Building Community Resilience:
Extreme Heat Strategies and Funding from Los Angeles and Sacramento

Hosted by the Los Angeles Regional Collaborative for Climate Action & Sustainability (LARC) and the Capital Region Climate Readiness Collaborative (CRCRC)

LARC

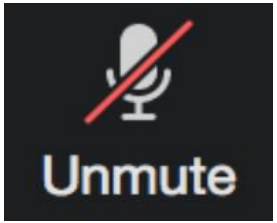
CAPITAL REGION CLIMATE READINESS COLLABORATIVE

Logistics

Microphone

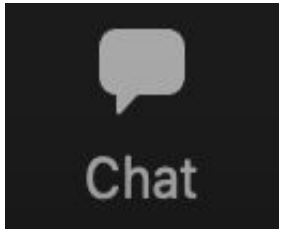
Keep yourself **muted** when not speaking

Unmute yourself when speaking



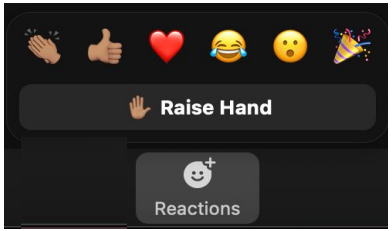
Chat

Communicate with other attendees or reach out to John Vandervort or Catherine Foster via chat if you encounter technical issues.



Reactions

Click the icon to **raise your hand** to ask to speak verbally.



Agenda

1:00 - 1:10
Welcoming Remarks

1:10 - 1:40
Extreme Heat Strategies

1:40 - 2:00
Funding for Extreme heat Strategies

2:00 - 2:28
Q&A

2:29 - 2:30
Closing Remarks

Welcome our Facilitators!

Shelley Jiang
Chair, CRCRC

Erin Coutts
Executive Director,
LARC

Welcome our Speakers!

Maria Koetter
Executive Director,
Global Cool
Cities Alliance

Mara Luevano
Civic Engineering Associate,
StreetsLA

Sarah Schneider
Deputy Director,
Cool Roof Rating
Council

Nuin-Tara Key
Deputy Director for Climate Resilience,
Office of Planning &
Research

Extreme Heat Strategies

About Maria Koetter

Maria Koetter is the Executive Director at the Global Cool Cities Alliance. In this capacity, she develops and manages policies and programs that build resilience to extreme heat. Maria leads global initiatives including the C40 Cool Cities Network and the Million Cool Roof Challenge. Maria oversees heat mitigation initiatives with government leaders and subject matter experts from cities, universities, and federal agencies, as well as the manufacturing and industrial sectors. Maria also manages programs to measure the heat reduction impacts of cool surfaces in partnership with NASA – Lawrence Berkeley National Labs. Maria launched the Cool Roadways Partnership and currently provides market leadership towards advancing the availability and use of high-performance reflective “cool” Surfaces.

Building Community resilience: Extreme Heat Strategies

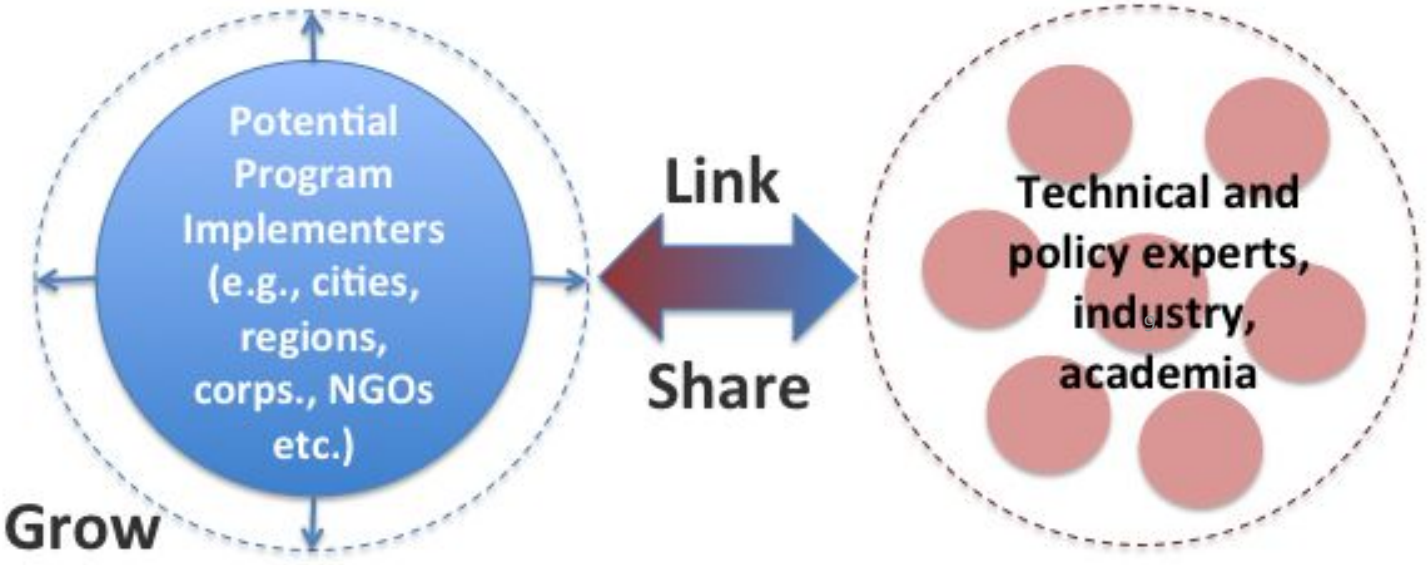
LARC and CRCRC

Maria Koetter, Executive Director
Global Cool Cities Alliance

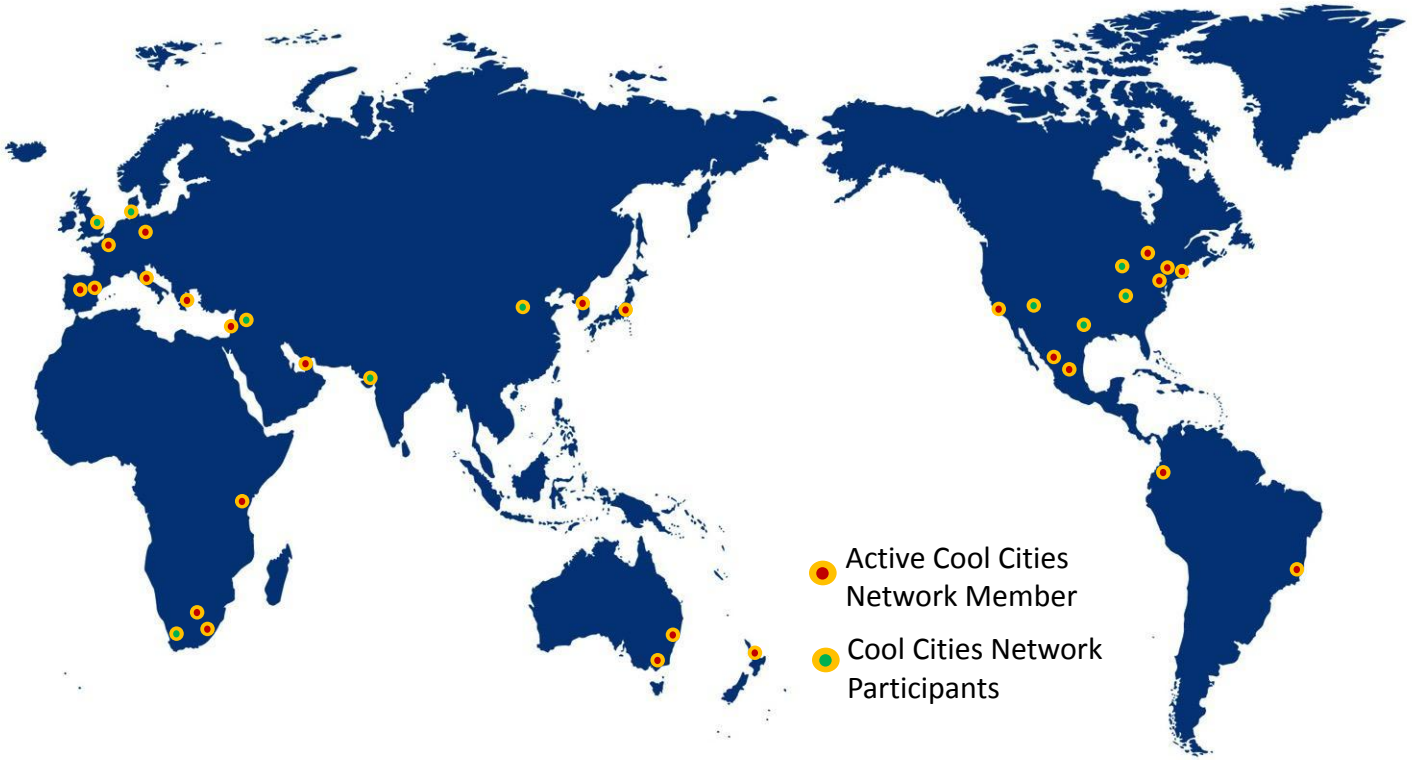
April 18, 2022

Global Cool Cities Alliance

Dedicated to advancing policies and programs that build resilience to extreme heat through global cooling



