This presentation (and all materials associated with the project: Assessment of Environmental Health Data in the California – Baja California Border Region) was created as a deliverable for grant number SOLTA14-008: Border Environmental Health Data Compilation and Evaluation for the U.S.- Mexico Border 2020 Program."

ASSESSMENT OF ENVIRONMENTAL HEALTH DATA FOR THE CALIFORNIA/ BAJA CALIFORNIA BORDER

Paul English, Gala King, Dan Meltzer, Max Richardson, and Jackie Valle

January 27, 2016

Assessment Overview

- ☐ The project

- ☐ The region

- ☐ Health and the environment

- ☐ Data gaps

- ☐ Recommendations

Funded by:

U.S. – Mexico Border 2020 Program

"The Border 2020: U.S.-Mexico Environmental Program is a collaborative effort of the United States and Mexico to improve the environment and protect the health of the nearly 12 million people living along the border."

☐ Overseen and administered by U.S. EPA, SEMARNAT

☐ Grant administration supported by BECC

http://www2.epa.gov/border2020

The project   ●   The region   ●   Health, environment   ●   Data gaps   ●   Recommendations

California Environmental Health Tracking Program

CALIFORNIA **ENVIRONMENTAL HEALTH T**

Improving Public Health With Better Inf

- Part of the CDC's National Environmental Health Tracking Program
    - Funded since 2002

- Areas of expertise:
    - GIS, software development, health education, spatial statistics, epidemiology, HIA/planning

- Data portal since 2006
    - www.cehtp.org

view data   about us

tools+resources   pr

Welcome to the California Environmental Health Tracking Progra
We are working to improve public health by delivering science-based inform
of diseases and environmental threats, as well as the often complex

The project   The region   Health, environment   Data gaps   Recommendations

Data matter.

- Track issues
- Target interventions
- Monitor impacts

CEHTP Mission

Provide data and information on diseases and environmental threats to inform environmental and public health programs, research, and policies.

The project ● The region ● Health, environment ● Data gaps ● Recommendations

Improving data collection

Binational data coordination can facilitate public health action responsive to local communities

Data <u>most actionable</u> when there are…

- □ Standardized metrics
- □ Environmental and health trends over time
- □ Meaningful data comparisons

Children are vulnerable

Children…

- eat, drink, and breathe more than adults relative to body weight

- have still-developing central nervous, immune, reproductive, and digestive systems

- play outdoors and engage in hand-to-mouth behavior

- have little control of their environment

Source: World Health Organization. For more about children's environmental vulnerability, visit: http://www.who.int/ceh/risks/en/

