



# Community Vulnerability Tools

Presented to C/CAG

Resource Management and Climate Protection Committee

May 20, 2020



# Outline

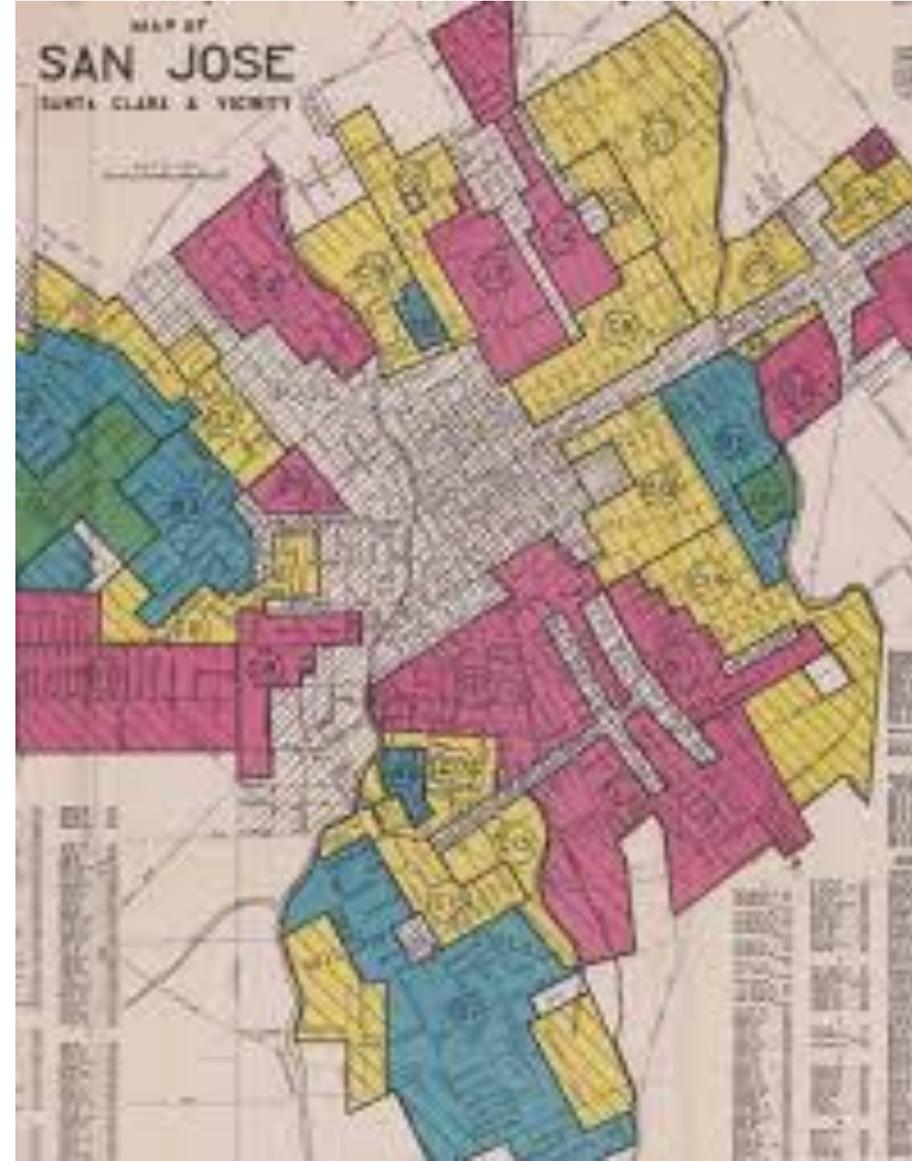
- Why use Community Vulnerability Tools?
- Major tools
- Benefits and examples of how to use them
- Discussion

## Goal

- Get your feedback on other resources
- Provide access to the tools to PCE, BAWSCA

# Historical Context

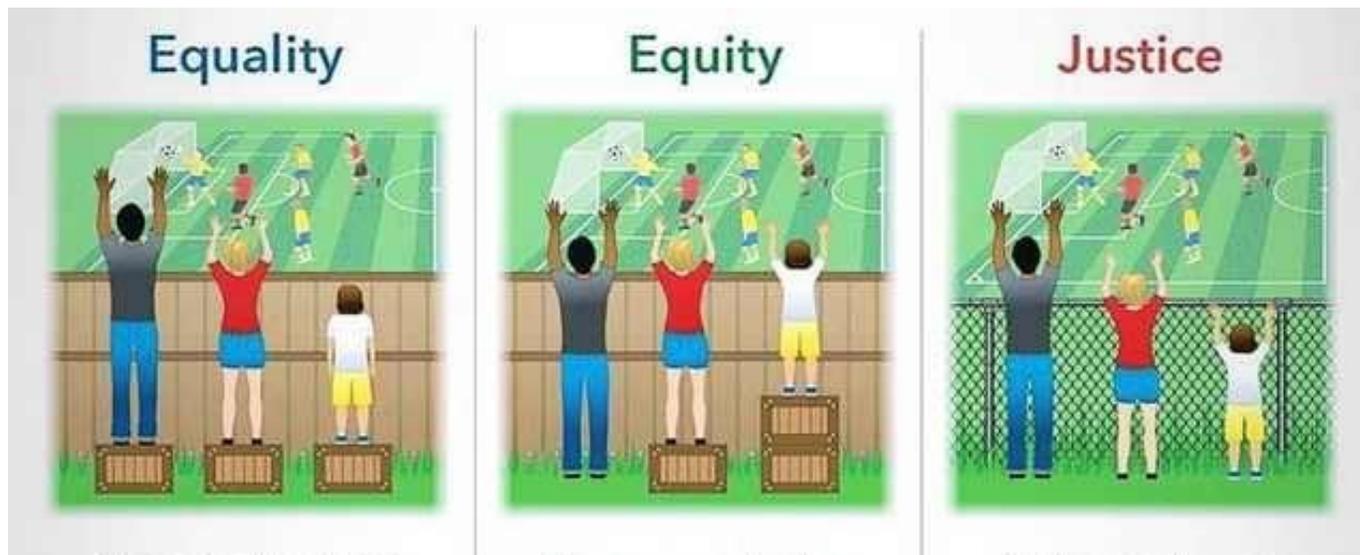
- History of Exclusionary Practices
  - Lending - Redlining
  - Real Estate – Racial Steering in 1960s
  - Patterns continue today
- Gaps to Overcome
  - Health, income, discrimination
  - Lack of access to transit
  - Language, social isolation