GCCA - C40 Cool Cities Network Participants

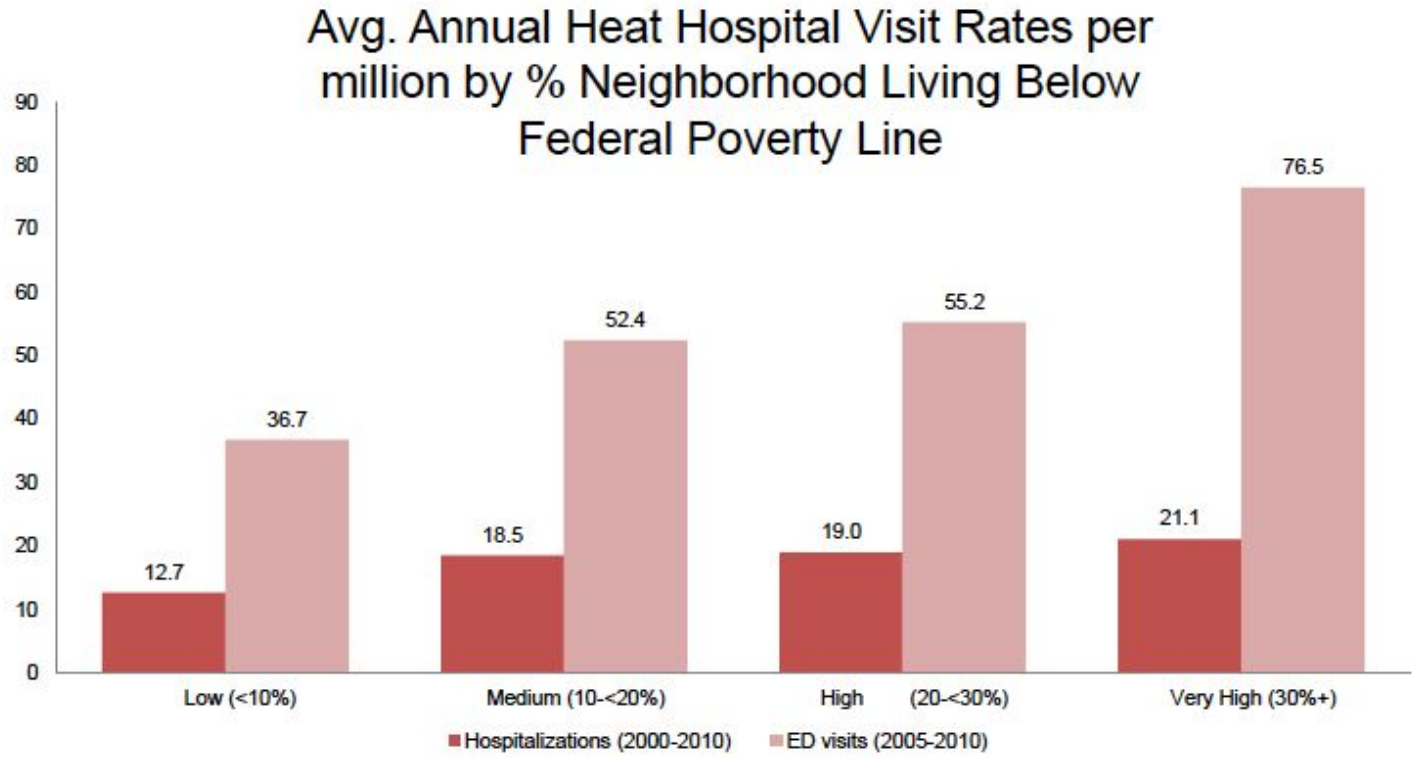


Why Should I Care?

Extreme Heat Impacts Most Aspects of Daily Life

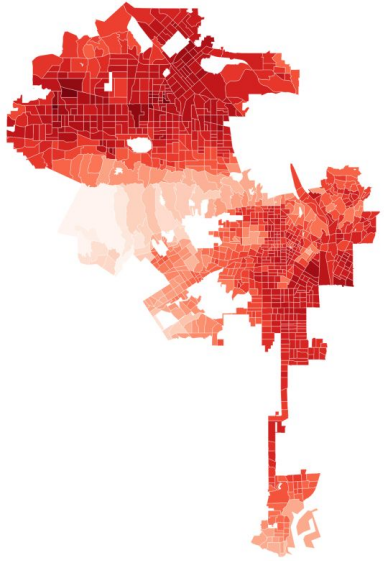
- Mortality
- Outdoor workers
- Productivity
- Violent Crime
- Education outcomes
- Air quality
- Human health and well-being
- Equity and justice
- Energy use
- Biodiversity

Heat is a Health Threat in Underserved Communities



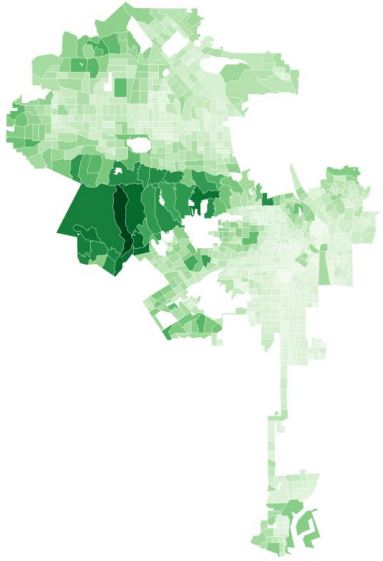
Heat Threatens Underserved Communities

SURFACE TEMP.



Cooler — Hotter

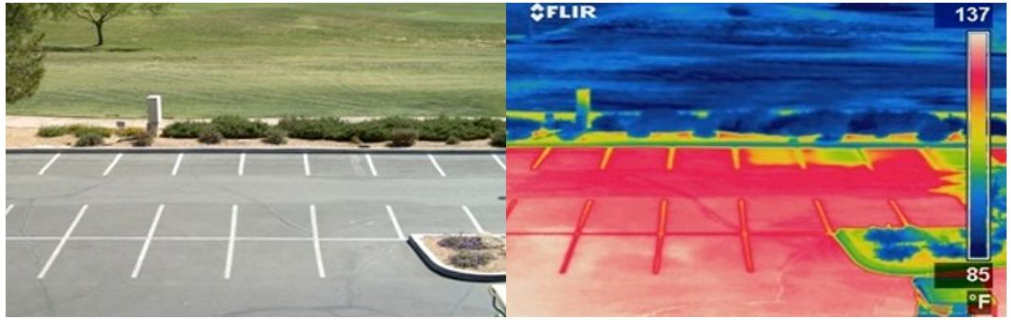
INCOME



Minimum $6K — Median $52K — Maximum $250K

Black Americans are 52% more likely than white Americans to live in communities with land cover that generates a risk of heat and heat stress
– Jesdale et al 2013

Nearly 40% of our Cities are Paved…Contributing to Urban Warming



Cool Pavement Options

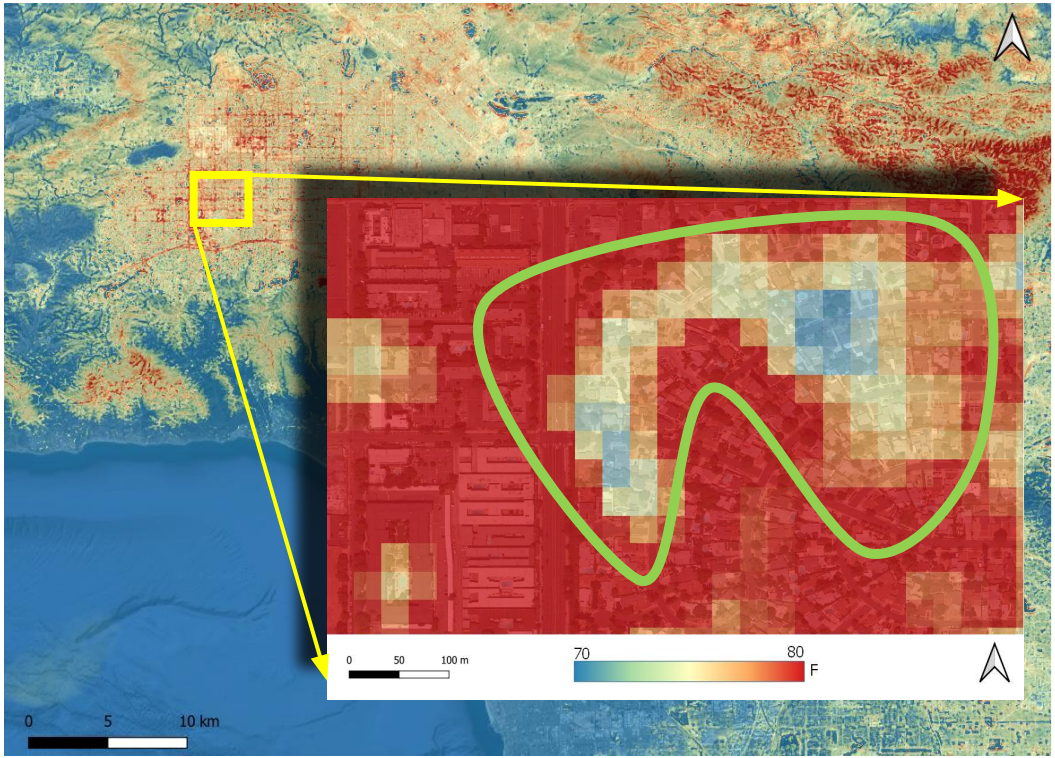
High solar reflectivity

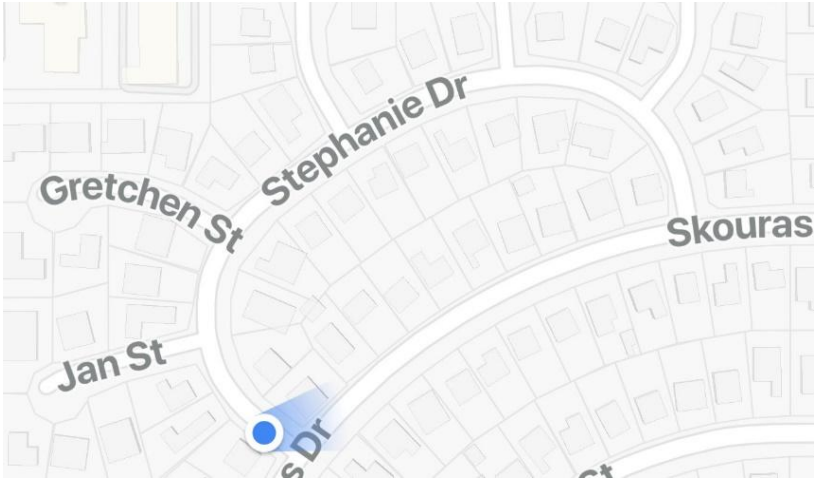
Cools by reflecting, rather than absorbing, solar energy

