IDENTIFYING DISADVANTAGED COMMUNITIES WITH CALENVIROSCREEN 2.0

August-September 2014

Senate Bill 535 (De León, 2012)

- At least 25 percent of Greenhouse Gas Reduction Fund moneys shall be allocated to projects that benefit disadvantaged communities.
- At least 10 percent of these moneys shall be allocated to projects located in disadvantaged communities.
- CalEPA shall identify disadvantaged communities "based on geographic, socioeconomic, public health and environmental hazard criteria."

CalEnviroScreen 2.0 Indicators

Pollution Burden		*Population Characteristics*	
Exposures	**Environmental Effects**	**Sensitive Populations**	**Socioeconomic Factors**
❑ PM 2.5 concentrations	❑ Cleanup sites	❑ Prevalence of children and elderly	❑ Educational attainment
❑ Ozone concentrations	❑ Groundwater threats (Leaking underground tanks and cleanups)	❑ Asthma emergency department visit rate	❑ Linguistic isolation
❑ Diesel PM emissions	❑ Impaired water bodies	❑ Rate of low birth weight births	❑ Poverty: Percent residents below 2x national poverty level
❑ Drinking water contaminants	❑ Solid waste sites and facilities		❑ Unemployment rate
❑ Pesticide use	❑ Hazardous waste generators and facilities		
❑ Toxic releases from facilities			
❑ Traffic density			

Geographic scale: Census tracts

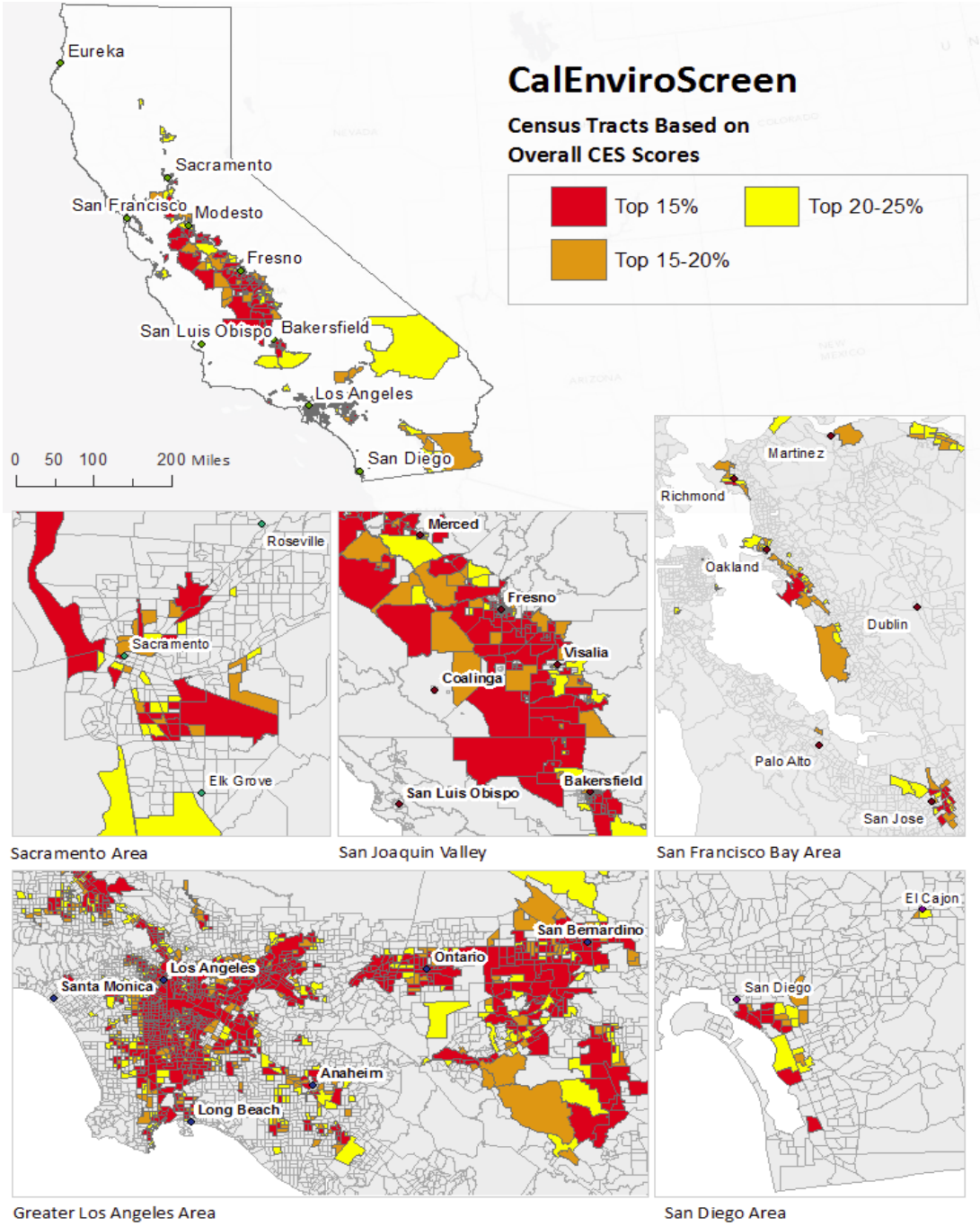
- Approximately 8000 census tracts in California.
- Represents a relatively fine scale of analysis.
- Each census tract receives a CalEnviroScreen score (between 1 and 100) based on how its 19 indicators compare with other census tracts.
- CalEnviroScreen ranks census tracts based on their scores.
  - Census tracts with higher scores have higher pollution burdens and vulnerabilities than tracts with lower scores.

