



AiresNuevos
PARA LA PRIMERA INFANCIA



Horizonte
Ciudadano

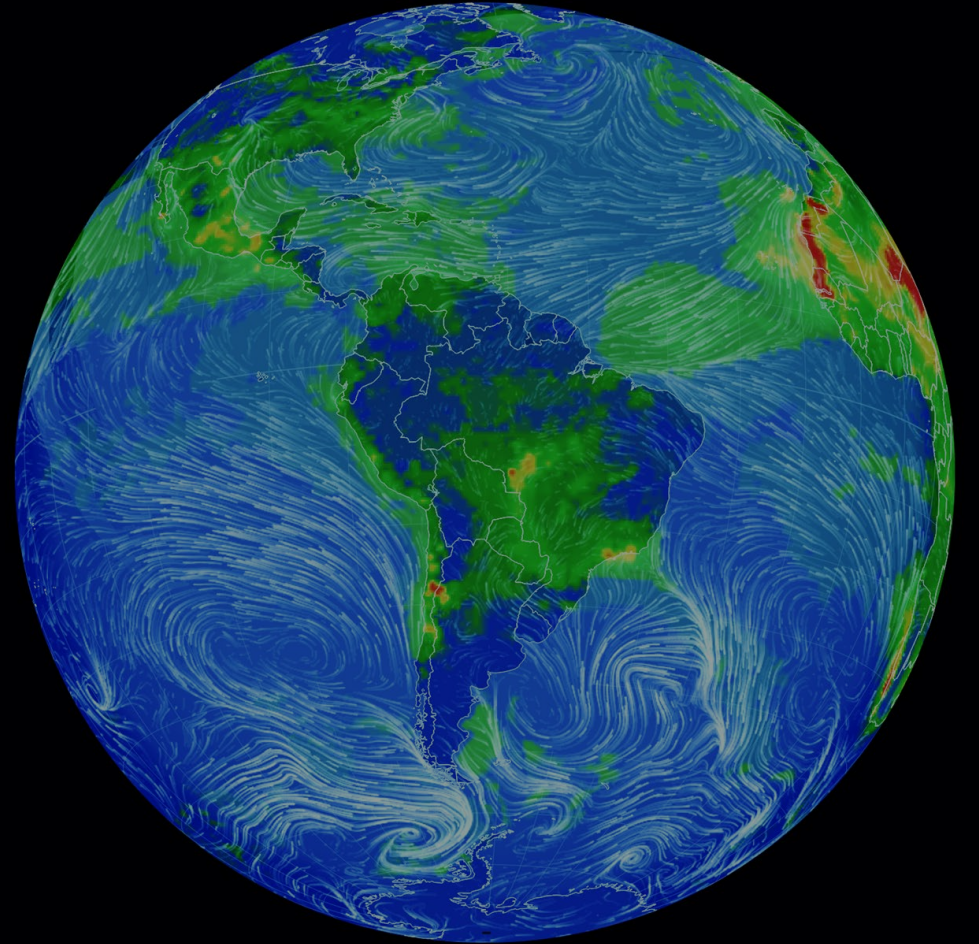


IQAir®

AIRES NUEVOS

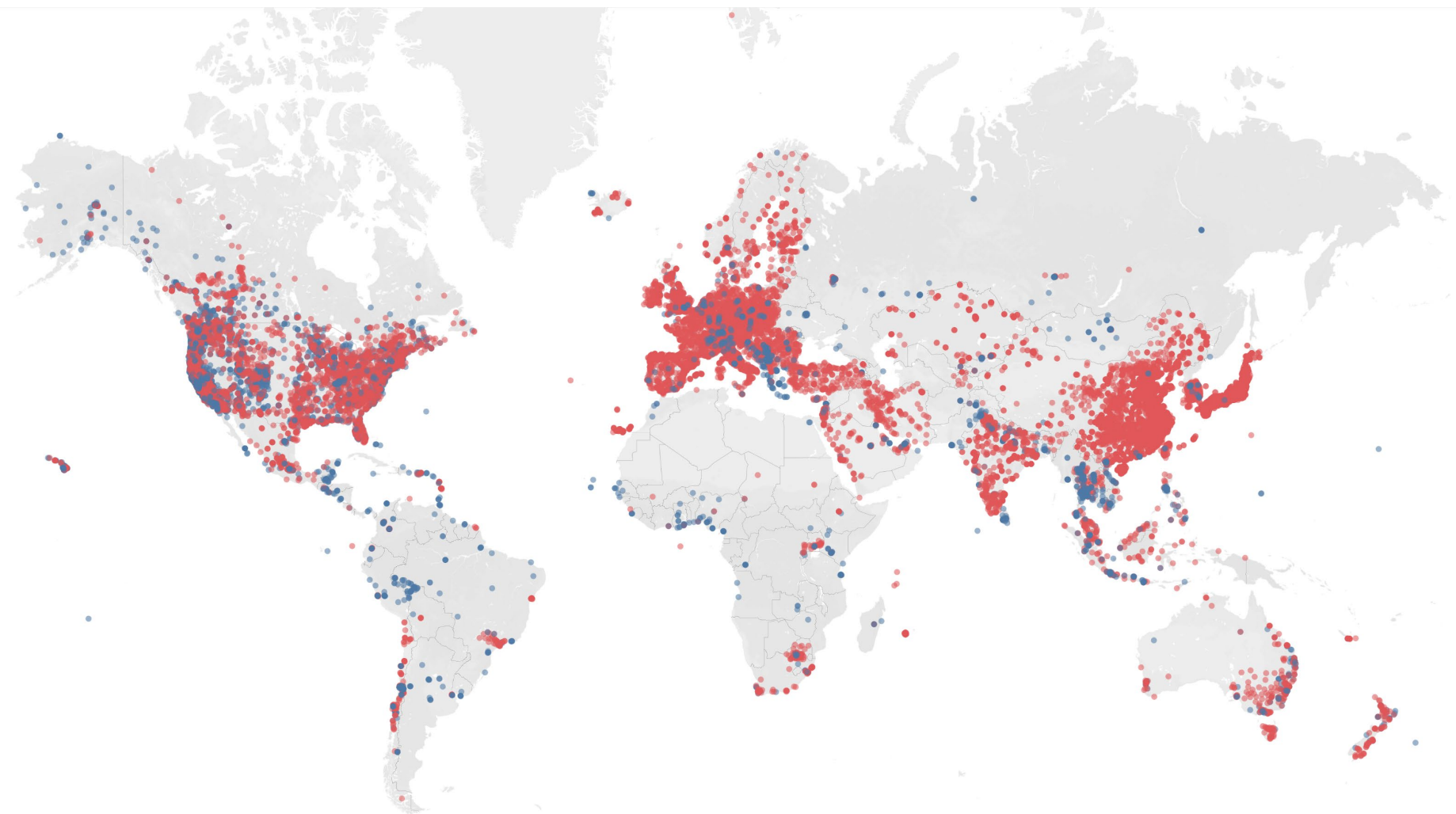
Driving Meaningful Air Quality
Action in Latin America