Permeable/porous

Cools via evapotranspiration

Cool Pavement Effects Visible from Space

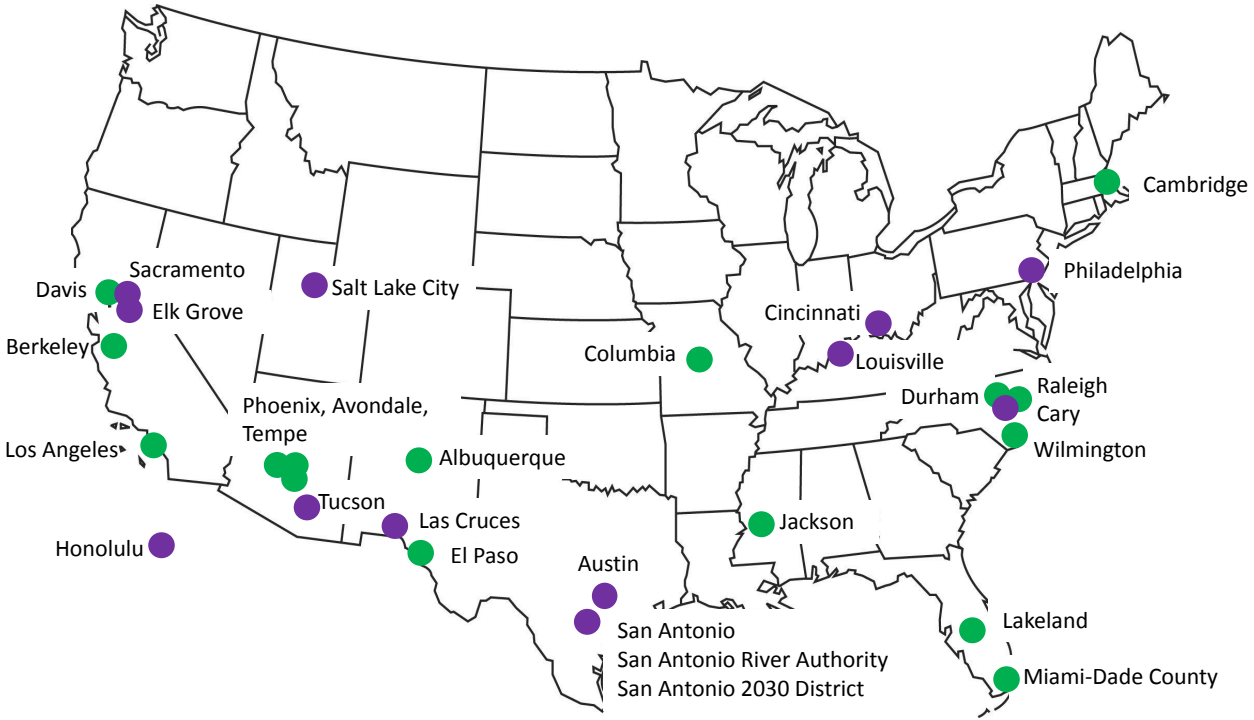




ECOSTRESS Land Surface Temperature 7/30/2020, midnight (Source: Glynn Hulley, JPL/NASA)

Cool Roadways Partnership

30 members** spending over $500M to repair / replace 7,100 miles of roads annually with **13 demonstration projects



Founding Partner

GuardTop
THE GOLD STANDARD IN ASPHALT PROTECTION

Gold Partners

GAF

Silver Partners

Pavement Technology Inc. Since 1972

Bronze Partners

ENDURABLEND™
POLYMER CEMENT SURFACING

Collaborating Partners

USDN urban sustainability directors network

NLC National League of Cities
CITIES STRONG TOGETHER

ICLEI Local Governments for Sustainability

U.S. Green Building Council LEED CERTIFIED USGBC

SMART SURFACES COALITION

Columbia University
IN THE CITY OF NEW YORK

Market Intelligence: Request for Information

- Responses from 12 manufacturers of seals, coatings, overlays, concrete, and other products
- Cost data ranging from $2.5/yard^2 to $20/yard^2
- Many colors available (medium grey similar to concrete is most commonly used)
- Compliant with MUTCD white and yellow markings
- Details here: https://globalcoolcities.org/cool-roadways-solutions-what-is-available-today/

Cool Pavements Federal Opportunities

Infrastructure Bill November 2021

- ***Section 11406 - Healthy Streets Initiative***
  $100M annually to cities for 5 years for reflective pavement, permeable pavement, and street trees

- **Section 40511**
  Cost-effective codes implementation for efficiency and resilience

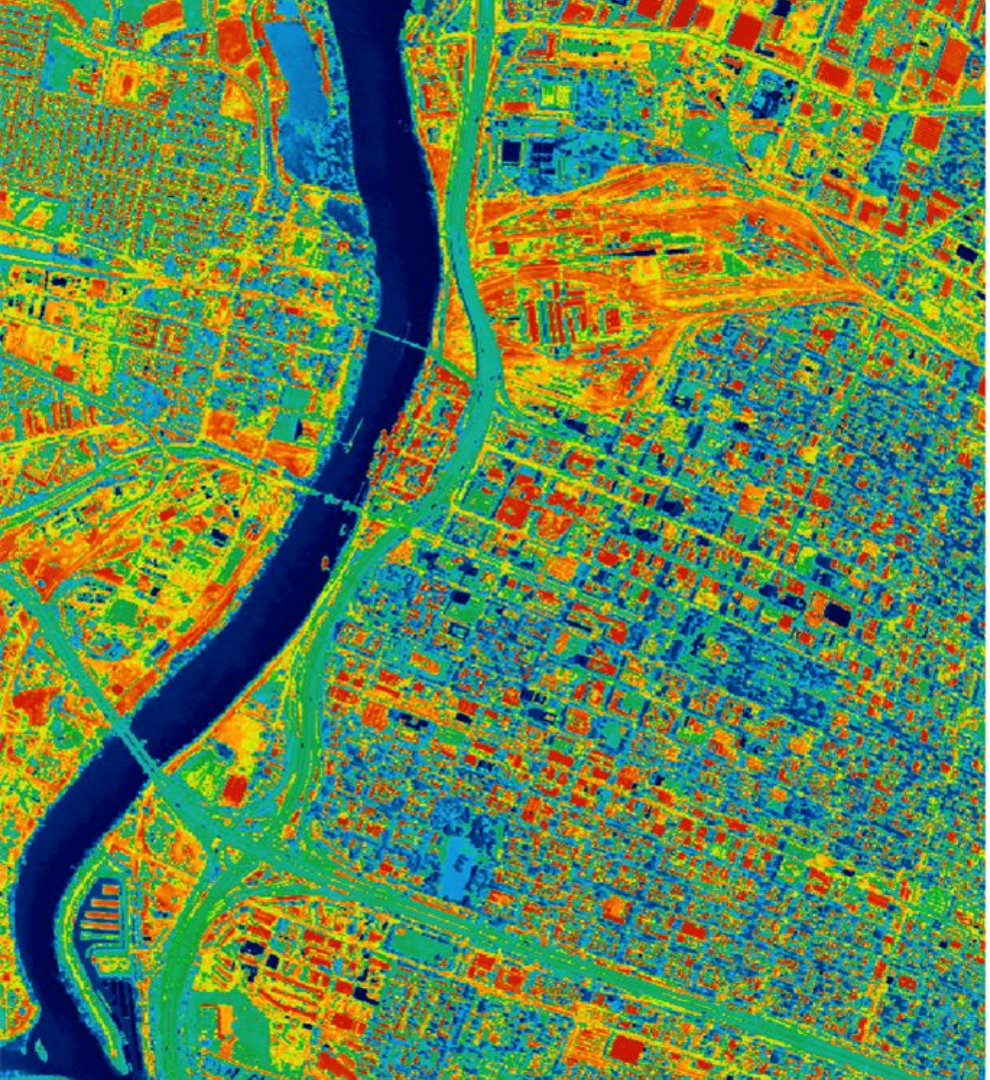
- **Section 40542**
  Energy efficiency materials pilot program

HEAT Bill (Sen Markey/Rep Crist)

- Grants to cities for heat mitigation, sensing and analysis: $20M per year for 5 years
- Funds federal task force and reporting process, includes heat resilience measures

Cool Roadways Partnership

- Accelerate the use of cool pavements
- Demonstrate bold market leadership
- Engage with peers, manufacturers, and researchers
- Opportunities for pilot projects
- Collaboration and grant opportunities
- Engage with the Global Cool Cities Alliance!



