

DRAFT

California's Extreme Heat Action Plan

*A State Strategy for Protecting Californians
from Extreme Heat*

February 25, 2026

Public comment period ends **April 8, 2026**.

Options to submit written input include:

Mail: Governor's Office of Land Use and Climate Innovation – 1400 10th St,
Sacramento CA 95814

Email: icarp@lci.ca.gov

Additionally, we will hold regional workshops, public meetings, webinars, and tribal listening sessions to solicit input on the draft. Details will be posted on the Governor's Office of Land Use and Climate Innovation web page.

TABLE OF CONTENTS

Note to Readers	4
Executive Summary	6
Introduction	7
The Science and Impact of Extreme Heat in California	7
Distinguishing Longer Term Action from Emergency Response	9
California's Response	9
History of the Extreme Heat Action Plan	9
Investment in Extreme Heat	9
Summary of Progress 2022 - 2025	10
Action Track A: Build Public Awareness and Notification	11
Introduction	11
GOAL 1: Build public awareness about extreme heat through targeted communications campaigns	11
Established Actions	11
Recommended Actions	13
GOAL 2: Support actionable climate science and research to inform risk assessments and decision-making	14
Established Actions	14
Recommended Actions	20
GOAL 3: Improve accuracy and accessibility of heat modeling and data to inform decision-makers	21
Established Actions	21
Action Track B: Strengthen Community Services and Response	23
Introduction	23
GOAL 1: Invest in social resilience	23
Established Actions	23
Recommended Actions	25
GOAL 2: Protect California's workers and economy from the impacts of extreme heat	25
Established Actions	25
Recommended Actions	29

GOAL 3: Support local planning and response measures to extreme heat events	30
Established Actions	30
Recommended Actions	35
Action Track C: Increase Resilience of our Built Environment	37
Introduction	37
GOAL 1: Protect critical infrastructure	37
Established Actions	37
Recommended Actions	40
GOAL 2: Support heat resilient and cooler communities through relevant regulations and codes	41
Established Actions	41
Recommended Actions	46
GOAL 3: Invest in cool buildings and surfaces	49
Established Actions	49
Recommended Actions	52
GOAL 4: Utilize science-based frameworks and tools	54
Established Actions	54
Recommended Actions	55
Action Track D: Utilize Nature-based Solutions	57
Introduction	57
GOAL 1: Promote nature-based solutions to reduce extreme heat risks	57
Established Actions	57
Recommended Actions	63
GOAL 2: Support nature's ability to withstand and adapt to increasing temperatures	64
Established Actions	64
Recommended Actions	67
GOAL 3: Reduce heat risk to water supply and systems	70
Established Actions	70
Recommended Actions	71

NOTE TO READERS

Thank you for your review of the draft 2026 California Extreme Heat Action Plan (Action Plan). It was informed by the contributions of people across California and collaboration across dozens of state entities.

The State of California is statutorily required to update the Action Plan every three years per [SB 306 \(Caballero, 2023\)](#).

This draft reflects major updates to the 2022 Action Plan. It is organized around four action tracks that reflect key areas of focus for state action to address extreme heat:

Track A: Building Public Awareness and Notification
Track B: Strengthening Community Services and Response
Track C: Increasing Resilience of the Built Environment
Track D: Utilizing Nature-Based Solutions

These tracks include established and recommended state actions to address extreme heat:

- *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 do not fully encompass all the work currently taking place under the given action.
- *Recommended actions* would address important needs, and implementation may require additional or new resources. Some recommended actions detail further context and direction for the action.

Actions from the 2022 Action Plan that were completed have been removed. The final 2026 Action Plan will include a summary of the state's progress addressing extreme heat.

In addition to comments on the draft Action Plan, we also welcome specific case studies or examples that showcase the work happening across California and across the action tracks. We also welcome stories of how state policies, programs, and actions are catalyzing local action and community response.

We invite you to submit public comment through **April 8, 2026**. Additionally, we will hold tribal roundtables and public workshops to solicit input on the draft. For further information on our work to update the Extreme Heat Action Plan and details on upcoming opportunities to learn more and provide feedback, please visit <https://resources.ca.gov/Initiatives/Building-Climate-Resilience> & [Extreme Heat and Community Resilience Program - Office of Land Use and Climate Innovation](#).

