.

Agencies: Environmental Protection Agency; State Water Resources Control Board | Natural Resources Agency; Tahoe Conservancy, Wildlife Conservation Board, Sacramento-San Joaquin Delta Conservancy, Department of Water Resources

TRACK D - GOAL 3, E3: Support environmental restoration, conservation, and land management efforts that protect natural systems, including wildlife, from the impacts of extreme heat.

- Many restoration and conservation programs reduce risks and/or build resilience to increasing temperatures for the benefit of California's unique biodiversity. These include but are not limited to riparian restoration that cools aquatic habitat through strategic shading; climate refugia conservation; investments that result in cooler water temperatures, such as streamflow enhancement and dam removal; controlling stream bank erosion that warms water faster; and more.
- Cutting the Green Tape, a cross-agency initiative, to increase the pace and scale of habitat restoration continues to improve the resilience of natural systems through habitat restoration. Since establishing its Cutting the Green Tape program in late 2021, California Department of Fish and Wildlife's new and improved permitting and environmental review processes have supported the enhancement of approximately 329,070 acres, 697 stream miles, and connected approximately 5,518,227 acres, saving those projects more than $9 million that can be invested in more projects.

- Salmon Strategy for Hotter Drier Future published in 2024, followed by an annual progress report, identified efforts and additional work needed to protect salmon populations from climate impacts.
- An updated State Wildlife Action Plan (SWAP) was released in October 2025 and serves as the blueprint for proactively conserving fish and wildlife and preventing species from becoming extinct. Conservation partners can use the 2025 SWAP as a reference to identify priority species and habitats for conservation and to develop projects to implement the conservation actions in their region.
- The California Department of Water Resources' Riverine Stewardship Program delivers technical and financial assistance to support fish passage improvements, and other similar projects to accomplish increased ecological, stream management, climate, and community improvement benefits.

Agencies: Natural Resources Agency; Department of Forestry and Fire Protection, Department of Parks and Recreation, Department of Fish and Wildlife, Tahoe Conservancy, Sacramento-San Joaquin Delta Conservancy, Conservation Corps, State Water Resources Control Board | Strategic Growth Council

Recommended Actions

TRACK D - GOAL 3, R1: Promote stormwater capture and infiltration to support groundwater storage, groundwater dependent ecosystems, and green infrastructure in cities and towns.

- Groundwater is less vulnerable to extreme heat impacts than surface storage. Green urban stormwater infrastructure can provide cooling along with water quality and groundwater recharge benefits.
- California's Water Supply Strategy for a Hotter, Drier Future outlines essential actions to address the challenges posed by climate change, including making new water available through stormwater capture.

Agencies: Environmental Protection Agency; State Water Resources Control Board | Natural Resources Agency; Department of Water Resources

TRACK D - GOAL 3, R2: Promote mountain meadow restoration, sustainable forest health conditions and fuels management practices in watersheds that protect water quality and aquatic habitat, tribal beneficial uses, reduce fire risk, and increase water supply through coordinated planning and implementation activities, and/or the development and implementation of waste discharge requirements or waivers for forest and fuels management activities on private, state and federal lands.

Agencies: Environmental Protection Agency; State Water Resources Control Board | Natural Resources Agency; California Department of Water Resources, Sierra Nevada Conservancy

CASE STUDY:
Urban and Community Forestry Green Schoolyards Program

Lead Agency: The California Department of Forestry and Fire Protection

Purpose of Program: The Urban and Community Forestry Green Schoolyards Program creates green schoolyards to protect the health, well-being, and educational opportunity of children most vulnerable to extreme heat across California. Projects create nature-based, climate-smart spaces on school grounds replacing asphalt with vegetation, shade trees, gardens, outdoor learning zones, and permeable surfaces. These spaces function as multi-benefit public infrastructure for education, play, and community resilience to improve health, environmental quality, student engagement, and well-being. The Green Schoolyards Program is one of many Urban and Community Forestry (UCF) projects that focus on extreme heat, including urban forest expansion and improvement, urban forest management, and others.

Impact of Program: Since 2022, the California Department of Forestry and Fire Protection UCF Program has invested $156+ million in 56 Green Schoolyards projects, covering 215+ K-12 campuses.