Project goals

- [ ] Report

- [ ] Assess data sources

- [ ] Template for other projects

- [ ] Recommendations and strategies

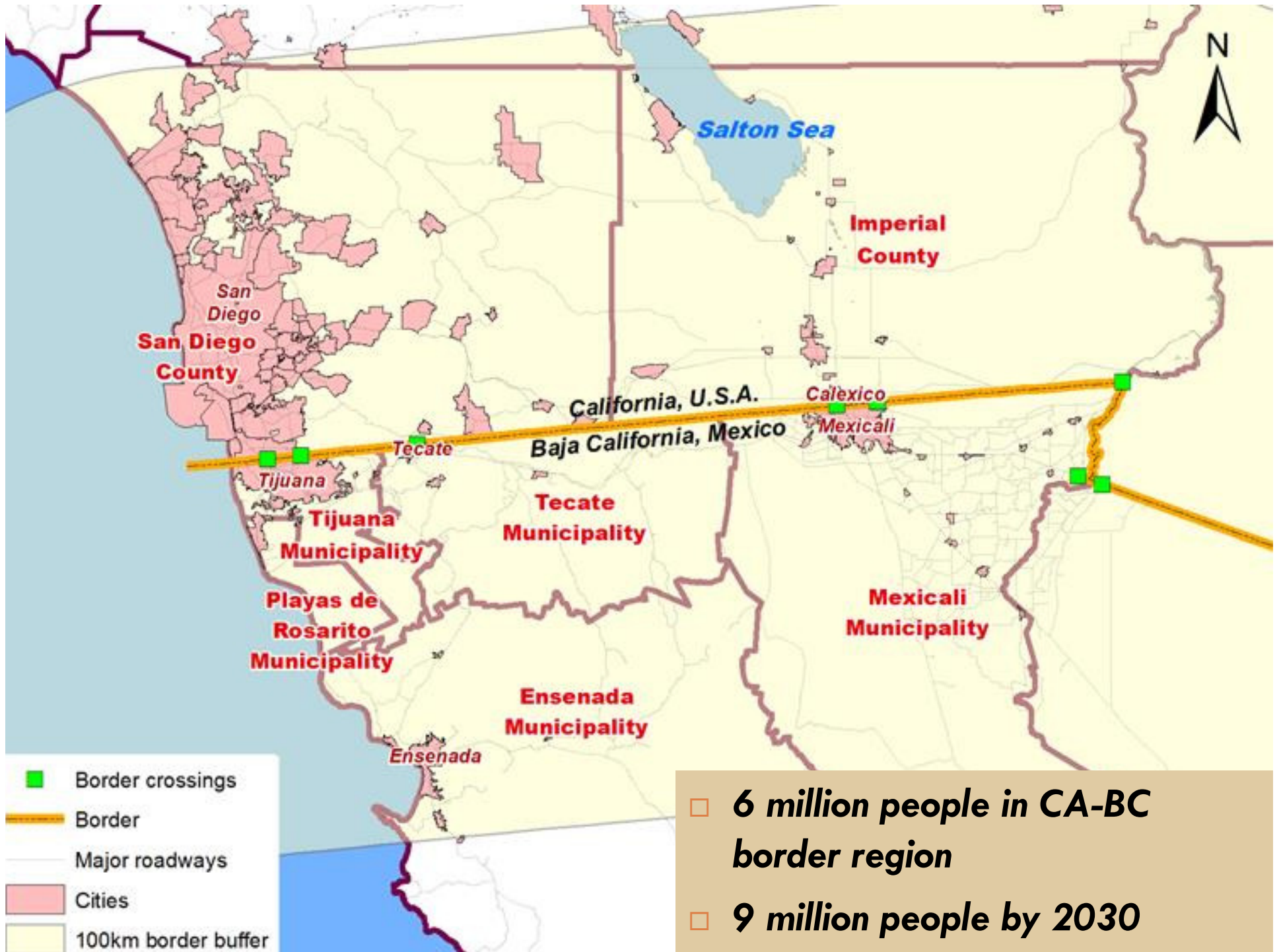# Project challenges & strengths

Challenges

- Large amount of data available

- Data accessibility

- Differences in metrics

Strengths

- Large amount of data available

- There are established efforts to coordinate

- We have models that can be used as resources

The project   ●   The region   ●   Health, environment   ●   Data gaps   ●   Recommendations

About the region

Legend:
- ■ Border crossings
- Border
- Major roadways
- Cities
- 100km border buffer

Labels on map: Salton Sea, Imperial County, San Diego County, San Diego, Calexico, Mexicali, California, U.S.A., Baja California, Mexico, Tecate, Tijuana, Tijuana Municipality, Tecate Municipality, Playas de Rosarito Municipality, Ensenada Municipality, Ensenada, Mexicali Municipality

☐ *6 million people in CA-BC border region*

☐ *9 million people by 2030*

Regional context

- 6 million people, rapid population growth

- Languages

- Poverty

- Access to health care

- The border region: one single interconnected area

The region is not uniform

Percent below poverty in the California border region, 2012
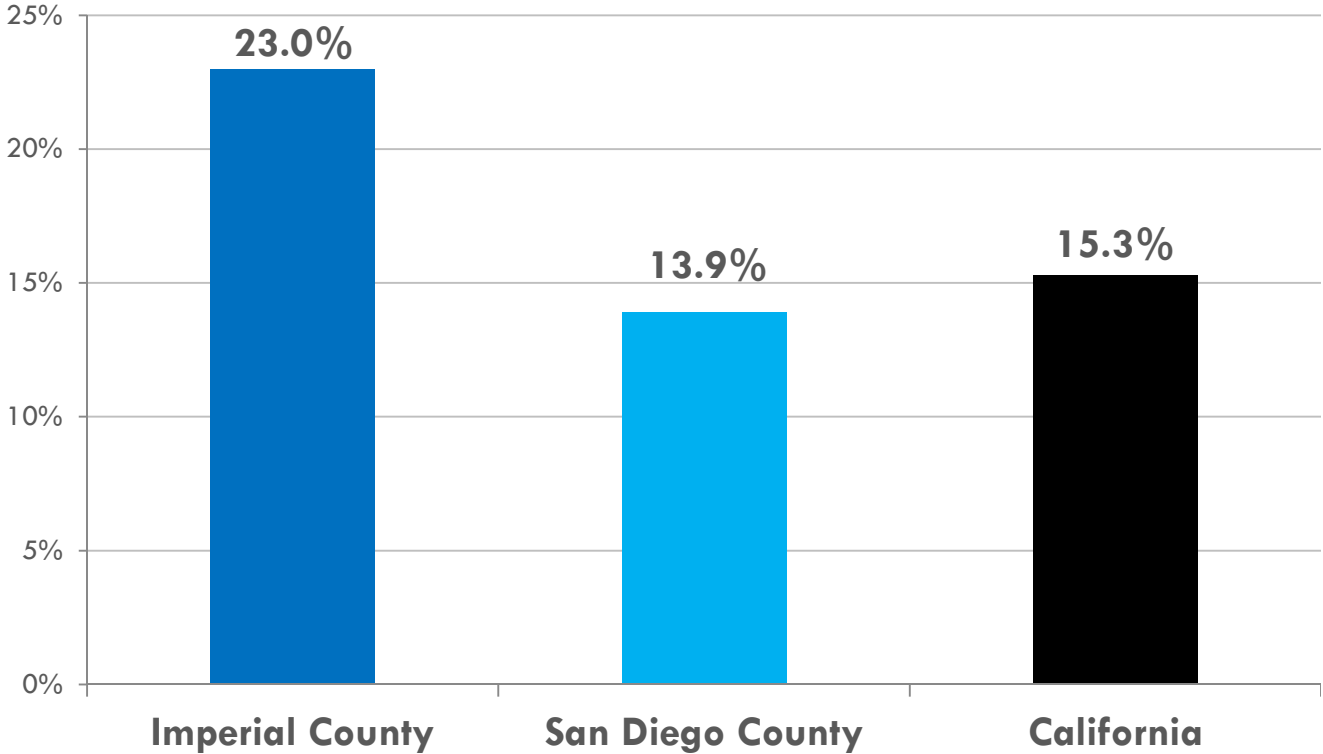
Source: U.S. Census Bureau
factfinder.census.gov