Options to submit written input include:

Mail: Governor's Office of Land Use and Climate Innovation – 1400 10th St,
Sacramento CA 95814

Email: icarp@lci.ca.gov

Thank you again for your engagement and interest in California's 2026 Extreme Heat Action Plan.

EXECUTIVE SUMMARY

[Note to Readers – This section will be added in the final 2026 Action Plan]

INTRODUCTION

California is on the frontlines of climate change. Record-breaking wildfires, floods, and droughts in our state over recent years have captured global attention. These emergencies are visible, well-understood, and widely reported. Less attention has focused on worsening extreme heat, currently the most dangerous climate change impact to Californians.

California's 2026 Extreme Heat Action Plan maps the state's continued commitment to reducing the risk of extreme heat for all Californians, especially our most vulnerable, including kids, seniors, and the medically frail. The actions in this plan improve community awareness and response to the threats of increasing heat waves, while investing in long term solutions like urban greening and retrofitting buildings that better protect communities.

THE SCIENCE AND IMPACT OF EXTREME HEAT IN CALIFORNIA

Globally 2024 was the warmest year in the 175-year observational record. July 2025 was the third warmest July ever recorded, with only July 2024 and July 2023 being warmer. Each of the past ten years, 2015 to 2024, were individually the ten warmest years on record¹ and all ten warmest Julys on record have occurred since 2016.² These global trends are increasingly evident in California, with summer 2024 being the state's hottest summer on record³.

California temperatures have risen since records began in 1895, and the rate of increase is accelerating. Annual temperature increases have already exceeded 1°F over most of California, with some areas exceeding 2°F, and California's daily maximum average temperature is expected to increase by up to nearly 6° F by 2050 and 9° F by 2100.⁴

Extreme heat events in California – defined as unusually hot days or nights compared to average conditions – are becoming more common, more severe, and longer-lasting. Hotter-than-usual days and nights have become more frequent since 1950, especially in the last decade. Heat waves that result in public health impacts, also referred to as heat-health events, are also projected to worsen throughout the state. By 2050,

¹ <https://wmo.int/publication-series/state-of-global-climate-2024>

² <https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/202507>

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.

average heat-health 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

Already, extreme heat is the deadliest of all climate change-driven hazards in California, and heat waves in cities are projected to cause two to three times more heat-related deaths by mid-century.⁶ During the September 2022 record-breaking 10-day heat wave in California, there was a 5% increase in deaths – 395 more deaths than would be expected – and the highest increases in deaths were seen among people aged 25-64, Hispanic Californians, and in the South Coast region.⁷

[Climate vulnerable communities](#) will experience the worst of these effects, as heat risk is associated and correlated with physical, social, political, and economic factors.⁸ Older adults, infants and children, pregnant people, and people with chronic illness can be especially sensitive to heat exposure. Combining these characteristics and existing health inequities with additional factors, such as poverty, linguistic isolation, housing insecurity, and the legacy of racist redlining policies, can put individuals at disproportionately high risk of heat-related illness and death.⁹

Extreme heat similarly threatens California's natural systems. Heat directly affects plants and animals resulting in reduced fitness, increased stress, migration, and death. Increasing temperatures also exacerbate risk of wildfire as well as drought and its effects on the health of watersheds. These shifts result in significant cultural impacts to tribes, where plants and animals that have been used as traditional food, medicine, materials, or in ceremony are no longer present.

Our hotter future poses profound risks to California, threatening our health and safety, economy, food and water security, critical infrastructure, and natural ecosystems. While we confront current heat emergencies, we must continue to prepare for worsening heat in coming years and decades.

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.

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>

⁸ Basu, R. (2009). High ambient temperature and mortality: a review of epidemiologic studies from 2001 to 2008. *Environmental Health*, 40 (8). <https://doi.org/10.1186/1476-069X-8-40>; Basu, R. & Malig, B. (2011). High ambient temperature and mortality in California: Exploring the roles of age, disease, and mortality displacement. *Environmental Research*, 111(8). <https://doi.org/10.1016/j.envres.2011.09.006>.

