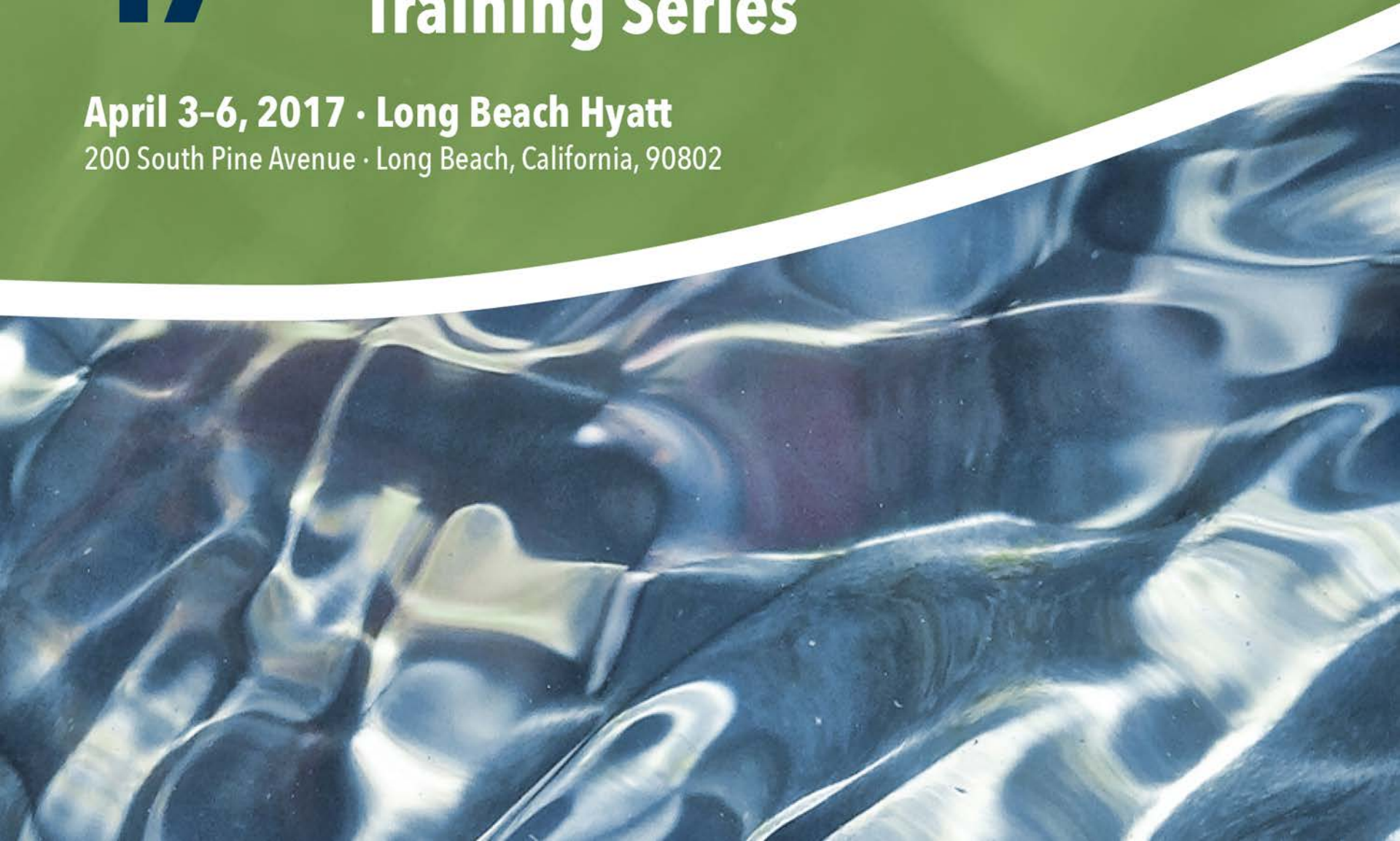


17th Technical Training Series



April 3-6, 2017 · Long Beach Hyatt
200 South Pine Avenue · Long Beach, California, 90802





CalEnviroScreen 3.0

A Tool for Evaluating
California Communities

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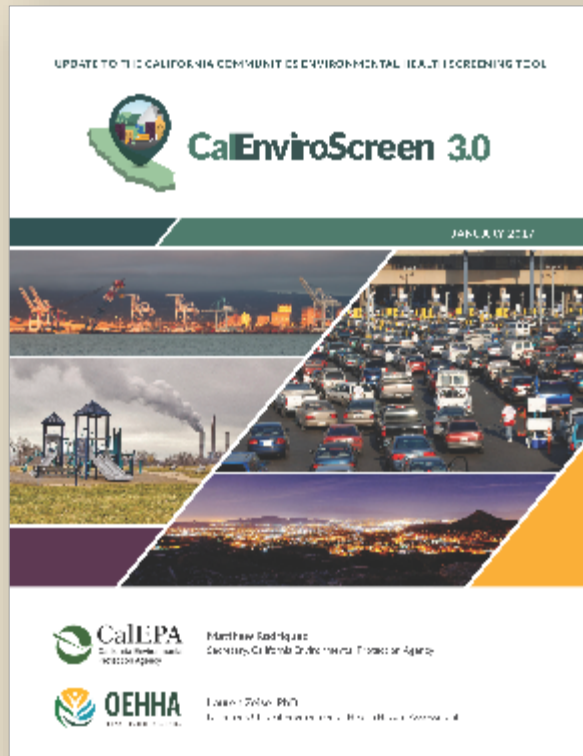
CALRECYCLE LEA CONFERENCE

APRIL 3RD, 2017



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>



Today's presentation

- ❑ Background
- ❑ CalEnviroScreen model
- ❑ Examples of indicators
- ❑ How most-impacted areas of California are identified
- ❑ Results
- ❑ How CalEnviroScreen is being used

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

Critical program

- Some California communities bear a higher pollution burden than others, many in low-income and minority communities.
- State action is needed to address the cumulative impact problem.
- The process of identifying these places should be scientific and include meaningful public participation.



