Indicator Selection and Scoring

The selection of specific indicators to characterize components of the CalEnviroScreen requires consideration of both the type of information that will best represent statewide pollution burden and population characteristics, and the availability and quality of such information at the necessary geographic scale statewide.

Overview of the Process

1. Identify potential indicators for each component.
2. Find sources of data to support indicator development (see Criteria for Indicator Selection below).
3. Select and develop indicator, assigning a value for each geographic unit.
4. Assign a percentile for each indicator for each geographic unit, based on the rank-order of the value.
5. Generate maps to visualize data.
6. Derive scores for pollution burden and population characteristics components (see Indicator and Component Scoring below).
7. Derive the overall CalEnviroScreen score by combining the component scores (see below).
8. Generate maps to visualize overall results.

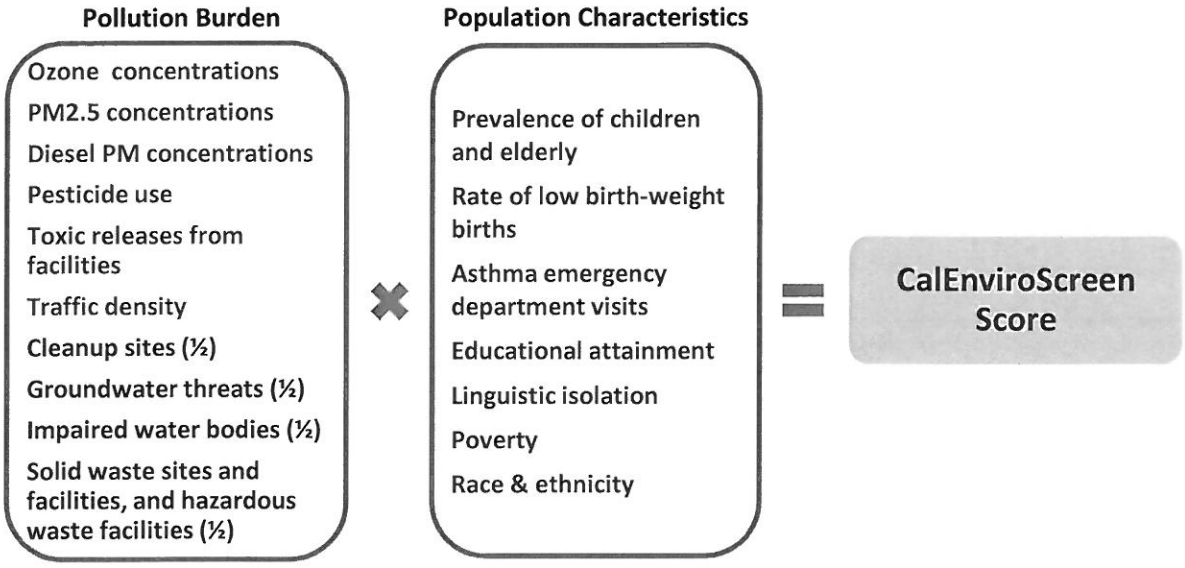
Criteria for Indicator Selection

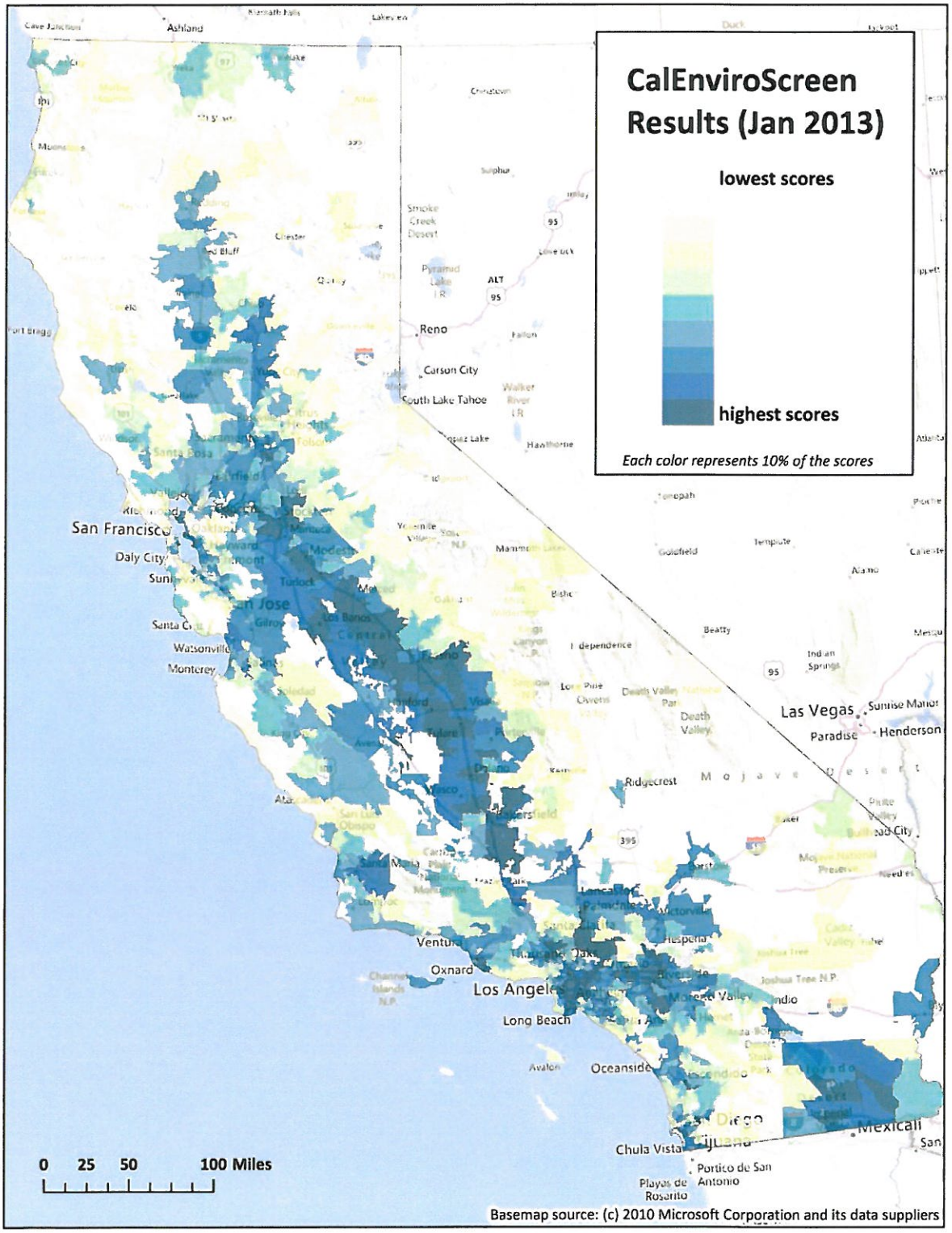
- Indicators should provide a measure that is relevant to the component it represents, in the context of the 2004 Cal/EPA cumulative impacts definition.
- Indicators should represent widespread concerns related to pollution in California.
- The indicators taken together should provide a good representation of each component.
- Pollution burden indicators should relate to issues that may be potentially actionable by Cal/EPA boards and departments.
- Population characteristics indicators should represent demographic factors known to influence vulnerability to disease.
- Data for the indicator should be available for the entire state at the ZIP code level geographical unit or translatable to the ZIP code level.
- Data should be of sufficient quality, and be:
  - Complete
  - Accurate
  - Current

Indicator and Component Scoring