⁹ Ibid ; Hoffman, J., Shandas, V., & Pendleton, N. (2020). The effects of historical housing policies on resident exposure to intra-urban heat: A study of 108 US urban areas. *Climate*, 1(8). <https://doi.org/10.3390/cli8010012>.

DISTINGUISHING LONGER TERM ACTION FROM EMERGENCY RESPONSE

California's Extreme Heat Action Plan focuses on preparedness, risk reduction, and long-term resilience, and is distinct from the State's emergency response to active heat events. Emergency response is primarily led by local governments, public health departments, and emergency management agencies, with statewide coordination through the Governor's Office of Emergency Services (CalOES). During extreme temperature warnings, the State's Extreme Temperature Response Plan provides operational guidance to state agencies, local governments, tribes, and NGOs to support coordinated response actions.

The Extreme Heat Action Plan complements these response efforts by emphasizing proactive, sustained actions that reduce risk before emergencies occur and build long-term resilience to worsening heat. Together, effective emergency response and sustained long-term action provide a comprehensive approach to protecting California from worsening extreme heat risks.

CALIFORNIA'S RESPONSE

HISTORY OF THE EXTREME HEAT ACTION PLAN

In 2022, the Newsom Administration released an [Extreme Heat Action Plan](#) charting an all-of-government strategy to protect Californians from an increase in the severity and frequency of heat events. It laid out 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 were guided by extensive public engagement, including multiple public workshops, and consultations with California Native American tribes. The 2022 Action Plan built upon a 2013 set of recommendations released by the state called "Preparing California for Extreme Heat: Guidance and Recommendations". The 2026 update will inform the state's 2027 Climate Adaptation Strategy.

INVESTMENT IN EXTREME HEAT

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. Proposition 4, also known as the "Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond Act of 2024," authorized \$450 million to extreme heat mitigation with \$110 million of those funds allocated in 2025-2026.

It will require time, effort, and funding to carry out this Extreme Heat Action Plan portfolio. The pace of implementation will depend upon the feasibility and availability of resources and competing priorities.

SUMMARY OF PROGRESS 2022 - 2025

[Note to Readers – This section is forthcoming for the final 2026 Extreme Heat Action Plan]

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.

The Public Awareness and Notification 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 targeted 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.

GOAL 1: BUILD PUBLIC AWARENESS ABOUT EXTREME HEAT THROUGH TARGETED 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](#) targeted outdoor workers with Heat Illness Prevention materials, discussion guides in multiple languages, and external

communications about Department of Industrial Relations Division of Occupational Health and Safety's Heat Illness Prevention Standard.

- 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 targeted public awareness campaign across CDA 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 [CDA 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 Department of Industrial Relations conducts high heat public education campaigns, labor rights workshops and other outreach/education, and operates the Heat Illness Prevention Network which includes 415 members.
- 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 Cal OES 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 (CDSS) 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 targeted 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

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 (LCI)'s [Vulnerable Communities Platform](#) (VCP) provides a comprehensive overview of a community 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 [help-desk](#) 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 (OEHHA) [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 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. DWR 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 Cal OES' Extreme Temperature Response Plan.
- CalHeatScore is designed to be a complementary resource to several of the state's extreme heat mitigation and planning programs. The 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.

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

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 released a draft of the updated Environmental and Social Justice Action Plan 2.0 in October 2021. Version 2.0 of the Plan was approved on April 7, 2022.
- The California Public Utilities Commission published its [2025 annual report](#) of the Environmental and Social Justice 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 CPUC committed to implement, resulting in 85 percent completion.
- The 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. In 2021, the Public Utilities Commission approved a Decision authorizing \$2.2 billion for the Energy Savings Assistance program through 2026 as well as a new customer-centered prioritization model to better target these investments and help mitigate the impacts of

extreme heat events for the most vulnerable populations. In 2025 the four large investor-owned utilities filed applications for the continuation of the Energy Savings Assistance program and is currently going through the stakeholder process before an administrative law judge. Adjudication of the application for the continuation of the Energy Savings Assistance program is expected in 2026.

- 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 | Business, Consumer Services and Housing 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.

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

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).

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 (2012), and assess the extent and severity of the urban heat island effect for California cities to inform quantifiable reduction goals.

