



# CalEnviroScreen 3.0

A Tool for Evaluating  
California Communities

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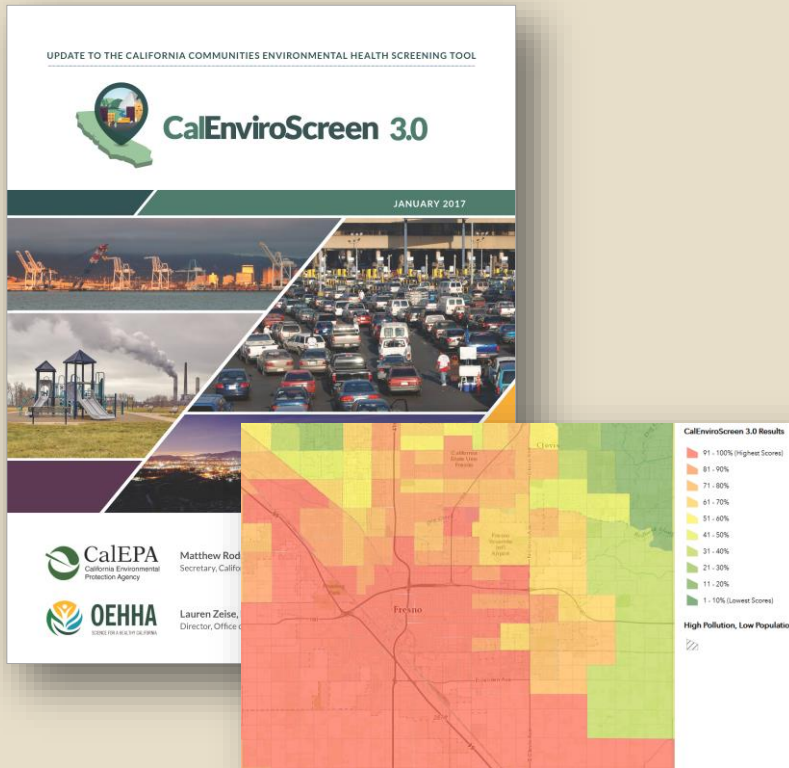
CalEnviroScreen 3.0 Overview

Office of Environmental Health Hazard Assessment



# CalEnviroScreen 3.0

Released January 2017



- Spatial analysis of relative burdens in California communities from pollution and population vulnerability
- 20 indicators combined into a single score
- Census tract scale

Available at: <http://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>



# Environmental Justice Laws

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## Statutory Definition of EJ

- “... the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws, regulations, and policies.”

