

Evaluation of Environmental Health Status along the Arizona-Mexico Border

Aminata P. Kilungo, Ph.D.

Sonora Environmental Research Institute, Inc.

Protecting Children's Environmental Health Along the
U.S.-Mexico Border Region Symposium



Presentation Outline

- SERI overview
- Goals and objectives
- Arizona-Mexico border region overview
- Environmental health challenges
- Data gaps and issues that hinder environmental health surveillance

Who We Are

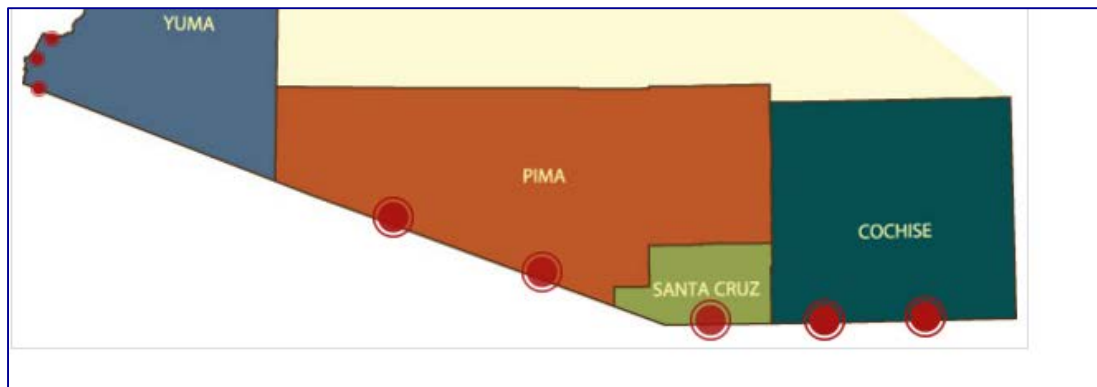
- Nonprofit established in 1994
- Work in Arizona and northern Mexico
- Environmental Justice issues
- U.S.-Mexico border environmental issues
- Community participatory projects



Goals and Objectives

- Collect, compile and analyze trends to understand environmental health status along the Arizona-Mexico border
- Report will be used to:
 - identify data gaps
 - inform decision making and policies
 - guide future research and resources

Border Region Overview



**San Luis AZ - San Luis Colorado,
Sonora**

Agriculture

Intense pesticide use

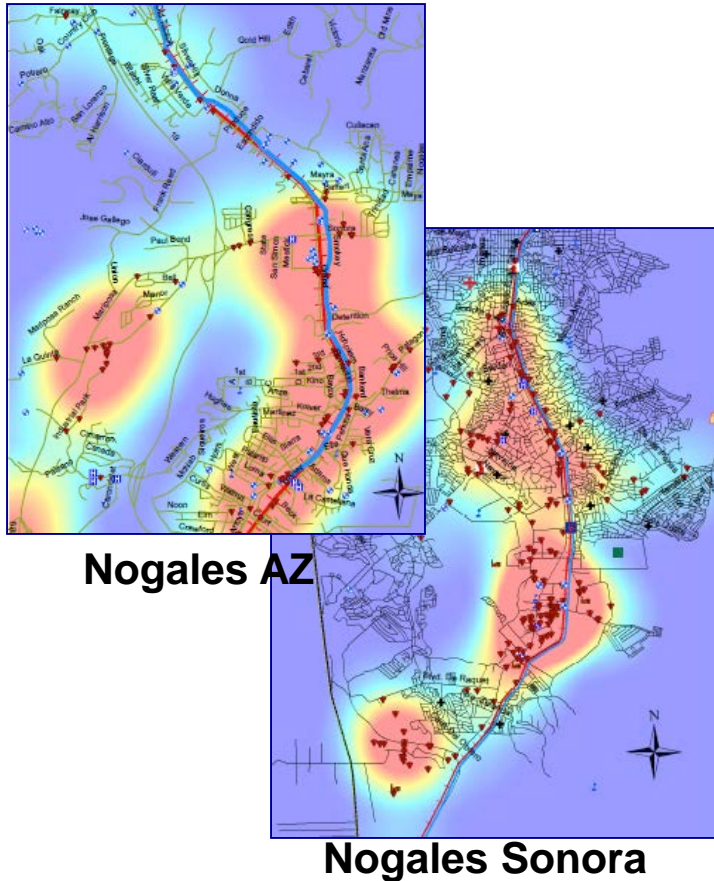
Yuma Marine Corps Air Station
(Superfund site)

Douglas AZ - Agua Prieta, Sonora
Smelter for copper mines from Bisbee

Agriculture

Naco AZ – Naco, Sonora
Lukeville AZ – Sonoyta, Sonora
Sasabe AZ – Sasabe, Sonora 5