Identifying Disadvantaged Communities

- How many communities should be considered disadvantaged?
  - Census tracts with highest 15%, 20% or 25% of scores calculated from CalEnviroScreen data?
    - Generally represent 15%, 20% and 25% of California's population
- How should CalEnviroScreen information be used in identifying disadvantaged communities?

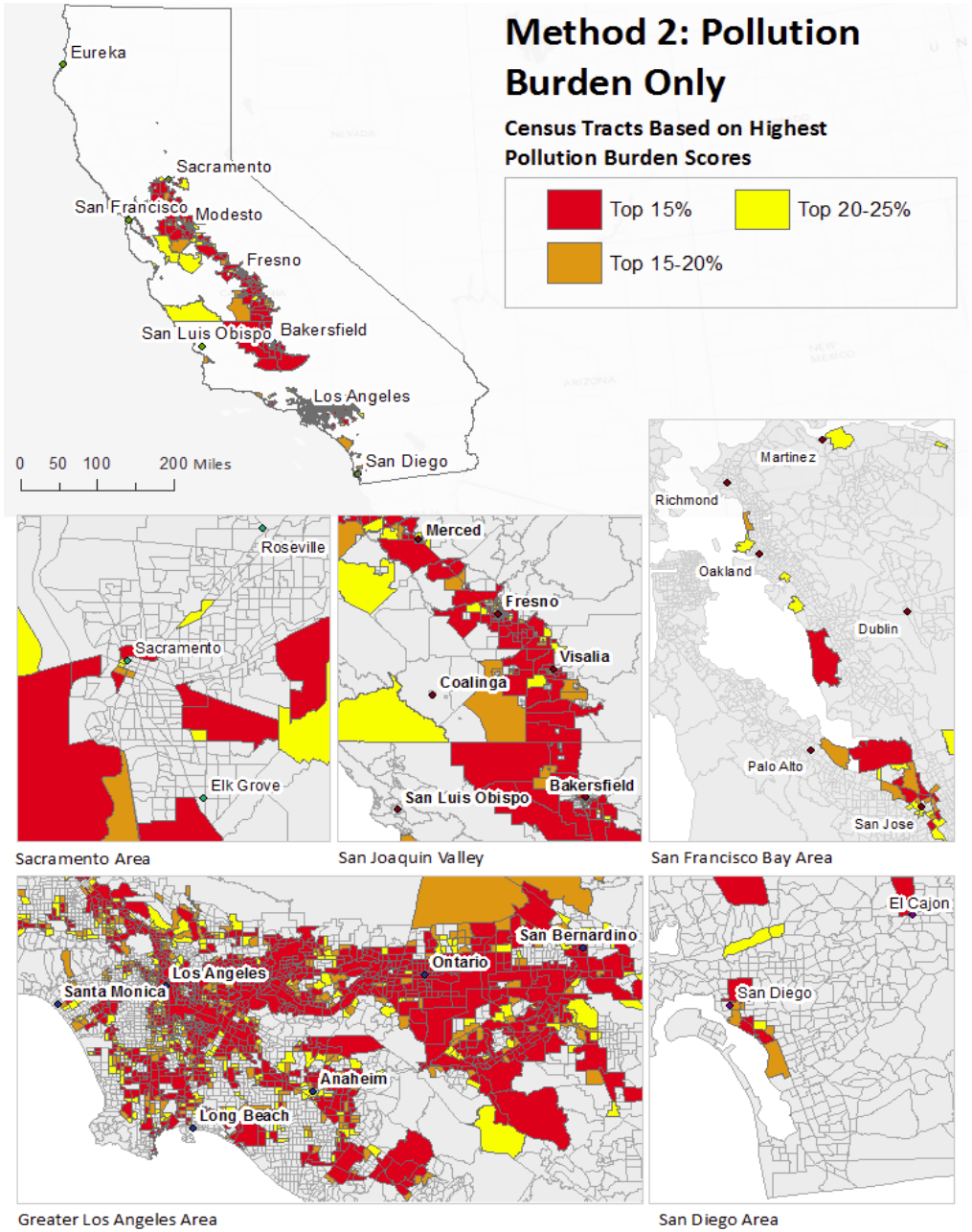
Method 1: Top CalEnviroScreen scores

- For each census tract, the Pollution Burden score is multiplied by the Population Characteristics score to get a final CalEnviroScreen score.
- Consistent with scientific studies showing that population characteristics can affect health risks from pollution.


CalEnviroScreen
Census Tracts Based on
Overall CES Scores
Top 15%
Top 20-25%
Top 15-20%
Eureka
Sacramento
San Francisco
Modesto
Fresno
San Luis Obispo
Bakersfield
Los Angeles
San Diego
0 50 100 200 Miles
Roseville
Sacramento
Elk Grove
Merced
Fresno
Visalia
Coalinga
San Luis Obispo
Bakersfield
Martinez
Richmond
Oakland
Dublin
Palo Alto
San Jose
Sacramento Area
San Joaquin Valley
San Francisco Bay Area
San Bernardino
Ontario
Los Angeles
Santa Monica
Anaheim
Long Beach
El Cajon
San Diego
Greater Los Angeles Area
San Diego Area