*Government Code §65040.12(e)*

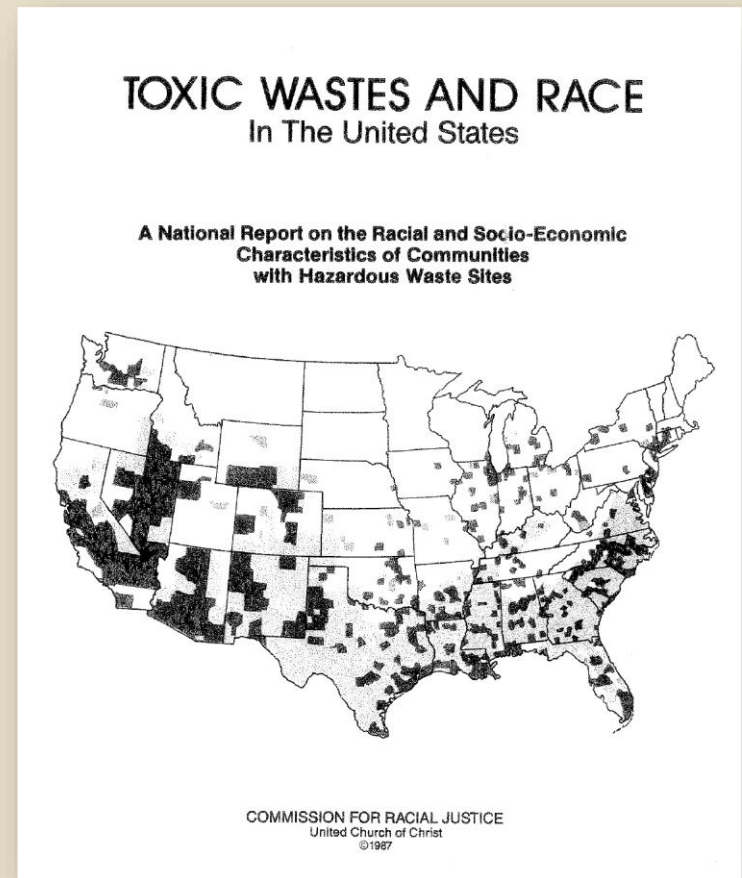
## CalEPA’s Responsibilities

- “...identify and address any gaps in existing environmental programs, policies, or activities that may impede the achievement of environmental justice.”