Border Region Overview



**Nogales AZ – Nogales,
Sonora**
Maquiladoras
Multiple Myeloma and Lupus
Clusters

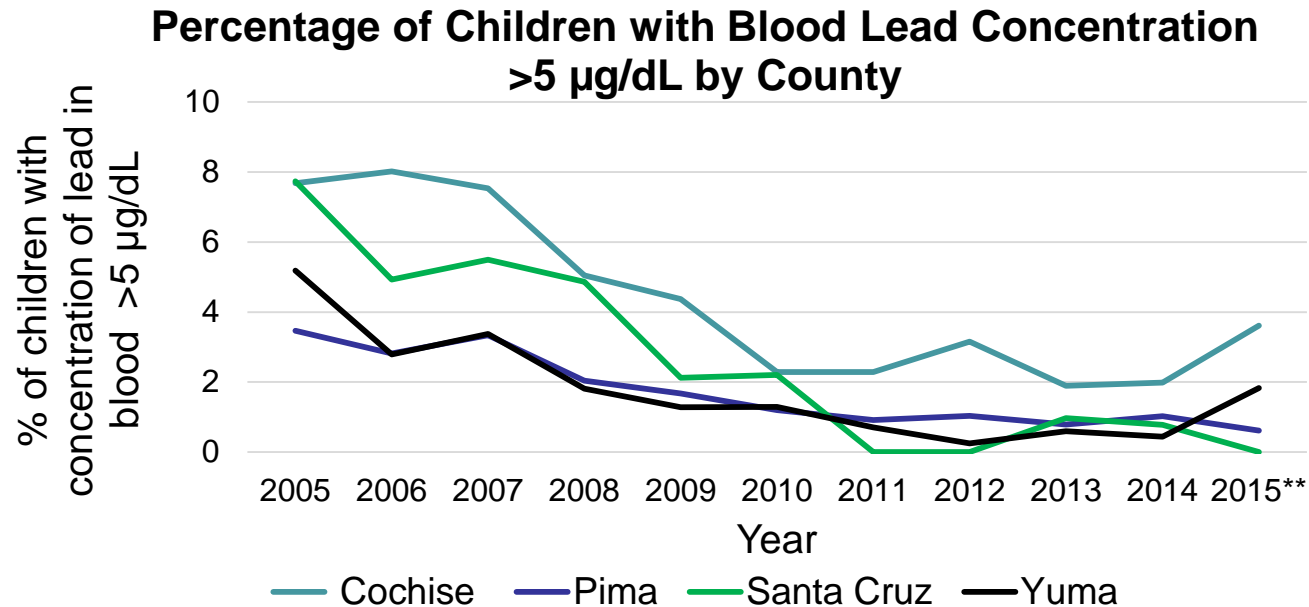
Tucson
Tucson International Airport
Area (TIAA) superfund site

Lead and Blood Lead

Unique exposures in Arizona

- Proximity to Arizona-Mexico border
 - e.g. Leaded paint brought from Mexico
- Immigration
 - e.g. Imported goods such as pottery and spices
- Mining
 - some areas in AZ have soils naturally high in lead and mining activities can make lead naturally available

Blood Lead



- data based on ~20% of screened at risk children
- overall decrease in all four counties to < 5 µg/dL beginning of 2009
- ** data from Jan-Jun 2015