**Christi Chester
Schroeder, Ph.D.**
Air Quality Science Manager



GLOBAL DISTRIBUTION OF

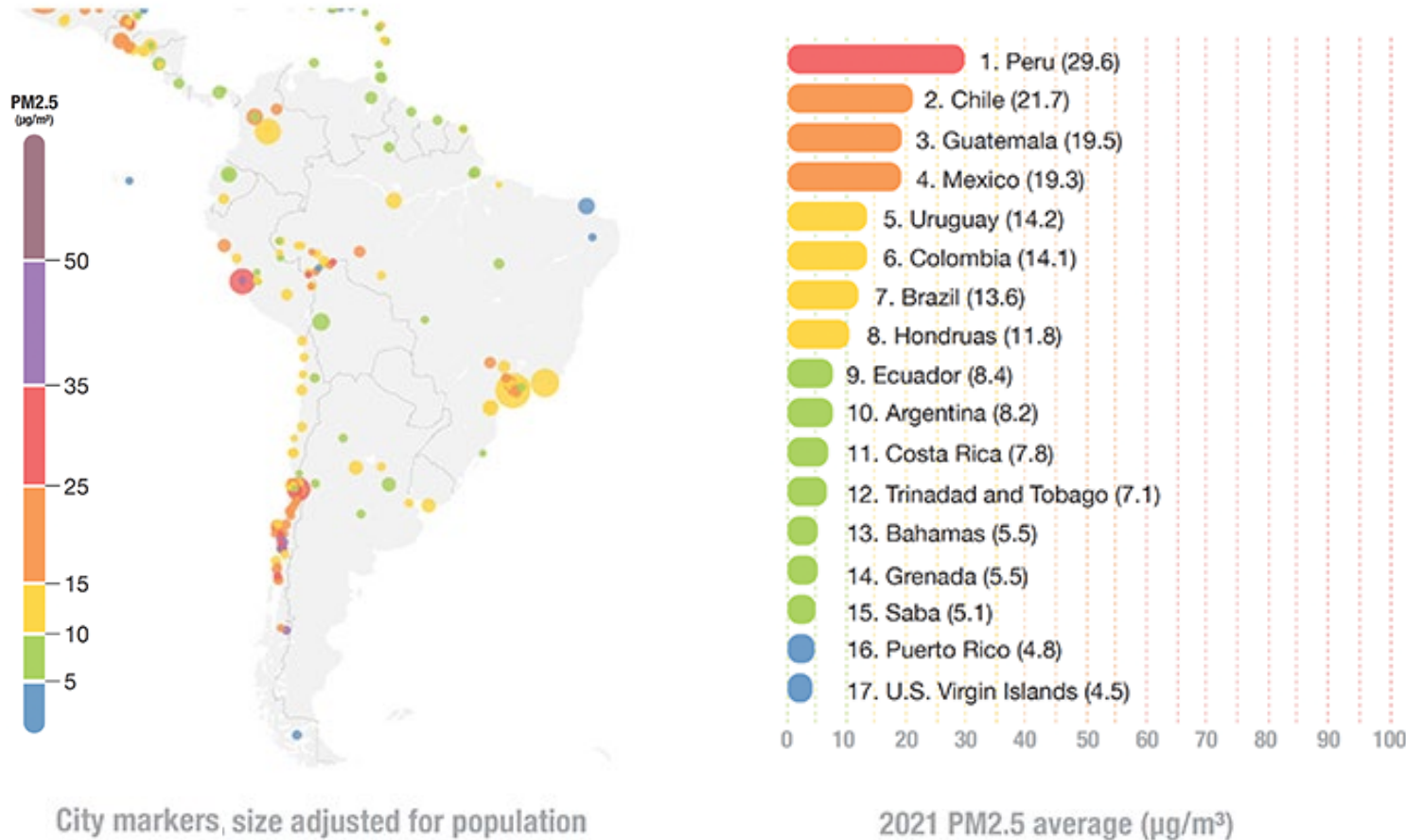
GROUND BASED PM_{2.5} MONITORING STATIONS



- Red dots: government air quality monitoring stations
- Blue dots: independently operated air quality sensors

AIR QUALITY IN LATIN AMERICA

2021 PM_{2.5} ANNUAL AVERAGE CONCENTRATIONS* (µg/m³)



- Urban population growth is a major driver for air quality issues in Latin American countries.
- Sustainable air pollution reduction plans require alignment with social and economic realities of communities.

