CalEnviroScreen

Data Needs for Cumulative Impacts and Community Vulnerability

CUMULATIVE IMPACTS AND COMMUNITY VULNERABILITY SYMPOSIUM

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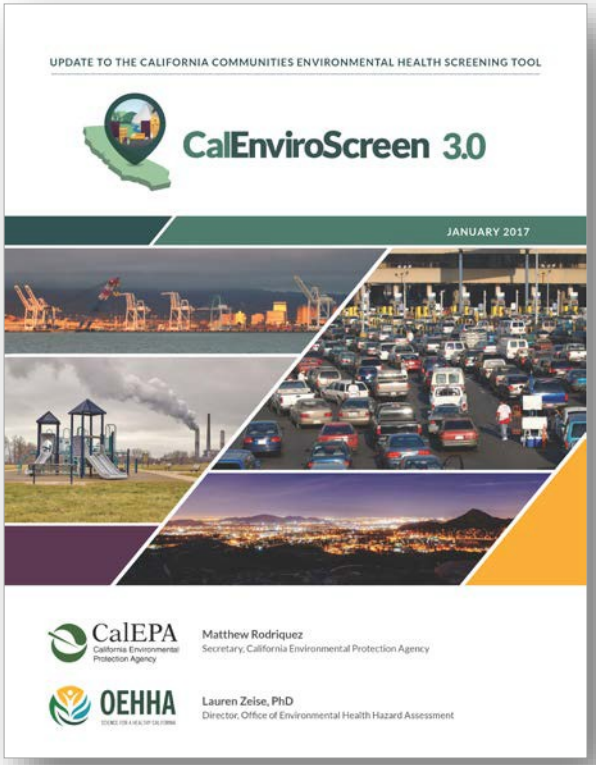
Overview

- Intro to CalEnviroScreen
- Criteria for datasets
- Importance of dataset accuracy and improvements made
- Role of GIS
- Future of CalEnviroScreen

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 ranked score.
- Census tract scale (~8,000).

Available at: CalEnviroScreen 3.0

CalEnviroScreen Model

- Compares pollution levels in communities

- Examines if communities are more vulnerable to pollution

- Identify communities that have high pollution and high vulnerability

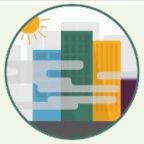
CalEnviroScreen Components

Exposures	*Contact with pollution*
Environmental Effects	*Adverse environmental conditions caused by pollutants*
Sensitive Populations	*Populations with biological traits (including (health status) that magnify the effects of pollutant exposures*
Socioeconomic Factors	*Community characteristics that result in increased vulnerability to pollutants*