Risks and Impacts

- “Traditional risk assessment” tends to focus on one chemical at a time, one media at a time (air, water, soil).
- Data intensive: Requires detailed knowledge of hazards, exposure levels, and dose-response relationships.
 - Complete information unlikely to be available in the foreseeable future at the community scale.
- Community- or place-based screening assessment fills a need to characterize areas based on cumulative burdens.
 - May include quantitative, as well as less quantitative methods.

CalEnviroScreen Process



CalEnviroScreen Model

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*

Features of Screening Tool

- Relatively simple
- Combines information from multiple media
 - *Air, water, soil*
- Data represent multiple factors
 - *Exposures, environmental conditions, population sensitivity, health conditions, and socioeconomic factors*
- Provides information at roughly community scale
 - *Geography based*
- Allows for comparison between geographic areas

Criteria for Indicator Selection

Contributes to understanding the component

- Widespread environmental concerns
- Population characteristics that may influence vulnerability to pollution

Publicly available





















Location-based

Good quality

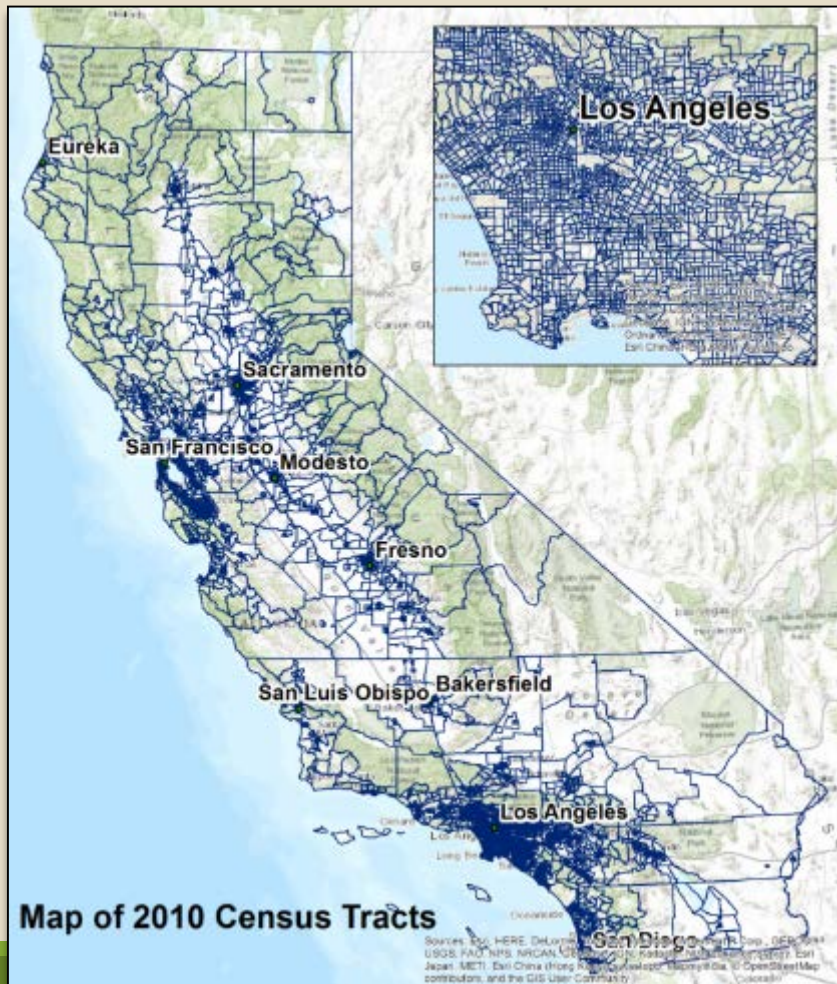
- e.g., covers the state, accurate, current



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  Pesticide Use  Traffic	 Solid Waste Sites and Facilities  Cleanup Sites  Groundwater Threats  Impaired Water Bodies  Hazardous Waste Generators and Facilities	 Asthma  Cardiovascular Disease NEW  Low Birth Weight Infants	 Educational Attainment  Housing Burden NEW  Linguistic Isolation  Poverty  Unemployment