The project   **The region**   Health, environment   Data gaps   Recommendations

Environment and Health

Content Areas - Environment

- ☐ Air contaminants

- ☐ Climate change

- ☐ Pesticide use

- ☐ Traffic and health

- ☐ Drinking water quality

- ☐ Facilities releasing toxic materials

- ☐ Green spaces

Data snapshot: RETC facility locations
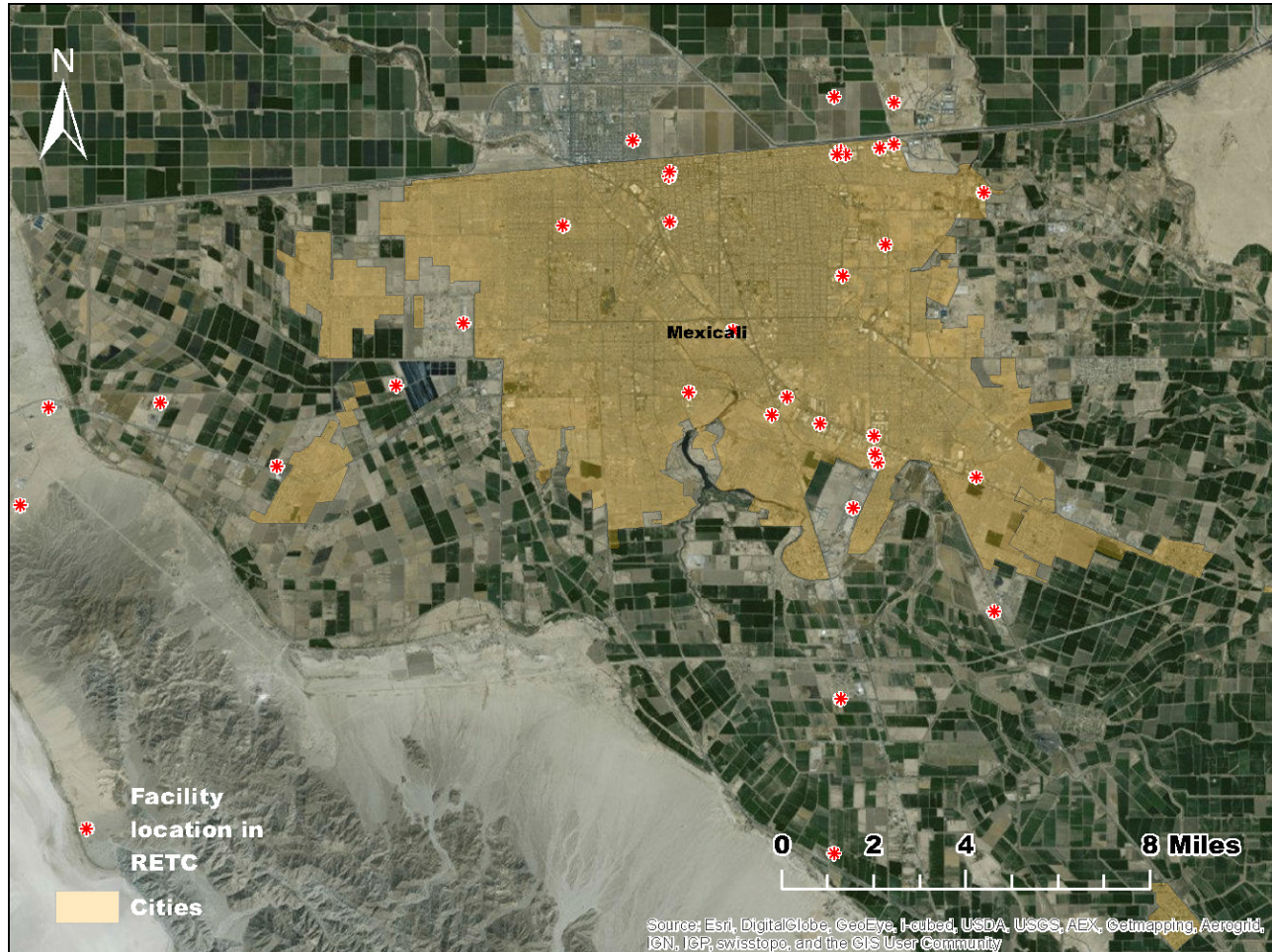
The project ● The region ● **Health, environment** ● Data gaps ● Recommendations

Content Areas - Health

- Asthma

- Cancer

- Coccidioidomycosis (valley fever)

- Heat-related illness

- Cardiovascular disease

- Lead exposure

- Maternal and infant health

The project ● The region ● **Health, environment** ● Data gaps ● Recommendations

Data snapshot: heat-related ED Visits

Heat-related ED visits in the California border region, all ages, 2005-12
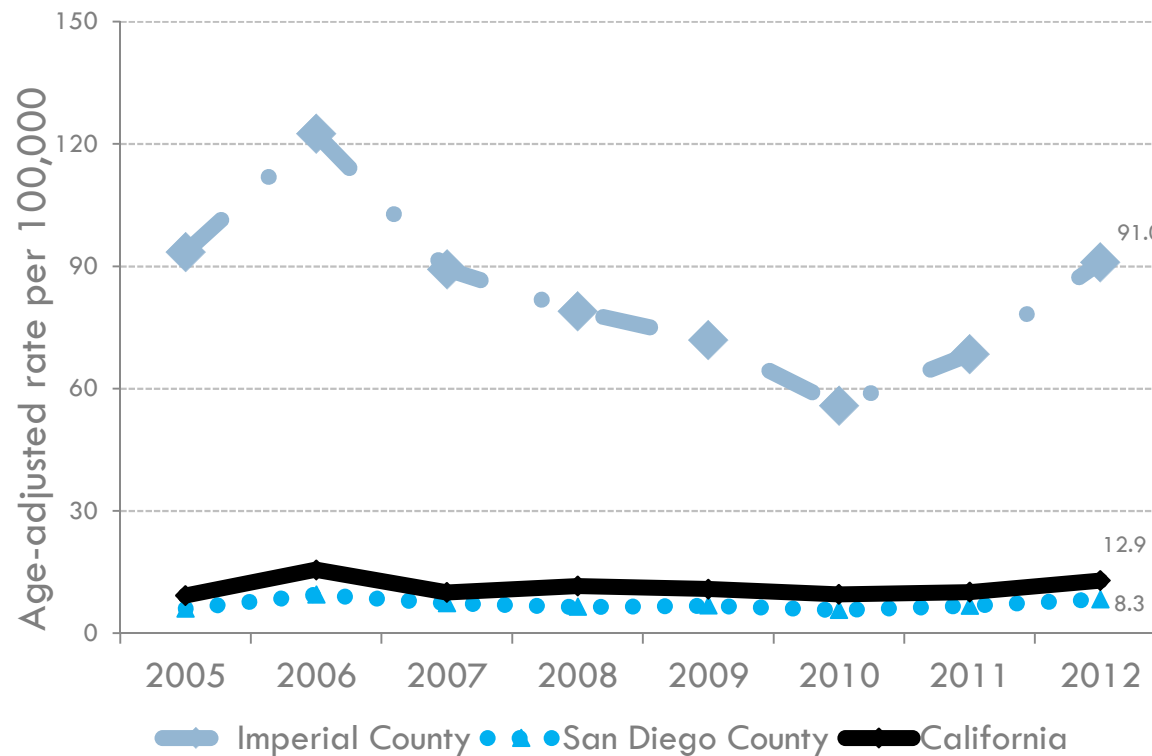
Source: California Office of Statewide Health Planning and Development
http://cehtp.org/page/climate_change/query