- The California Environmental Protection Agency released a study in 2015 entitled "[Creating and Mapping an Urban Heat Island Index for California](#)" that defined and examined the characteristics of an urban heat island and produced a series of interactive maps that shows the urban heat island effect for each census tract in and around most urban areas throughout the state.

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, Chapter 12), 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 and, through the Legislature, was granted legal authority to collect and require syndromic data submissions from hospitals with emergency departments. 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

ACTION TRACK B: STRENGTHEN COMMUNITY SERVICES AND RESPONSE

INTRODUCTION

As one of California's deadliest climate threats, extreme heat affects every region of the state, from Central Valley schoolyards to Southern California urban apartment complexes, but the burden of extreme heat is not shared equally. The impacts of extreme heat often fall hardest on low-income families with limited access to cooling, outdoor and indoor workers laboring in dangerous conditions, people experiencing homelessness, California Native American tribes, and disproportionately underserved communities of color who often have fewer resources for heat protection.

The actions within this Track are a necessary step to ensure that California's communities, especially those on the frontlines of the climate crisis, are able to strengthen their resiliency in the face of a warming climate.

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.

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 CCI funding 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.

- Led by the Strategic Growth Council, in partnership with the Public Health Institute and the Department of Public Health, the [California Health in All Policies \(HiAP\) Task Force](#) 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 (LCI)'s Extreme Heat and Community Resilience Program are developing cool buddy programs for local adoption. LCI is interested in uplifting 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

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 (WCRI) “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 Chapter 778, Statutes of 2022 (AB 2234).
- 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 (including indoor and outdoor workers), 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 2015 [Heat Illness Prevention Standard](#) update includes assurance of adequate water, shade, and rest breaks.
- Additionally, 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 targeted 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 illness. 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". This standard applies to most workplaces, apart from correctional facilities, where the indoor temperature reaches 82°F. It establishes required safety measures for indoor workplaces to prevent worker exposure to risk of heat illness. This standard went into effect on July 23, 2024. 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](#) (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.

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

TRACK B - GOAL 2, E9: Identify education 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.

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 targeted enforcement of outdoor workplaces during periods of high heat to ensure compliance with established outdoor worker heat illness prevention regulations, as well as targeted enforcement of existing requirements under the Injury and Illness Prevention Program for indoor heat hazards.

- In 2024-25, the Division of Occupational Safety and Health launched the Agricultural Enforcement Task Force and Outreach Unit to conduct proactive targeted 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 targeted enforcement and education campaigns.

- Conduct targeted enforcement of indoor workplaces during periods of high heat to ensure compliance with indoor standards and perform outreach and education on the new regulation.
- Create guidelines and methods to help employers comply with indoor heat illness regulation. Recommendations would be based on the findings of the engineering control measure evaluation (see Track B, Goal 2, E4) for indoor work environments, and a publication with these recommendations would serve as an awareness material.

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

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 targeted 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

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 hazards 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 and SB 379, 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 [Torres Martinez Youth Environmental Ambassador Program](#) which provides paid training in conservation field to Native Americans ages 18-34. The program teaches habitat conservation and climate resilience approaches to mitigate the effects of climate change on Native American Communities and their lands using Western and Traditional methods.
- 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

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 the care of licensed facilities.

- 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 California Department of 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.

- Distribute best-practice models and toolkits to guide Continuums of Care, county emergency managers, and local government jurisdictions in building capacity to address the needs of people experiencing homelessness and other populations most vulnerable to extreme events, including extreme heat.
- Incorporate additional climate adaptation strategies into the Technical Assistance to Improve the Delivery of Homelessness Programs provided to Continuums of Care and local government jurisdictions.

- Assess and document strong local, state, and tribal examples of disaster preparedness, responses, and recovery efforts for recent emergencies, to develop stronger guidance and expectations regarding services and supports for people experiencing homelessness.
- Support the inclusion of Continuums of Care into local emergency, hazard, and heat contingency planning efforts. Incorporate people experiencing homelessness into planning documents relating to extreme heat events.

Agencies: Business, Consumer Services and Housing 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.
- 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 (ICARP) 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.