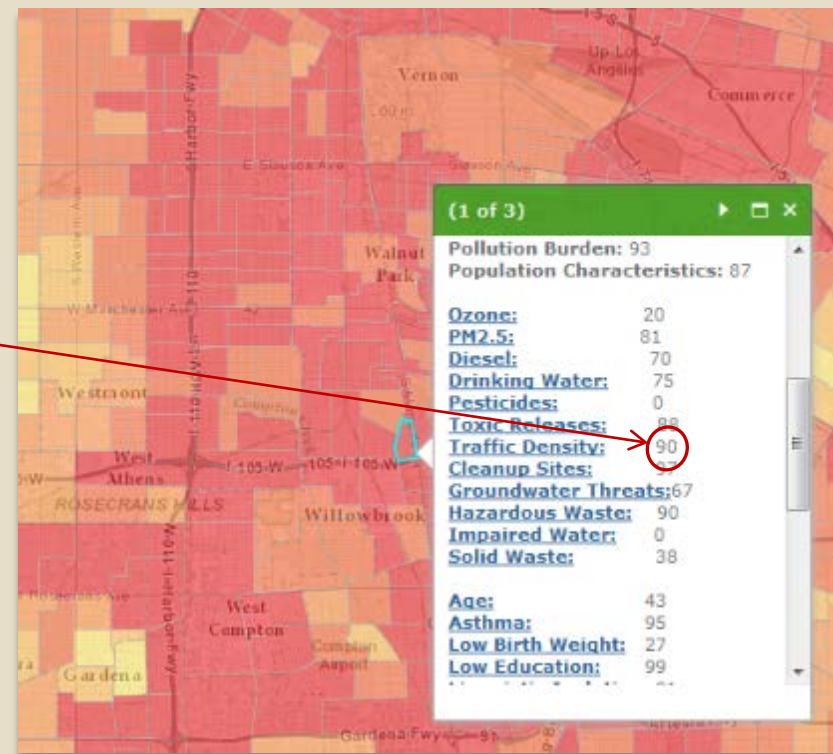
Census Tracts to Represent Communities



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

Indicator Scoring

- For each indicator, all census tracts are scored using percentiles:
 - For example, this Los Angeles census tract has a 90th percentile traffic density, meaning it's higher than 90% of all other census tracts in California.
- The percentile represents a relative score for all 20 indicators



Indicator Example: Solid waste sites



Business.salinaschamber.com

Data source:

Solid Waste Information System (SWIS)
Closed, Illegal, and Abandoned (CIA)
Disposal Sites Program

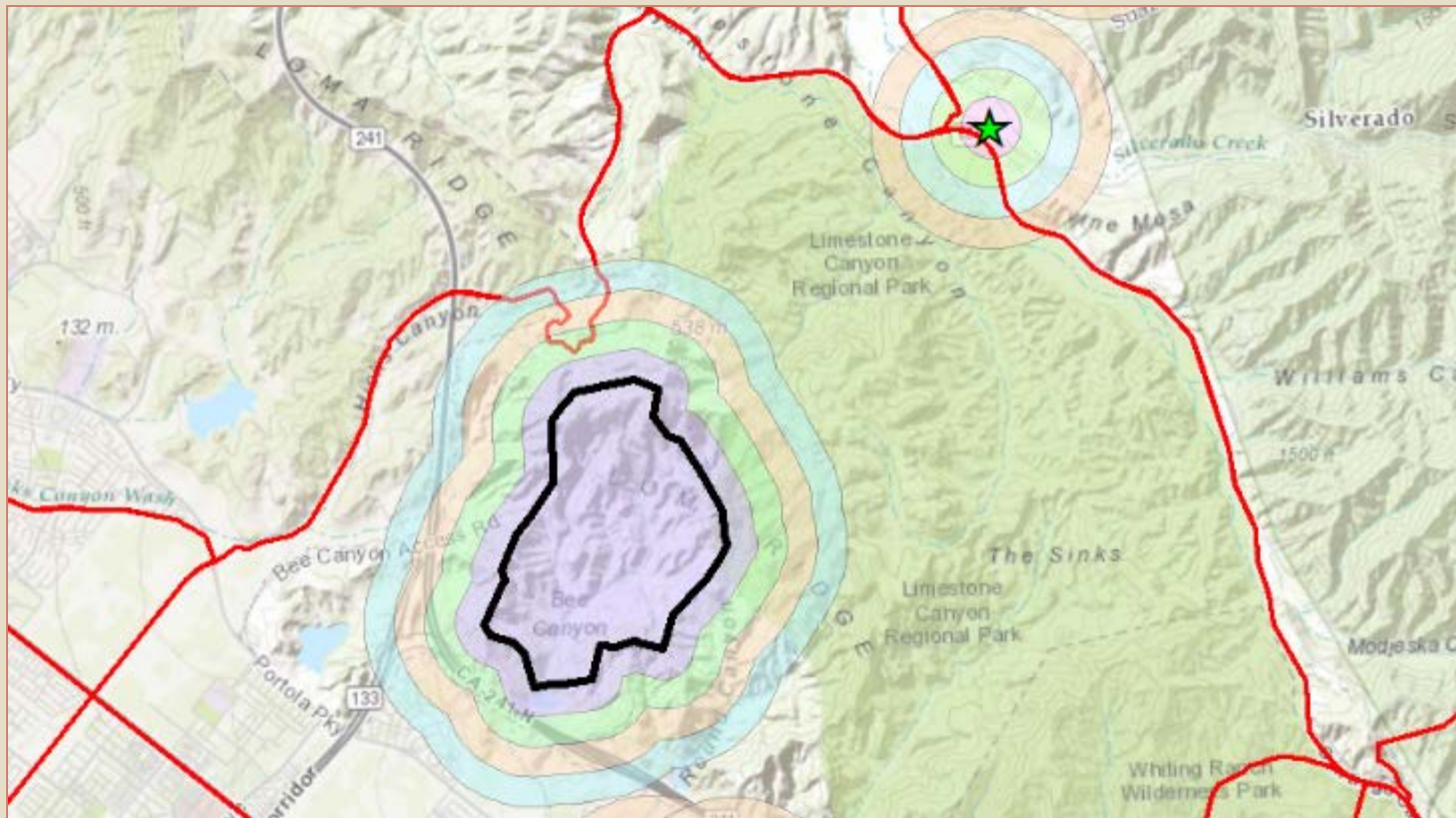
Indicator:

Sum of weighted cleanup sites within
each census tract.

Weights adjusted weights based on the
proximity to populations in census tract.

