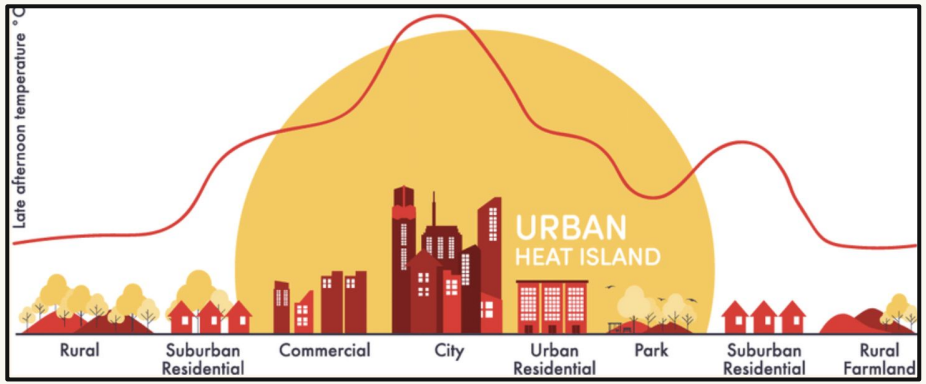
Bay Area Heat Mapping Campaign 2024-25

Mapping and cooling Palo Alto, East Palo Alto, and Menlo Park

The UHI Effect

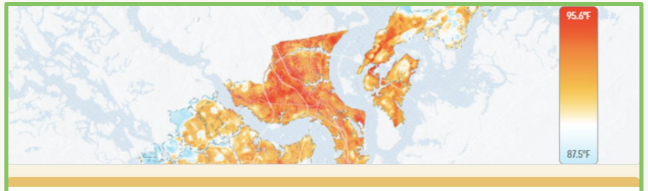
- What is the UHI effect?
  - Urbanized areas with impervious surfaces and dark structures trap and radiate heat
  - **Temperatures can be 15°F to 20°F warmer in UHIs**

- **UHIs are found in places with:**
  - Limited green space, high building density, concrete, and asphalt
  - UHIs are more extreme in lower-income neighborhoods, communities that were redlined and intentionally zoned within industrial or commercial areas (with factories, refineries, and freeways)



Partnership

- Joined NOAA's cohort of cities mapping heat working with CAPA Strategies to facilitate data collection
  - Secured funding from Schmidt Family Foundation and fiscal sponsorship with Acterra to partake in NOAA/CAPA program