ACTION TRACK C: INCREASE RESILIENCE OF OUR BUILT ENVIRONMENT

INTRODUCTION

Extreme heat impacts California's built environment, comprised of critical infrastructure such as our transportation, energy, and food systems. During extreme heat events, these same systems are essential for emergency response. As temperatures increase, and heatwaves become more frequent and severe, the cascading impacts of extreme heat and infrastructure failings can exacerbate risks to people, our economy, and the environment. Improvements to critical infrastructure and the built environment can bolster resilience to extreme heat events and minimize public health impacts.

The Built Environment track includes actions focused on a variety of infrastructure solutions including active and passive cooling of buildings, 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.

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 targeted online dates. Since 2020, the Public Utilities Commission has driven the [build out of over 28,000 MW of new electric resources](#). Over 20,000MW 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 a contingency plan 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 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.

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

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

RECOMMENDED ACTIONS

TRACK C - GOAL 1, R1: Protect and secure energy infrastructure on state lands.

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

Agencies: Natural Resources Agency; State Lands Commission, Energy Commission | Public Utilities Commission

TRACK C - GOAL 1, R2: 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 right-of-ways.

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

Track C - Goal 1, R3: 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

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. While heat mitigation strategies have been included as optional voluntary measures in CALGreen, health impact measures have not been listed as requirements.

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 | Business, Consumer Services and Housing 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. The envelope improvements could 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, 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 | Business, Consumer Services and Housing; 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. Programs 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 | Business, Consumer Services and Housing 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 are an important resilience strategy.

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.

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 to protect students and athletes from extreme heat.
- The Department of Public Health disseminates resources, training and grant opportunities to school-based partners to support climate-resilient schools.
- The Department of Forestry and Fire Protection (CAL FIRE) is partnering with organizations such as Green Schoolyards America to understand canopy equity on schoolgrounds. CAL FIRE and the USDA 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 CAL FIRE and the USDA Forest Service is exploring processes, barriers, and efficacy of green schoolyards projects. Temperature readings are being taken before, during installation, and following CAL FIRE'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 (DSA) 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 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

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 develop increased performance standards in the California Energy Code for extreme heat performance that would require manufacturers to meet the new standards with their equipment. This would result in new buildings that still provide sufficient cooling for public health during extreme heat events.
 - California's 2028 Energy Code update will use forecasted future weather based on the climate data and tools available from Cal-Adapt.
 - The Investor-Owned Utility Team is funding an update of the ASHRAE Climatic Data for Region X used to design HVAC systems and referenced in the Energy Code (Section 140.4).

Agencies: Natural Resources Agency; Energy Commission

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

- 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: Business, Consumer Services and Housing Agency; Housing and Community Development | Natural Resources Agency; Energy Commission

TRACK C - GOAL 2, R3: Review and incorporate changes to land use, design elements, and building codes to identify opportunities that accelerate the adoption of cooling strategies.

- Assist local governments in pursuing planning and development standards that significantly contribute to reducing greenhouse gases (such as zoning for high-density housing, infill, transit-oriented development, and transit corridors) and adapting to climate impacts including urban heat island effects.
- Promote energy conservation through Housing Element compliance to ensure local governments include an analysis of opportunities for energy conservation regarding residential development; and incorporate the latest research and strategies into Housing Element review and technical assistance regarding land-use planning for energy conservation; conservation incentives for the building industry and residents; and promoting green-building and energy-efficient standards and practices. Local jurisdictions are implementing housing element programs that focus on energy efficiency in design strategies, guidance, and other support for their communities.
- Ensure local jurisdictions with underserved communities incorporate environmental justice into their housing elements as required by SB 1000.
- Provide outreach and technical assistance to local government jurisdictions seeking to adopt Pro-housing Designation Program policies that implement climate adaptation, hazard mitigation, and land-use efficiency.
- Incorporate climate adaptation and resilience strategies or metrics into the Regional Early Action Planning Grant Program.
- Utilize Cool Color Technology in exterior building finishes. The CALGreen Code has a voluntary code Section A5.106.7.2 Opaque wall areas which if adopted locally would require wall surfaces to have a minimum of Solar Reflectance Index (SRI) 25 (aged). Consider making this mandatory in areas most affected by extreme heat events. This would require manufacturers to meet these standards with their exterior finish systems.