Category	Criteria	Site or Facility Type	Violations (any in previous 12 months) ¹
Closed, Illegal, or Abandoned Site ¹	Priority Code ²	6 (Priority Code A) 4 (Priority Code B) 2 (Priority Code C) 1 (Priority Code D)	NA
Solid Waste Landfill or Construction, Demolition and Inert (CDI) Debris Waste Disposal (active) ³	Tonnage	8 (> 10,000 tpd ⁶) 7 (> 3,000 to < 10,000 tpd) 6 (> 1,000 to < 3,000 tpd) 5 (> 100 to < 1,000 tpd) 4 (< 100 tpd)	3 (gas) 1 (each for litter, dust, noise, vectors, and site security)
Solid Waste Disposal Site (closed, closing, inactive) ⁴	Tonnage	1 (All)	3 (gas) 1 (each for litter, vector, site security)
Inert Debris: Engineered Fill	Regulatory Tier ⁵	2 (Notification)	1 (each for dust, noise, vectors, site security)
Inert Debris: Type A Disposal	Regulatory Tier ⁵	3 (Permitted)	1 (each for dust, noise, vectors, site security)
Composting	Regulatory Tier ⁵	4 (Permitted) 3 (Permitted: Chipping & Grinding, 200 to ≤500 tpd) 2 (Notification)	1 (each for vector, odor, litter, hazard, nuisance, noise, dust, site security) 1 (fire)
Transfer/Processing	Regulatory Tier ⁵	5 (Permitted: large vol.) 3 (Permitted: medium vol.; direct transfer) 2 (Notification)	1 (each for dust, litter, vector/bird/animal, fire, site security)
Waste Tire	Regulatory Tier ⁵	4 (Major) 2 (Minor)	2 (each for storage, fire) 1 (each for vectors, site security)
Scrap Metal Recycler		5 (Active since 2013)	NA

Indicator Example: Solid waste sites



Analysis:

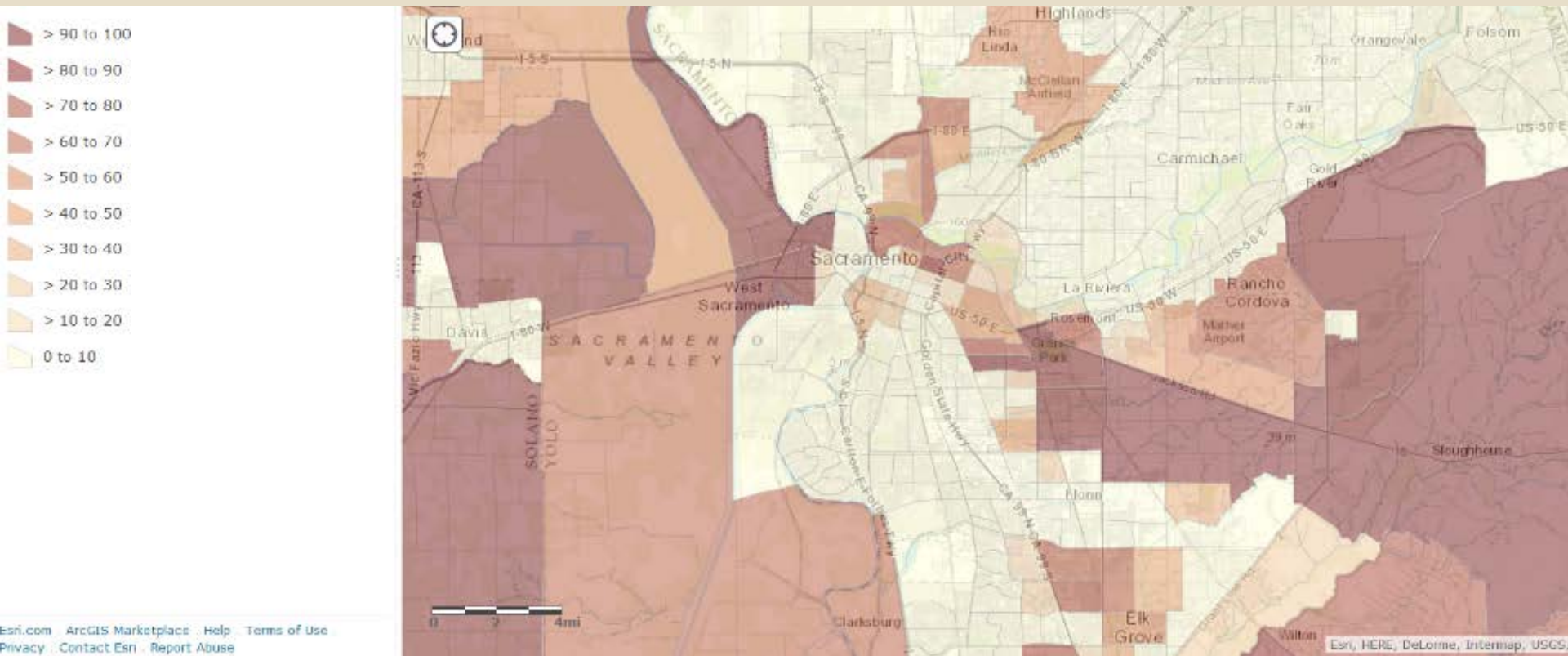
Sites weighted based on type and status

Multi-ring buffer with proximity adjustment factors

Census tracts given score based on overlap with buffer

Scores summed by tract

Solid waste sites results



Percentiles calculated across census tracts based on buffered, weighted cleanup sites, data was symbolized into deciles.