Thank you!

GlobalCoolCities.org
CoolRoofToolkit.org

Contact us for more information:

Maria Koetter
maria@globalcoolcities.org

About Mara Luevano

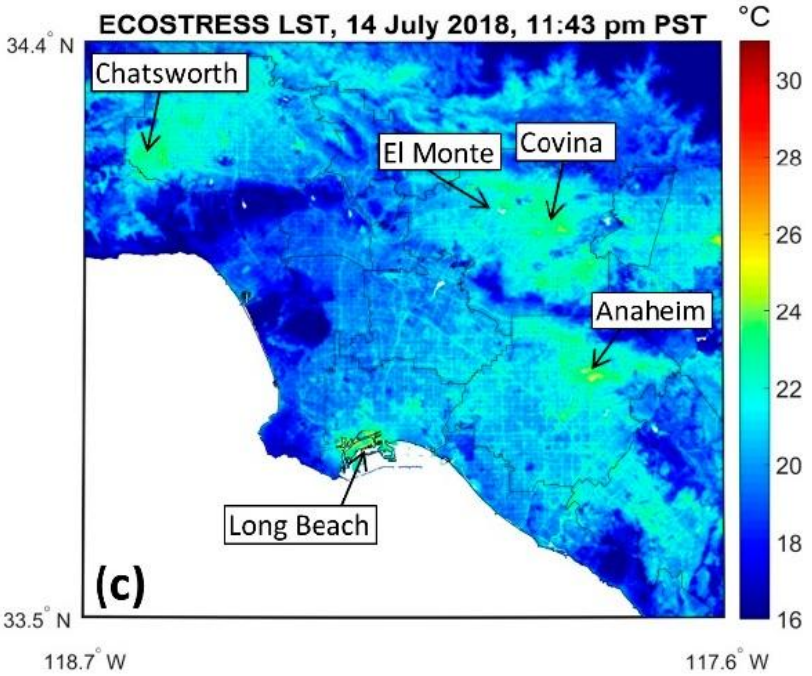
Mara Luevano is a civil engineer and project manager for City of Los Angeles, Department of Public Works Bureau of Street Services in the Engineering Services Division. In her 6 years of working for the City of Los Angeles, she has worked on the planning, design and construction for a variety of public rights-of-way and public infrastructure projects. This includes obtaining and managing multi-million dollar grant-funded projects that create a holistic streetscape for Los Angeles to improve equitable mobility, greening, and cultural identity for all Angelenos. Mara also serves on the Bureau's Urban Cooling Committee where she uses data and mapping to plan future Cool Neighborhood projects in the most vulnerable neighborhoods in Los Angeles. She has a Bachelor of Science in Civil Engineering from Loyola Marymount University and a Master of Science in Environmental Engineering from the University of Southern California.

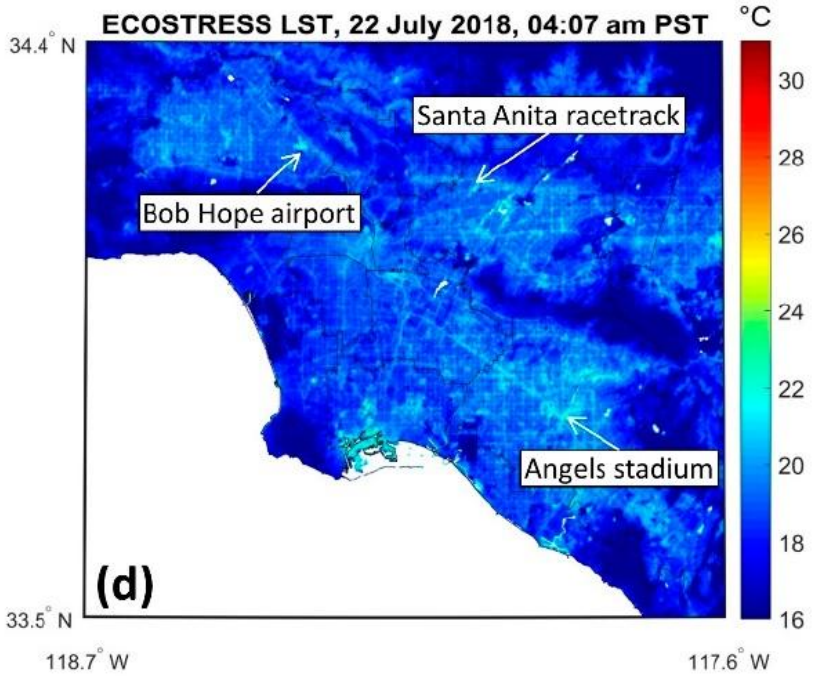
COOL STREETS LA

COOLING LA'S NEIGHBORHOODS

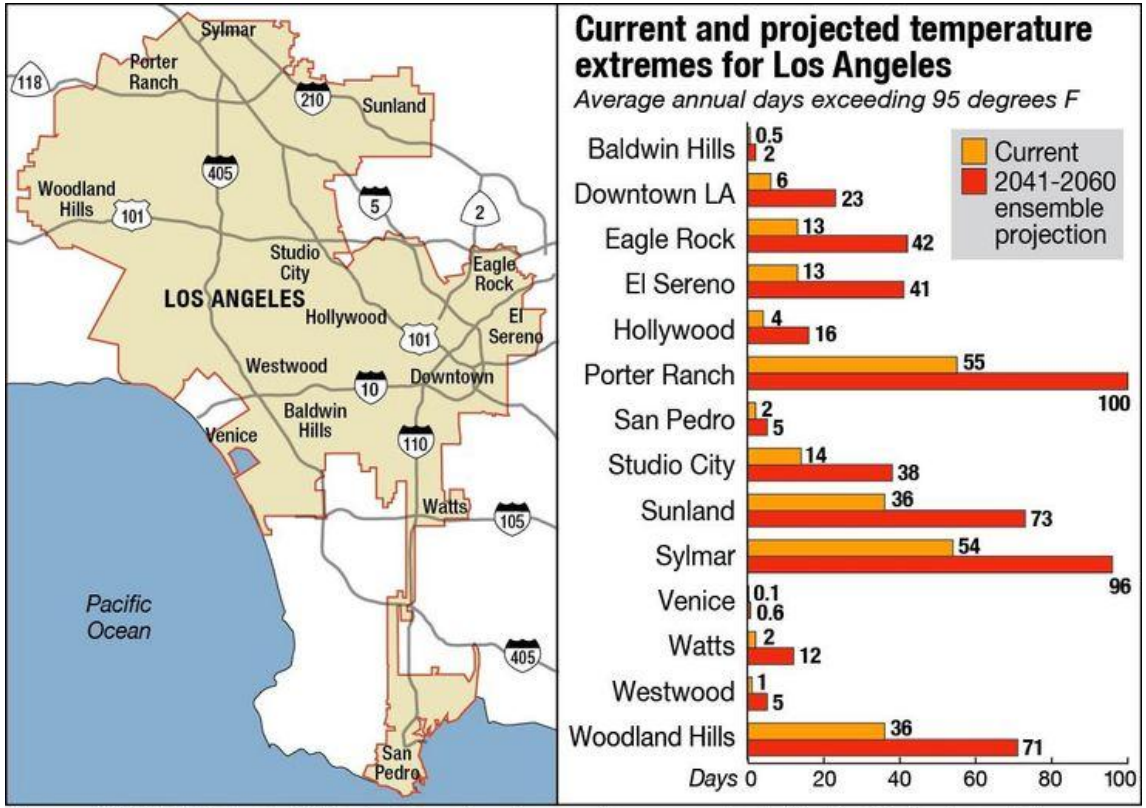
Building Community Resilience: Extreme Heat Strategies and Funding for the Public Right-of-Way

At night, you can see LA's warm roads and airports on satellite thermal imagery



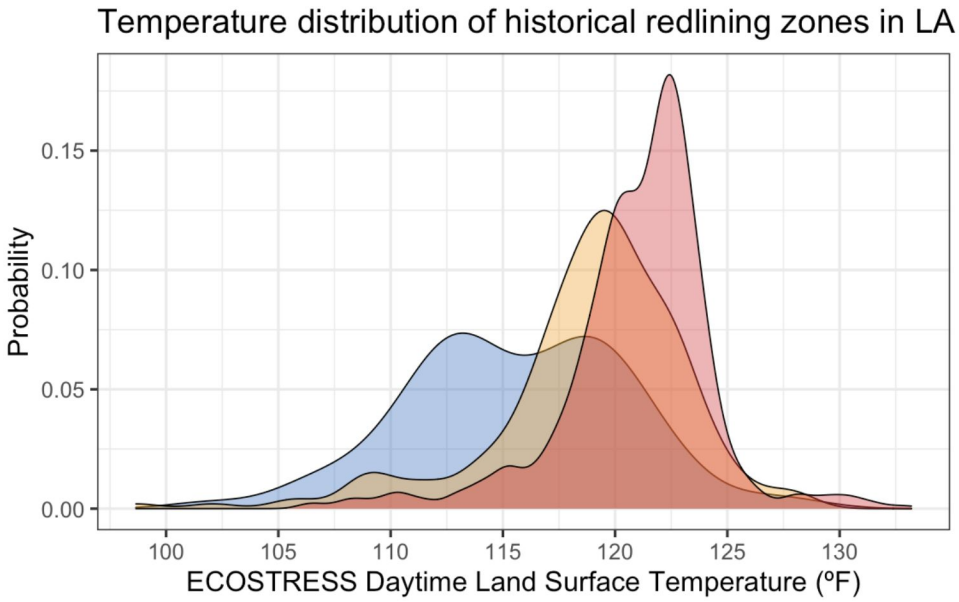


Urban Heat will become a growing problem



Source: UCLA LARC study, 2012; chart based on the mean/average projected by the 18 climate models