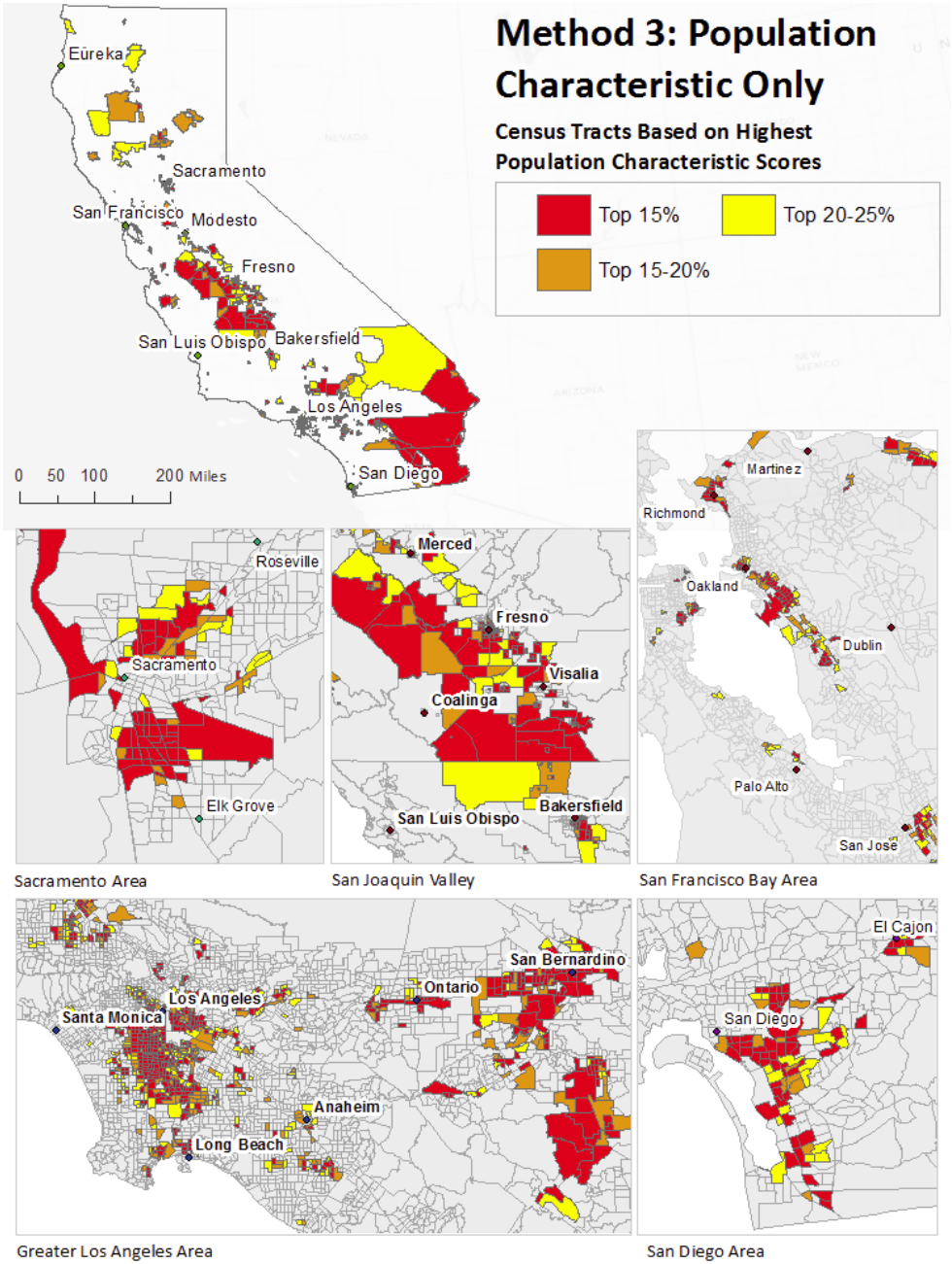
Method 2: Pollution Burden Only

- Identifies census tracts with highest Pollution Burden scores, regardless of health and socioeconomic factors.
- Meets only two of the four criteria in SB 535 for identifying disadvantaged communities.


Method 2: Pollution Burden Only
Census Tracts Based on Highest Pollution Burden Scores
Top 15%
Top 20-25%
Top 15-20%
Eureka
Sacramento
San Francisco
Modesto
Fresno
San Luis Obispo
Bakersfield
Los Angeles
San Diego
0 50 100 200 Miles
Roseville
Sacramento
Elk Grove
Sacramento Area
Merced
Fresno
Visalia
Coalinga
San Luis Obispo
Bakersfield
San Joaquin Valley
Martinez
Richmond
Oakland
Dublin
Palo Alto
San Jose
San Francisco Bay Area
San Bernardino
Ontario
Los Angeles
Santa Monica
Anaheim
Long Beach
Greater Los Angeles Area
El Cajon
San Diego
San Diego Area