- Required development of interagency environmental justice strategy for CalEPA
  - Interagency Working Group on Environmental Justice
  - California Environmental Justice Advisory Committee

*Public Resources Code §71113*

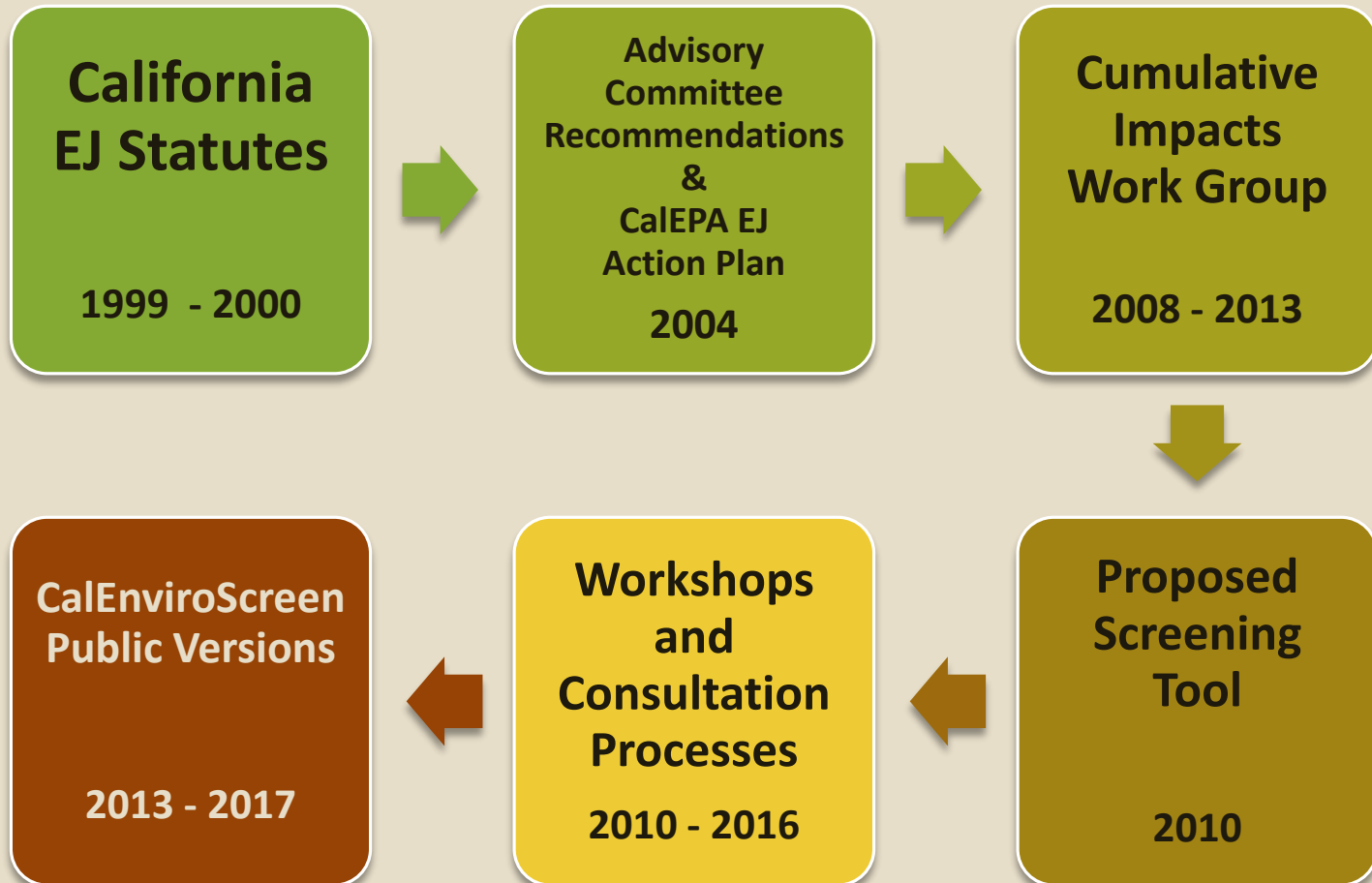
# Basis for Environmental Justice Concerns