# Equity in Climate Protection

**Equity strategy:** Provide access to climate programs by removing barriers to behavior change for all

- Incentives/grants to support “sustainable” purchases: healthy food, low-carbon products
- Access to “clean” infrastructure: energy, transportation



# Leveraging Community Vulnerability Tools

Design Programs

Develop Policy

Compete for Funding

Direct Agency Funding

# Two Ways to Target



**Individual / Household**

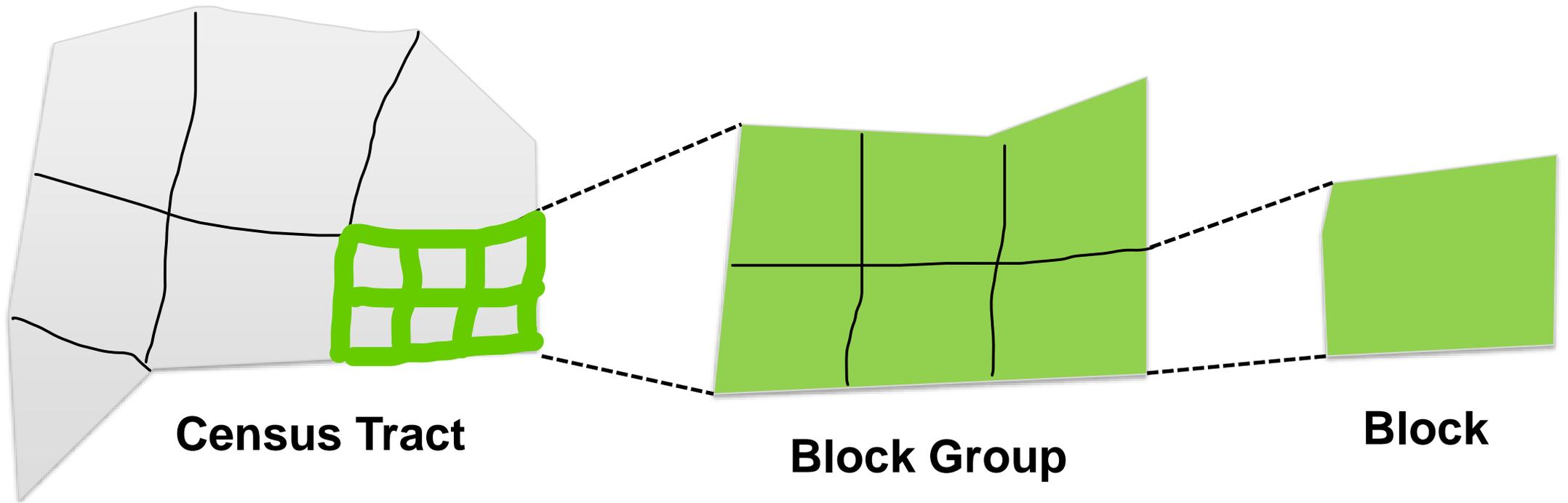


**Geography**

# Individual/Household

- Income verification is cumbersome
  - Creates barriers to those you're trying to help
  - Taps into privacy fears because of immigration status
- Rely on designations from other programs
  - PG&E: CARE program
  - Public schools: Free and reduced-price lunches
  - CA Dept. of Social Services: CalFresh

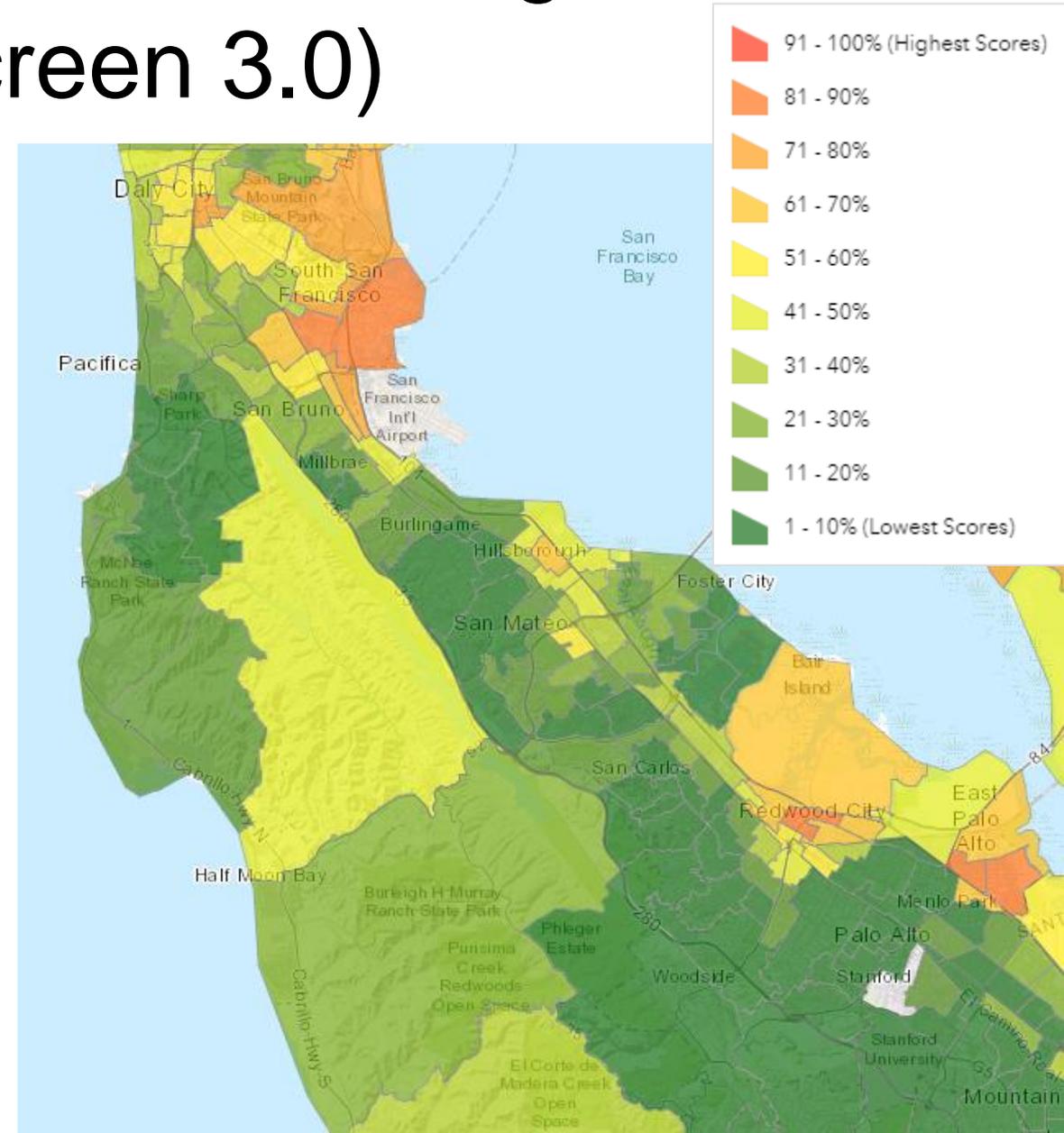
# Geography



# California Environmental Screening Tool (CalEnviroScreen 3.0)

- Statewide, by census tract
- 19 measures of poverty and pollution - indexed
- “Disadvantaged communities” (DACs) score 75%+
- Only 4 DACs in San Mateo County
- Version 4.0 coming this year