CalEnviroScreen 3.0 Indicators

Pollution Burden

Exposures


Ozone


PM2.5

Diesel Particulate Matter


Toxic Releases from Facilities

Drinking Water Contaminants


Traffic


Pesticide Use

Environmental Effects


Solid Waste Sites and Facilities


Cleanup Sites


Groundwater Threats


Impaired Water Bodies


Hazardous Waste Generators and Facilities

Population Characteristics

Sensitive Populations


Asthma


Cardiovascular Disease


Low Birth Weight Infants

Socioeconomic Factors


Educational Attainment

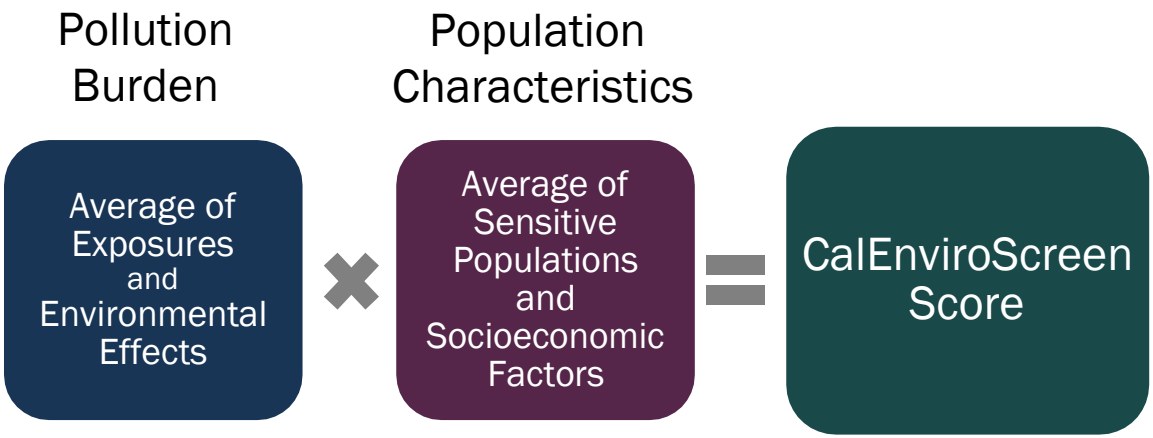

Housing Burden


Linguistic Isolation


Poverty

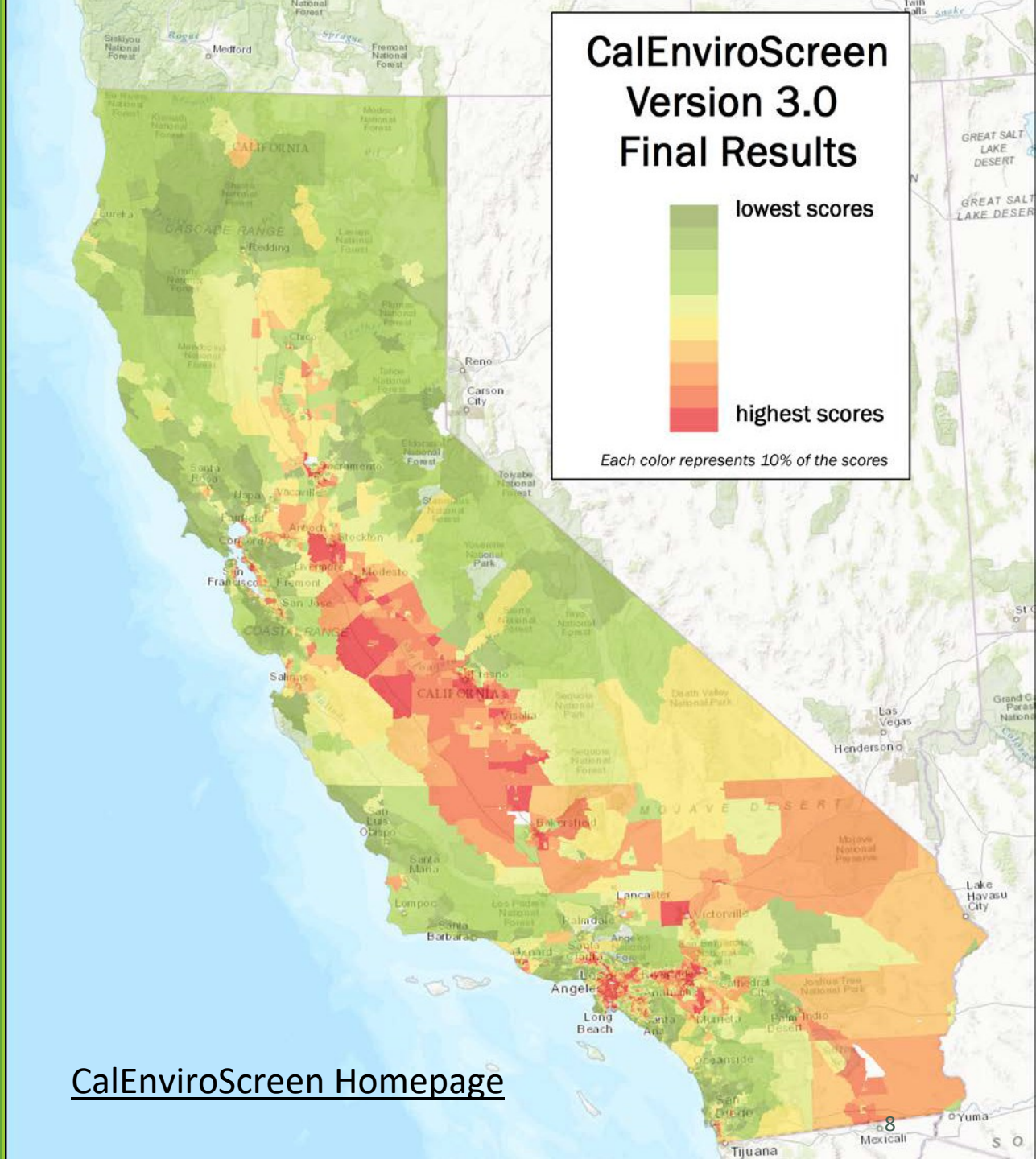
Unemployment

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.