- Multiple **pollution** sources disproportionately concentrated in low-income communities with high-minority populations.
- Socioeconomic stressors are associated with increased **sensitivity to pollution**.
- Combination of multiple pollutants and increased sensitivity results in **higher cumulative impacts**

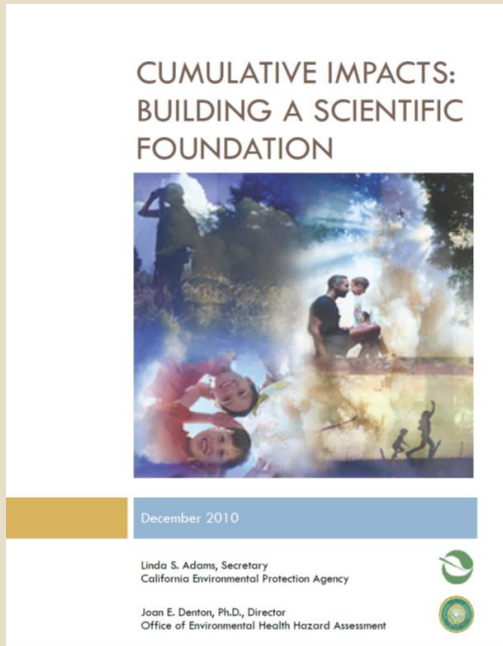


# Development of CalEnviroScreen

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# Focus of CalEnviroScreen



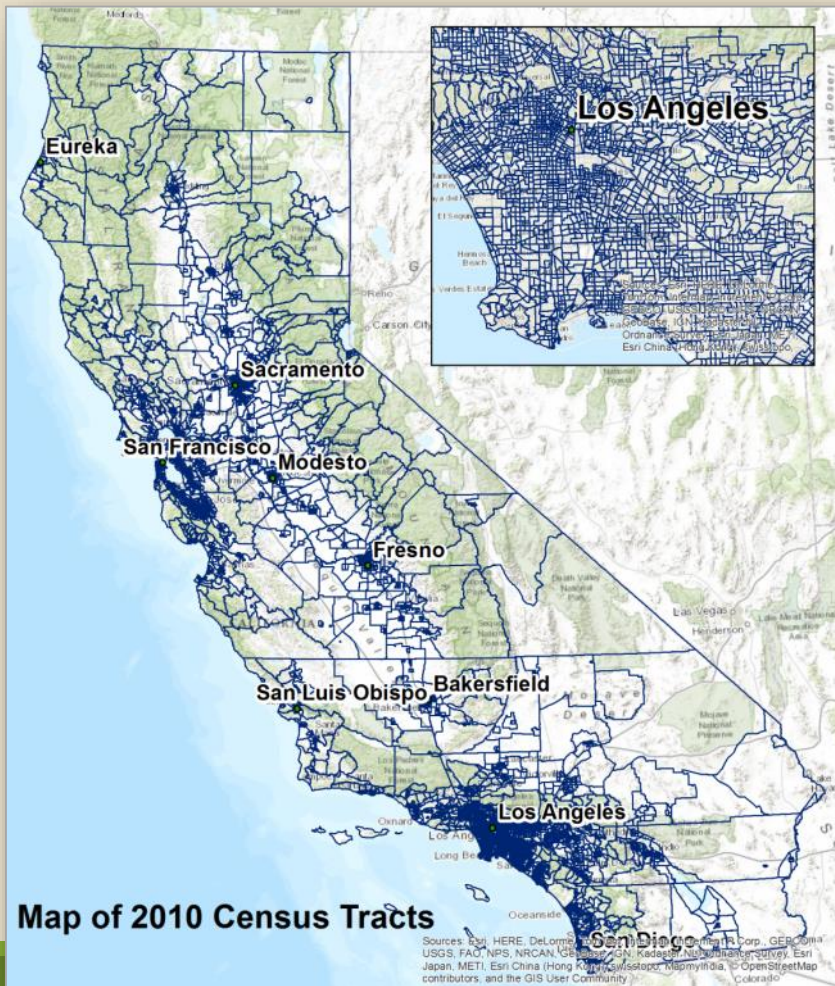
“...**exposures, public health** or **environmental effects** from the combined emissions and discharges in a geographic area, including environmental pollution from all sources, whether single or multi-media, routinely, accidentally, or otherwise released. Impacts will take into account **sensitive populations** and **socioeconomic factors**, where applicable and to the extent data are available.”