The project ● The region ● **Health, environment** ● Data gaps ● Recommendations

Data gaps

Data gaps

- **Climate change** impacts on health

- **Water** location and contamination data

- **Heat-related illnesses** emerging public health priority

- **Valley fever** likely underreported

- **Birth defects data** not systematically reported

- **Pesticide illness and exposure** likely underreported

- **Pesticide use** on buildings and structures not systematically reported

The project ● The region ● Health, environment ● **Data gaps** ● Recommendations

Recommendations

5 major recommendations…

① Create consistent data standards

- For meaningful data comparison
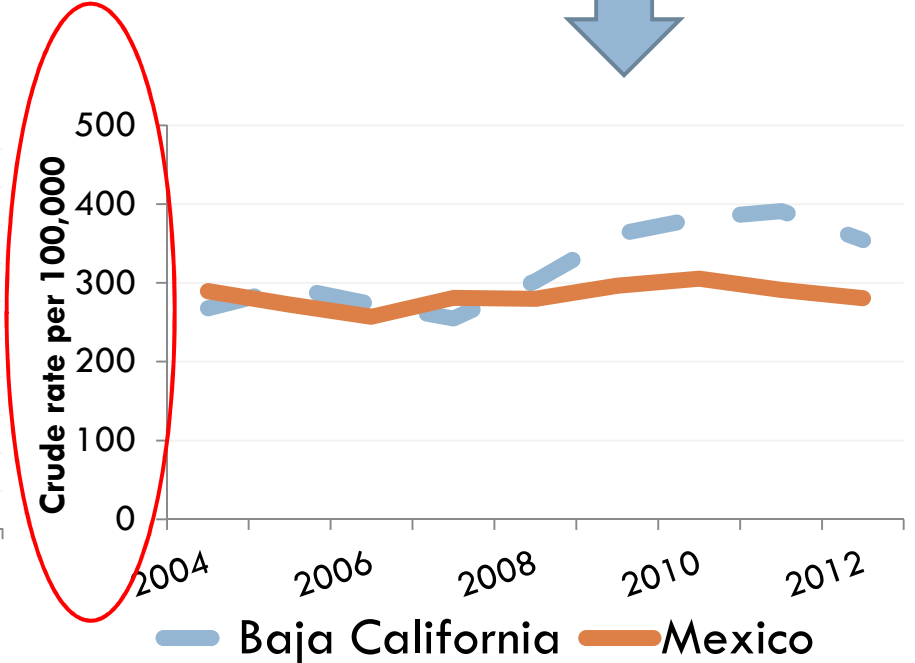- Consistency in metrics
  - ➢ Over time
  - ➢ For the region
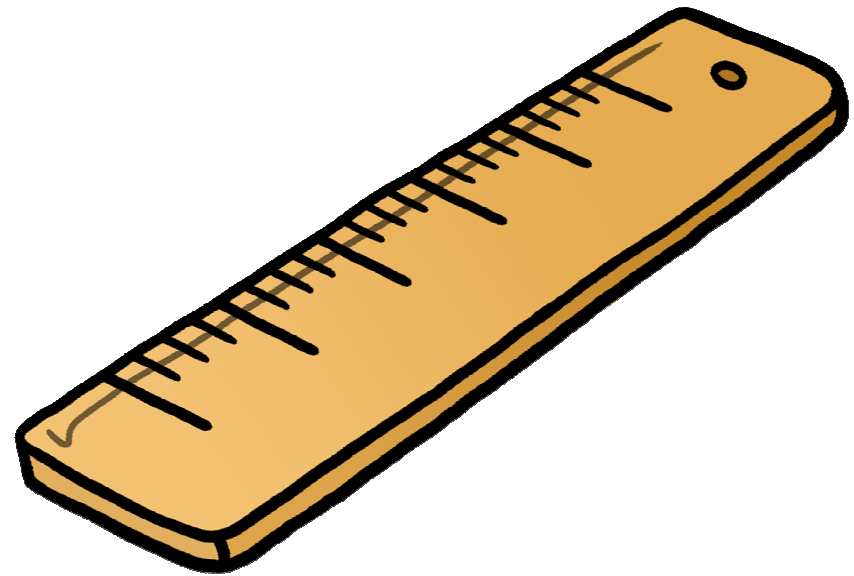
Differences in metrics