[Link to tool](#)



# California Energy Commission Energy Equity Indicators

## Interactive Story Map

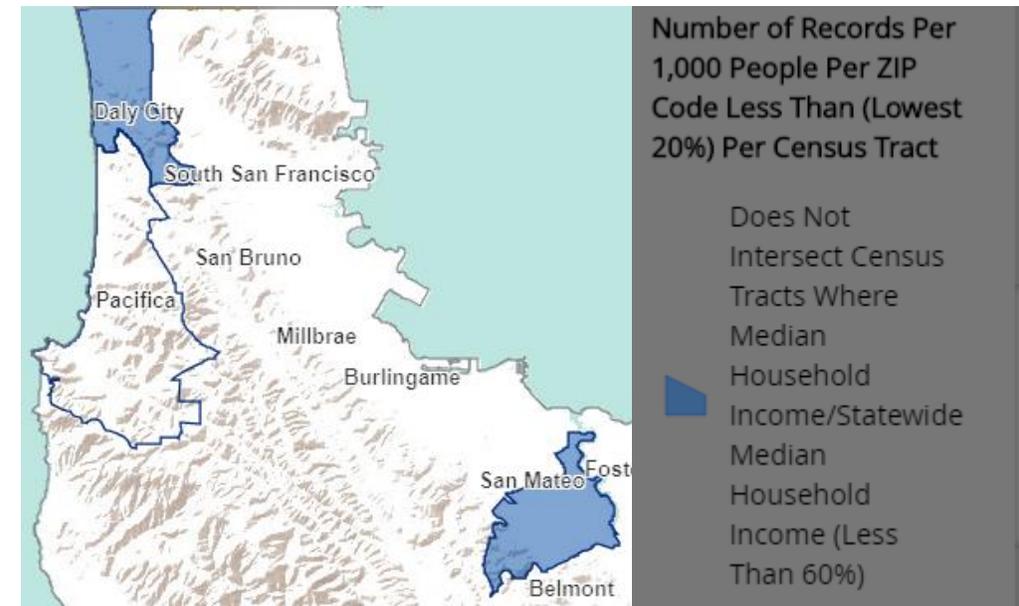
- By census tract
- Outcome of SB 350 Low-Income Barriers Study
- Clean Energy Indicators:
  - Access
  - Investment
  - Resilience
- A few indicators relevant to SMC

[Link to story map](#)

**Low participation levels for PG&E investments in energy efficiency**



**Low participation levels for PG&E SGIP investments for businesses & homes**

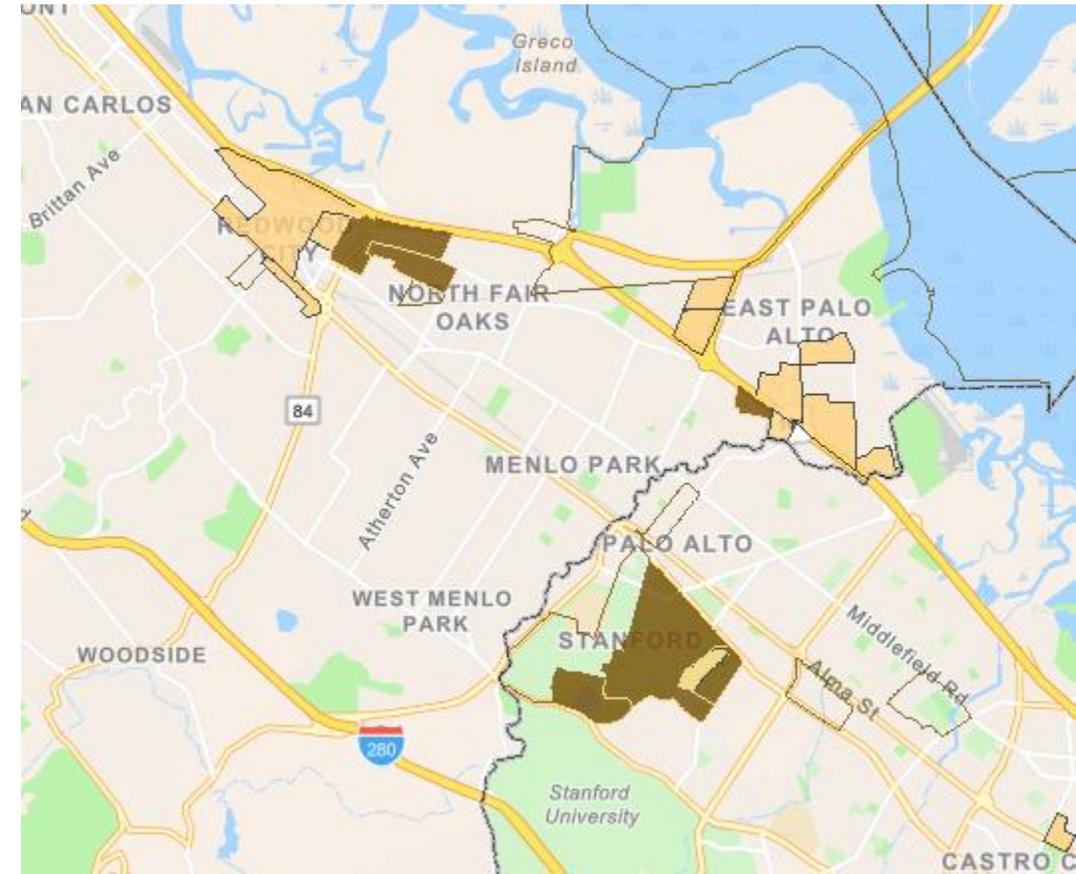
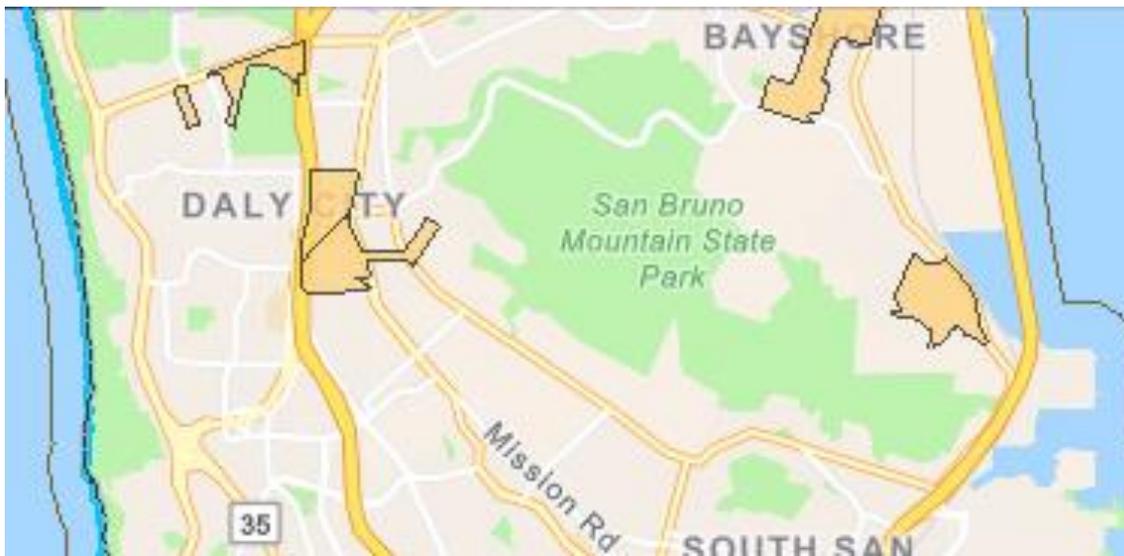