- Further improve building envelope performance to better resist extreme heat and increasing temperatures by increasing insulation value, glazing performance, window shading device performance, and requiring thermal breaks eliminating thermal bridging through building framing, glazing, doors, etc.
- This would require the Energy Commission to develop increased performance standards in the California Energy Code to require increased insulation values, higher performing glazing and thermal breaks building systems. The Energy Commission would need to work with manufacturers, interested parties and stakeholders.
- Explore opportunities to improve thermal comfort in public spaces through relevant codes and regulations, particularly in heat-vulnerable communities.

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

TRACK C - GOAL 2, R4: Advise partners on opportunities to increase heat resilience in collaborative projects within both the built and natural environment.

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

TRACK C - GOAL 2, R5: Implement residential air temperature requirements.

- AB 2029 (Committee on Budget) charged the Department of Housing and Community Development with submitting policy recommendations to the Legislature that ensure residential dwelling units can maintain a recommended maximum safe indoor air temperature. The policy recommendations influenced SB 655 (Stern, 2025) which established all dwelling units, as defined, are required to be able to attain and maintain a safe maximum indoor temperature.
 - 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: Business, Consumer Services and Housing Agency; Housing and Community Development | Natural Resources Agency; Energy Commission | Government Operations Agency; Building Standards Commission | Health and Human Services

TRACK C - GOAL 2, R7: 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 (low income) 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, R8: Explore implementation of indoor and outdoor heat exposure rules for schools.

- New legislation, SB 1248, 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 CDE website.

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

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 (Caltrans) completes the standard specification for sustainable or cool pavements pursuant to [AB 296 \(2012\)](#), the Building Standards Commission will consider it for adoption in CALGreen. These updates could consider mandating these in areas affected by urban heat islands, including any standard specifications for cool or sustainable pavements developed by Caltrans or the Department of General Services, as well as any other appropriate 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 | Business, Consumer Services and Housing 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.
- Conservation Corps' [Energy Corps Program](#) provides free energy surveys and retrofits for schools and public agencies, including ventilation and air conditioning.
- 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.

Agencies: Health and Human Services Agency; Department of Community Services and Development | Natural Resources Agency; Conservation Corps |

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 clean space and water heating technology across California homes. TECH offers incentives, pilot activities, technical assistance and training to address barriers associated with clean space and water heating technologies.

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 120-volt self-install heat pumps in coordination with the Electric Program Investment Charge and Emerging Technology programs.
- Applications for the Energy Savings Assistance program (low-income) applications from the utilities were filed in 2025, which will include evaluation of weatherization programs that target low-income Californians. The Low-Income Pilot works with large statewide, low-income retrofit programs such as Energy Savings Assistance (ESA) and other programs to integrate new heat pump technology measures in existing program offerings. TECH Clean California supports these ESA programs by providing additional funding for remediation costs attributable to the installation of heat pump space or heat pump water heating. These additional costs are usually not covered by the primary program and become a barrier to the installation of a clean space and water heating measure.

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 | Business, Consumer Services and Housing 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. Also, support Model Water Efficient Landscape Ordinance implementation. Offer technical assistance to tribal governments seeking to adopt similar ordinances. The 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.

Agencies: Environmental Protection Agency; State Water Resources Control Board | Natural Resources Agency; Department of Water Resources | 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 and facilitating less space cooling. These benefits deliver reduced greenhouse gas emissions and peak demand caused by air conditioning load spikes.

Agencies: Natural Resources Agency; Energy 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.

- This action can be advanced through grants and incentives to local building departments who can speed 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 and resources support and 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 | Business, Consumer Services and Housing 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

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 reports guide 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. 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 Fire Protection's Urban and Community Forestry Program, United States Department of Agriculture 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

ACTION TRACK D: UTILIZE NATURE-BASED SOLUTIONS

INTRODUCTION

“Nature-based solutions” describe actions that work with and enhance nature to help address societal challenges. This term is an umbrella concept used across the world to describe a range of ecosystem-related approaches that protect and restore nature to deliver multiple outcomes, including addressing climate change, protecting public health, increasing equity, and protecting biodiversity.