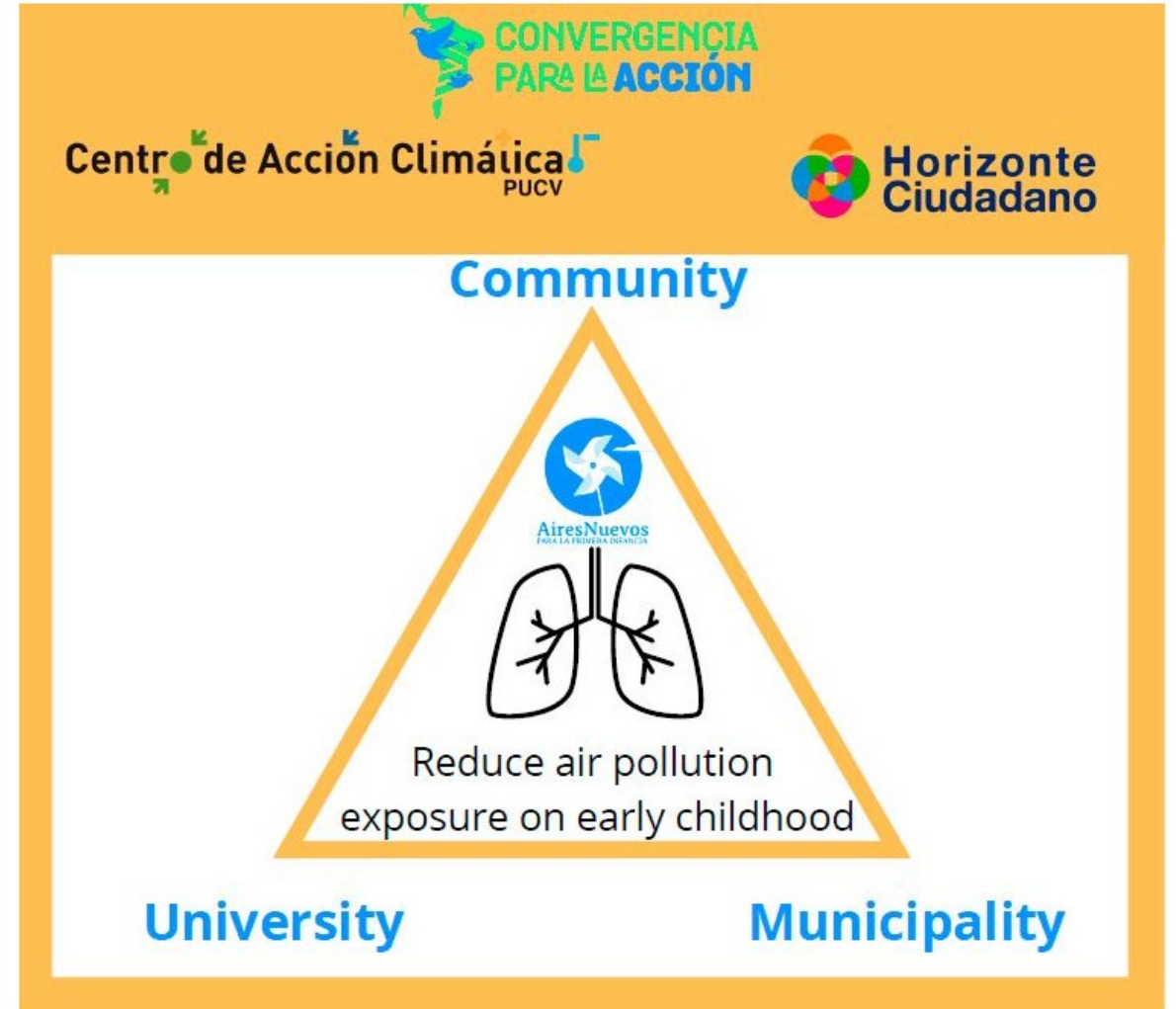
*Data taken from IQAir 2021 World Air Quality Report

REFRAMING AIR POLLUTION:

EARLY CHILDHOOD DEVELOPMENT

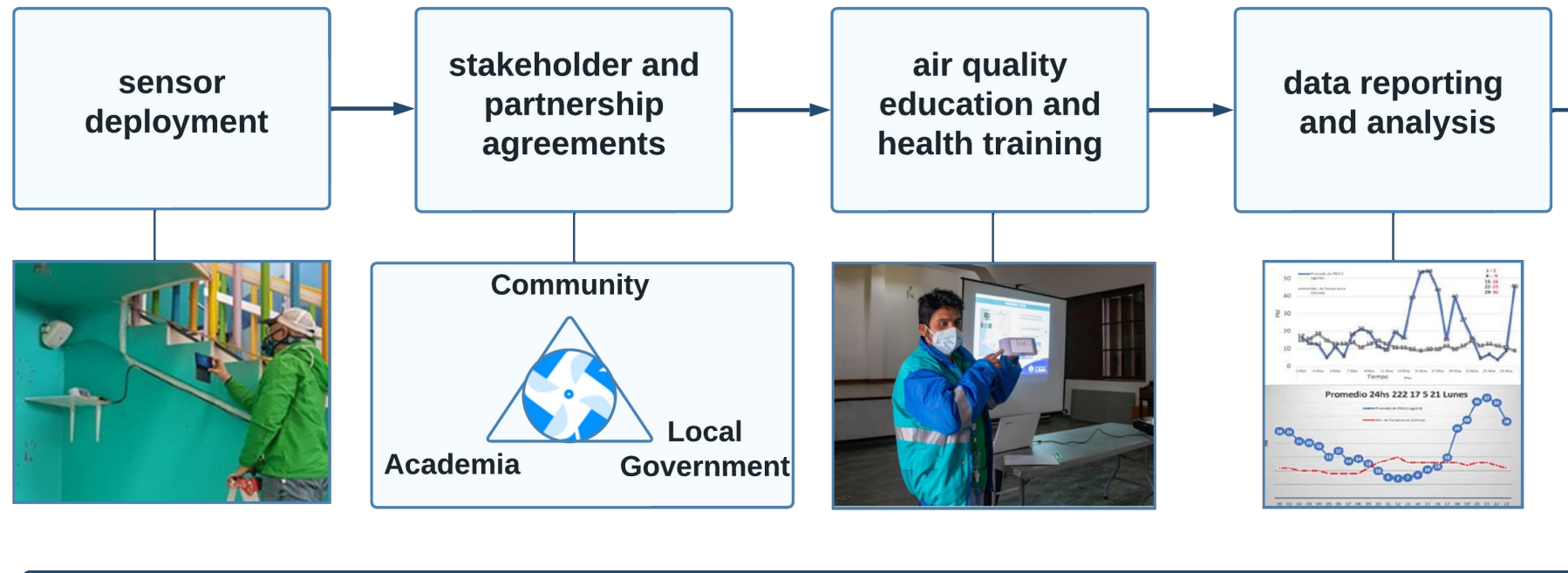
- Multi-stakeholder collaboration built from a network of 90 public policy leaders in 18 countries
- Advocate regulatory and public policy framework that prioritizes the well being of children in the community
- Collaborative work to create community-driven, data informed, local action plans
- Outcome focused