Application for NIHHIS Urban Heat Island Mapping | CAPA Heat Watch 2024

CAPA strategies

Our Partners

Acterra
ACTION FOR A HEALTHY PLANET

YCS
youth community service

EAST PALO ALTO
1983 40 2023
BUILDING THE JUST CITY

NIHHIS
NATIONAL INTEGRATED HEAT HEALTH INFORMATION SYSTEM

NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

HEAT WATCH
by CAPA

CITY OF PALO ALTO

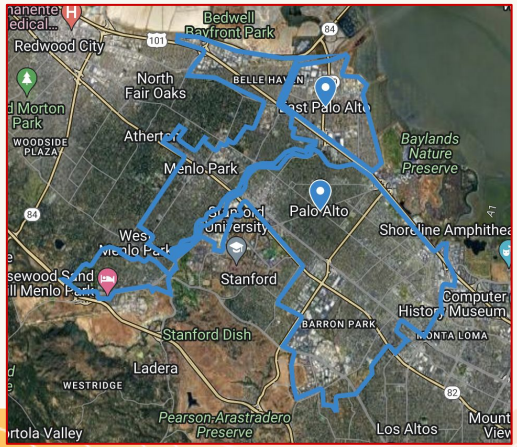
SCHMIDT FAMILY FOUNDATION

Belle Haven Action
advocacy • inclusion • collaboration

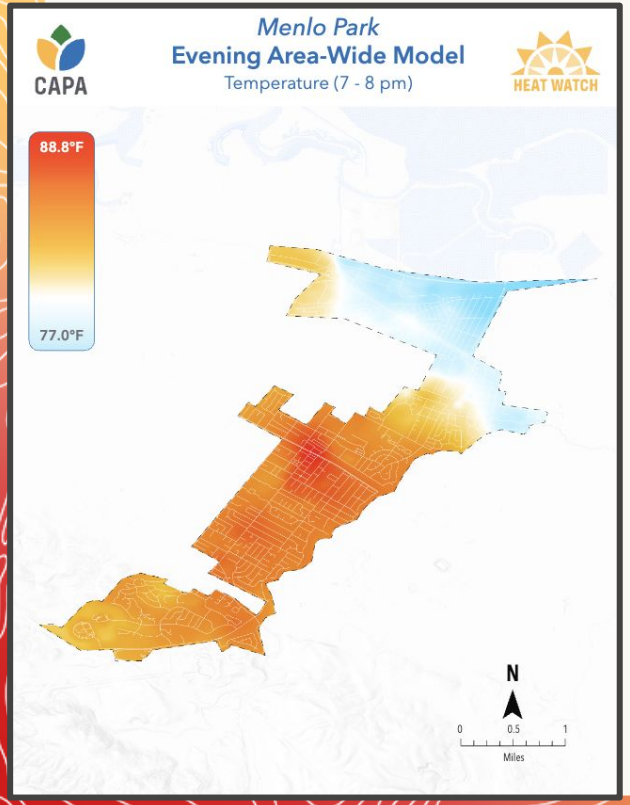
The Campaign

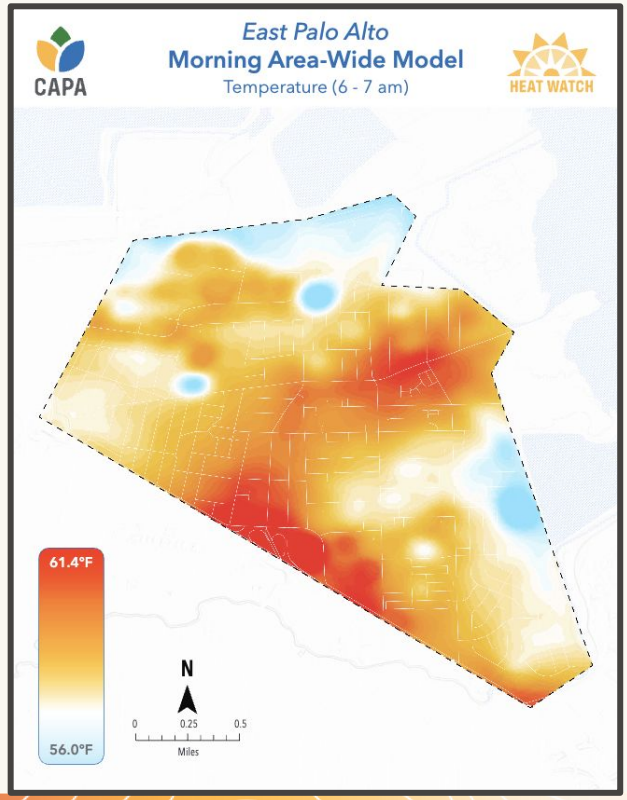
- Partnered with a broad coalition of local non-profits, Palo Alto, East Palo Alto, and Menlo Park City Councils, NOAA, NWS, CAPA Strategies, the Palo Alto Student Climate Coalition
- Shared insights with cohort of cities across the country conducting campaigns with NOAA
- Recruited and trained 30 volunteers; worked with NWS to select campaign date
- The 30 volunteers drove a total of 180 miles from sunrise to sunset to complete data collection