Extreme heat and increasing temperatures compromise natural systems. California is committed to supporting our natural systems to adapt and promoting the expansion of nature-based climate solutions across the state. Nature-based solutions can also increase resilience to the impacts of extreme heat, cooling communities and providing strategic shade.

The actions in this track focus on best available science and meaningful partnerships to harness the power of nature to build California's resilience and protect communities and systems in the face of extreme heat. In particular, Tribal expertise and Traditional Ecological Knowledge are essential scientific components 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.

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 and frequency of extreme heat events and their impacts.

ESTABLISHED ACTIONS

TRACK D - GOAL 1, E1: Guide and accelerate nature-based climate solutions to build climate resilience and contribute to achieving carbon neutrality.

- In 2024, California established ambitious, science-based targets to harness the power of nature to achieve the State's climate change goals of carbon neutrality and protecting 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.
- Assembly Bill (AB) 2251 (Calderon, 2022) set a statewide goal to achieve a 10 percent 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.
- California released a [Climate Smart Lands Strategy](#) in 2022. It identified land management actions that, among other outcomes, help protect tribal and climate-vulnerable communities, improve public health and safety, and expand economic opportunity. Many of these land management strategies reduce risks from extreme heat and build resilience to future temperature increases.
- 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 and Housing Agency is participating in learning opportunities for innovative construction methods that reduce embodied carbon of the housing construction. This includes the use of mass timber, which provides a sustainable, low-carbon alternative for construction materials. Using mass timber, including cross laminated timber, supports the state's efforts in building climate resilience against future natural disasters through forest management and using building materials that enable carbon sequestration.

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

TRACK D – GOAL 1, E2: Partner with California Native American tribes to implement tribal expertise and Traditional Ecological Knowledges to accelerate tribal nature-based climate 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 California 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.
- The California Natural Resources Agency is in the process of adopting 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: Utilize nature-based solutions as part of cooling strategies in public and private spaces, including through planting trees, expanding greenspace, restoring urban streams, and increasing public awareness of best practices to green urban residential areas.

- 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 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.
- [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 High-Speed Rail Authority provided \$2.5 million in funding for urban tree planting within disadvantaged communities adjacent to the alignment. See the [2024 Report](#) for additional details.
- 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 program issues grants to fund organizations to meet the goals of the [State's Climate Smart Lands Strategy](#) and support [Pathways to 30x30](#), the action plan to conserving 30% of California's lands and coastal waters by 2030.
- 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.
- The Governor's Office of Service and Community Engagement / 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; Department of Forestry and Fire Protection, Department of Water Resources, Department of Conservation,

Wildlife Conservation Board, Santa Monica Mountains Conservancy, San Gabriel and Lower Los Angeles Rivers Conservancy, Sacramento-San Joaquin Delta Conservancy, Conservation Corps | Health and Human Services Agency; Department of Public Health | Environmental Protection Agency; State Water Resources Control Board, Department of Resources Recycling and Recovery | State Transportation Agency; High-Speed Rail Authority | Governor's Office of Service and Community Engagement; California Volunteers | Strategic Growth Council | Governor's Office of Land Use and Climate Innovation

TRACK D - GOAL 1, E4: Perform high-resolution tree canopy analysis of the state's urban areas.

- 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.

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

TRACK D - GOAL 1, E5: Preserve, enhance, increase, and establish community green areas.

- The Natural Resources Agency's [Urban Greening Grant Program](#) funds projects that both establish and enhance parks and open space and create more walkable and bike-able communities.
- Several of the Department of Parks and Recreation's programs fund the creation or improvement of recreational space:
 - The [Statewide Park Program](#) creates new parks and recreation opportunities in underserved communities across California.
 - The [Regional Park Program](#) creates, expands, and improves regional parks and regional park facilities.
 - The [Rural Recreation and Tourism Program](#) creates new recreation opportunities within rural communities to support health-related and economic goals and increase active-transportation leading to more physical activity and improved health.
 - The [Recreational Infrastructure Revenue Enhancement Program](#) improves and enhances local or regional park infrastructure.
 - Department of Parks and Recreation's [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.