CIFF CHILDREN'S
INVESTMENT FUND
FOUNDATION



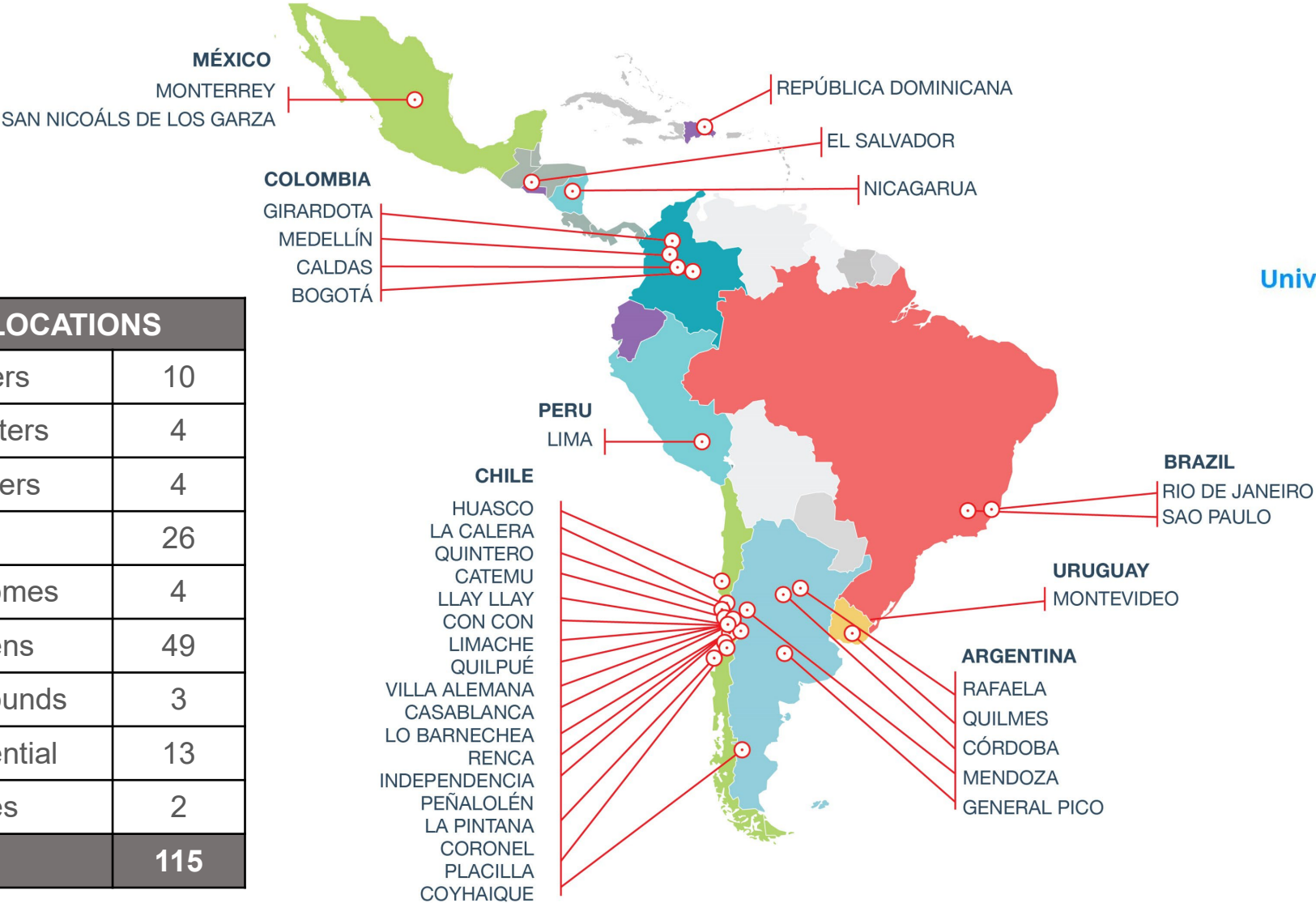
MEASURE TO ACT

- Grassroots efforts
- Community engagement
- Action plans
- Scalable change

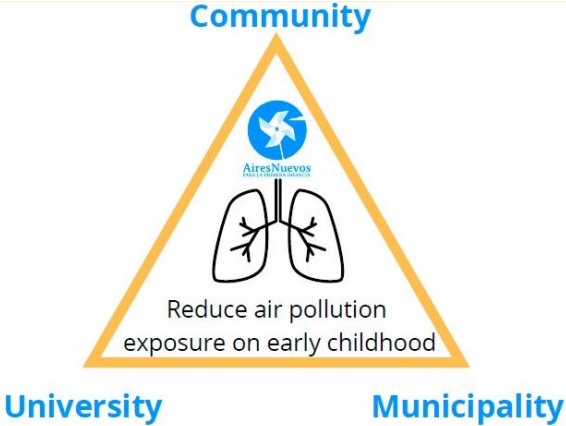


ARGENTINA, BRAZIL, CHILE, COLOMBIA, ECUADOR, MEXICO, PERU, URUGUAY

AIRES NUEVOS NETWORK



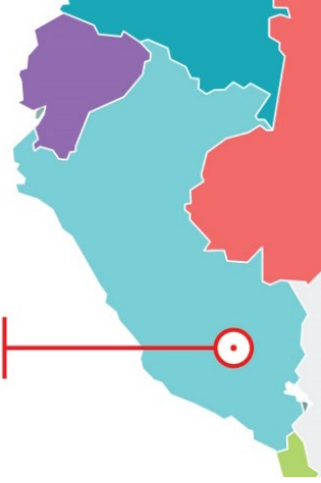
SENSOR LOCATIONS	
Civic Centers	10
Cultural Centers	4
Health Centers	4
Schools	26
Children's Homes	4
Kindergartens	49
Parks/Playgrounds	3
Parks/Residential	13
Universities	2
TOTAL	115