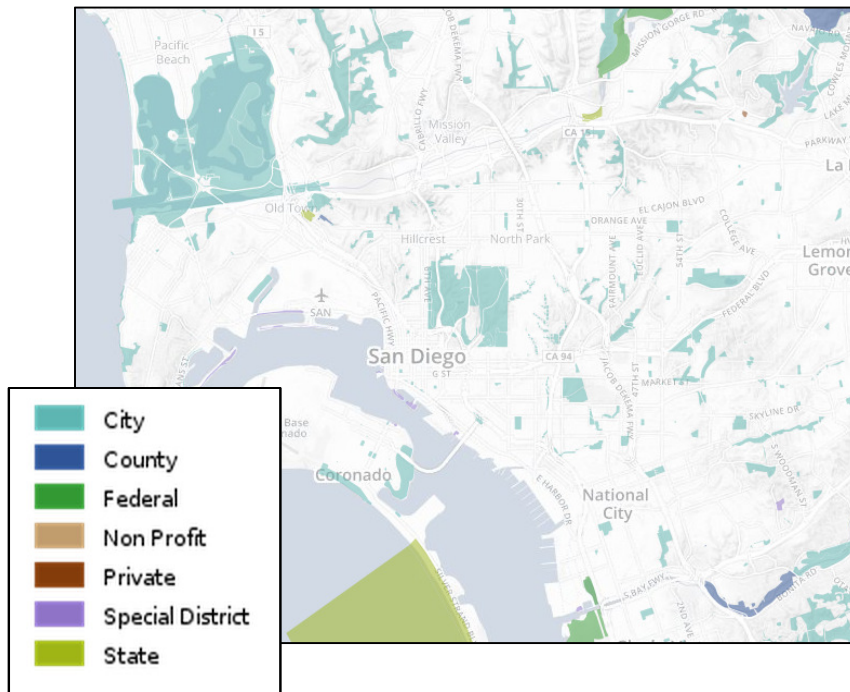**Asthma *emergency department visits* in the California Border region, 2005 - 2012**

Source: California Office of Statewide Health Planning and Development. Accessed at www.cehtp.org/p/asthma
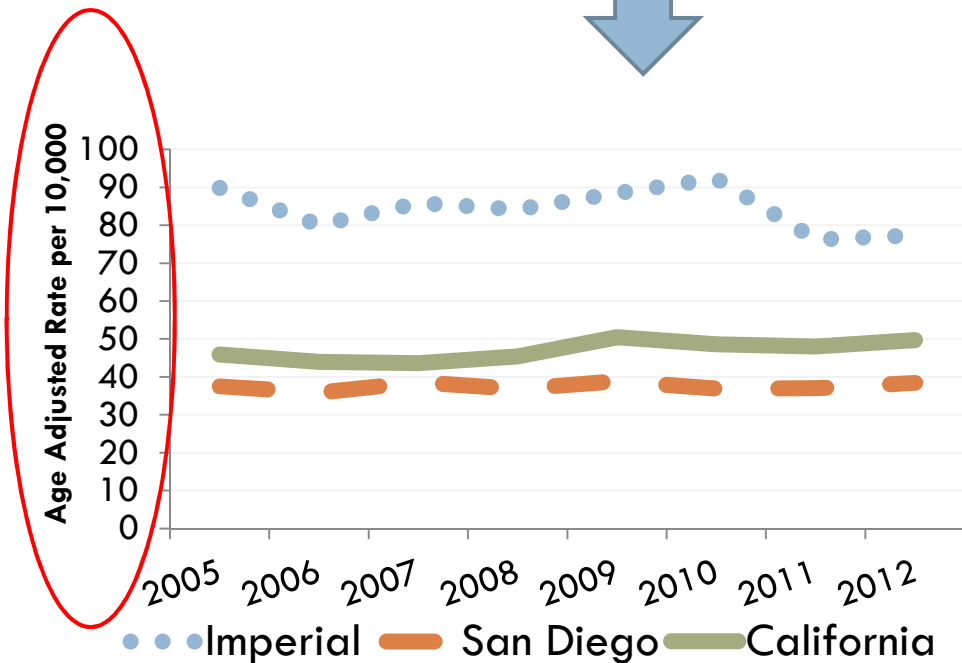
Asthma *incidence rates* in Baja California and Mexico, 2005 - 2012

Source: Sistema Nacional de Vigilancia Epidemiológica - http://www.epidemiologia.salud.gob.mx/anuario/html/anuarios.html

The project • The region • Health, environment • Data gaps • **Recommendations**

Differences in data definition

San Diego area

Legend:
- City
- County
- Federal
- Non Profit
- Private
- Special District
- State