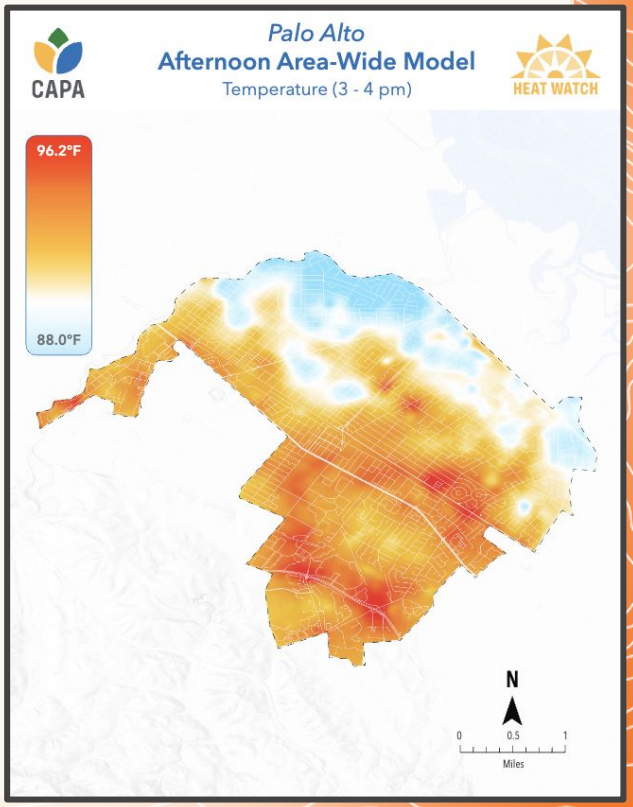
2024 Bay Area Heat Mapping Campaign

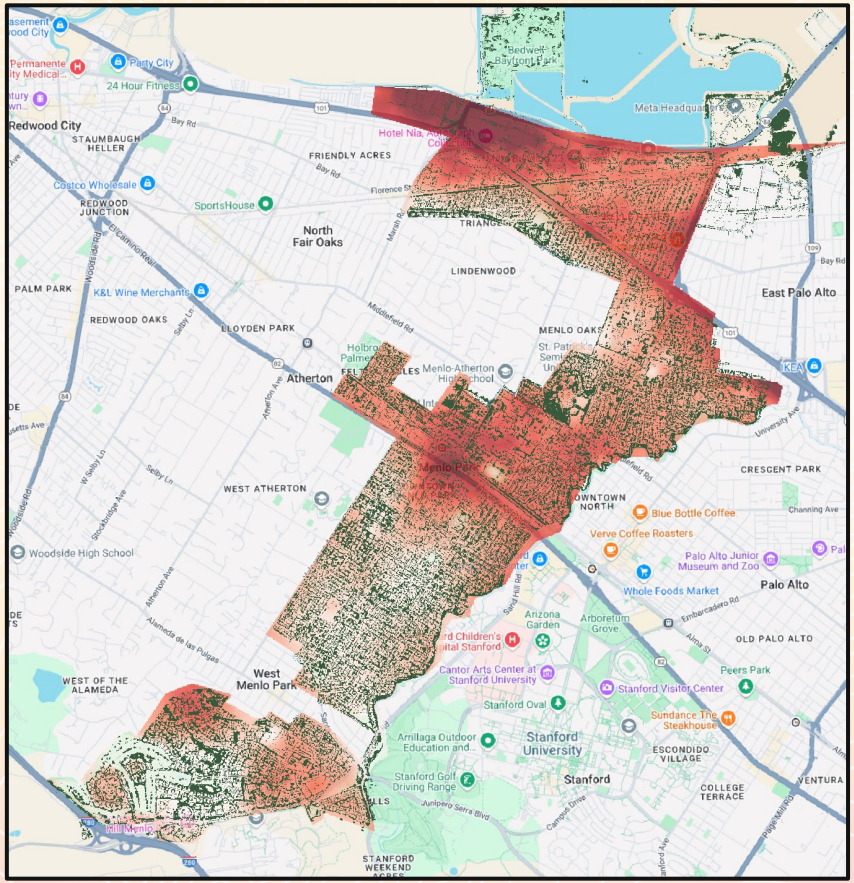


The Maps


CAPA
Menlo Park
Evening Area-Wide Model
Temperature (7 - 8 pm)
HEAT WATCH
88.8°F
77.0°F
N
0
0.5
1
Miles


CAPA
East Palo Alto
Morning Area-Wide Model
Temperature (6 - 7 am)
HEAT WATCH
61.4°F
56.0°F
N
0
0.25
0.5
Miles


CAPA
Palo Alto
Afternoon Area-Wide Model
Temperature (3 - 4 pm)
HEAT WATCH
96.2°F
88.0°F
N
0
0.5
1
Miles