STAKEHOLDERS	
Countries	8
Cities	37
Universities	14

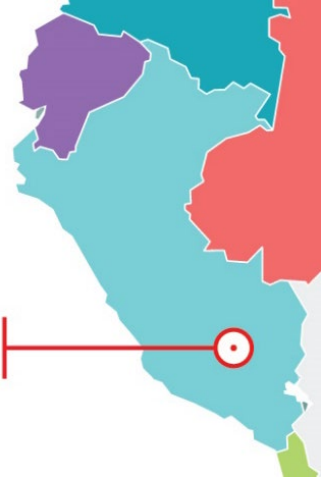
LOCAL ACTION PLANS

LIMA, PERU



LOCATION	CHILDREN PRESENT	AGES OF CHILDREN	POLLUTION SOURCES
Morales Duarez-Primavera Park	2 pre and primary schools	5 to 11 years old	solid waste, motor vehicles bare soil (coarse particulate matter)
Macro Apple PRITE Montessori	5 pre and primary schools	3 to 11 years	solid waste burning, motor vehicles
Historic Center	1 pre and primary school	5 to 11 years	motor vehicles
Enrique Meiggs Park	3 pre and primary schools, as well as children in the neighborhood	3 to 11 years	bare soil (coarse particulate matter), motor vehicles
SOS Pachacamac Children's Village	children's home	0-12 years	solid waste burning, bare soil (coarse particulate matter)