Historic Redlining has created vulnerable communities



Strategies to reduce the Heat Island Effect:

Shade Trees

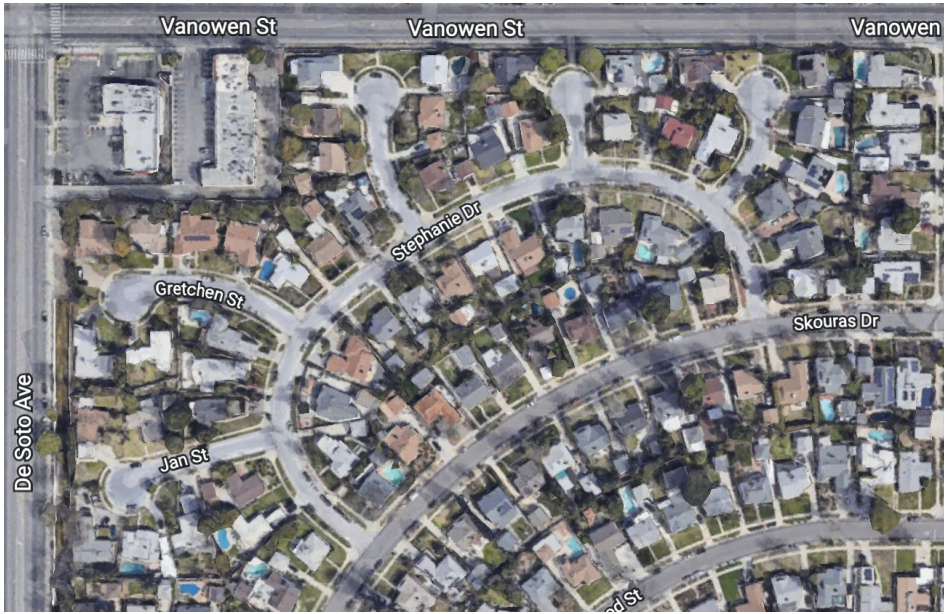
Cool Roads

Shade Structures

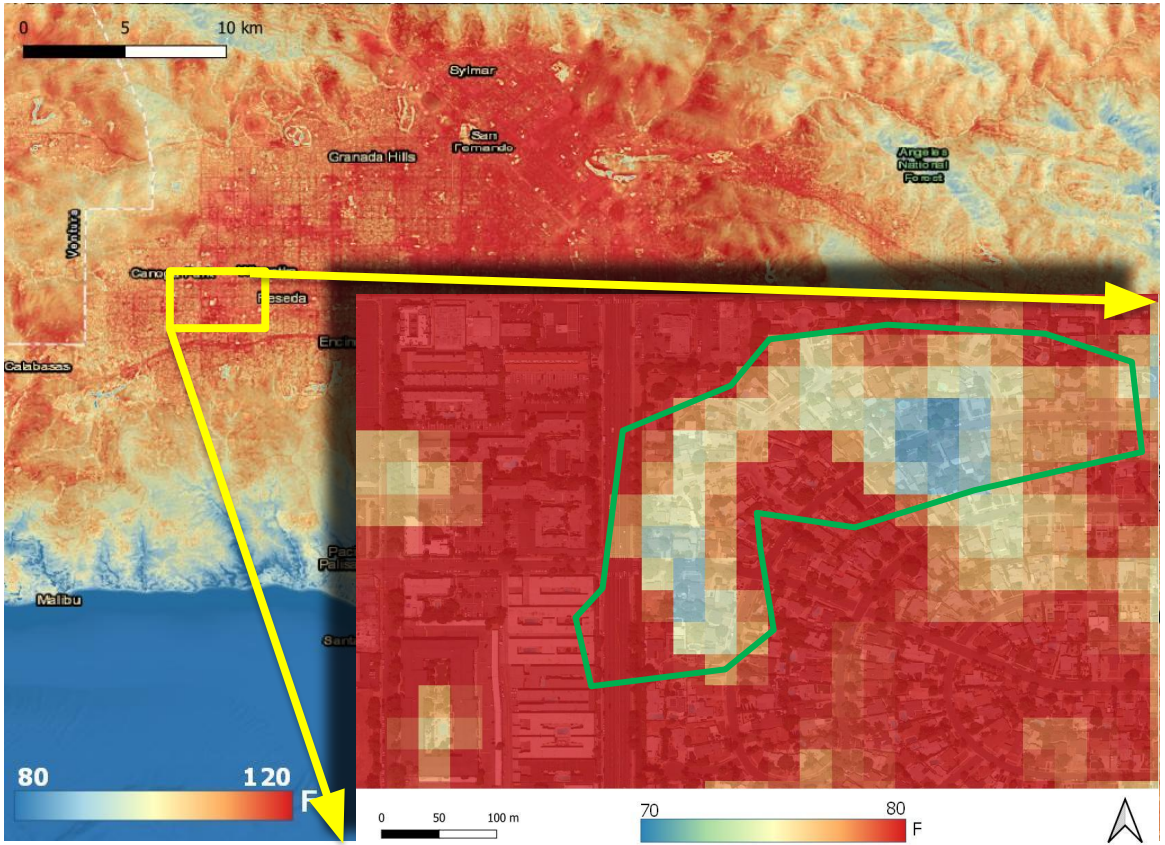
Cool Roofs

2017: StreetsLA installed cool pavement coating on one city block in each of the 15 Council Districts

May 2019: First Neighborhood-Level Cool Pavement Project in Winnetka
Cool Seal on 11 Residential Blocks along the crescent of Stephanie Drive



Cooling Effects of the Winnetka Project are visible from Space

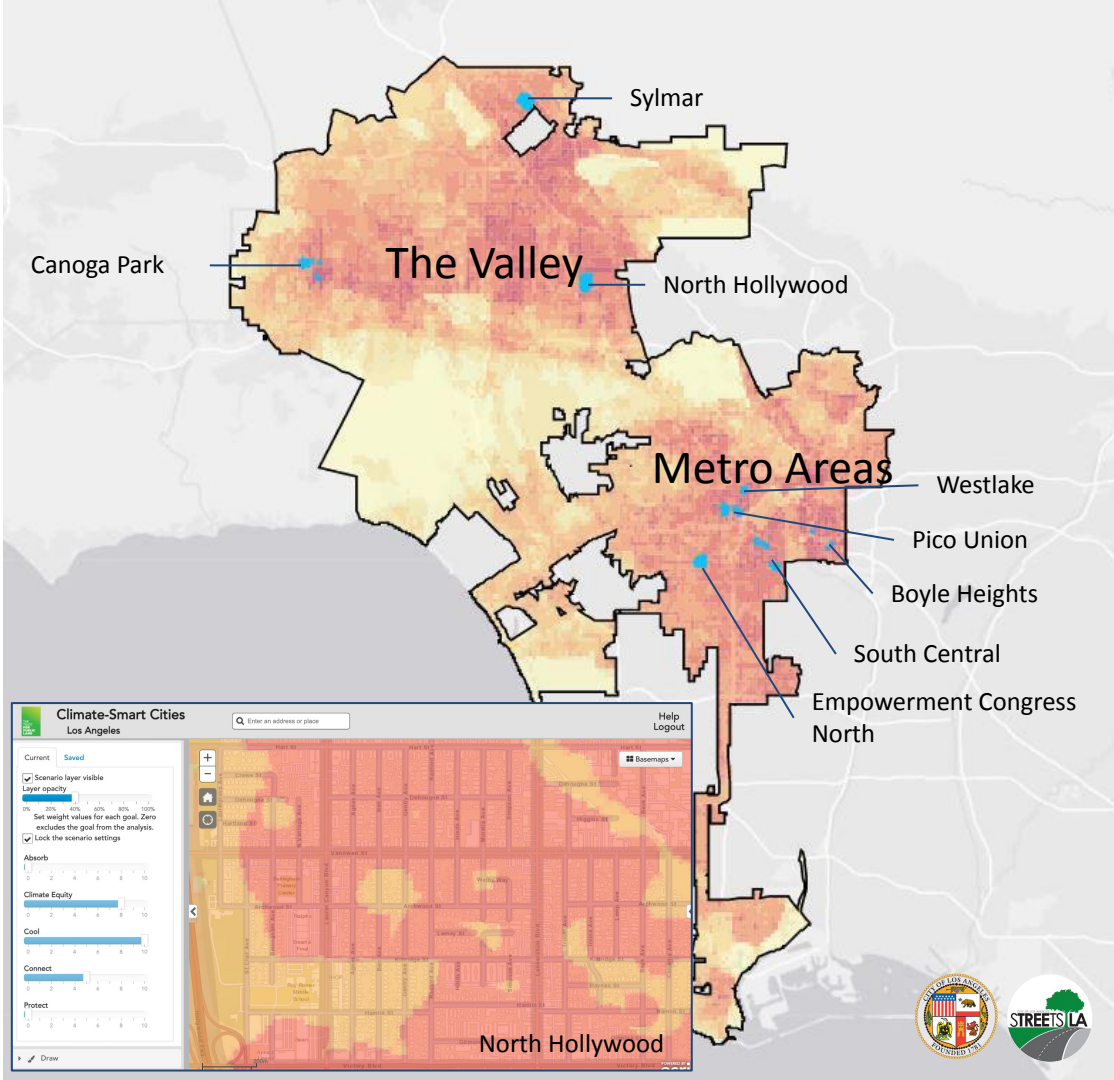


ECOSTRESS thermal camera aboard International Space Station:
Land Surface Temperature 08/14/2020, 4pm PST (Source: Glynn Hulley, JPL/NASA)

FY 21-22 Next Phase: 200 city blocks of cool pavement coating and planting of 1900 shade trees across 8 underserved neighborhoods

- Red-shaded neighborhoods have the highest urban heat island hotspots, social vulnerability, and active transportation priorities.