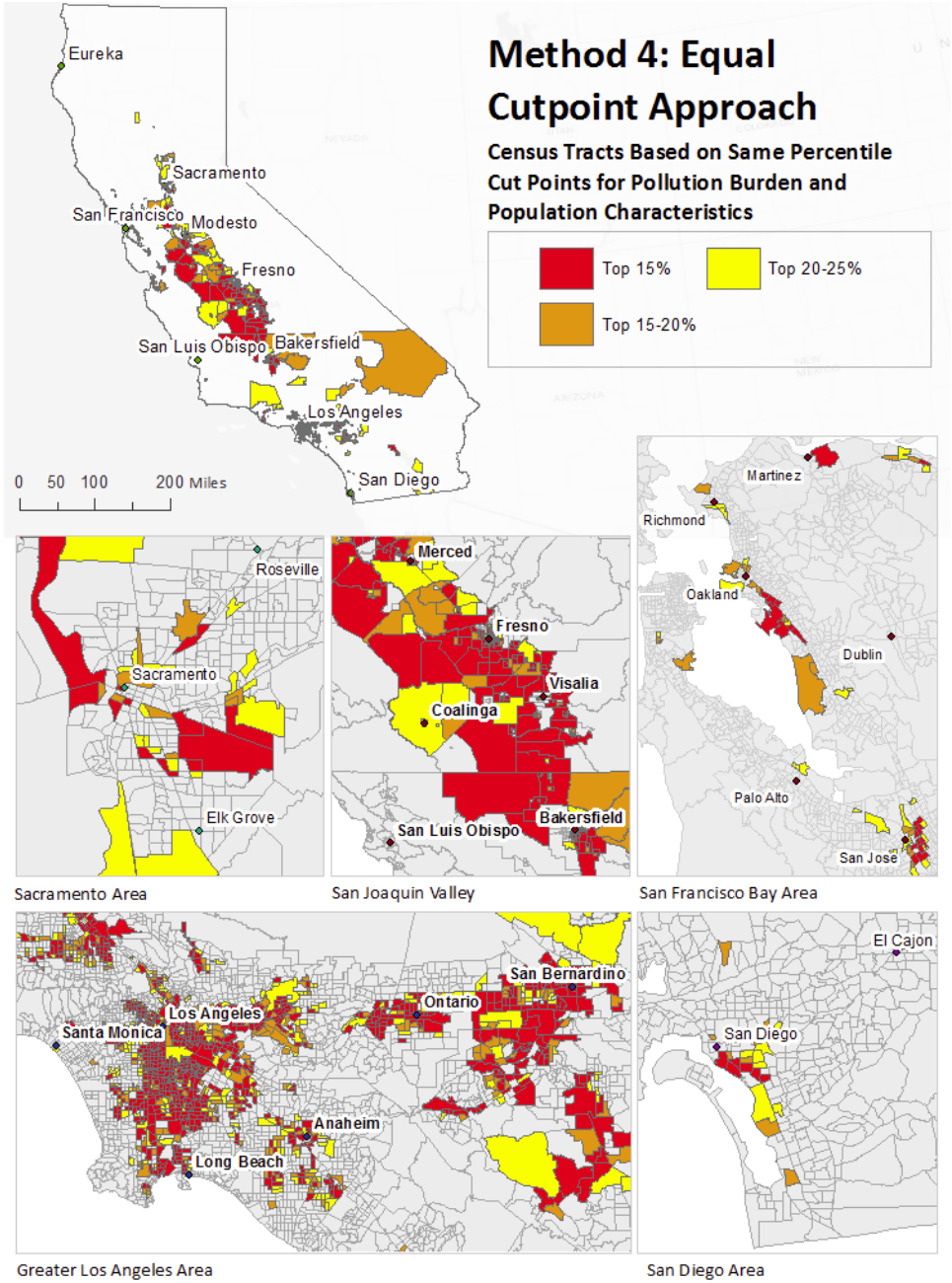
Method 3: Population Characteristics Only

- Identifies census tracts based on Population Characteristics scores (reflecting public health and socioeconomic factors), regardless of pollution burden.
- Meets only three of the four criteria in SB 535 for identifying disadvantaged communities.


Method 3: Population Characteristic Only
Census Tracts Based on Highest Population Characteristic Scores
Top 15%
Top 20-25%
Top 15-20%
Eureka
Sacramento
San Francisco
Modesto
Fresno
San Luis Obispo
Bakersfield
Los Angeles
San Diego
0 50 100 200 Miles
Roseville
Sacramento
Elk Grove
Sacramento Area
Merced
Fresno
Visalia
Coalinga
San Luis Obispo
Bakersfield
San Joaquin Valley
Martinez
Richmond
Oakland
Dublin
Palo Alto
San Jose
San Francisco Bay Area
San Bernardino
Ontario
Los Angeles
Santa Monica
Anaheim
Long Beach
Greater Los Angeles Area
El Cajon
San Diego
San Diego Area

Method 4: Equal cutpoints

- Only census tracts with the highest Pollution Burden and Population Characteristics scores can be considered disadvantaged.
- Could consider census tracts:
  - In the top 15% (equal cutpoints for Pollution Burden and for Population Characteristics).
  - In the top 20% (equal cutpoints for Pollution Burden and for Population Characteristics).
  - In the top 25% (equal cutpoints for Pollution Burden and for Population Characteristics).