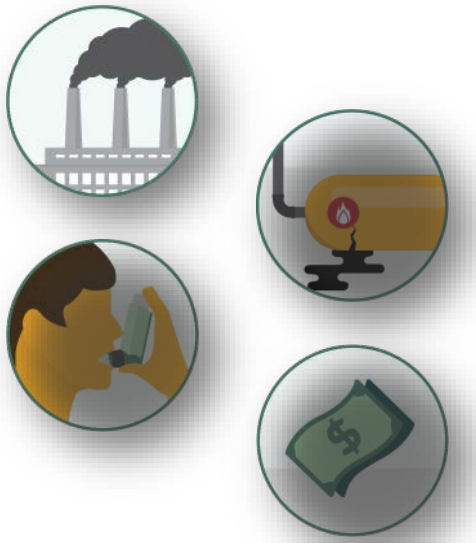
3.0 Results



CalEnviroScreen Homepage

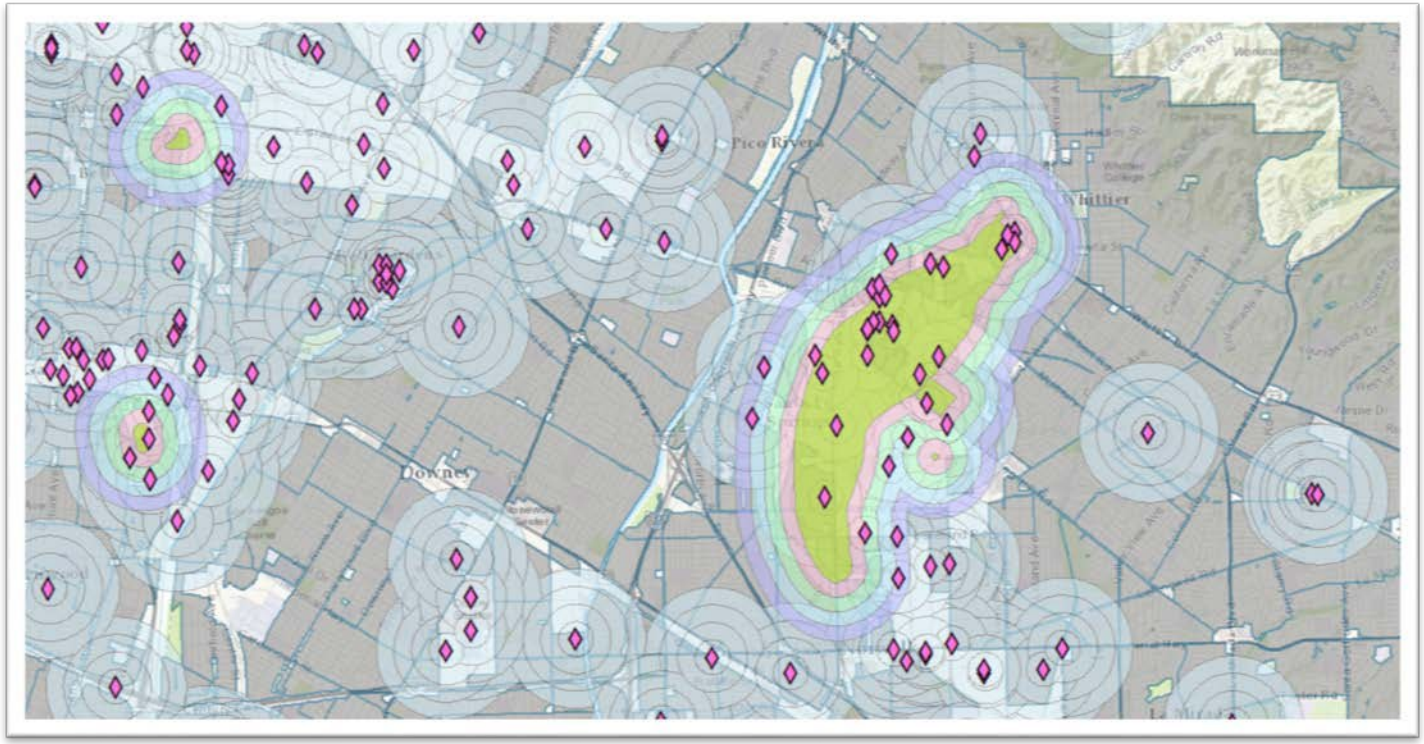
Criteria for Indicator Selection

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



Importance of geographic accuracy for site data

- Site information from regulatory agency databases
- Work done to improve accuracy of locations