- Labeled neighborhoods were selected by StreetsLA as best candidates for multi-faceted urban cooling projects in FY 21-22 (assistance from Trust for Public Land, Climate Smart Cities mapping tool)



FY 21-22 Next Phase Urban Cooling

- Oct 21-April 22:
  - 6 cool neighborhoods
  - 58 lane miles, 177 blocks
- April-June 22:
  - 2 cool neighborhoods
  - Over 6 lane miles, 23 blocks
- Plant over 1,500 street trees

Funding

Caltrans Active Transportation Grant Program

- Connect Canoga Park Through Safety and Urban Cooling Improvements Project was $30.73M in May 2021
- Based the Sherman Way Station Urban Cooling and First/Last Mile Strategies Plan completed in early 2020 that resulted from community engagement

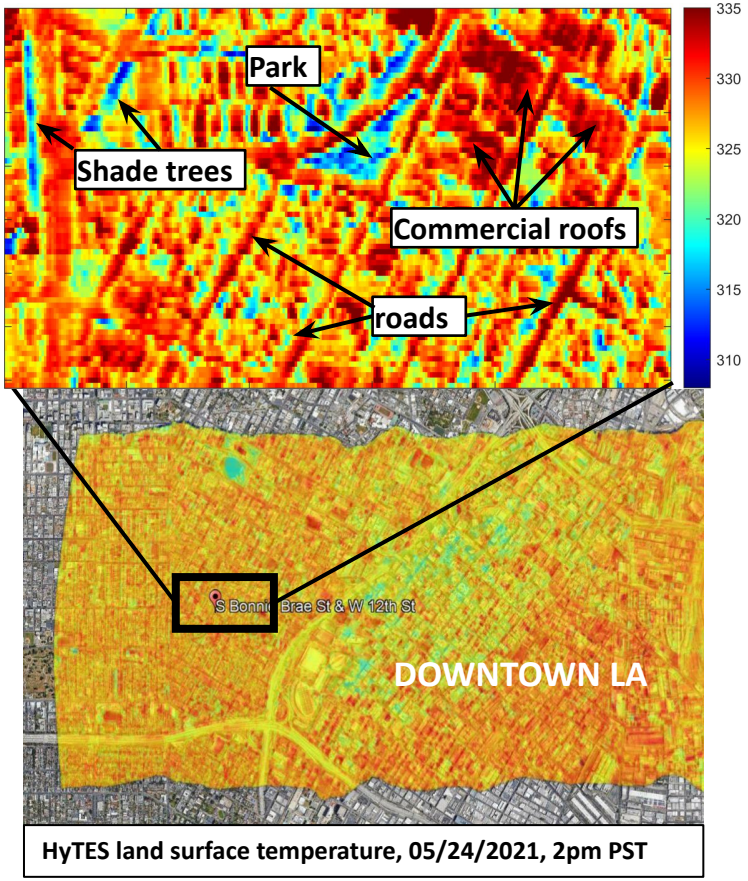
Clean CA Grant Local Grant

- Nearly $10M awarded for two projects that will convert/construct medians with drought-tolerant plantings and water-efficient irrigation

Other funding including $2M in federal earmarks, State tree planting grants, and City funds.

Next Steps

- Continue to implement cool neighborhood projects in the most vulnerable areas and expand to the entire City using a data-driven approach.
- Partner with other agencies to implement holistic projects.
- Explore research opportunities.
- Continue to seek grant funding opportunities to implement impactful projects that provide multi-benefits.



HyTES land surface temperature, 05/24/2021, 2pm PST

THANK YOU!


COOL LA
World's First Cool Pavement Neighborhood
Cooling Los Angeles one block at a time.

About Sarah Schneider

Sarah Schneider is the Deputy Director of the Cool Roof Rating Council (CRRC), a 501(c)(3) nonprofit organization that develops scientifically supported methods for evaluating and labeling the radiative properties of roofing and exterior wall products. She has been with the organization since 2013, and oversees the organization's policy and standards development; accreditations; code advocacy; and outreach and education activities. Ms. Schneider has a B.S. in Environmental Science and a Master's degree in Public Policy.

Building Solutions for Addressing Urban Heating

Sarah Schneider
Cool Roof Rating Council

April 18, 2022

Building Community Resilience: Extreme Heat Strategies and Funding from Los Angeles and Sacramento (Part 1)

CRRC
COOL ROOF RATING COUNCIL ®

CRRC is a 501(c)(3) nonprofit

Evaluates and labels the radiative performance of roofing and exterior wall products

Provides a public service through ratings, research, and education

Supports development of policies and programs by providing data. *CRRC does not advocate for specific requirements*

ANSI Accredited Standards Developer

ACCREDITED
Certificate 3146.01

CRRC COOL ROOF RATING COUNCIL ®

Established in 1998 through stakeholder collaboration

And many, many players in the roofing industry

CRRC
COOL ROOF RATING COUNCIL ®

How do buildings impact urban heating?

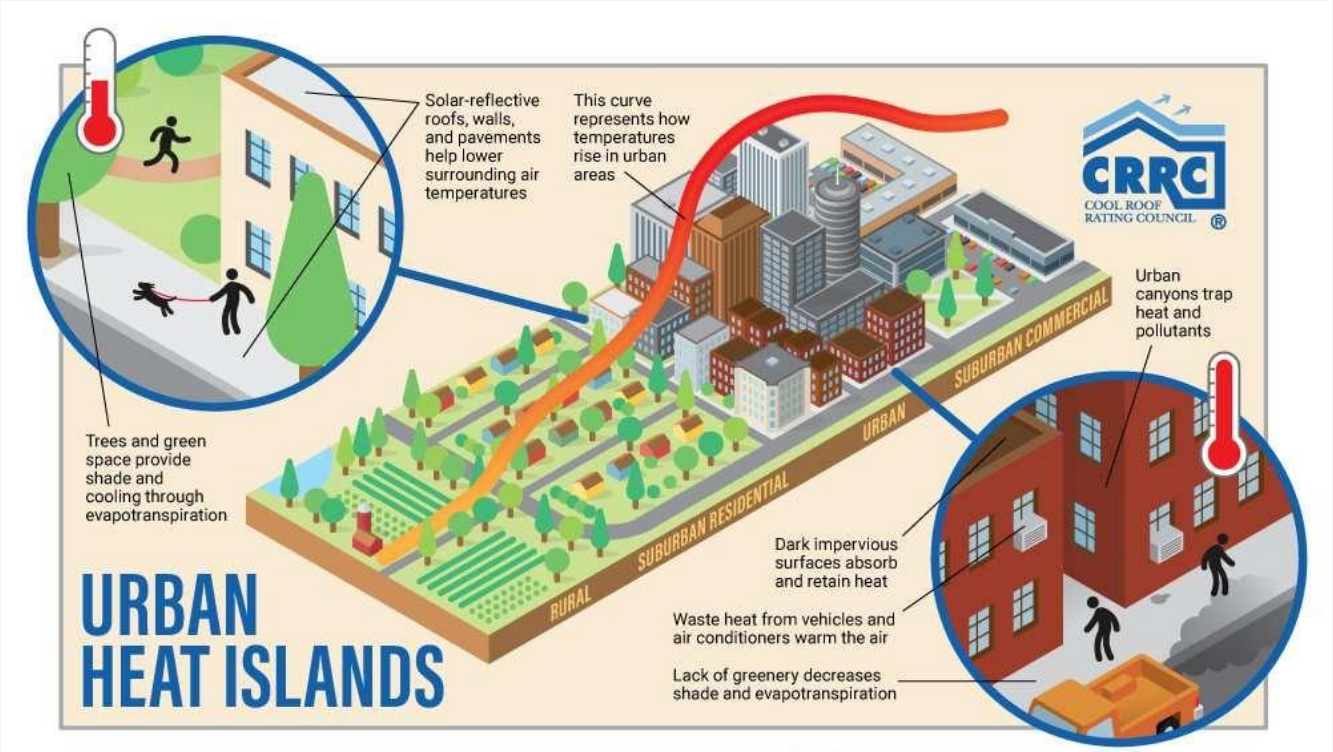
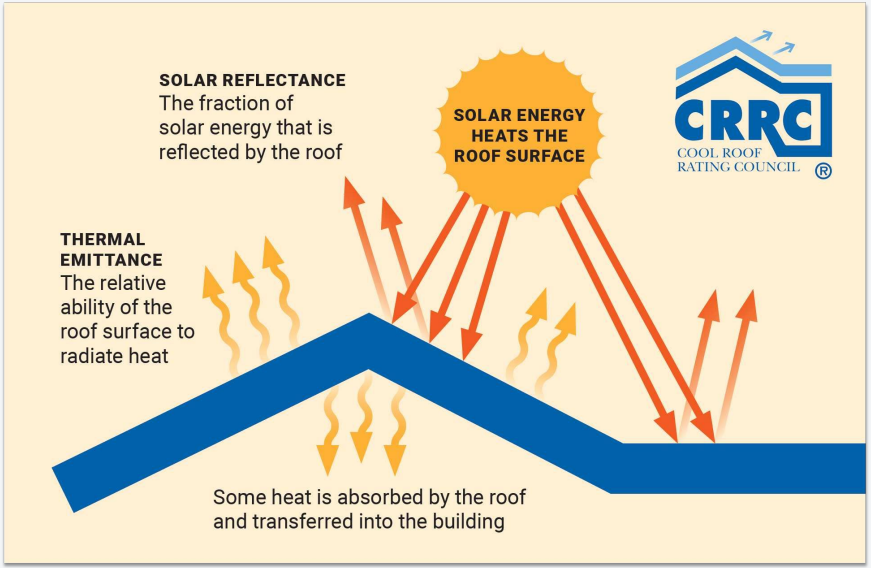
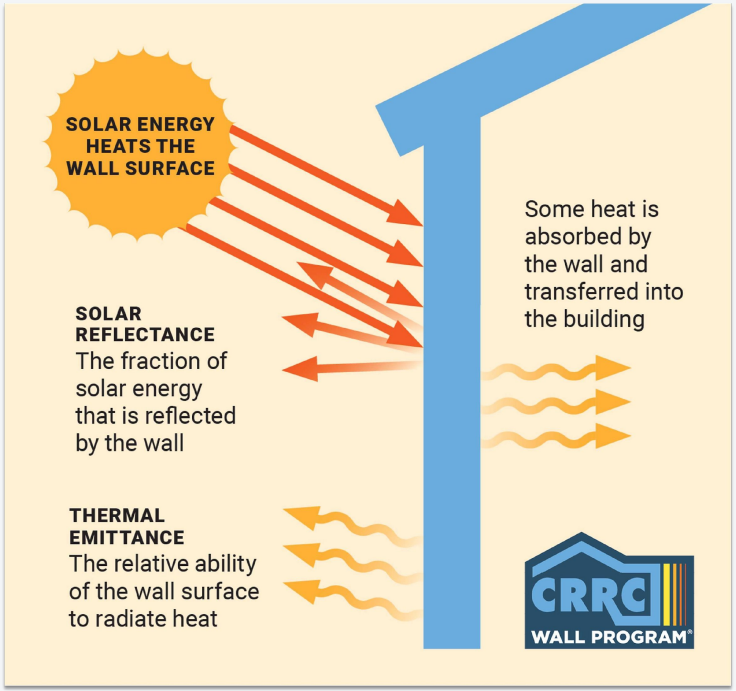