Source: California Protected Areas Database
www.calands.org/data

Tijuana

Tijuana Parks
- Parks
- Border
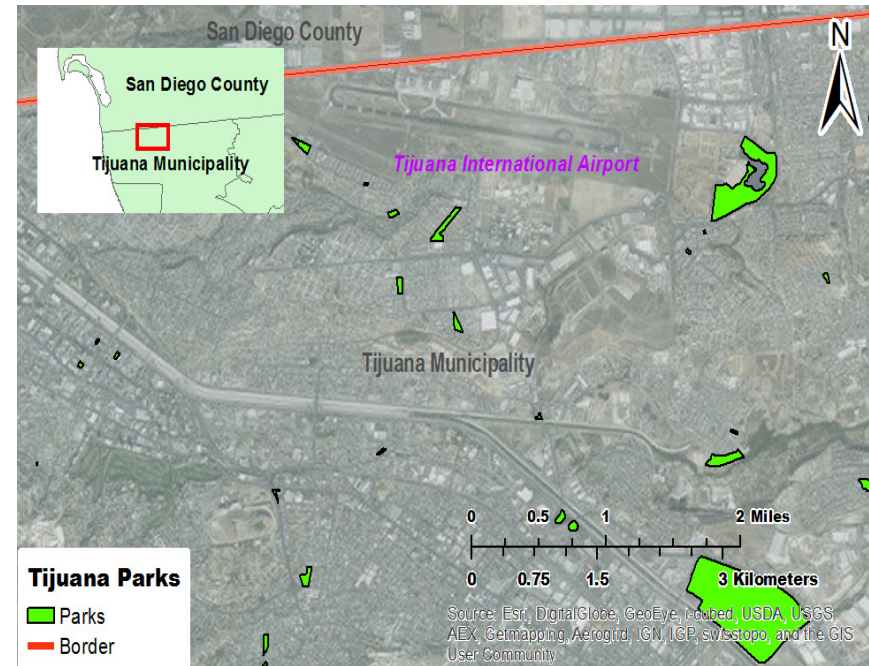
Source: Instituto Nacional de Estadística y Geografía
www.inegi.org.mx/est/scince/scince2010.aspx

The project ● The region ● Health, environment ● Data gaps ● **Recommendations**

2 Make data publicly available

- For a range of users
- Machine-readable
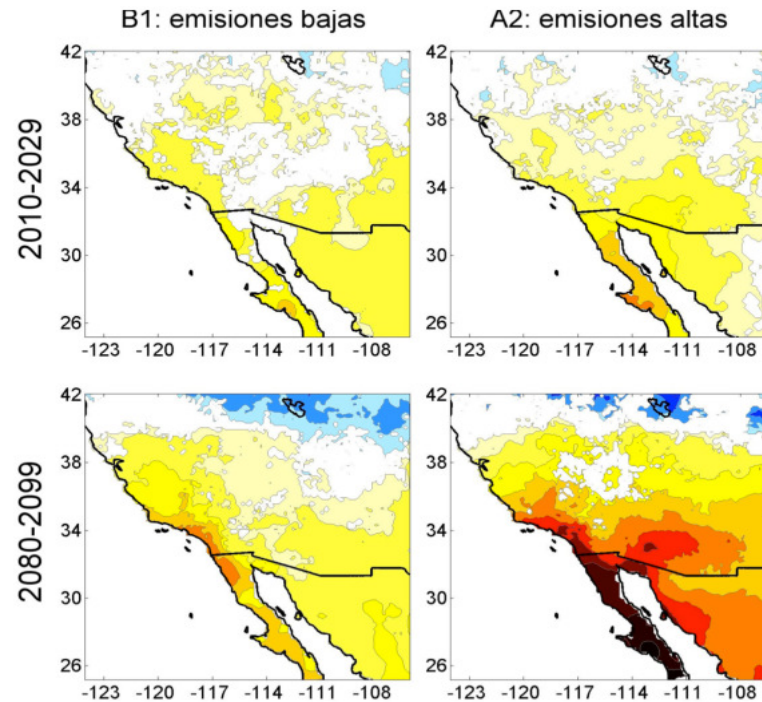- Easy to extract, transform, process

Data collection and reporting

Birth defects per 10,000 children under 1yr (2012)	Baja California	San Diego County	Imperial County
Anencephaly	4.0	?	?
Spina bifida	2.3	?	?
Cleft lip	5.4	?	?

Source: Sistema Nacional de Vigilancia Epidemiológica
http://www.epidemiologia.salud.gob.mx/anuario/html/anuarios.html

Sistema Nacional de Información en Salud
http://www.sinais.salud.gob.mx/descargas/zip/anuario2009.zip

The project ● The region ● Health, environment ● Data gaps ● **Recommendations**

Data usability

Source: Programa Estatal de Acción ante el Cambio Climático de Baja California - http://peac-bc.cicese.mx/datosclim/dcbc.php.

The project ● The region ● Health, environment ● Data gaps ● **Recommendations**

3 Increase data documentation

- Standardized codebooks
- Data dictionaries
- Metadata
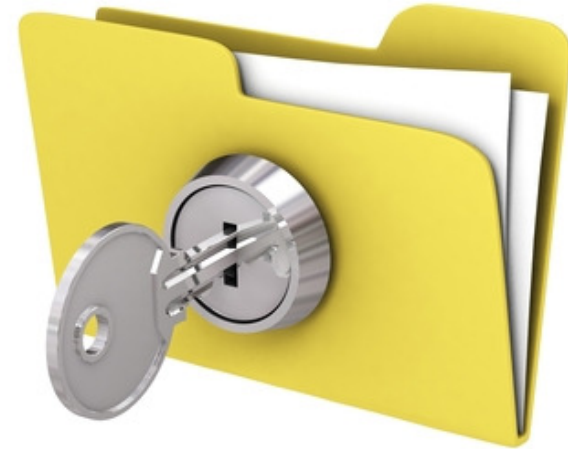
Data communication
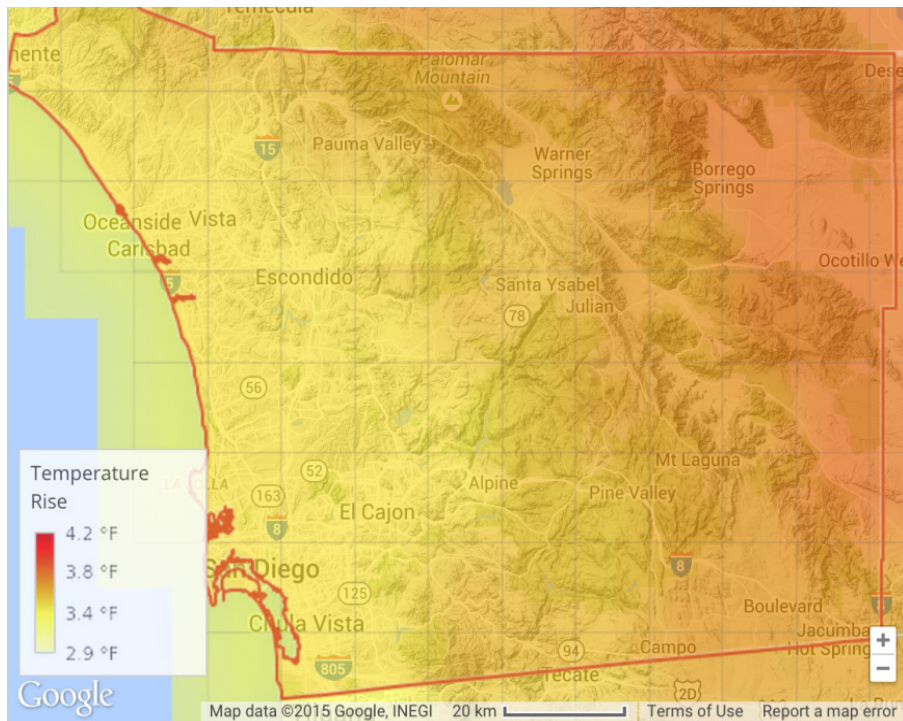
San Diego County

