LOS ANGELES COUNTY HEAT ACTION PLAN
Data Viewer User Guide

Contents

Overview

Extreme Heat is a critical hazard affecting all of LA County's communities, infrastructure, and ecosystems. Elevated heat corresponds with over 200 excess deaths annually in LA County. As global temperatures rise, the increasing intensity and duration of the heat season threatens to disrupt the region's social and economic stability.

The County Heat Action Plan (CHAP) Data Viewer is a map-based decision-support tool designed to support County Departments, cities, and other CHAP implementation partners with identifying localized heat vulnerabilities and tailoring solutions to the unique needs of their specific communities across LA County. Rather than prescribing specific projects, the Data Viewer helps users ask better questions—such as where heat exposure is most acute, which populations are most affected, and which types of interventions are likely to be most effective in different contexts.

The CHAP Data Viewer is distinct from other map-based tools, such as the LA County Climate Vulnerability Assessment Mapping Tool or the Community Forestry Management Plan Data Viewer, in its comprehensive integration of heat-specific indicators and overlays, including some layers that can be found on other tools and some unique layers developed specifically for the CHAP.

The tool is most powerful when layers are used together. Cities are encouraged to start by identifying priority communities using health and susceptibility indicators, then use siteand community-level layers to determine which cooling strategies are most appropriate in different contexts.

Layers: Relevance & Use

Community Boundaries

The CHAP Data Viewer is designed to enable users to easily zoom into specific communities and view/download community-level data, based on community boundaries shown in the below layer. The **Communities** layer contains the boundaries of Countywide Statistical Areas, contiguous geographic areas whose borders roughly represent neighborhoods, small cities, or unincorporated communities. Small cities typically consist of just one CSA, whereas larger cities have multiple CSAs. CSAs can be used as a consistent unit of analysis for comparing conditions across communities or summarizing data for plans or grant applications. Additional details here.

Cool Assets

The below layers show the locations of community assets that can help residents stay cool and identify gaps in access.

- **Cooling Centers:** This layer, made available by the LA County Office of Emergency Management, shows the locations of all County-recognized cooling centers, based on data provided by County Departments and by 34 participating cities. Most cooling centers are located within existing public facilities, such as libraries, senior centers, and community recreational spaces. Additional details here.

- **Parks and Open Space:** This layer, made available by LA County Parks and updated regularly, displays polygons of accessible parks and open areas across LA County. Additional details here.

- **Schools, Colleges, and Universities:** This layer shows the locations of primary and secondary schools, adult education sites, and colleges and universities across Los Angeles County based on the 2023–24 academic year. It includes public, charter, and private institutions, with enrollment information where available. Colleges and universities are included using national higher-education facility data. This layer can help identify educational sites that may serve as community hubs, cooling resources, or locations where students and staff may be especially vulnerable to extreme heat. Additional information here.

