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 Overview

- The project
- The region
- Health and the environment
- Data gaps
- Recommendations
“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
California Environmental Health Tracking Program

- 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
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.
Improving data collection

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

Data **most actionable** 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

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
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

- Imperial County: 23.0%
- San Diego County: 13.9%
- California: 15.3%

Source: U.S. Census Bureau
factfinder.census.gov
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
Content Areas - Health

- Asthma
- Cancer
- Coccidioidomycosis (valley fever)
- Heat-related illness
- Cardiovascular disease
- Lead exposure
- Maternal and infant health
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
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
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

Asthma incidence rates in Baja California and Mexico, 2005 - 2012

Source: California Office of Statewide Health Planning and Development. Accessed at www.cehtp.org/p/asthma

Differences in data definition

San Diego area

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

Tijuana

Source: Instituto Nacional de Estadística y Geografía
2. Make data publicly available

- For a range of users
- Machine-readable
- Easy to extract, transform, process
### Data collection and reporting

<table>
<thead>
<tr>
<th>Birth defects per 10,000 children under 1yr (2012)</th>
<th>Baja California</th>
<th>San Diego County</th>
<th>Imperial County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anencephaly</td>
<td>4.0</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Spina bifida</td>
<td>2.3</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Cleft lip</td>
<td>5.4</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

Source: Sistema Nacional de Vigilancia Epidemiológica  

Sistema Nacional de Información en Salud  
Data usability

3 Increase data documentation

- Standardized codebooks
- Data dictionaries
- Metadata
San Diego County

The information in the chart below corresponds to the selected area on the map (outlined in orange).

- **Historical Average**: 57.4 °F
- **Low-Emissions Scenario**: 60.5 °F (+3.1 °F)
- **High-Emissions Scenario**: 63.2 °F (+5.8 °F)

Source: CalAdapt: http://cal-adapt.org/
Provide accessible data access

San Diego area

Imperial Valley


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
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
Data for action

Children are more vulnerable than adults to environmental hazards.

We can’t take action without data.
Thank you!

Questions?