# Department of Water Resources Disadvantaged Communities (DAC) Mapping Tool

- Used for water funding decisions
- Input from EJCW
- Uses Area Median Income

- Severely Disadvantaged Communities (MHI < \$38,270)
- Disadvantaged Communities (\$38,270 > MHI < \$51,026)

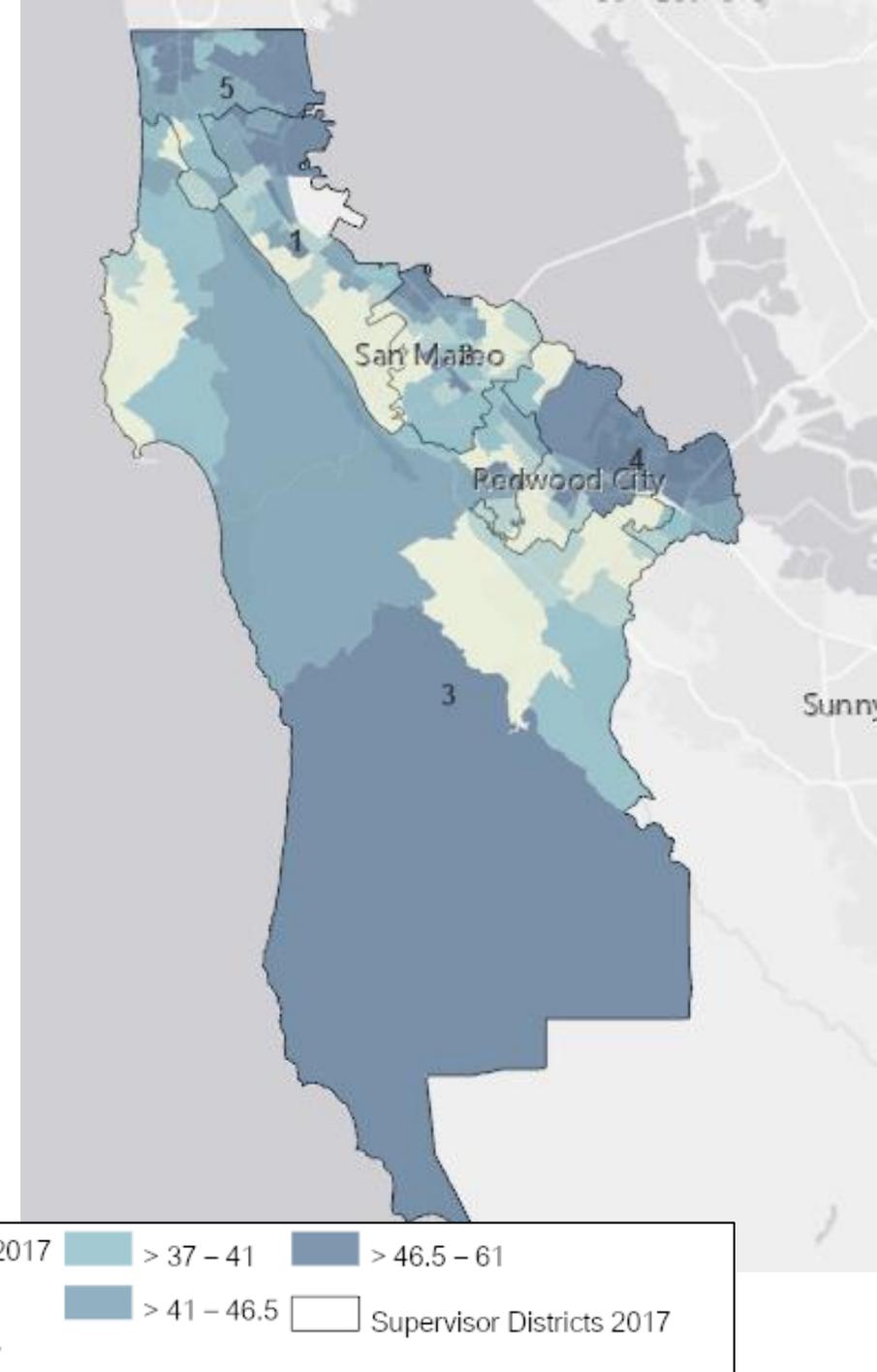
[Link to the tool](#)