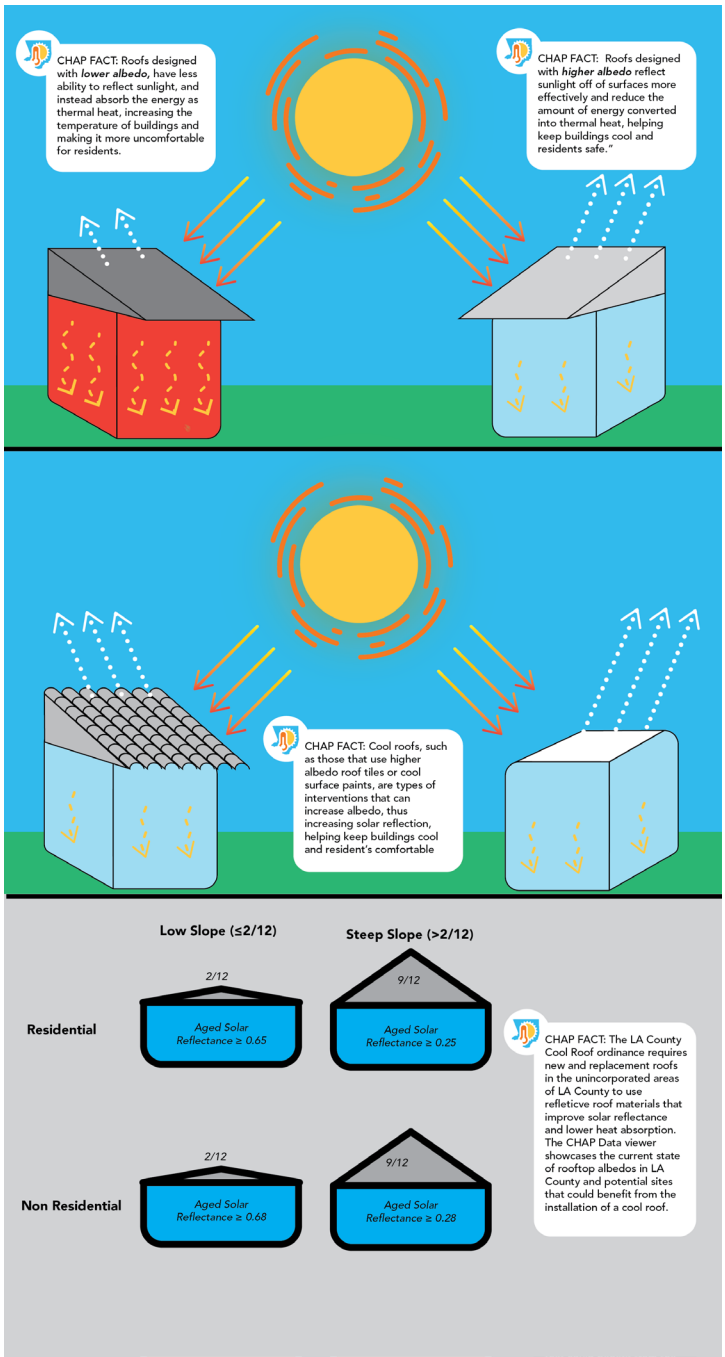
- **Hospitals and Medical Facilities:** This layer displays the locations of hospitals, clinics, and other medical facilities across the county. These sites play a critical role during periods of extreme heat, serving as points of care for heat-related illness and as potential partners in preparedness and response planning. Understanding where medical facilities are concentrated or limited can help identify communities that may have restricted access to care during dangerous heat conditions. Additional information here.

Site-Level Conditions

The following layers show site-level conditions that affect heat exposure, and can help users determine which sites may benefit from specific interventions. These layers are most useful once a priority community, corridor, or facility has already been identified. They help translate high-level needs into place-based action.

- **Shade at Bus Stops:** This layer indicates the total amount of shade in square feet that is cast on the ground at 3pm near known bus stops. The polygon around each bus stop is colored blue or light orange if the stop has at least 20 square feet of shade, and orange if it has less than that. Additional details here.
    - *Data considerations: The bus stop location data is not currently complete for incorporated areas that are primarily served by transit systems other than Metro, such as parts of Long Beach and the Antelope Valley*
- **Walkway Shade:** This layer shows select sidewalks, color-coded based on the percent of land area that is shaded at 3pm. Sidewalks with a low percent of shade are shown as pink, and sidewalks with higher shade are blue. Additional details are here.
- **Walkway Pedestrian Activity:** This layer categorizes select sidewalks based on how many people have used them (walking or rolling) within an hour on a typical day. Areas with high foot traffic may include bus stops and other mobility stations with high ridership or commercial corridors. Additional details are here.

Figure 1: Rooftop Albedo Overview & Cool Roofs



- **Tree Wells (Unincorporated Vacant & Active):** This layer inventories parkway trees maintained by Los Angeles County Public Works within unincorporated communities, including both existing trees and approximately 30,000 identified vacant planting sites. Parkway trees are typically located in the public right-of-way between the curb and adjacent property lines and may also appear in medians. Attributes include tree species, size, condition, maintenance district, presence of overhead lines, and parkway dimensions. Vacant wells represent potential locations for new shade trees; however, they do not represent a complete inventory of all plantable sites. Additional information here.