Housing Burdened Low Income Households Indicator



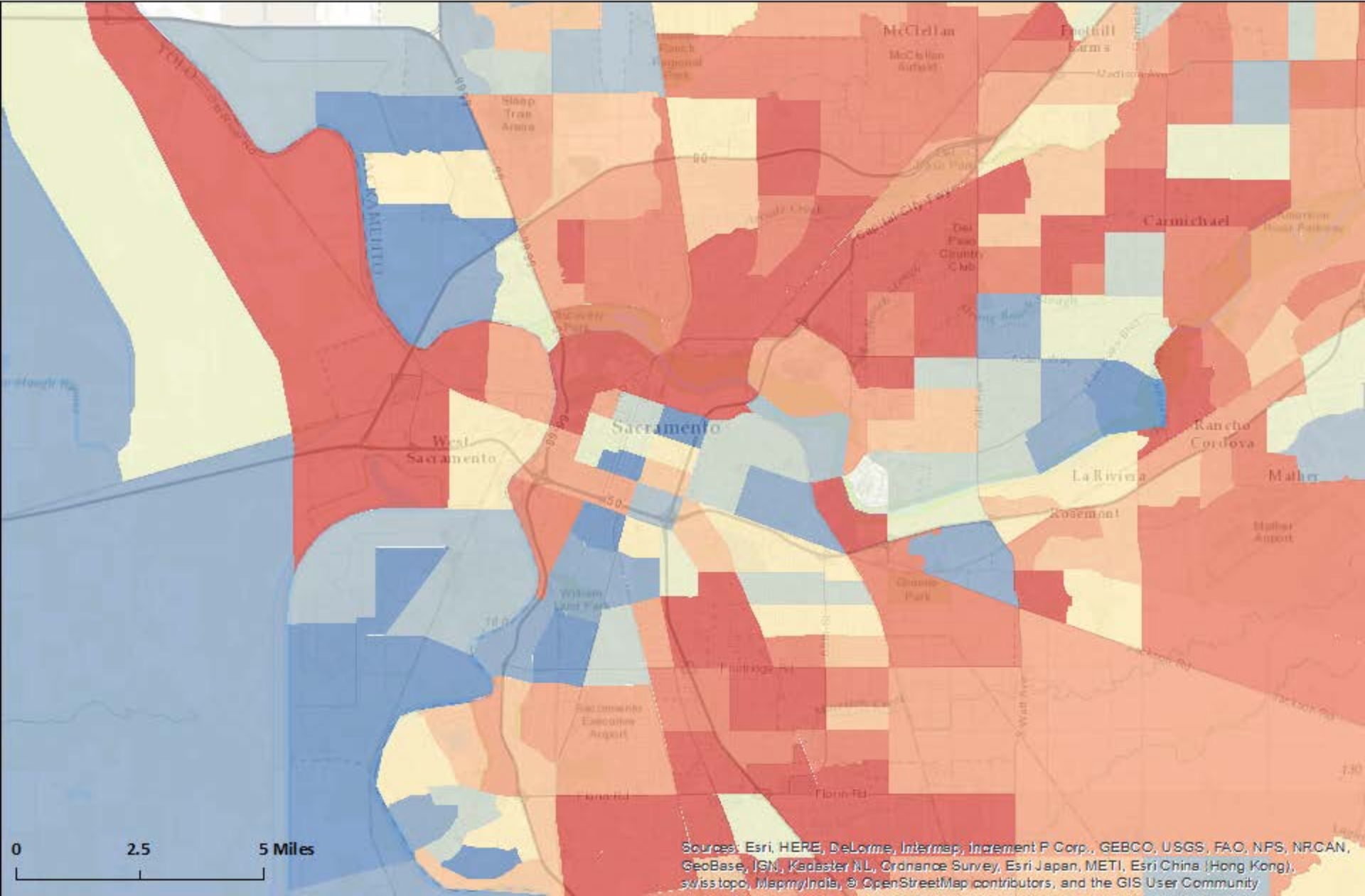
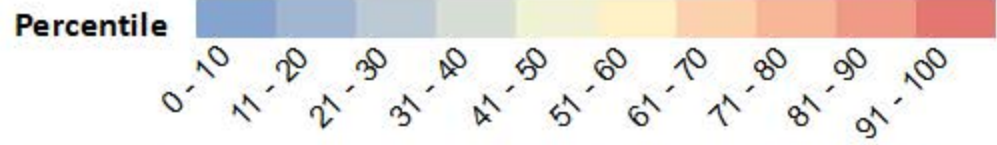
Indicator:

- Percent of households that are both low income (<80% of the county median)
AND
paying >50% of their income to housing (either rent or home owner costs, plus utility costs).

Data source

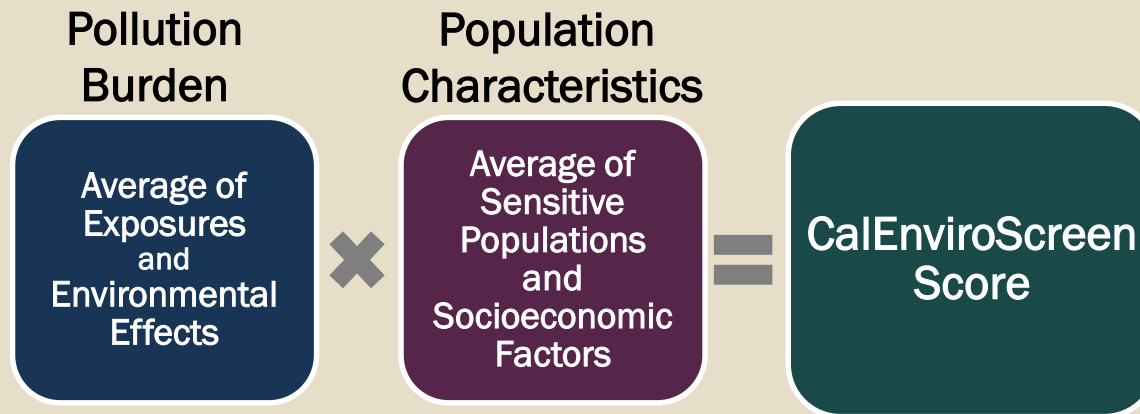
- Comprehensive Housing Affordability Strategy (CHAS), Housing and Urban Development
- American Community Survey, US Census
- 2009-2013 data