# SMC Community Vulnerability Index (CVI)

- Initiative of the County Manager’s Office
- Mapped at census tract level
- Current iteration: Years 2010-2016
- 7 indicators of vulnerability
  - No Health Insurance Coverage
  - Education – High School or Higher
  - Supplemental Security Income
  - Gross Rent as a Percentage of Income – Households Spending 35% or More
  - Poverty
  - Unemployment
  - Disability

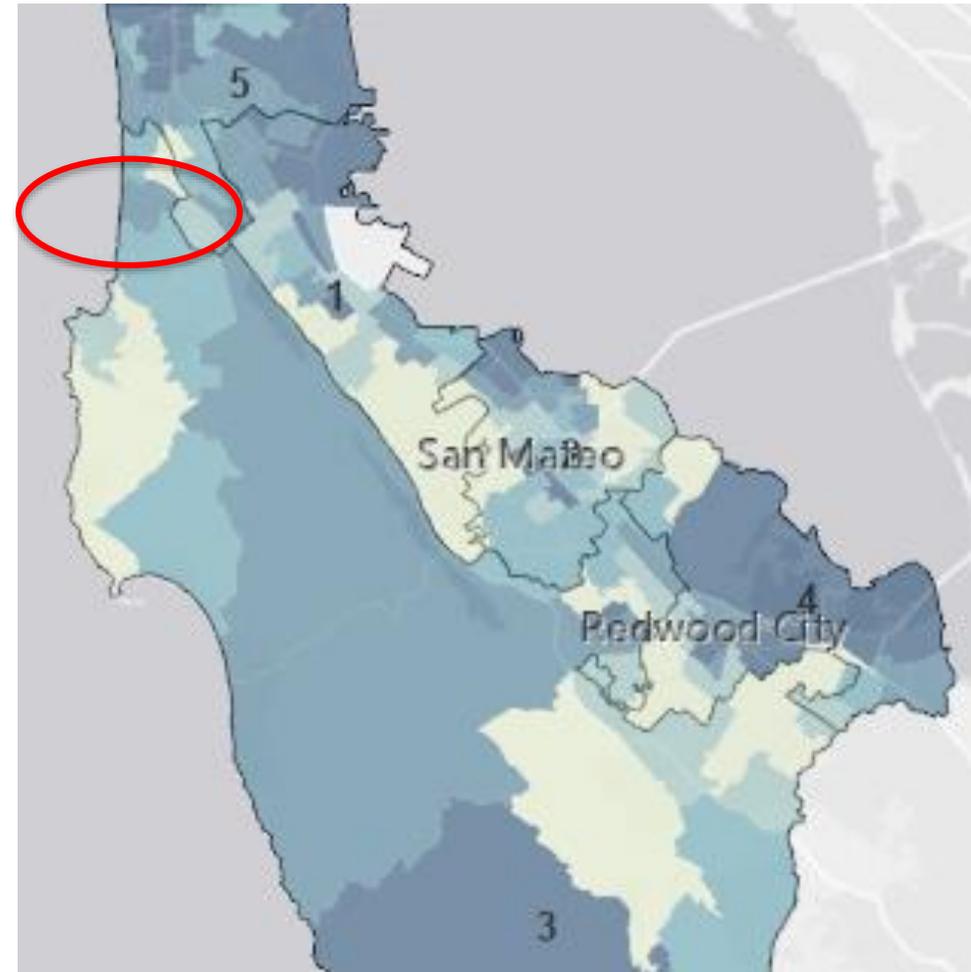
<https://cmo.smcgov.org/cvi>



# Getting a Clearer Picture of Need



CalEnviroScreen



CVI Index

# EXAMPLE:

## Using CVI to Help Underserved Businesses

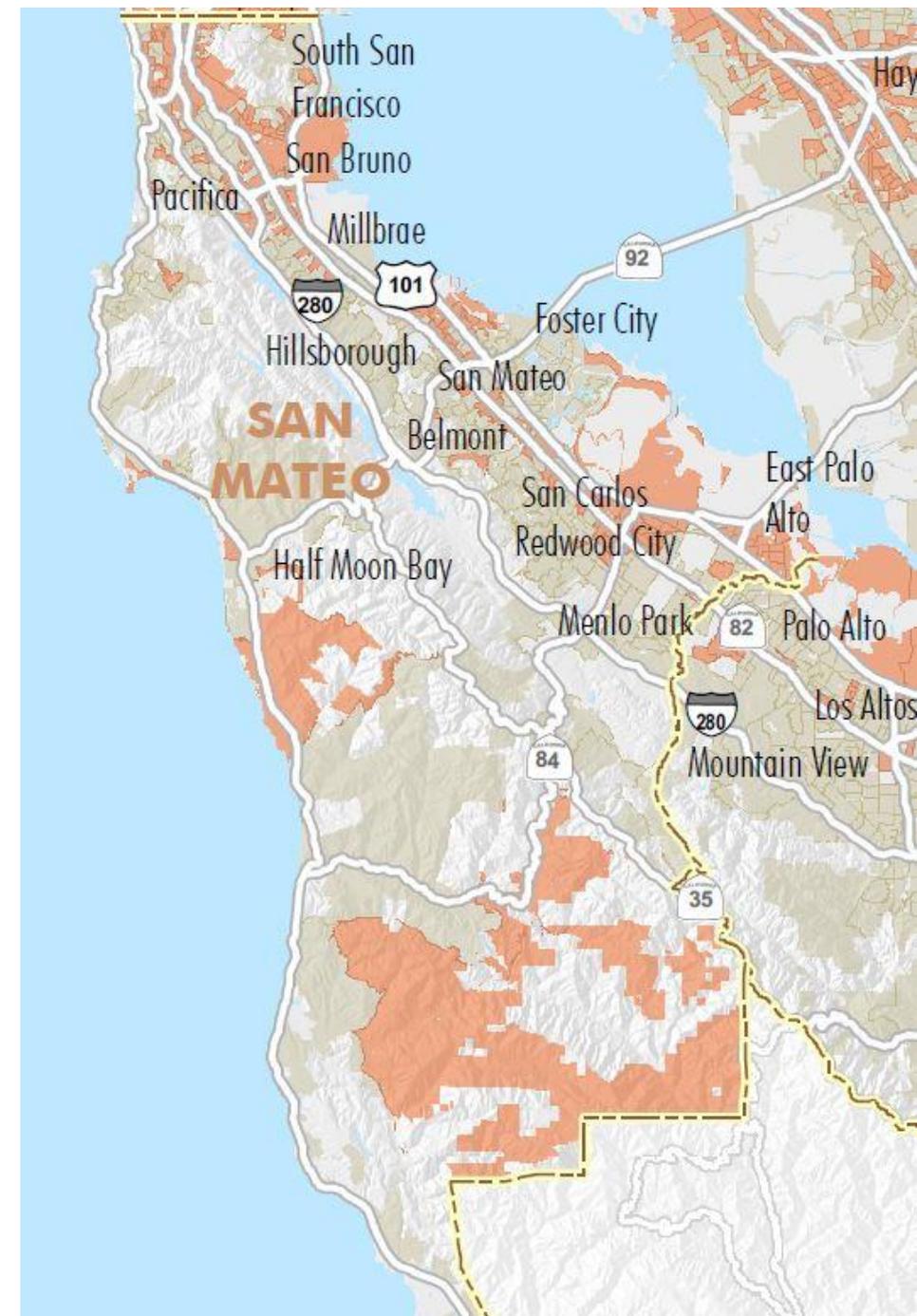


- Diversity Goal: Increase program participation in socially vulnerable communities and increase diversity of business owners served.
- Criteria:
  - CVI of 41 or above
  - OR
  - Minority or Female-owned business

# San Francisco Bay Restoration Authority (SFBRA)

- Bay Area only