- **Park Shade:** This layer shows parks, color-coded based on the percent of land area that is shaded at 3pm. Parks with a low percent of shade are shown as yellow, and parks with higher shade are white. Additional details are here.

- **Park Pedestrian Activity:** This layer categorizes parks based on how many people have used them (walking or rolling) within an hour on a typical day. Additional details are here.

- **Rooftop Albedo – Building specific:** This layer shows the reflectivity of building rooftops across the county as of 2023. Albedo refers to the reflectivity of sunlight off a surface. Surfaces with a higher albedo reflect more solar energy, while surfaces with a lower albedo absorb more energy and convert it into heat. Buildings with lowalbedo rooftops have higher indoor temperatures or require more air conditioning use to offset the heat absorption. Additional details here.

    - *Data considerations: This layer has a high level of detail, and may not load quickly or at all until it the map is zoomed in to a sub-regional or community level*

- **Landcover:** This layer maps physical land cover across the county using high-resolution data that classify the landscape into eight categories: tree canopy, grass/shrubs, tall shrubs, bare soil, water, buildings, roads/railroads, and other paved areas. It is divided into two sub-layers: Landcover in Urban Areas, and Landcover in Rural Areas. Additional information here.

Community-Level Conditions

The following layers can help users how neighborhood-scale physical characteristics shape heat exposure and where large-scale or programmatic interventions may be most effective. These layers are particularly useful for identifying patterns across a community rather than targeting individual sites.

- **Percent Total Shade:** This layer (mapped at the census block group level) indicates how much land area is shaded – i.e., protected from direct sunlight – at 3 PM from various sources. Shade may come from trees, buildings, canopies, or other structures. This data layer is important because direct sunlight can increase the body's heat burden temperature by 20 degrees or more above air temperature. Additional details here.

- **Percent Tree Canopy:** This layer (mapped at the census tract level) indicates how much land area was sheltered by tree cover as of 2020. Trees reduce the body's heat burden temperature by providing shade and by cooling the air through evapotranspiration. Trees also provide numerous co-benefits, such as habitat creation and stormwater capture (which helps reduce the risk of flooding). Additional details here.

- **Impermeable Surfaces:** This layer (mapped at the census tract level) indicates what percent of the land surface area is covered by impermeable material such as asphalt. Impermeable surfaces inhibit the natural cooling function typically provided by soil or vegetated areas (also possible with pavers or other permeable surface materials). Pavement removal creates opportunities for vegetation and habitat and can help reduce risk of flooding when accompanied by the creation of green stormwater infrastructure like bioswales. Additional details here.

- **Rooftop Albedo – Community Average:** This layer indicates the average albedo of all rooftops within a given community (aggregated at the CSA level). Additional details here.

- **Air Conditioning Availability:** This layer shows the estimated percentage of households with any type of air conditioning. While the presence of AC suggests access to indoor cooling, it does not guarantee usage—households may avoid running their AC due to high energy bills, outdated equipment, or concerns about efficiency. Comparing AC availability with energy burden or income-related indicators can help identify households that have AC but may not be able to operate it consistently during heat events. Additional information here.

- **Energy Burden:** This layer estimates the percentage of household income spent on energy costs. Higher energy burden may limit a household's ability to safely cool their home during extreme heat, even when AC is present. Understanding energy burden alongside temperature and vulnerability indicators can help identify communities where extreme heat interventions may need to include utility assistance, weatherization, or other energy-support programs. Additional information here.