Ambient and surface temperatures were taken at campus locations before grant project implementation. Over 80% of readings were taken at locations without shade and the average ambient temperature was 81.5 °F while the average surface temperature was 105.8°F, with maximum temperature recordings of 107°F and 178°F, respectively.

The highest surface temperatures were consistently observed on materials such as asphalt (blacktop), recycled tire mulch, concrete and rubber mulch, which are common features of traditional schoolyards. In contrast, areas with grass and other vegetation are, on average, approximately 20°F cooler than these impervious surfaces.

These findings highlight the urgent need to transform schoolyard environments. The current 56 Green Schoolyards projects are designed to reduce extreme heat exposure through the strategic planting of trees and removing impervious, heat-absorbing surfaces. By prioritizing shade and reducing high-heat surfaces, these projects aim to create safer, more comfortable spaces that support student health, learning, and well-being. The California Department of Forestry and Fire Protection hopes to collect temperature readings after project implementation to analyze the impact of increased canopy cover and decreased impermeable surfaces on schoolyards.

Website Link: The California Department of Forestry and Fire Protection Urban and Community Forestry Grant Program
StoryMap: The California Department of Forestry and Fire Protection Green Schoolyards Program

Section of a childcare facility campus after the implementation of the Green Schoolyards project.

ACKNOWLEDGMENTS

The state of California's commitment to addressing extreme heat is reflected in its significant investments in extreme heat interventions and continued support for resilience programs that ensure communities have the skills and resources to adapt to a changing climate. California's 2026 Extreme Heat Action Plan was meaningfully informed by insights shared by Californians from across the state. The final plan was strengthened by your contributions, and we thank you for your continued support.

This Plan reflects the contributions and extreme heat commitments of 60 state of California agencies, departments, boards, commissions, and conservancies:

BUSINESS, CONSUMER SERVICES AGENCY

DEPARTMENT OF CORRECTIONS & REHABILITATION

DEPARTMENT OF FOOD AND AGRICULTURE

DEPARTMENT OF INSURANCE

ENVIRONMENTAL PROTECTION AGENCY:
Air Resources Board; Department of Pesticide Regulation; Department of Resources Recycling and Recovery; Office of Environmental Health Hazard Assessment; State Water Resources Control Board

GOVERNMENT OPERATIONS AGENCY:
Building Standards Commission; Department of General Services; Division of the State Architect

GOVERNOR'S OFFICE OF BUSINESS AND ECONOMIC DEVELOPMENT

GOVERNOR'S OFFICE OF EMERGENCY SERVICES

GOVERNOR'S OFFICE OF LAND USE AND CLIMATE INNOVATION:
Strategic Growth Council

GOVERNOR'S OFFICE OF SERVICE AND COMMUNITY ENGAGEMENT:
California Volunteers

HEALTH & HUMAN SERVICES AGENCY:
Behavioral Health Services Oversight and Accountability Commission; Department of Aging; Department of Community Services & Development; Department of Health Care Services; Department of Managed Health Care; Department of Public Health; Department of Social Services; Emergency Medical Services Authority

HOUSING AND HOMELESSNESS AGENCY:

Housing and Community Development; Housing and Financing Agency; Interagency Council on Homelessness

LABOR AND WORFORCE DEVELOPMENT AGENCY:

Department of Industrial Relations; Workforce Development Board

NATURAL RESOURCES AGENCY:

Baldwin Hills Conservancy; California Coastal Commission; California Conservation Corps; California Energy Commission; Coachella Valley Mountains Conservancy; Department of Conservation; Delta Stewardship Council; Department of Fish & Wildlife; Department of Forestry & Fire Protection; Department of Parks & Recreation; Department of Water Resources; Ocean Protection Council; Office of Energy Infrastructure Safety; Sacramento-San Joaquin Delta Conservancy; San Diego River Conservancy; San Francisco Bay Conservation and Development Commission; San Gabriel and Lower Los Angeles Rivers Conservancy; San Joaquin River Conservancy; Santa Monica Mountains Conservancy; Sierra Nevada Conservancy; State Coastal Conservancy; State Lands Commission; Tahoe Conservancy; Wildlife Conservation Board

PUBLIC UTILITIES COMMISSION

STATE BOARD OF EDUCATION:

Department of Education

STATE TRANSPORTATION AGENCY:

Department of Transportation; High-Speed Rail Authority