- Designed to allocate Measure AA funds for wetlands restoration / adaptation
- Shows area median income at block group level

[Measure AA Interactive Area Median Income Map](#)



# ABAG Community Vulnerability Indicators

- Bay Area only
- Includes 10 indicators at block group level
- Focus on vulnerability that reduces resilience

[Link to ABAG map](#)

## LEGEND

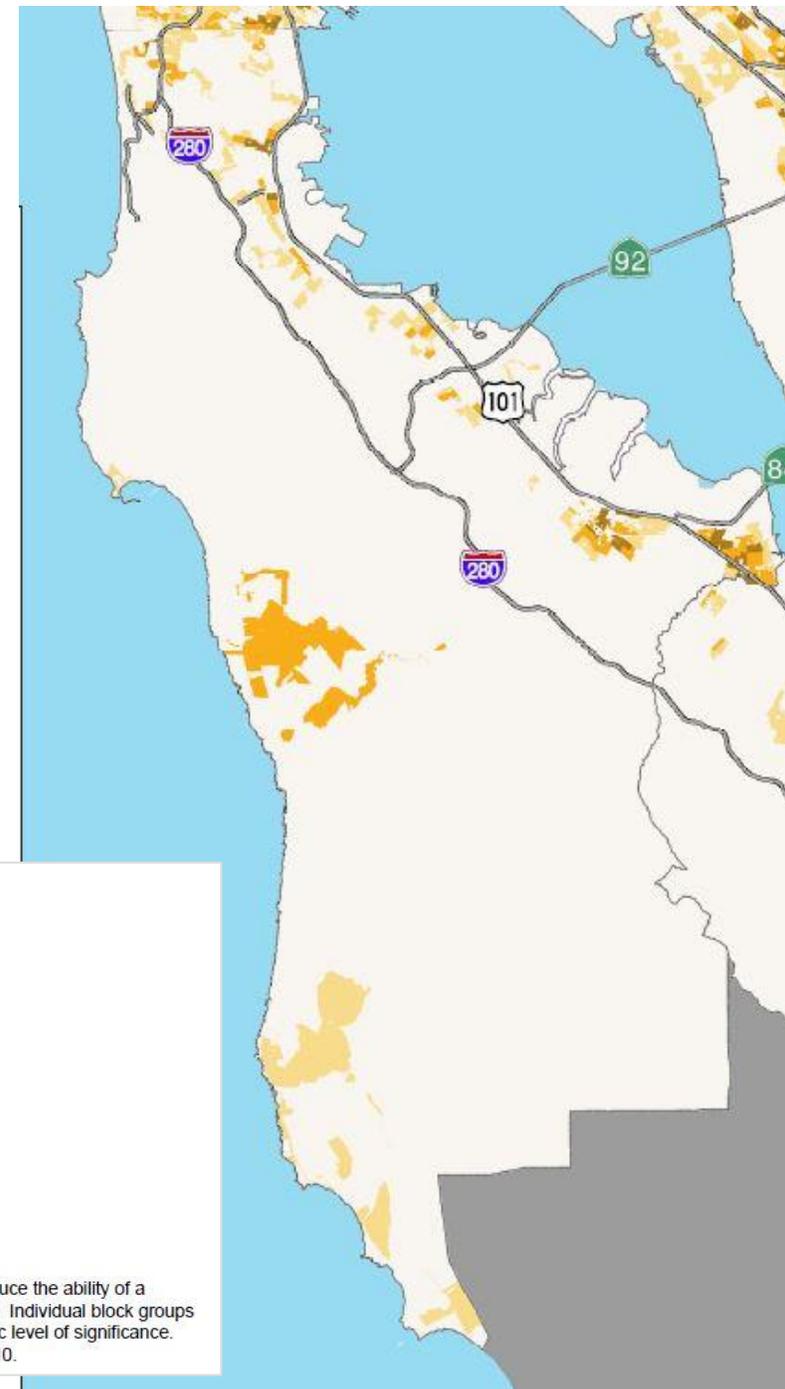
### Community Vulnerability Score

 3 - 4 Indicators

 5 - 6 Indicators

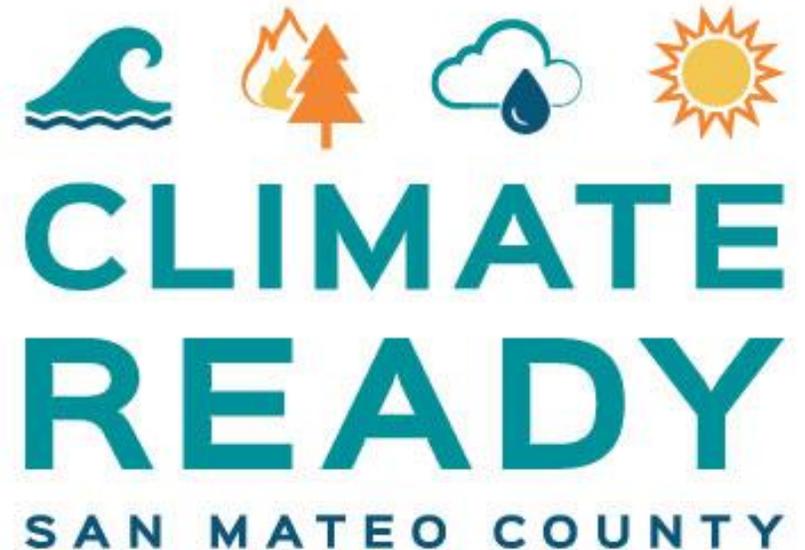
 7 - 10 Indicators

Community Vulnerability scores are based on ten (10) indicators that reduce the ability of a community to prepare for, respond to, and recover from a major disaster. Individual block groups receive 1 point for each indicator that is greater than the indicator-specific level of significance. The total possible score each block group can receive ranges from 0 to 10.