Community Susceptibility to Heat

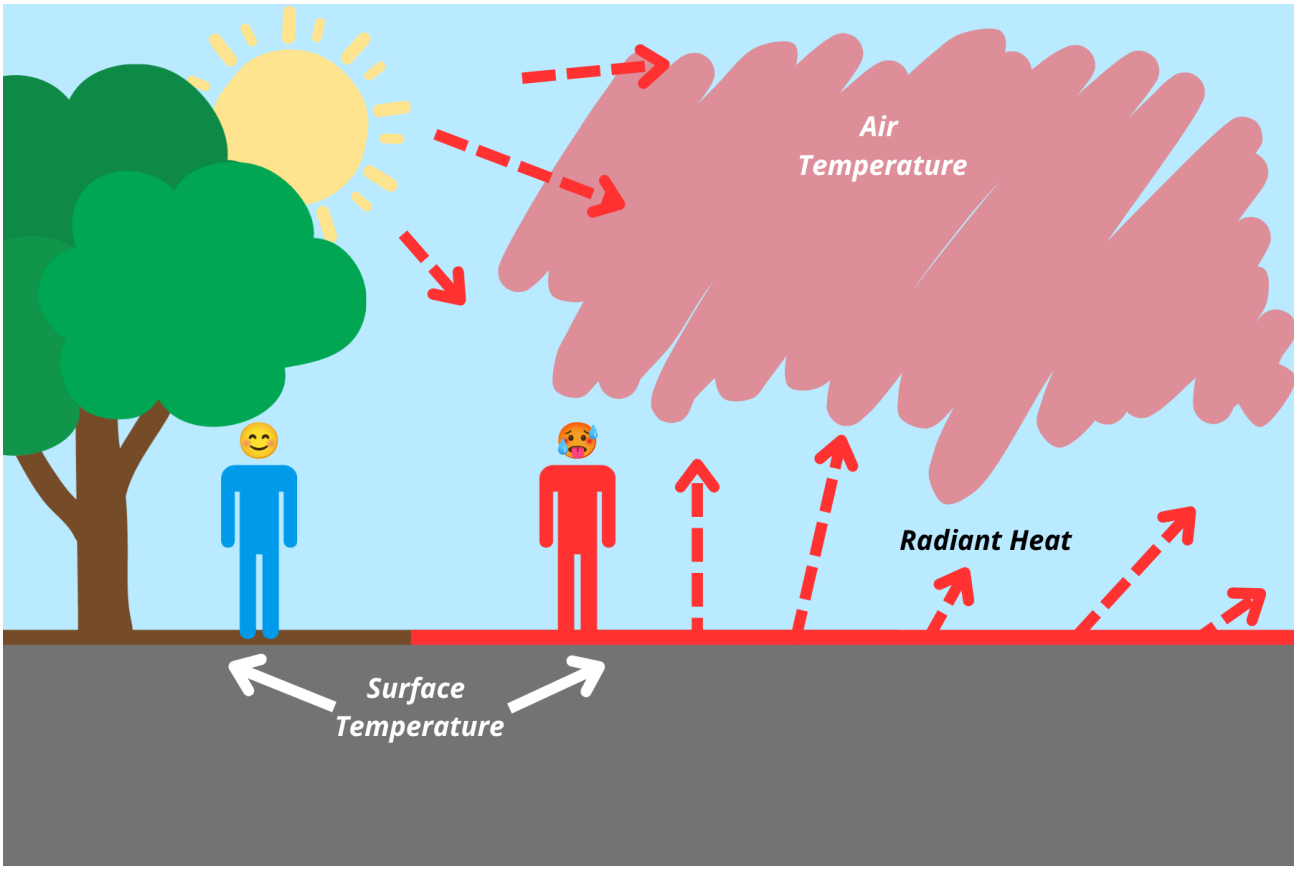
The below layers can help users identify which communities and neighborhoods have higher or lower need for heat resilience investments. Once priority neighborhoods are identified, Site-Level Conditions and Community-Level conditions can help determine which types of heat resilience interventions/investments are more likely to be effective at which sites.

- **Heat Health Burden:** This layer (mapped at the zip code level) indicates the rate of excess emergency department (ED) visits for specific conditions – such as stroke, dehydration, and renal failure – above the expected baseline during hot days in LA County. This metric is a core equity indicator representing the direct impact of extreme heat on the health of the general population, and it should inform which communities are prioritized for investments. Every single strategy and action included in the CHAP can help to move the needle on this indicator, directly or indirectly. Additional details here.