Method 4: Equal Cutpoint Approach
Census Tracts Based on Same Percentile Cut Points for Pollution Burden and Population Characteristics
Top 15%
Top 20-25%
Top 15-20%
Eureka
Sacramento
San Francisco
Modesto
Fresno
San Luis Obispo
Bakersfield
Los Angeles
San Diego
0 50 100 200 Miles
Roseville
Sacramento
Elk Grove
Sacramento Area
Merced
Fresno
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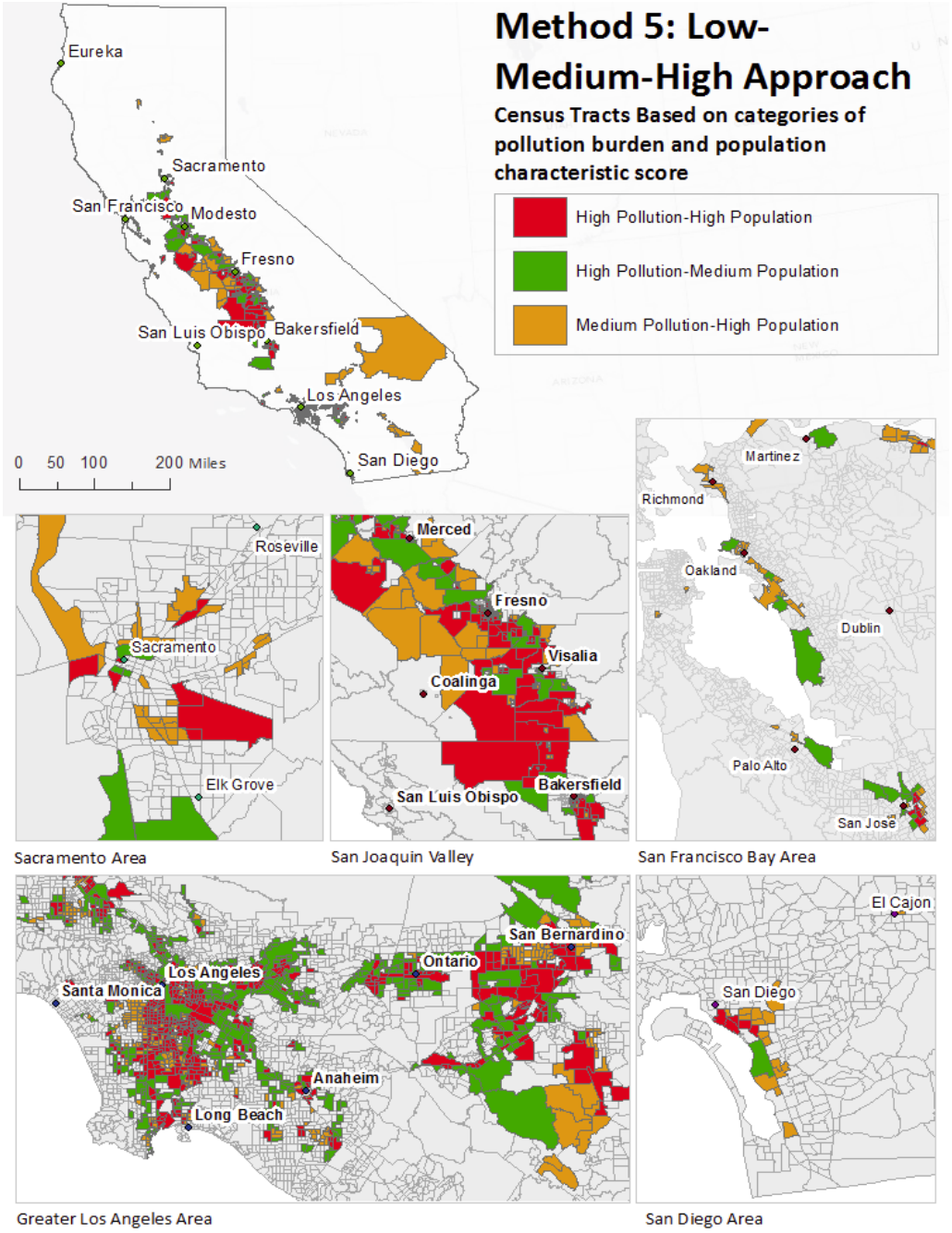
San Diego Area

Method 5: Low-Medium-High Categories

- Separate rankings of census tracts for Pollution Burden and Population Characteristics as “high” (top 25%), “medium” (25% to 50%) and “low” (below 50%).
- Identify census tracts that are:
  - “High” for both Pollution Burden and Population Characteristics.
  - “High” for Pollution Burden and “medium” for Population Characteristics.
  - “High” for Population Characteristics and “medium” for Pollution Burden.


Method 5: Low-Medium-High Approach
Census Tracts Based on categories of pollution burden and population characteristic score
High Pollution-High Population
High Pollution-Medium Population
Medium Pollution-High Population
Eureka
Sacramento
San Francisco
Modesto
Fresno
San Luis Obispo
Bakersfield
Los Angeles
San Diego
0 50 100 200 Miles
Roseville
Sacramento
Elk Grove
Merced
Fresno
Visalia
Coalinga
San Luis Obispo
Bakersfield
Martinez
Richmond
Oakland
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