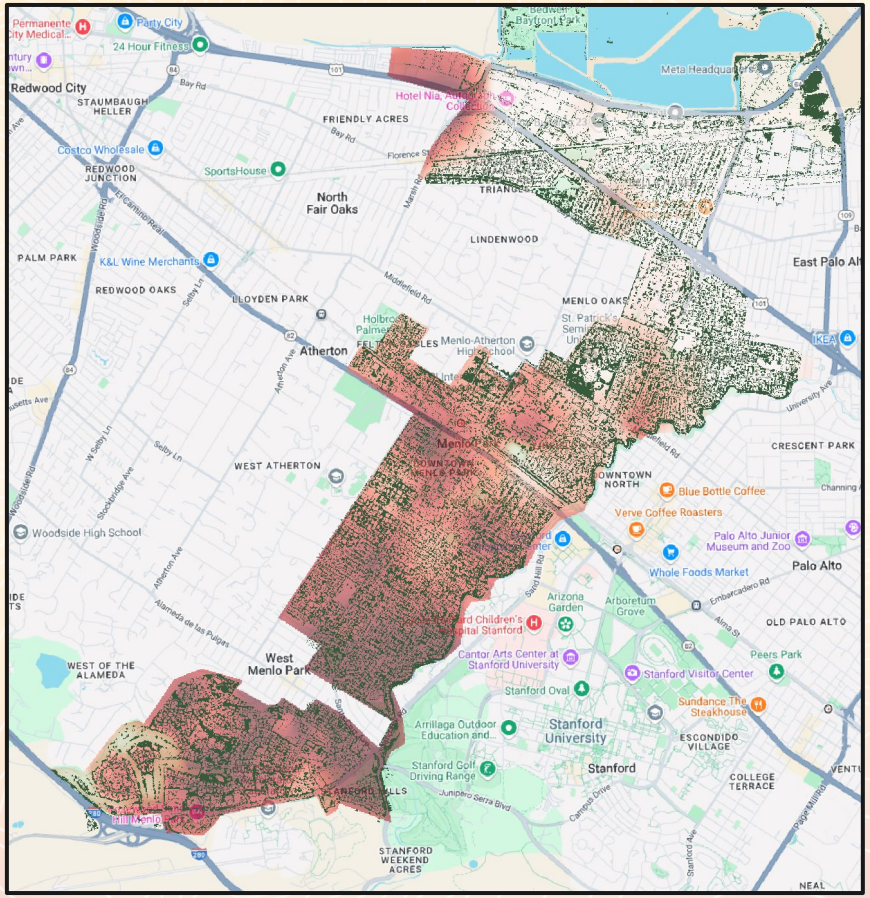


Menlo Park:

- Tree Canopy data from Google Environmental Insights Explorer
- Heat mapping temperature data for the **morning**

Morning temperatures could provide indications for how well **heat** is being dissipated overnight