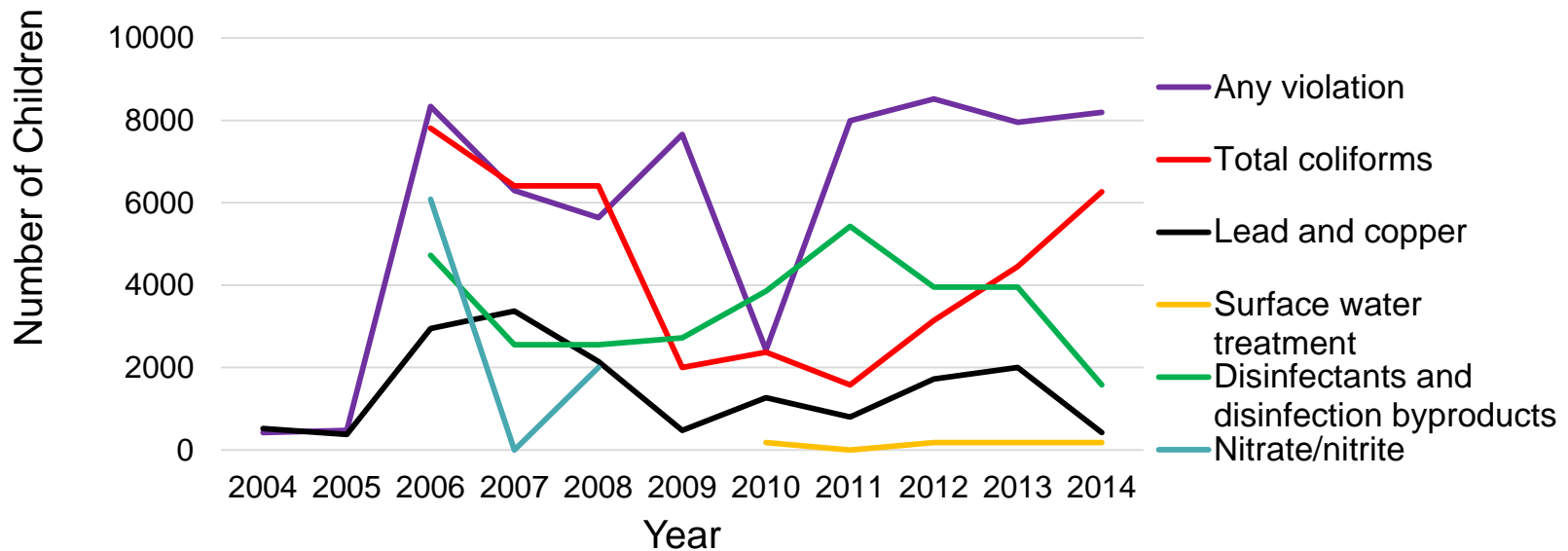
Blood Lead

- Percentage of children screened is low
 - ADHS plans to increase screening rate to 85% in targeted ZIP codes in three years
- Current target screening is based on a risk index e.g. % of population that identify themselves as Hispanic or Latino and speaks Spanish
 - Missed opportunities to identify other cases of lead poisoning

Eliminating Lead Exposure

- ADHS recommends all children in target ZIP codes to be screened at 12 and 24 months
 - outside ZIP codes should receive risk assessment questionnaire
- Need for grants to assist and eliminate lead exposure and poisoning from the source
- Organizations providing education on prevention of lead poisoning should include non-Hispanic immigrant communities

Children Served by Water Supply Systems with Violations of Drinking Water Requirements



- data based on 13 schools with reported violations
- approximately 4% of children attending schools are served by water supply with at least one violation

Drinking Water and Contaminants

- Of the 13 schools, 4 were served by water supply systems that did not meet all applicable **health-based** drinking water requirements
 - Arsenic; 12 ppb (*MCL 10 ppb)
 - Coliforms
 - Disinfectants byproducts; Total Trihalomethanes (TTHM); 0.102 mg/L (MCL 0.08 mg/L)

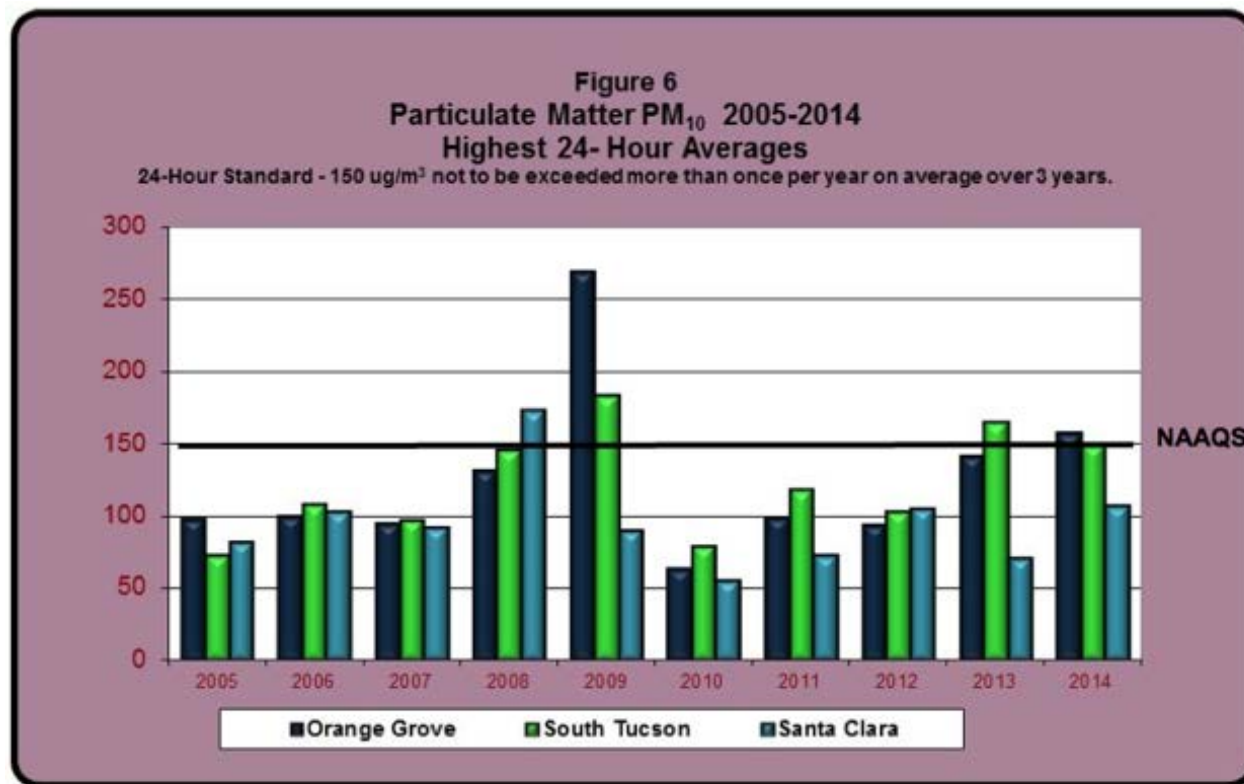
* MCL – maximum contaminant level as regulated by EPA