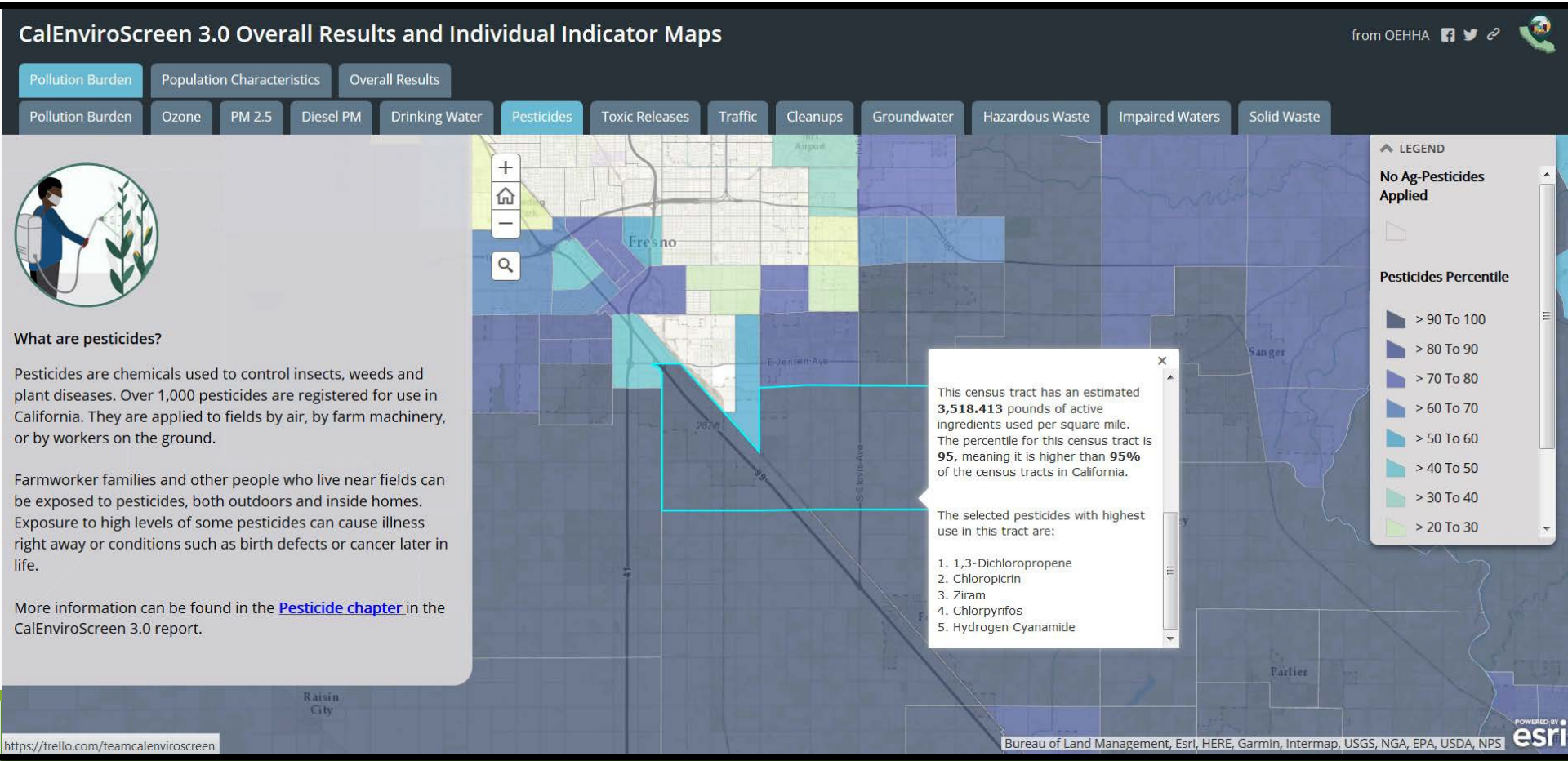
Weighted site proximity

California-Mexico Border Data Improvements

Indicator	Border-specific changes
Ozone and PM2.5 concentrations	Data from two additional air monitors in San Diego County
Diesel PM emissions	Evaluation and adjustment of emissions estimates based on air monitoring at two border crossings
Toxic Releases from Facilities	Incorporation of emissions data from facilities in Mexico
Traffic Density	Incorporation of traffic data from ports of entry and roadways parallel to border

Role of GIS

- Spatial analyses for indicator scoring
- ArcGIS online to display overall results and individual indicator maps



Future of CalEnviroScreen

- Revisit public comments
- Evaluate potential new datasets
- Continued collaborations to improve datasets
- Manuscripts and sub-analyses
- Outreach and training

Contact Information

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