# Climate Ready SMC Viewer

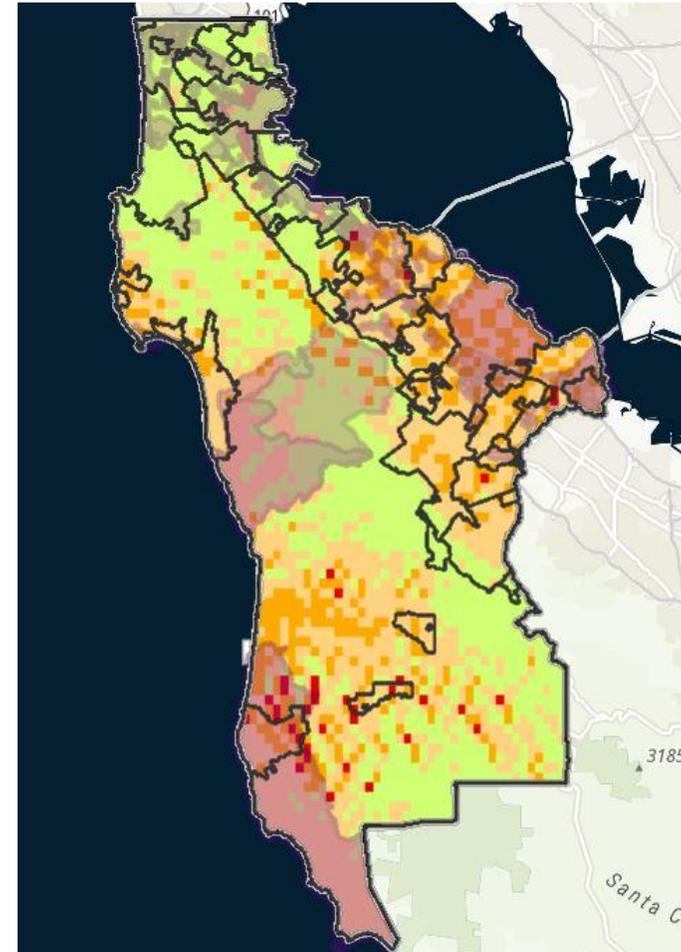
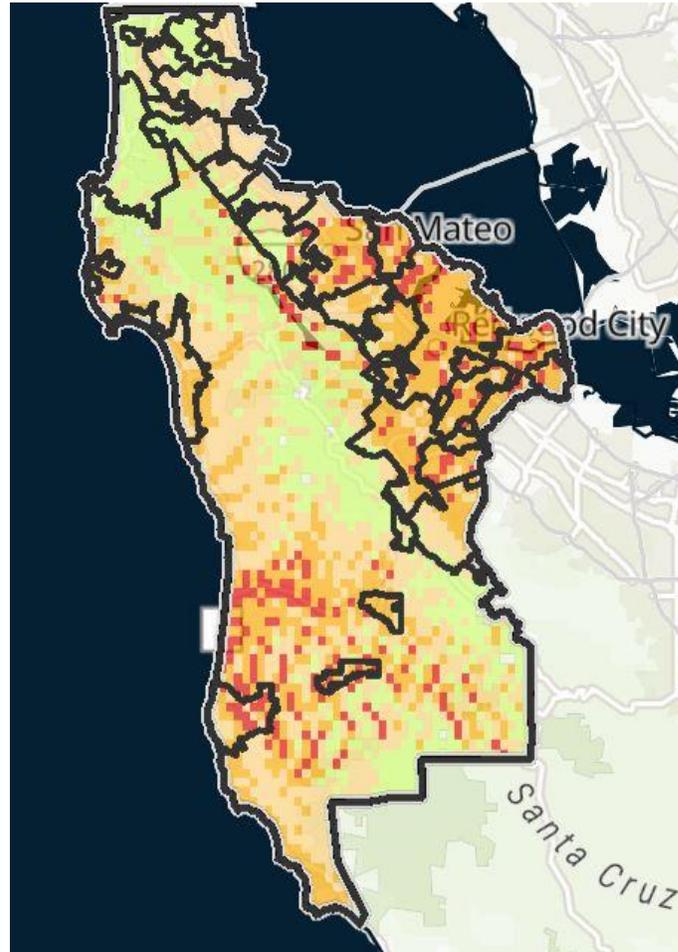
- Currently in beta version
- Climate risk for 2030 and 2070
  - Heat
  - Wildfire
  - Precipitation & Sea Level Rise
- Sources:
  - CVI (census tract)
  - ABAG (block group)
- Some layers:
  - Housing burden
  - Heat and cooling degree days
  - Disability
  - Older adults
  - Language other than English
  - Non-white



# EXAMPLE:

## Using SMC Viewer to Identify Where Cooling Centers May Be Needed by 2030

- Colored squares show projected average temperatures in 2030
- Red = avg of 75-85 degrees F
- Shaded areas show socioeconomic vulnerability



CLIMATE READY  
SAN MATEO COUNTY

Advanced Map Layer Control

- Socioeconomic
  - More than 30% of households earn less than 50% of the area median income (AMI)
  - More than 15% of housing is renter occupied
  - More than 15% of the population over 18 years old does not have a high school diploma
  - Unemployment rate is greater than 5%