Source: CalAdapt: http://cal-adapt.org/

The project ● The region ● Health, environment ● Data gaps ● **Recommendations**
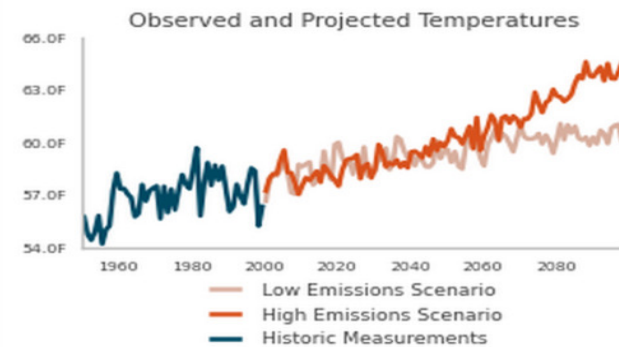
Provide accessible data access

San Diego area　　　　　　　　**Imperial Valley**

All Pesticides

< 1,673
(0-50th pct)

1,673 -
6,843
(50th-75th pct)

> 6,843
(75th pct +)
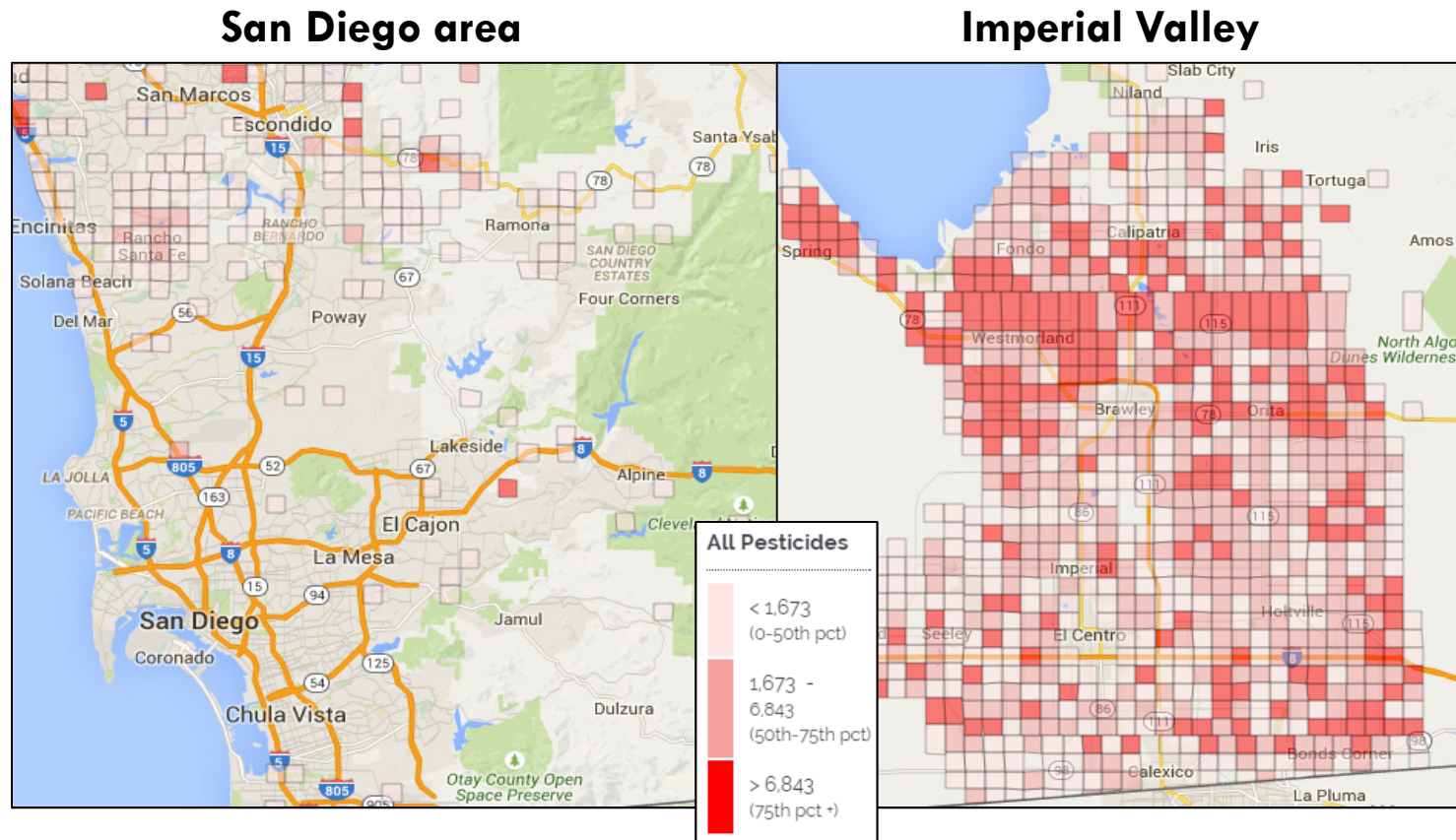
Source: CDPR Pesticide Use Reporting System. Accessed at http://www.ehib.org/tool.jsp?tool_key=18