Image Source: Cool Roof Rating Council

CRRC
COOL ROOF RATING COUNCIL ®

Cool roofs and walls highly reflect sunlight

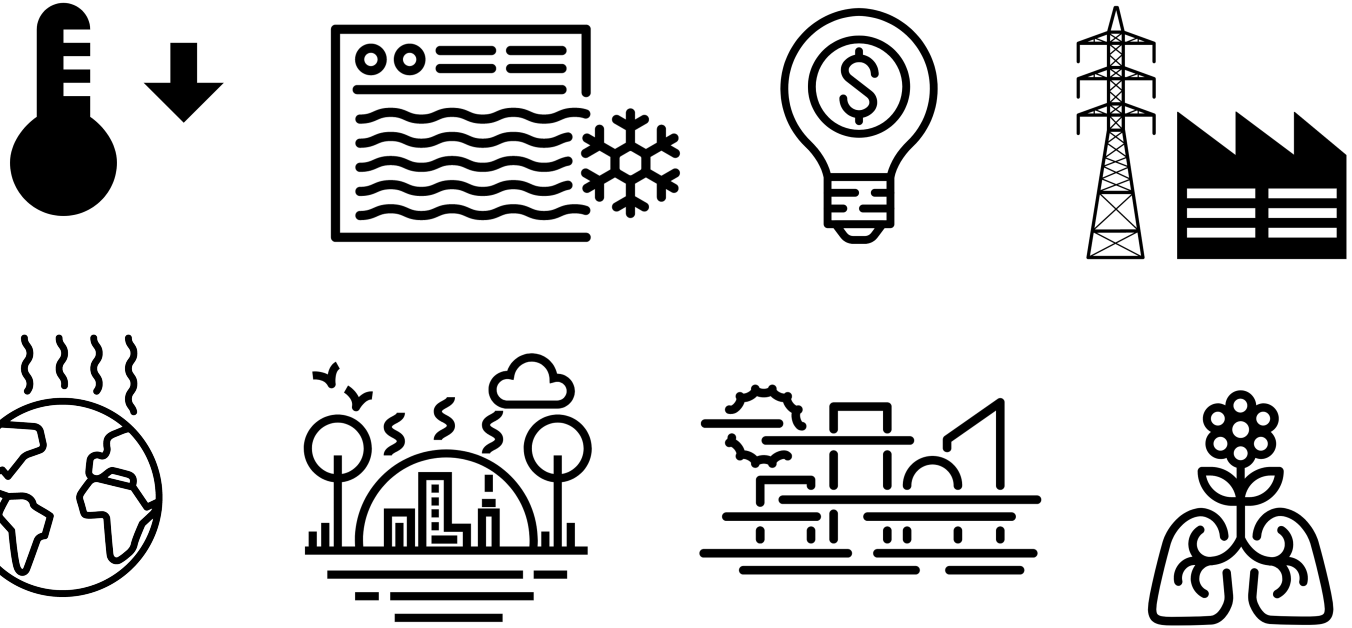




CRRC COOL ROOF RATING COUNCIL

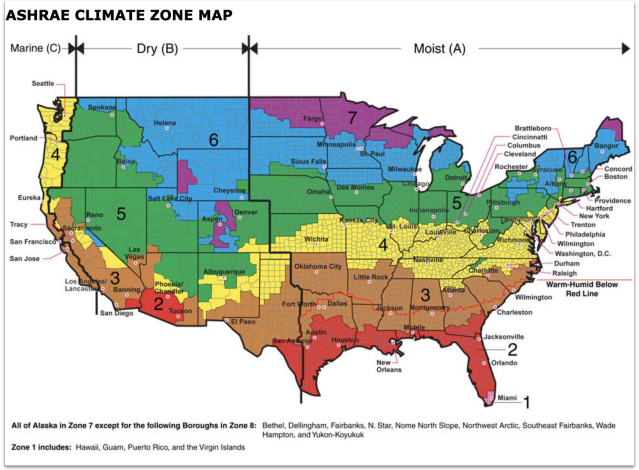
Image Source: Cool Roof Rating Council

Benefits beyond the building



CRRC WALL PROGRAM®

Rosado et al. (2019) found “cool walls” save energy in all California climates and U.S. climate zones 1—4



* Rosado, P. J., et al. (2019). Potential benefits of cool walls on residential and commercial buildings across California and the United States: Conserving energy, saving money, and reducing emission of greenhouse gases and air pollutants. Energy and Buildings, 199, 588–607. https://doi.org/10.1016/j.enbuild.2019.02.028

CRRC WALL PROGRAM®

Cool products come in many colors

Cool-colored roofing and wall products look like conventional colors but can reflect more infrared light

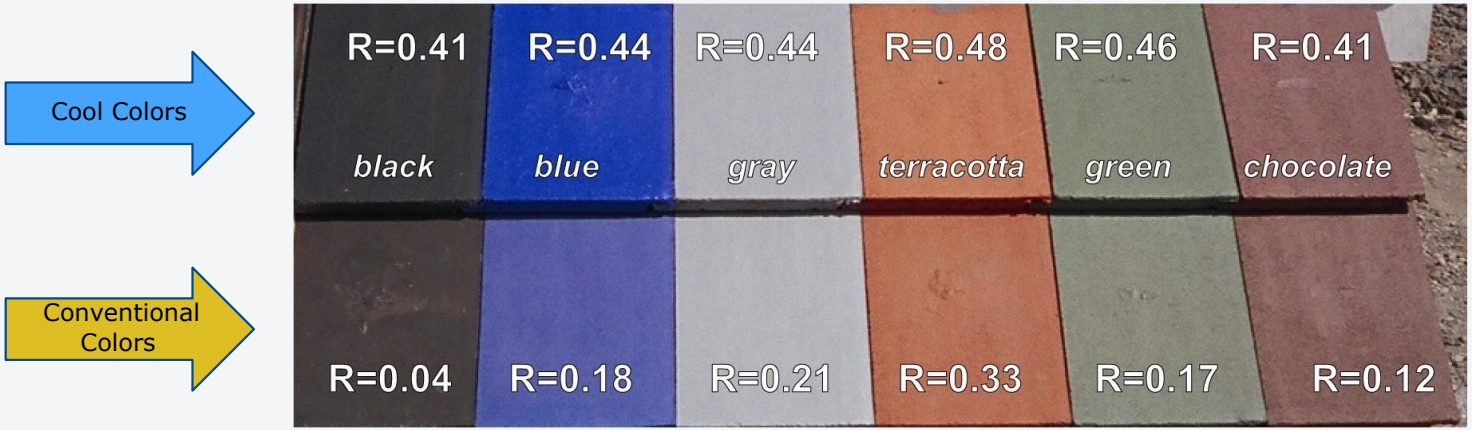


Photo courtesy of: American Rooftile Coatings

Cool roofs and walls are adopted into several codes and programs

- In the national model codes and standards
- Voluntary green building programs
  - LEED v4.1 heat mitigation credits
- CA cool roof code requirements in Title 24, Parts 6 and 11
  - Walls only in CALGreen
- https://coolroofs.org/resources/codes-programs-standards