- Each indicator has a value for each geographical area. These values for every geographical area are ordered from highest to lowest. A percentile is then calculated from the distribution of indicator values for all areas that have a value. Thus each indicator's percentile in a specific place is relative to the scores for the indicators in the rest of the places in the state. *
- Indicators from Exposures and Environmental Effects components were grouped together to represent Pollution Burden. Indicators from Sensitive Populations and Socioeconomic Factors were grouped together to represent Population Characteristics (see figure below).
- Scores for the Pollution Burden and Population Characteristics groups of indicators are calculated as follows:
  - First, the percentiles for all the individual indicators in a group are averaged. Indicators from the Environmental Effects component were each weighted half of those indicators from the Exposures component. This was done because the contribution to possible pollutant burden from the Environmental Effects indicators was considered to be less than those from sources in the Exposures indicators.
  - Second, Pollution Burden and Population Characteristics groups are assigned scores from their defined ranges (up to 10) based on these averages.

* When a geographic area has no non-zero indicator value (for example, no facilities with toxic releases are present), it is excluded from the percentile calculation and assigned a value of zero. Thus the percentile score can be thought of as a comparison of one geographic area to other localities in the state where the hazard effect or population characteristic is present.




CalEnviroScreen
Results (Jan 2013)
lowest scores
highest scores
Each color represents 10% of the scores
0 25 50 100 Miles
Basemap source: (c) 2010 Microsoft Corporation and its data suppliers
San Francisco
Las Vegas
Los Angeles
Reno
Carson City
South Lake Tahoe
Oxnard
Long Beach
Oceanside
Ridgecrest
Mojave Desert
Death Valley
Monterey
Watsonville
Daly City
Paradise
Henderson
Sunrise Manor
Chula Vista
Mexicali

CALENVIROSCREEN TOP 5, 10, 15% SCORES (JAN 23, 2013)

San Francisco Area

Basemap source: (c) 2010 Microsoft Corporation and its data suppliers