- Definition of “cumulative impacts” by Cal/EPA Interagency Working Group on Environmental Justice

# CalEnviroScreen Process



# Census Tracts to Represent Communities



- 2010 Census Bureau boundaries
- Represents relatively fine scale
- ~8,000 census tracts in California
- ~4,000 people per tract (range 1,200 - 8,000)



# CalEnviroScreen Components

Exposures

*Contact with pollution*

Environmental  
Effects

*Adverse environmental conditions  
caused by pollutants*

Sensitive  
Populations

*Populations with biological traits (including  
health status) that may magnify the effects  
of pollutant exposures*

Socioeconomic  
Factors

*Community characteristics that result in  
increased vulnerability to pollutants*



# Criteria for Indicator Selection

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1. Contributes to understanding the component
  - Pollution indicators - health-relevant, widespread
  - Population indicators - linked to vulnerability to pollution
2. Publicly available
3. Location-based and detailed
4. Good scientific quality
  - e.g., covers the state, accurate, current





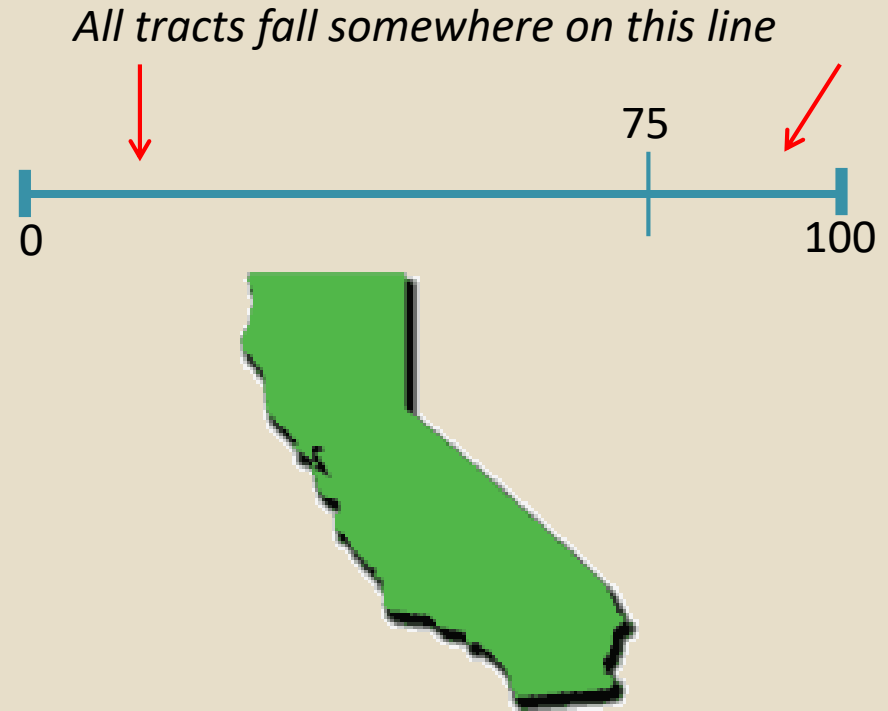
# CalEnviroScreen 3.0

## Indicators

Pollution Burden		Population Characteristics	
Exposures	Environmental Effects	Sensitive Populations	Socioeconomic Factors
 Ozone  PM2.5  Diesel Particulate Matter  Drinking Water Contaminants  Toxic Releases from Facilities  Traffic  Pesticide Use	 Solid Waste Sites and Facilities  Cleanup Sites  Groundwater Threats  Impaired Water Bodies  Hazardous Waste Generators and Facilities	 Asthma  Cardiovascular Disease  Low Birth Weight Infants	 Educational Attainment  Housing Burden  Linguistic Isolation  Poverty  Unemployment

# Indicator Scoring

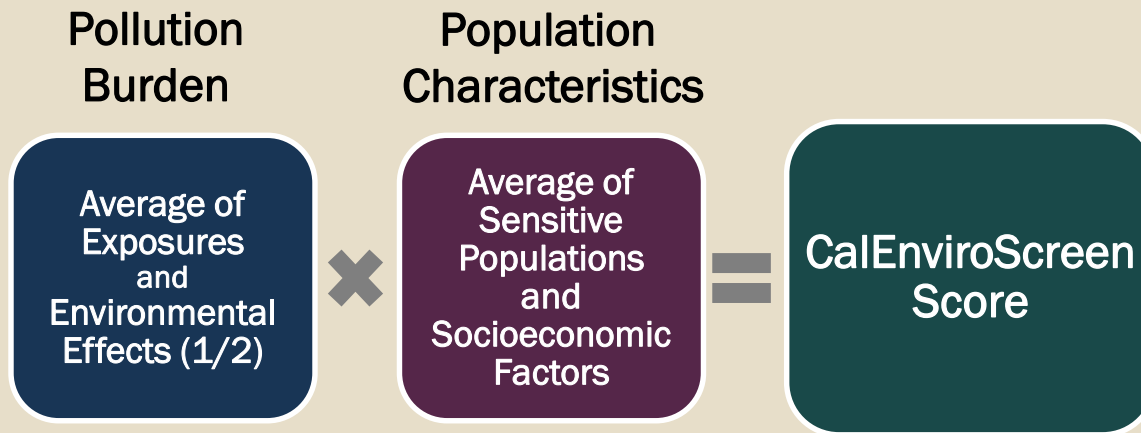
- For each indicator, each census tracts is assigned a percentile value based on where it falls in the statewide distribution



- The percentile represents a relative score for all 20 indicators
  - For example, a 75th percentile means that census tract is higher than 75% of other census tracts in California.

# Calculating CalEnviroScreen Scores

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- CalEnviroScreen score is calculated by combining all indicator scores; allows for comparison of different areas
- Higher scores mean greater pollution burdens and population vulnerability.



# Using CalEnviroScreen SB 535 and AB 1550

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## Investment Plan Greenhouse Gas Reduction Fund

“CalEPA shall identify ‘disadvantaged communities’ for investment opportunities based on **geographic, socioeconomic, public health** and **environmental hazard** criteria.”