CRRC Product Rating Programs

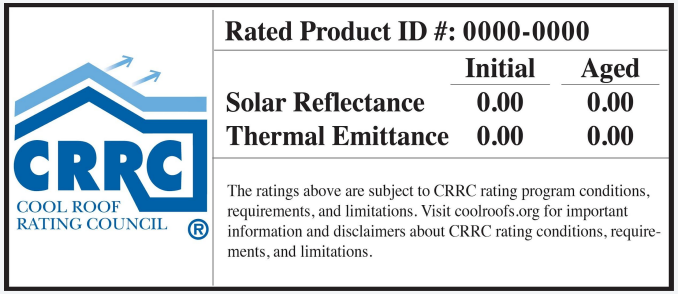
Established 20 years ago

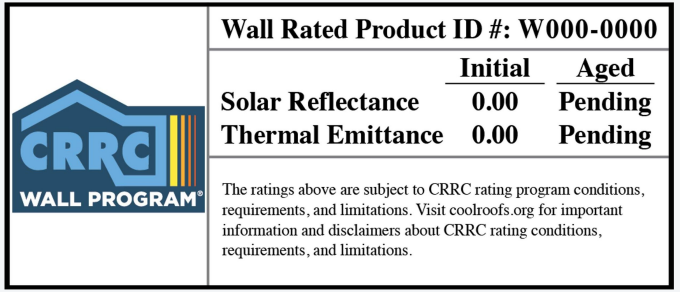
Launched this year!

CRRC Rated Product Directories

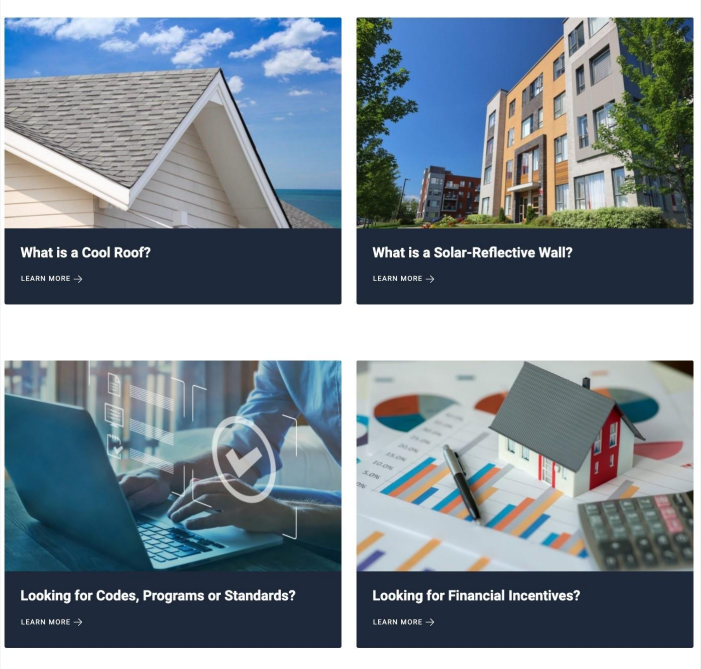
https://coolroofs.org/directory

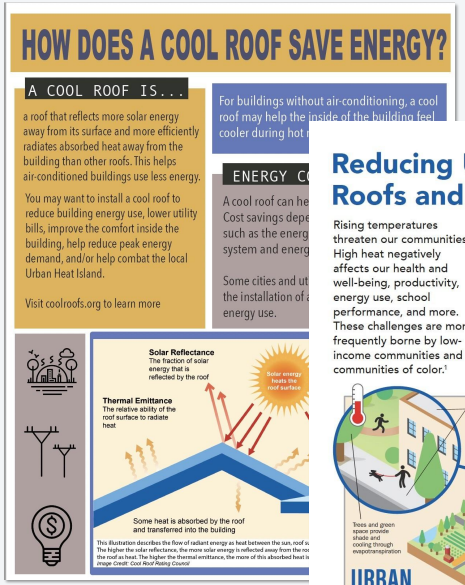
CRRC Product Labels and Logos

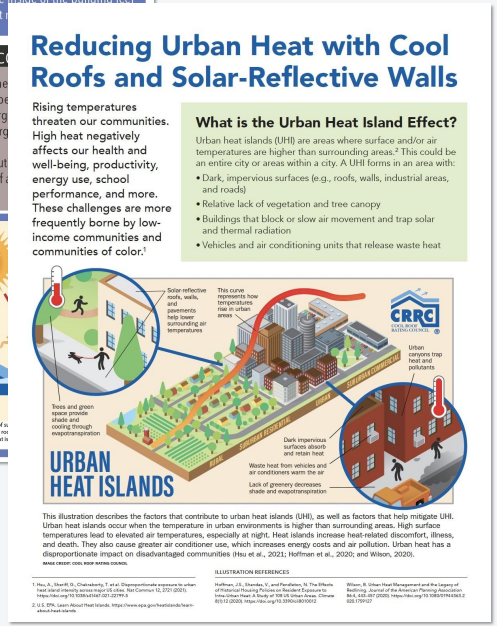




CRRC Educational Resources



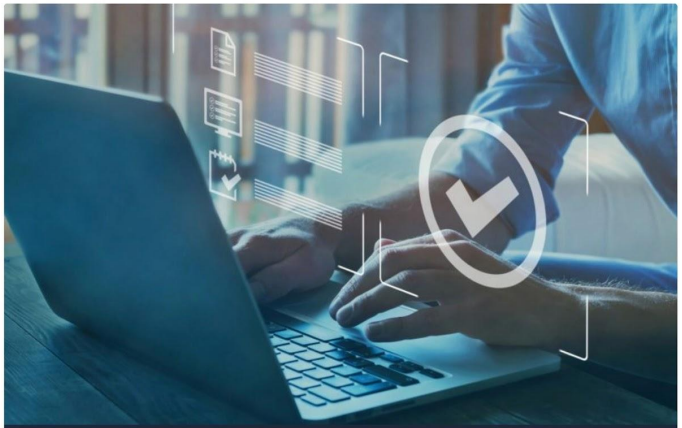




https://coolroofs.org/resources

CRRC COOL ROOF RATING COUNCIL ®

List of Codes, Programs & Rebates



Looking for Codes, Programs or Standards?

LEARN MORE →

Looking for Financial Incentives?

LEARN MORE →

https://coolroofs.org/resources

New Wall Rating Program

- First in the world
- Launched January 2022
- Developed in collaboration with industry, government, and others

https://coolroofs.org/programs/wall-rating-program

Questions?

Sarah Schneider
Cool Roof Rating Council
sarah@coolroofs.org

Funding Opportunities with Nuin-Tara Key

About Nuin-Tara Key

Nuin-Tara Key is Deputy Director for Climate Resilience at OPR and Chair of the Technical Advisory Council for the Integrated Climate Adaptation and Resiliency Program. Prior to joining OPR, Nuin-Tara co-founded an international initiative on community-based climate action and has worked in the public, private, and non-profit sectors on sustainable urban and regional planning and policy, with a focus on social equity and climate change. She has a Master of Urban and Regional Planning from Portland State University and a BA from Lewis and Clark College.

Building Climate Resilience: Addressing Extreme Heat

April 18, 2022

Nuin-Tara Key, Deputy Director, Climate Resilience
CA Governor's Office of Planning and Research

Coming Soon:
Protecting Californians Amidst Extreme Heat: A State Action Plan to Build Community Resilience

The Action Plan serves as an update to the 2013 "Preparing California for Extreme Heat" report.

All-of-Government Approach

- CA Natural Resources Agency
- Governor's Office of Planning and Research
- CA Environmental Protection Agency
- CA Department of Food and Agriculture
- CA Health and Human Services Agency
- CA State Transportation Agency
- Governor's Office of Business and Economic Development
- Governor's Office of Emergency Services
- CA Business, Consumer Services and Housing Agency
- CA Labor and Workforce Development Agency
- And more…

Draft Extreme Heat Action Plan: Action Tracks

Build Public Awareness and Notification

Ex. Heat awareness and education strategies, emergency alerts and early warning, and data accessibility and heat modeling

Strengthen Community Services and Response

Ex. Cooling centers and resilience hubs, community infrastructure, and support for local and regional extreme heat response plans

Increase Resilience of Our Built Environment

Ex. Infrastructure, building retrofit, cool roof and pavement technologies, and air conditioning

Utilize Nature-based Solutions

Ex. Community greening and gardens, urban forestry, and greenbelts

2021-22 Climate Budget: Extreme Heat (Multi-Year Package)

- $250M for Urban and Community Forestry and Urban Greening at CNRA
- $100M for a new Community Resilience and Heat Program at OPR
- $100M for a new Community Resilience Centers Program at SGC
- $50M for the Low-Income Weatherization Program at the Department of Community Services and Development
- $300M Extreme Heat Set Aside

Office of Planning and Research: FY21-22 Climate Resilience Package

Program	2021-2022	2022-2023	2023-2024	Total
Climate Adaptation & Resilience Planning Grants	$10	$10	$5	**$25M**
Climate Services: Vulnerable Communities Platform & CalAdapt Mapping	$5	$0	$0	**$5M**
Regional Resilience Planning and Implementation	$25	$125	$100	**$250M**
Extreme Heat and Community Resilience Program	$0	$25	$75	**$100M**
Fifth CA Climate Change Assessment	$22	$0	$0	**$22M**


Thank you!

Q&A

Closing Remarks