The project　●　The region　●　Health, environment　●　Data gaps　●　**Recommendations**
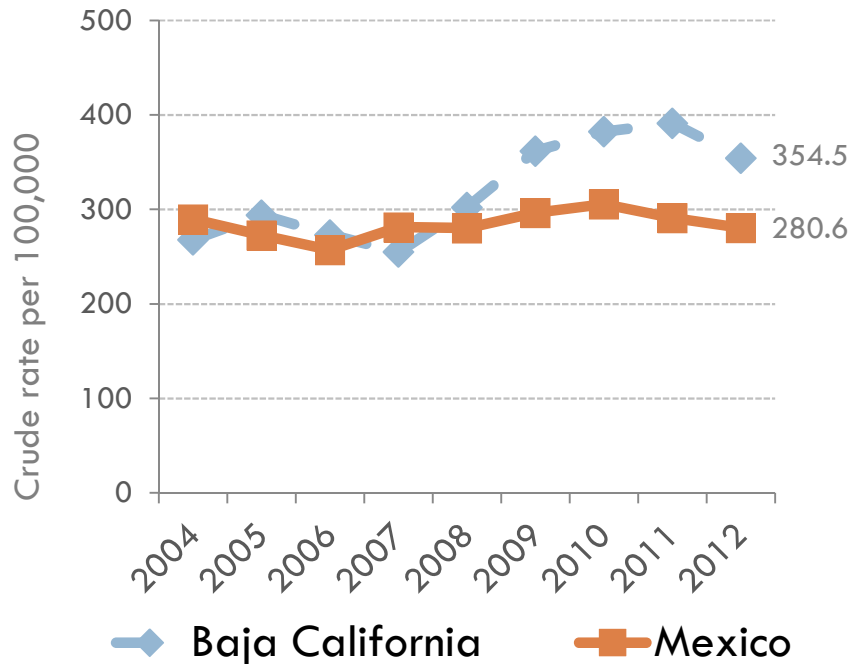
4 Increase data relevance

- Geographies relevant to local communities

Lack of spatial resolution

Just two examples…

Asthma incidence rates in Baja California and Mexico - all ages, 2005-12

California county-specific coccidioidomycosis (valley fever) rates - all ages, 2009-12

Source: Sistema Nacional de Vigilancia Epidemiológica
www.epidemiologia.salud.gob.mx/anuario/html/anuarios.html
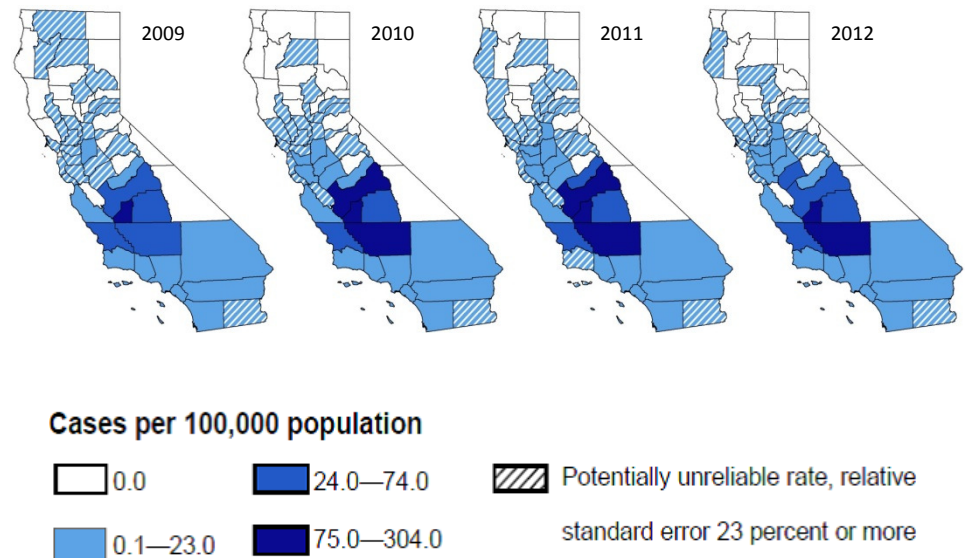
Source: California Department of Public Health -
www.cdph.ca.gov/healthinfo/discond/Pages/Coccidioidomycosis.aspx

The project ● The region ● Health, environment ● Data gaps ● **Recommendations**

5 Create a single centralized data system

- Ensure data coordination for actionable data
- An open data portal to better serve users

The EHTP model

☐ The National Environmental Health Tracking Program provides a model to follow

Providing data accessibility for
- *Tracking issues*
- *Targeting interventions*
- *Monitoring impacts*

The project ● The region ● Health, environment ● Data gaps ● **Recommendations**

Data for action

Children are more vulnerable than adults to environmental hazards.

We can't take action without data.

Thank you!

Questions?