Housing Burden Indicator Sacramento Area



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

Calculating CalEnviroScreen Scores



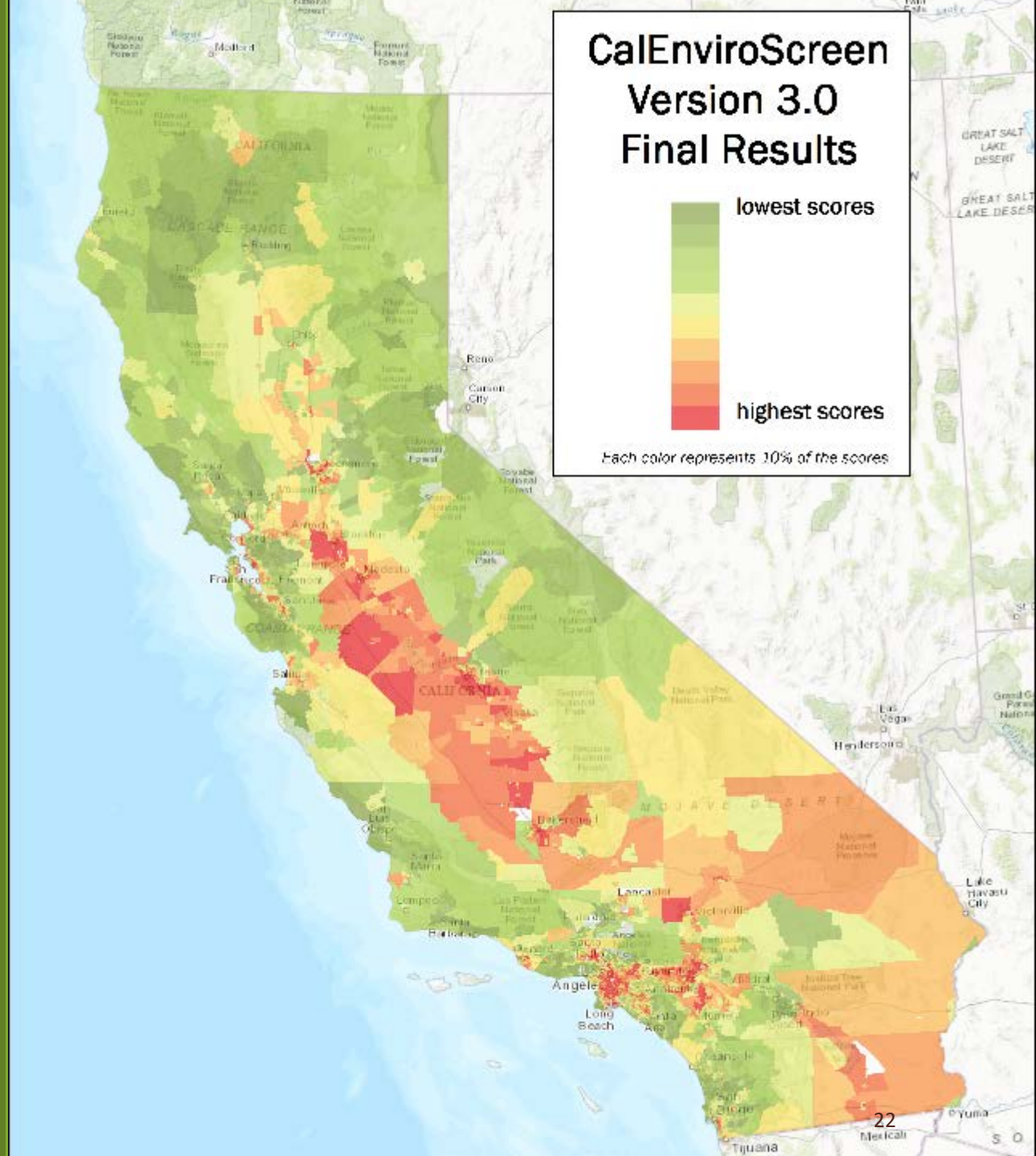
- CalEnviroScreen score is calculated by combining all indicator scores; allows for comparison of different areas
- Higher scores mean greater pollution burdens and population vulnerability.
- The highest 75-100th percentile (top 25%) represent “disadvantaged communities” under SB 535.





Results

Available as an
interactive web
map



Publicly Available Results

CalEnviroScreen Report

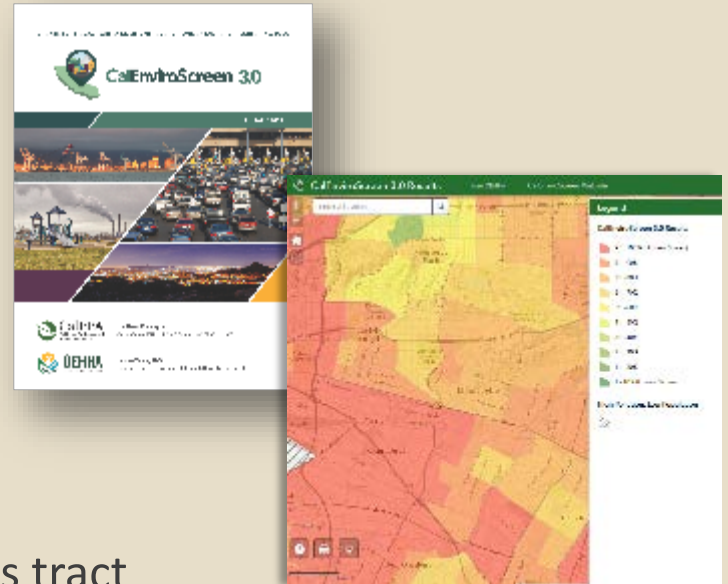
- Maps for individual indicators
- Description of each indicator