Agency: Natural Resources Agency; Department of Parks and Recreation, Conservation Corps, Department of Forestry and Fire Protection

TRACK D - GOAL 1, E6: 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 [Caltrans Advance Mitigation Program](#) was established by the [Road Repair and Accountability Act of 2017](#) authorizing Caltrans to plan and implement advance mitigation solutions for its future transportation projects. This new business practice allows Caltrans to reduce delays by proactively obtaining environmental mitigation in advance of, rather than during, transportation projects. The Caltrans Division of Environmental Analysis (DEA) administers the Program and supports Caltrans Districts interested in planning and delivering advance mitigation projects.

Agencies: Natural Resources Agency | State Transportation Agency; California Transportation Commission

TRACK D - GOAL 1, E7: Partner with school districts, youth, and community-based organizations to accelerate school greening projects in tribal and climate vulnerable communities across the state.

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, E8: Utilize existing tools to strategically reduce risks of extreme heat through nature-based climate solutions.

- [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.

Agencies: All relevant agencies

TRACK D - GOAL 1, E9: 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.

- In 2024, California established ambitious, science-based targets to harness the power of nature to achieve the State's climate change goals of carbon neutrality and protecting Californians from devastating climate hazards. One of these targets includes 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 AB 617 Community Emissions Reduction Programs, both administered by the San Joaquin 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 already promotes these practices through the Green Ribbon Schools award program. The department has developed 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 advance nature-based solutions, particularly in communities most vulnerable to extreme heat and other climate impacts.

- 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 percent 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.

- Provide 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 SMUD'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.

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: Conserve 30% of California's lands and coastal waters by 2030.

- The State's 30x30 goal recognizes that we must act now to protect California's biodiversity, address climate change, and achieve a California for All. The Pathways to 30x30 document 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, E2: 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 transition to agricultural management practices that have a multitude of benefits to farms and society. Healthy soils improve resilience to extreme heat by increasing the moisture 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 gases 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.

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

TRACK D - GOAL 2, E3: Support environmental restoration and conservation efforts that protect natural systems 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; climate refugia conservation; investments that result in cooler water temperatures, such as streamflow enhancement and dam removal; controlling stream bank erosion that allows water to warm 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 prevent 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.

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

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

- Through its [Watershed Restoration Grants](#) Branch, CDFW 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 watershed 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

TRACK D - GOAL 2, E5: 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](#), CDFW 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

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, provide better conditions and improved safety for people visiting these natural places, and protect biodiversity and habitats.
- Identify opportunities to coordinate and collaborate with local jurisdictions and conservancies, community partners, and other organizations on efforts to implement infrastructure improvements 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 strategies 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, Coastal Commission, Department of Forestry and Fire Protection

TRACK D - GOAL 2, R3: Promote access to beaches, coastal areas, and inland waterways that can provide refuge from extreme heat events for heat-vulnerable residents.

- A disproportionate number of underserved populations live in inland areas that are more prone to extreme heat. Many California Native American tribes were forcibly moved away from their ancestral lands on the coast. Access projects could include campgrounds and cabins, trails, parking lots, restrooms, etc. along with efforts to reduce barriers to coastal access, such as shuttles, field trip programs, and reservation programs. Access projects could also include projects to provide tribal members access to their ancestral coastal lands.
- Engage and consult with tribes who may lack access to ancestral coastal territories to identify opportunities to promote access to beaches and coastal areas.
- Identify and fund ancestral land return projects on the coast.

Agency: Natural Resources Agency; Department of Parks and Recreation, State Coastal Conservancy, Coastal Commission, Wildlife Conservation Board, San Francisco Bay Conservation and Development Commission, State Lands Commission, Sacramento-San Joaquin Delta Conservancy, Conservation Corps

TRACK D - GOAL 2, R4: Improve understanding of the link between elevated temperature and stream ecology.

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

TRACK D - GOAL 2, R5: Incorporate guidance in grant guidelines that direct applicants to best available information on how extreme heat might impact and be mitigated for 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, R6: Improve understanding of the link between elevated future temperatures and changes to California's carbon stocks.

Agency: Environmental Protection Agency; California Air Resources Board

TRACK D - GOAL 2, R7: 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 updates to 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, R8: 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.

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 more efficient water use and conservation. 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' [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: 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

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