- **Social Sensitivity Index:** This layer (mapped at the census tract level) identifies social and economic characteristics of County residents that affect their susceptibility to climate impacts. This index aggregates data on health, education, income, and other factors. Communities with high social sensitivity often face overlapping issues that limit their ability to prepare for, respond to, and recover from extreme heat, making targeted intervention essential for regional equity. Additional details here.

- **CalEnviroScreen 4.0:** CalEnviroScreen 4.0 is California's statewide cumulative impact screening tool, ranking census tracts based on both pollution burden and population vulnerability. Communities with high CalEnviroScreen scores typically face multiple environmental stressors — such as air pollution, hazardous site proximity, or drinking water contaminants — combined with socioeconomic and health challenges. Heat and pollution often interact in ways that amplify impacts; for example, high temperatures accelerate the formation of ground-level ozone, intensifying respiratory risk in areas already burdened by poor air quality. This layer helps identify communities where environmental inequities and extreme heat overlap, signaling areas where resilience investments may have the greatest impact. Additional information here.

Figure 2: Temperature Overview



Temperature Data

The layers listed below can help users understand how hot the outdoor environment is, on average, in different communities across the County. Outdoor heat is one of several factors that influence heat risk and should be interpreted alongside other layers. Figure 2, below, illustrates how air temperature, radiant heat from the sun, and radiant heat from surfaces each independently affect thermal comfort. Shade that blocks radiant heat from the sun can significantly decrease the body's heat burden and improve thermal comfort. See the CHAP Outdoor Interventions Handbook for a more detailed explanation of how different interventions affect thermal comfort in different ways.

- **Average High Air Temperature:** This layer shows the average 95th percentile daily maximum temperature — that is, the typical maximum temperature on the hottest days of the year — for a historical baseline period and for mid- and late-century projections under a high greenhouse gas emissions scenario. Air temperature reflects broad climatic conditions but does not capture local variations in how hot conditions feel at street level, which is strongly influenced by factors such as surface material and shade; see descriptions of the shade layers and the Local Temperature Differential layer which help to fill that gap. Additional details here.

- **Urban Heat (Local Temperature Differential):** This layer, developed by the Trust for Public Land and also referred to as "relative heat severity," quantifies the intensity of highly localized variations in surface temperature as of 2025. Dark and impermeable surface materials like asphalt trap solar energy and re-release it as heat, contributing to the urban heat effect which can which can affect thermal comfort. This layer can inform planning for interventions aimed at reducing the urban heat effect, such as the application of cool pavement materials or the removal of asphalt. Additional details here.

State Funding Priority Areas

The layers listed below are from State data platforms, and applicants to the state's Extreme Heat and Community Resilience Program are required to obtain information from them for application materials.

- **LCI Vulnerable Communities Platform – LA County:** This layer shows Los Angeles County block groups classified in the State's Vulnerable Communities Platform using current Climate Now (extreme-heat hazard) and Social (social vulnerability) scores. The CHAP Data Viewer includes only the LA County subset of this statewide dataset. Applicants to the Extreme Heat Program must use these values to complete Funding Priority Question 1c (Vulnerable Population) in the Round-2 Pre-Application Interest Form by entering the block group number along with the Climate Now and Social scores. According to the grant guidelines, a community qualifies for the 12-point Vulnerable Population funding priority if it has High Climate Hazard with High or Medium Social Vulnerability, or High Social Vulnerability with High or Medium Climate Hazard. Applicants obtain these classifications by clicking on a block group in the State's VCP mapping tool, available here.

- **Prop 4 DAC and SDAC Status – LA County:** This layer maps census tracts within Los Angeles County that are designated as Disadvantaged Communities (DACs) or Severely Disadvantaged Communities (SDACs) in the State's Climate Bond (Proposition 4) dataset; the CHAP Data Viewer provides only the LA County subset of this statewide file. Applicants must reference this information in Funding Priority Question 1b of the Round-2 Pre-Application Interest Form by entering each community's Census Tract GEOID and its DAC or SDAC status, which the State uses to determine eligibility for 10 or 15 funding priority points. The official State mapping tool for obtaining DAC/SDAC status is available here.