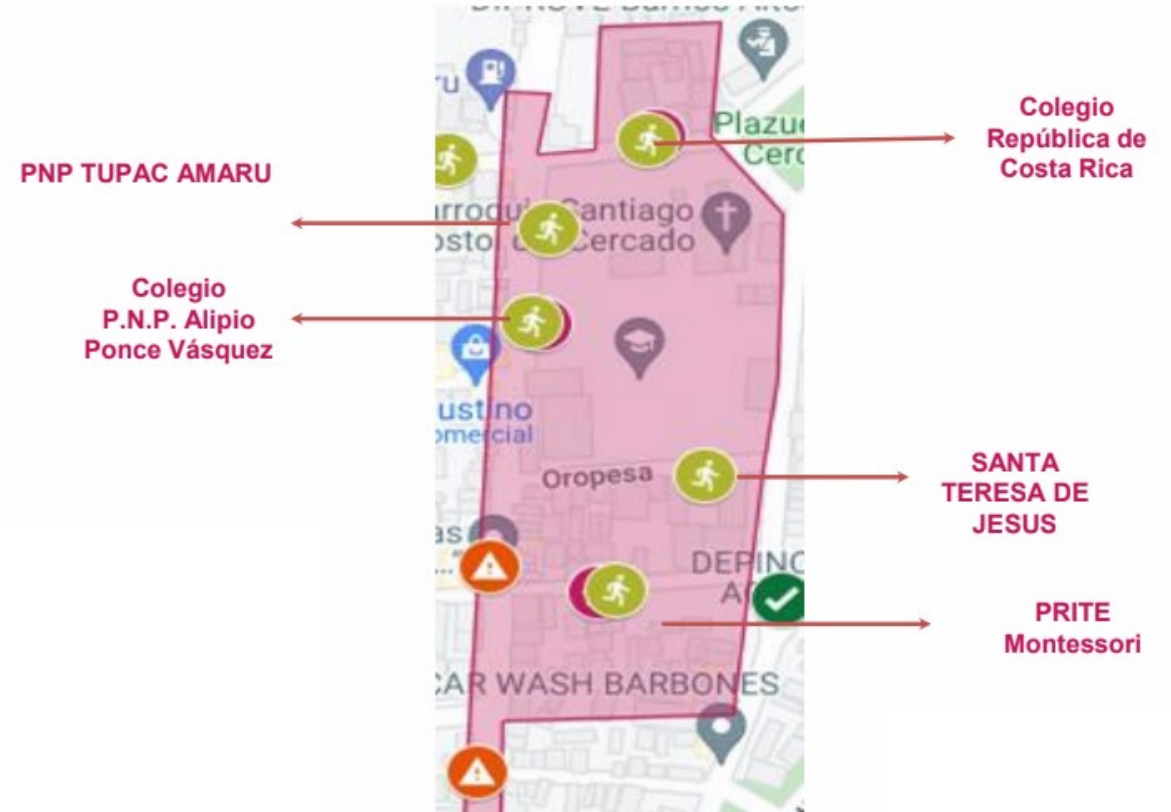
DATA DRIVEN MITIGATION PLANS: PRITE MONTESSORI LIMA, PERU



LIMA

Prite Montessori

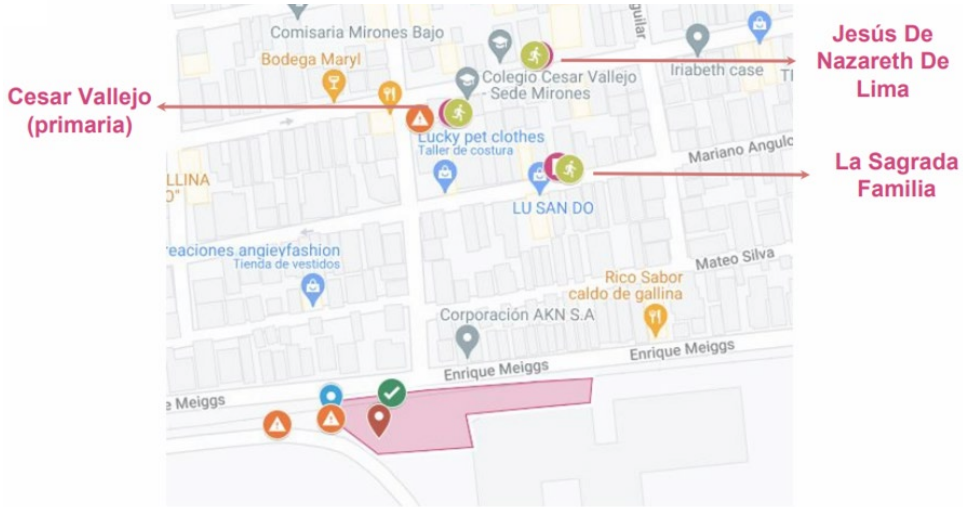
DATA FINDINGS
Seasonal trends in PM _{2.5} and PM ₁₀ : moderate to bad concentrations in winter (June-September) with concentrations ranging from 26 µg/m ³ to more than 200 µg/m ³ .
PM ₁₀ presented moderate values between March and September with concentrations between 51 µg/m ³ to more than 200 µg/m ³ .
Highest PM _{2.5} concentrations in the hours 2am-10am.