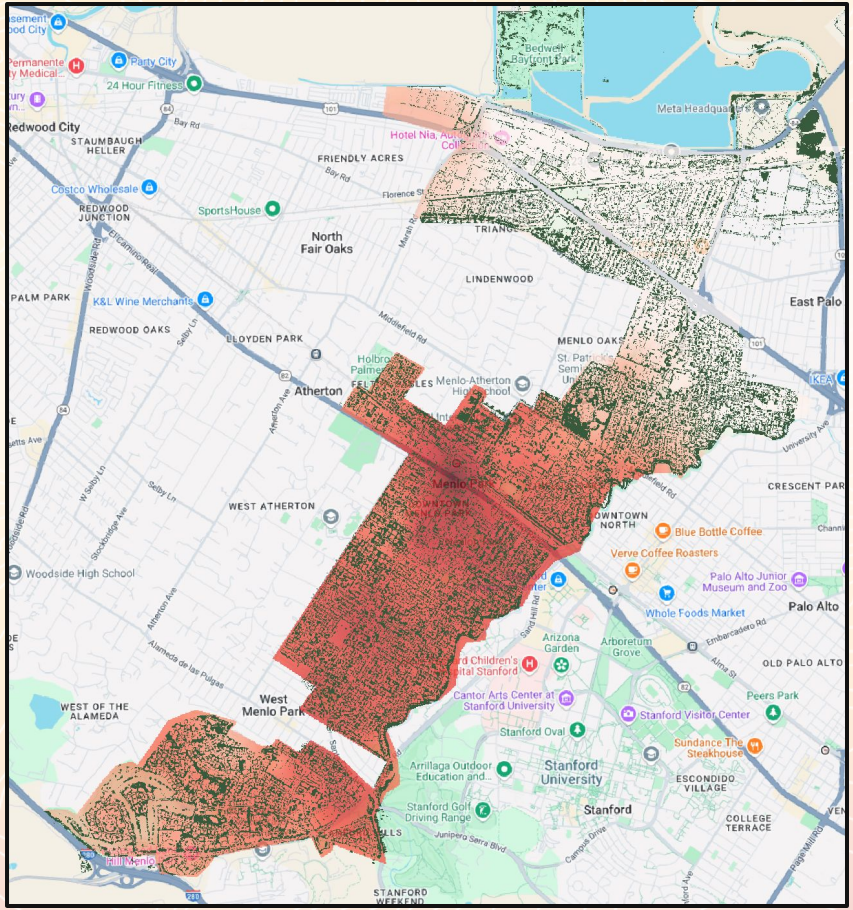
Temperature range: 54˚ - 58˚



Menlo Park:

- Tree Canopy data from Google Environmental Insights Explorer
- Heat mapping temperature data for the **afternoon**

Temperature range: 90 - 91˚

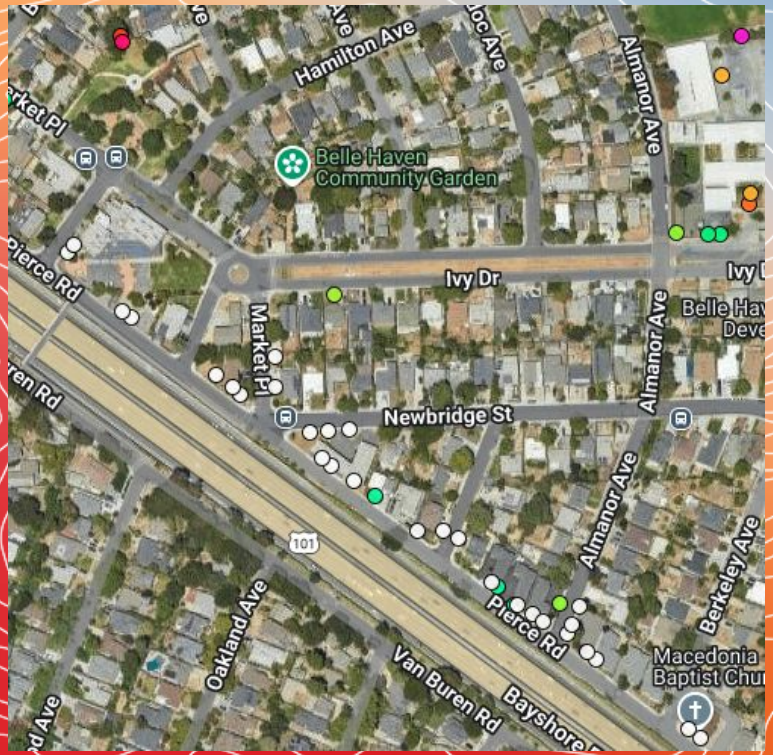


Menlo Park:

- Tree Canopy data from Environmental Insights Explorer
- Heat mapping temperature data for the **evening**

Temperature range: 80˚- 88˚

Belle Haven - Along Pierce Rd



Reasons for selection:

1. Heat mapping identified area of high temperature + high heat index
2. Urban Heat Island Severity data from 2023 also identified this site as potentially having “moderate-high”
3. Previous attempts at planting trees by Canopy highlights feasibility
4. Located close to 3 points of interest:
   a. Belle Haven Community garden
   b. Boys & Girls Club of the Peninsula
   c. Kelly Clark Park

Tree mortality is a huge concern

Turning Data into Action

We researched cooling solutions that can be implemented in the hotspots our data identified:

1. Weatherizing schools, city facilities, and homes
    a. Providing incentives to help residents insulate their homes
2. Incentives for rooftop solar which reduces utility bills
3. Air source heat pump incentives - sustainable AC
4. Green roofs or reflective roofs
5. Cool pavements
6. Tree planting campaign across all three cities fostering inter-city collaboration
7. Alerts to tell people (especially older people and those with disabilities) when they are in a dangerous hot zone and how to find a nearby cooling center

Moving Forward

Palo Alto, East Palo Alto, Menlo Park-wide tree planting campaign

- Fostering inter-city collaboration to address the public health and environmental threat of extreme heat

Long term policies - Partner with City of PA (and team of Stanford students)

- Subsidizing supplemental AC

Thank you for your support!