Mapping Tool

- Interactive web maps of results

Other Data

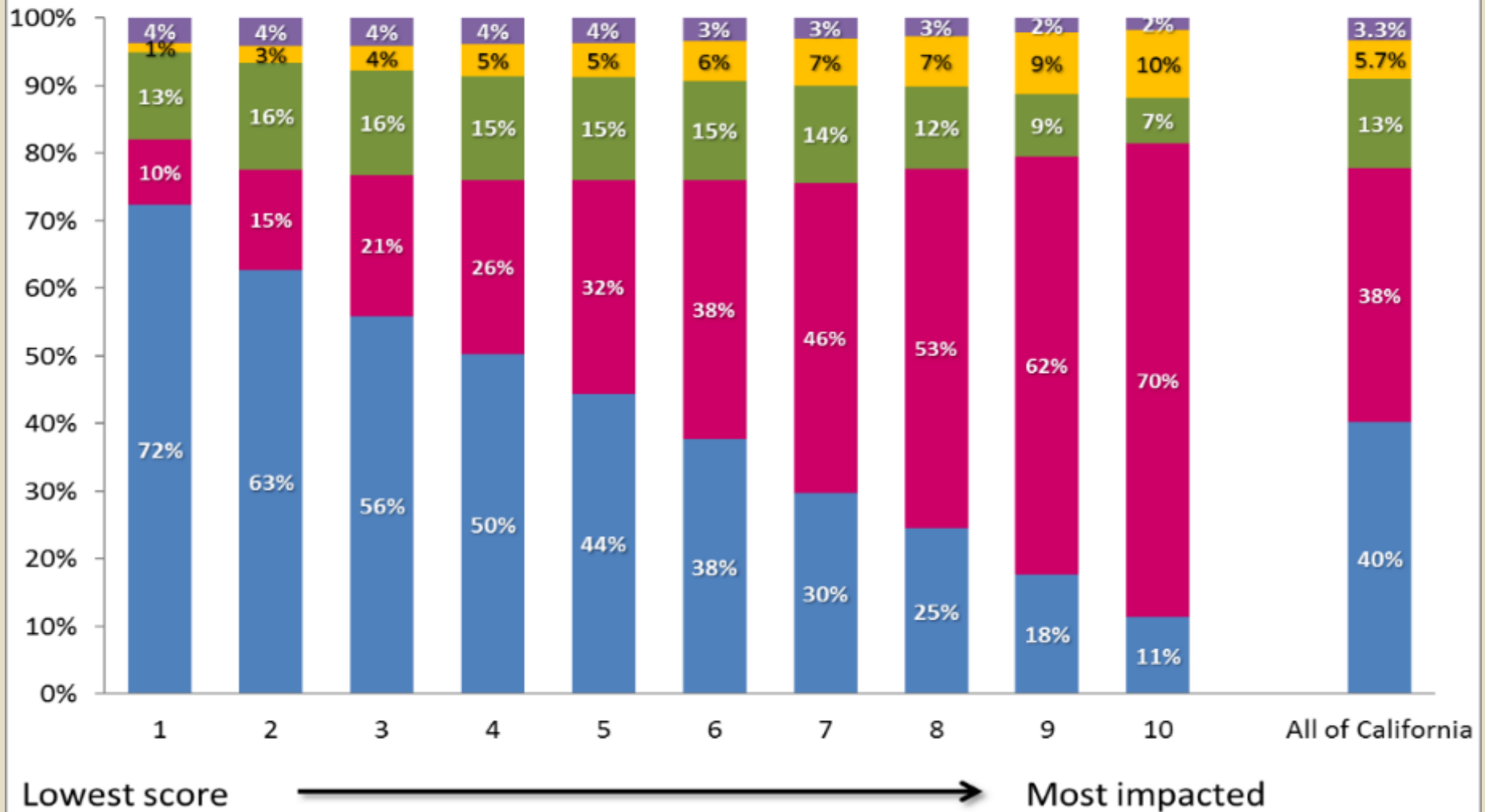
- Excel spreadsheet of results by census tract
- Google Earth file
- ArcGIS geodatabase

A screenshot of an Excel spreadsheet showing a table with multiple columns and rows of data, representing the results by census tract.

www.oehha.ca.gov/calenviroscreen

Racial/ethnic Makeup of Each Decile of CalEnviroScreen Score

■ White
 ■ Hispanic
 ■ Asian/Pacific Islander
 ■ African American
 ■ Other/Multiple



Using CalEnviroScreen

- Commit resources to most highly impacted areas or regions.
- Provide context for specific locations.

Caveats:

- Not a health risk assessment.
- Not a substitute for CEQA-required cumulative impacts assessment; does not determine whether a specific project's impacts are significant.