Drinking Water and Contaminants

- In 2007 estimated that 5% of the Arizona population was on private wells
 - over 100,000 wells serving approximately 300,000 people
 - ~3000 new wells are added each year
 - these wells fall outside the state and federal monitoring requirements
- Need to assess water quality status in rural communities
 - need for resources, education and training

Criteria Air Pollutants

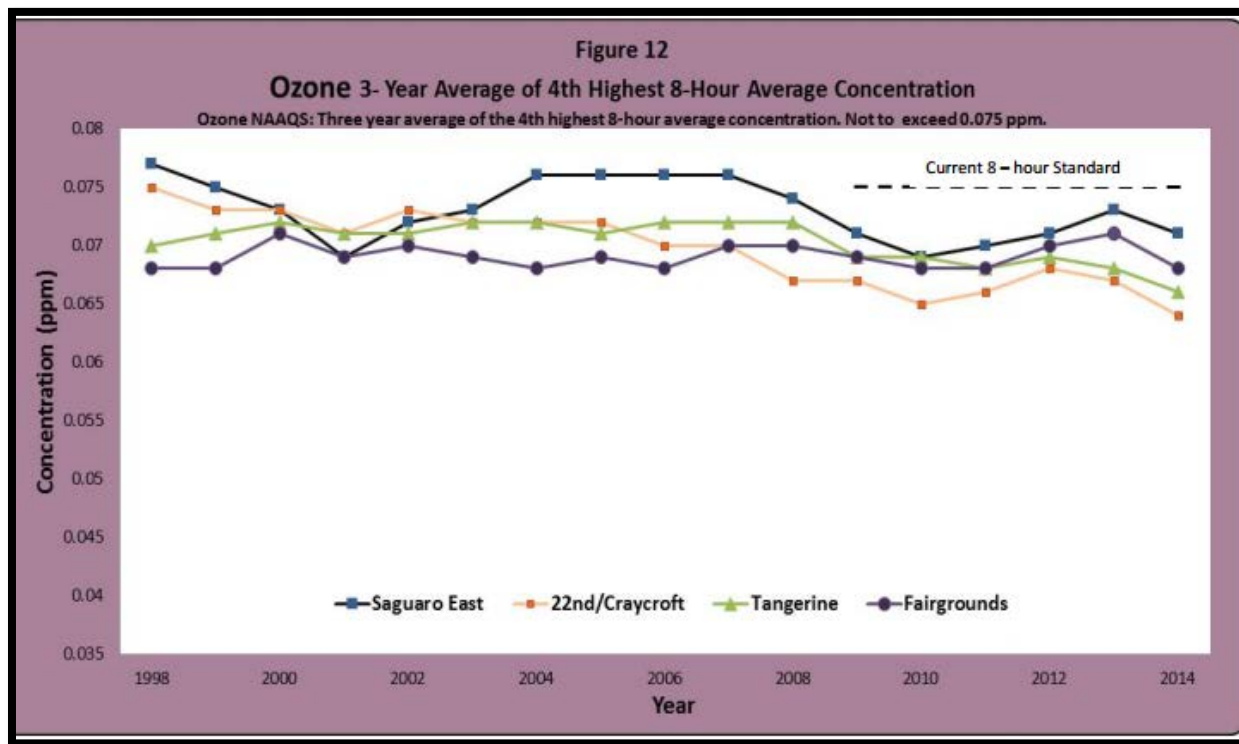
Pima County



- high particulate readings due to drought conditions and several very high wind days

Criteria Air Pollutants

Pima County



- steady at 95% of the ozone standard

Challenges that Hinder Surveillance

- Gaps in services along border communities and therefore not all environmental health indicators are monitored
 - especially on the Mexico side of the border
- When data available in Mexico, may be difficult to access if not stored in an online database
- Working in partnership with binational agencies
 - improve data sharing platforms

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