**>25%**

Projects located in disadvantaged communities

**>5%**

Projects within ½ mile of a disadvantaged community

**>5%**

Projects within low-income areas



# Using CalEnviroScreen

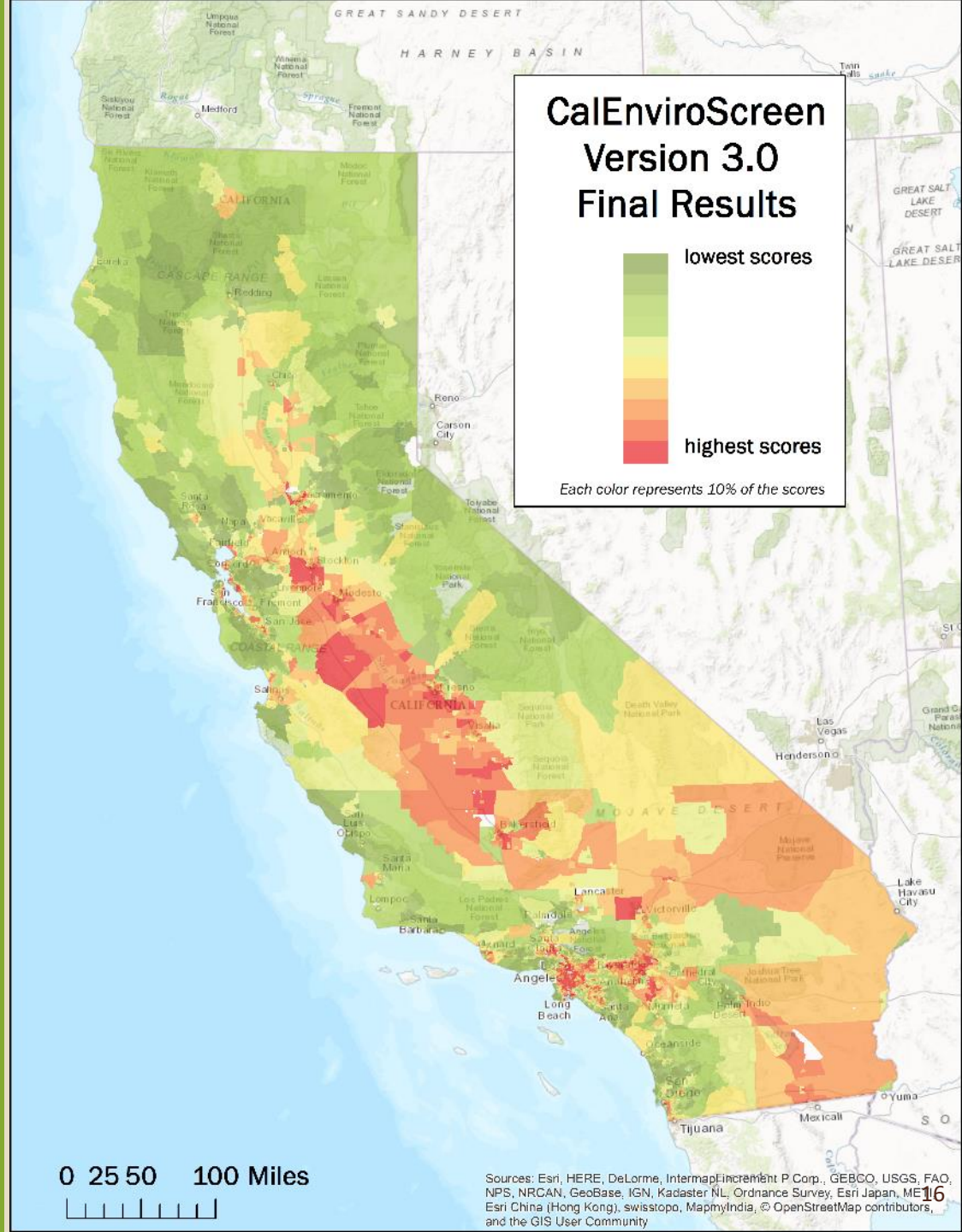
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- EJ and Compliance Enforcement Working Group (CalEPA)
- EJ Small Grant Program (CalEPA)
- Sustainable Communities Planning Grants and Incentives Program (SGC)
- Affordable Housing and Sustainable Communities Program (SGC)
- Weatherization Upgrades/Renewable Energy (Dept of Commun Svcs)
- Green Tariff Shared Renewables Program (PUC)
- Active Transportation Program (CalTrans)
- Transit and Intercity Rail Capital Program (CalTrans)
- Urban Forestry (CalFIRE)
- Sustainable Agricultural Lands Conservation Program (Resources Agency)