Investment Minimums : Summary of Changes

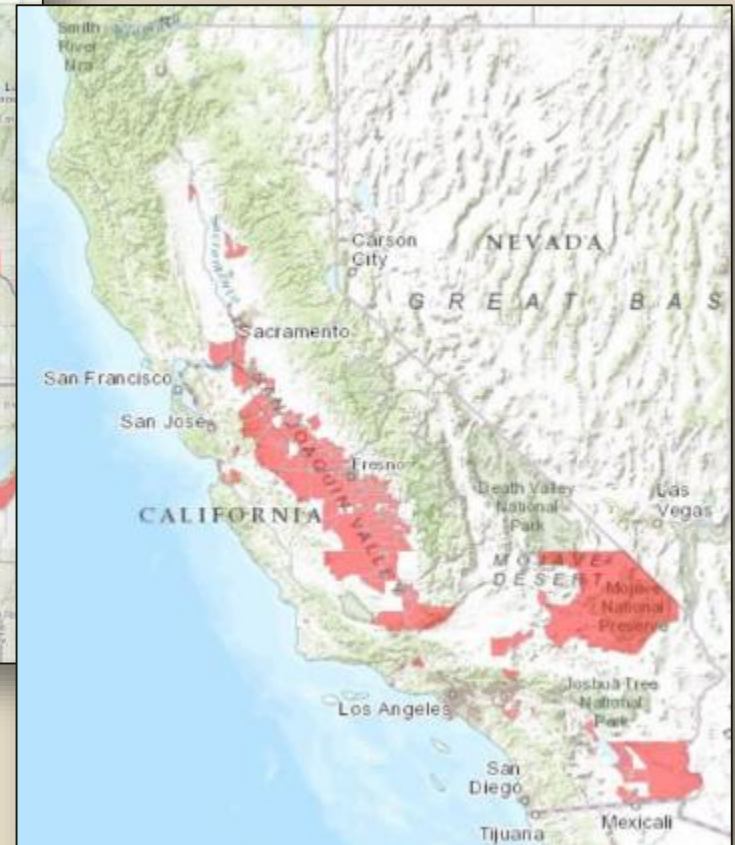
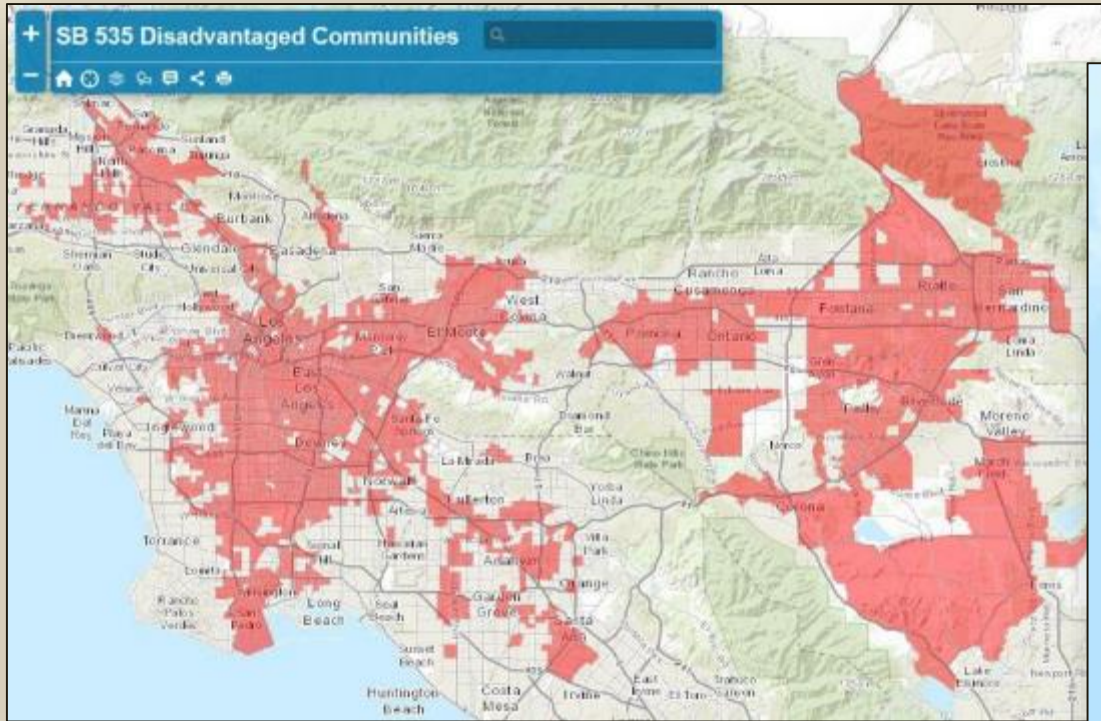
SB 535 (De Leon, Statutes of 2012) and AB 1550 (Gomez, Statutes of 2016)

Previous SB 535 Investment Minimums	New AB 1550 Investment Minimums	Target Investment Area
10%	25%	Projects within and benefiting disadvantaged communities
25%	-	Projects benefiting disadvantaged communities
-	5%	Projects within and benefiting low-income communities or benefiting low-income households statewide
-	5%	Projects within and benefiting low-income communities, or low-income households, that are within ½ mile of a disadvantaged community

Greenhouse Gas-Reduction Investments to Benefit Disadvantaged Communities

- ❑ Low Carbon Transportation and Transit Operations
- ❑ Weatherization Upgrades
- ❑ Affordable Housing and Sustainable Communities
- ❑ Sustainable Forests (urban greening)

SB 535 Disadvantaged Communities in Greater Los Angeles Area



Note: Based on CalEnviroScreen 2.0, currently being updated using 3.0

Acknowledgements

OEHHA

George Alexeeff

Laura August

Komal Bangia

Lara Cushing

John Faust

Vanessa Galaviz

Allan Hirsch

Julian Leichty

Shankar Prasad

Rose Schmitz

Andrew Slocombe

Robbie Welling

Walker Wieland

Lauren Zeise

CalEPA

Arsenio Mataka

Gina Solomon

Other thanks

- CalEPA Boards and Departments, the California Department of Public Health and the Public Health Institute, who provided comments and data
- Residents and stakeholders who participated in public workshops on previous versions;
- Dr. Tara Zagofsky, facilitator, UC Davis Extension Collaboration Center
- Dr. Rachel Morello-Frosch, Dr. Carolina Balazs, and academic colleagues at the University of California, Berkeley
- Dr. Aaron M. King, who provided expertise on drinking water systems
- Graduate and undergraduate students assisting in the project

THANK YOU!

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