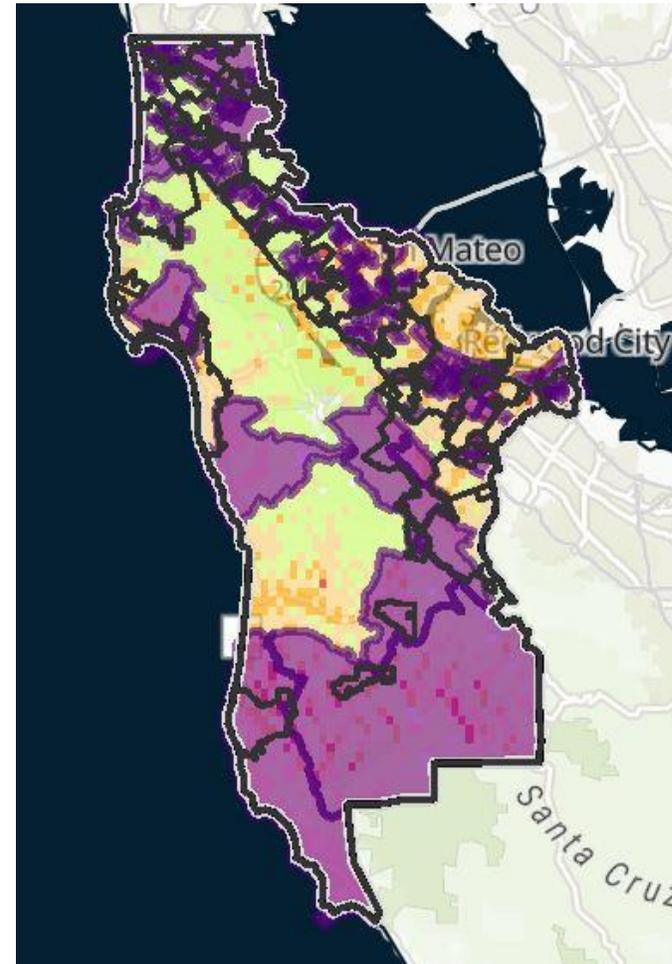
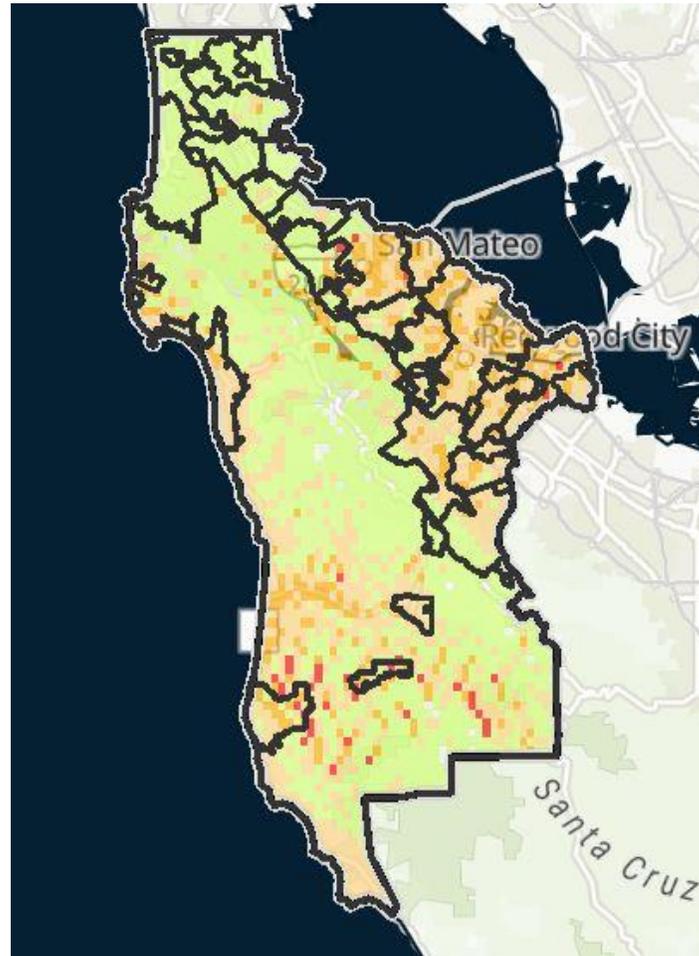
Average High Temperature- 2030  
(Fahrenheit)



# EXAMPLE:

## Projecting Need for A/C in 2030, Overlaid with Households That May Not Be Able to Afford it

- Color squares show the number of projected cooling degree days in 2030.
- Red and orange squares represent hotspots.
- Purple areas show housing burden



# More Tools:

## OPR: Defining Vulnerable Communities in the Context of Climate Adaptation

Table 1: Comparison table: indicators currently available through statewide vulnerability assessment tools, organized by system factors

FACTOR	INDICATOR	CES (weighted index + map)	CCHVI (not an index)	HPI (weighted index + map)	ROI (weighted index)	SB 1000
<b>Existing inequities, institutionalized racism, or exclusion:</b> People facing disadvantage or discrimination often have lower socioeconomic status, which result in fewer resources for preparing, coping and recovering from climate impacts.	Educational attainment					
	Employment					
	Housing burden					
	Income					
	Linguistic isolation					
	Poverty					
	Race and Ethnicity					
	Two parent household					
	U.S. Citizenship					
	Violent Crime					
	Voting					
	<b>Physical states or conditions that increase vulnerability:</b> Older adults, young children, pregnant women, and people with chronic health conditions or mental illness are more susceptible to harm from effects of climate change.	Asthma emergency				
Children						
Cardiovascular						
Elderly						

<b>Lack of investment and opportunities:</b> The disinvestment and resource deprivation historically experienced by communities facing inequities or isolation leads to degraded living conditions and lack of power over decisions that affect their lives	Public transit access					
	Toxic cleanup sites					
	Toxic releases from facilities					■
	Traffic density					
	Tree canopy					
	Retail Density					
	Supermarket Access					■
	Use of high-hazard, high-volatility pesticides					■
	Water Contaminants					■
	Homeownership					■
	Health Insurance					
	Vehicle Ownership/ Access					



# Additional Resources

## Youth Need Index

- Reflects combination of factors that impact youth success
- Higher scores indicate higher need
- Data include:
  - Juvenile Probation and Behavioral Health hot spots
  - Child maltreatment
  - Low birthweight
  - Student reading proficiency, suspensions and poverty

<http://www.gethealthysmc.org/youth-need-data>

## SMC All Together Better Portal

- Sponsored by Public Health, Policy, and Planning
- Contains SMC data on:
  - Health outcomes
  - Health behaviors
  - Health care access
  - Socioeconomic conditions

<http://www.smcalltogetherbetter.org/>

# Discussion

- What's the best approach for selecting recipients of RMCP-related programs/incentives?
  - Access to charging stations
  - Affordable EVs
  - Access to energy efficiency resources, solar, battery
  - Access to water conservation
- What tools/measures will help us reach people who face barriers? What approaches will actually help them?
- How do you blend local knowledge with data tools?

Follow up: Would you like a demonstration of any of the tools?

# THANK YOU!

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OFFICE OF  
SUSTAINABILITY  

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COUNTY OF SAN MATEO