# Results


Available as an  
interactive web  
map

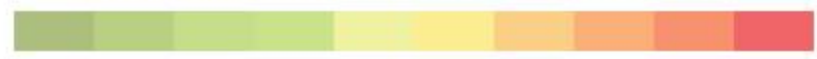




# CalEnviroScreen 3.0 Results

## Greater Los Angeles Area

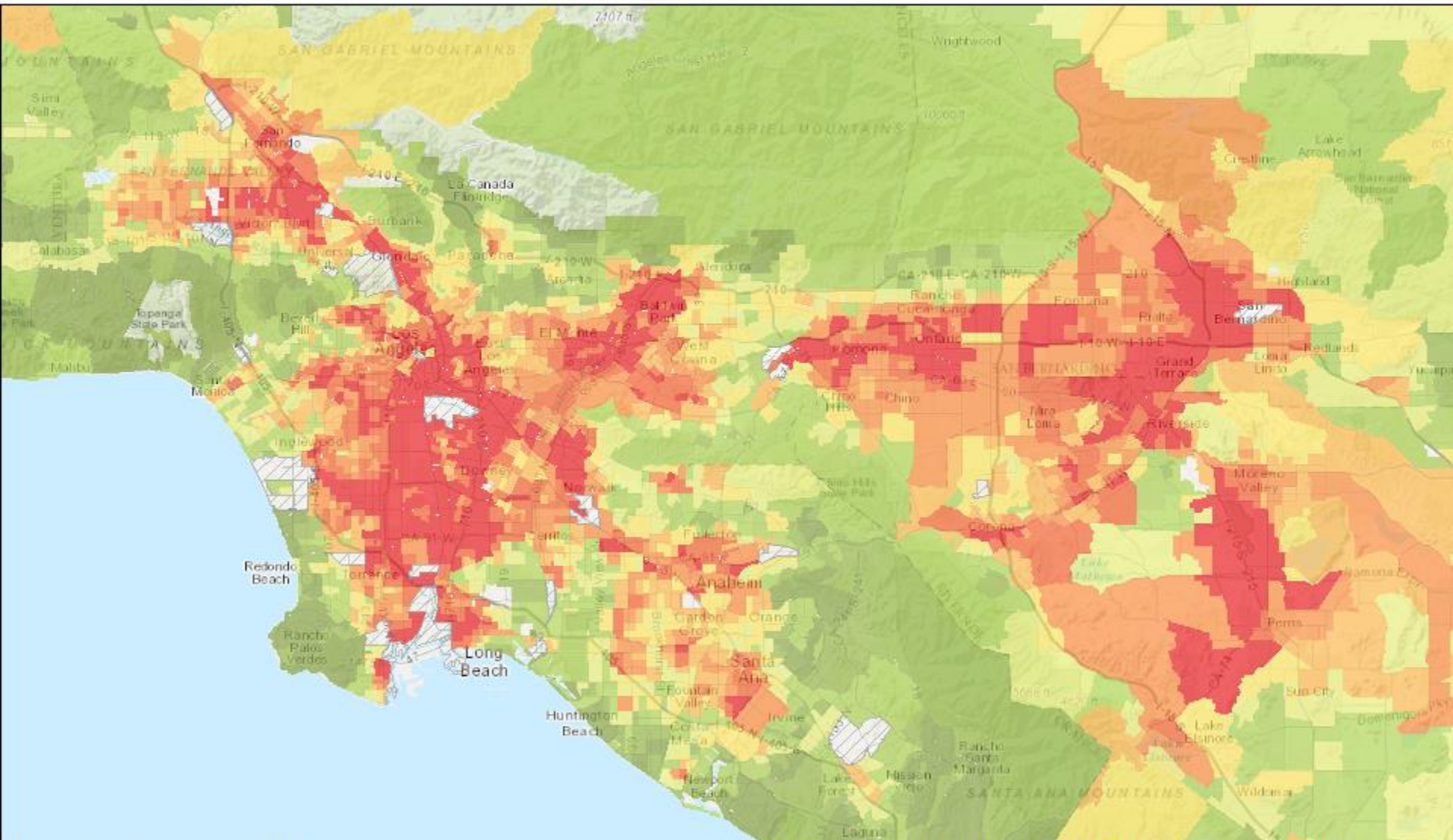
 Top 20% pollution, no CalEnviroScreen score



lowest scores

highest scores

Each color represents 10% of scores



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community