PM ₁₀ concentrations were moderate concentrations throughout the day except for the hours between 2pm-6pm



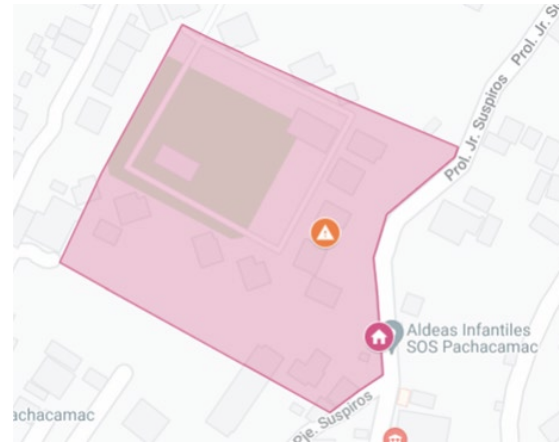
MITIGATION PLAN
Closing of streets by schedules for the passage of vehicles
Elimination of critical areas of accumulation of solid waste
Implementation of signage designating no idling zones
Execution of awareness campaigns/workshops for infants and caregivers
Pedestrianization of Jr. Coata (medium term)

DATA DRIVEN MITIGATION PLANS: LIMA, PERU

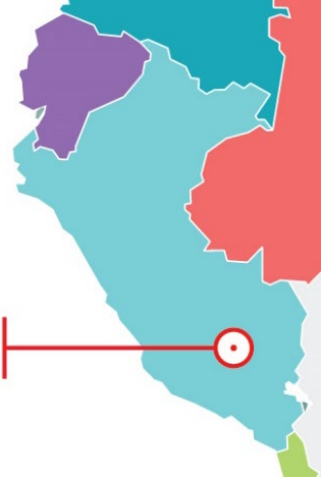
Enrique Meiggs



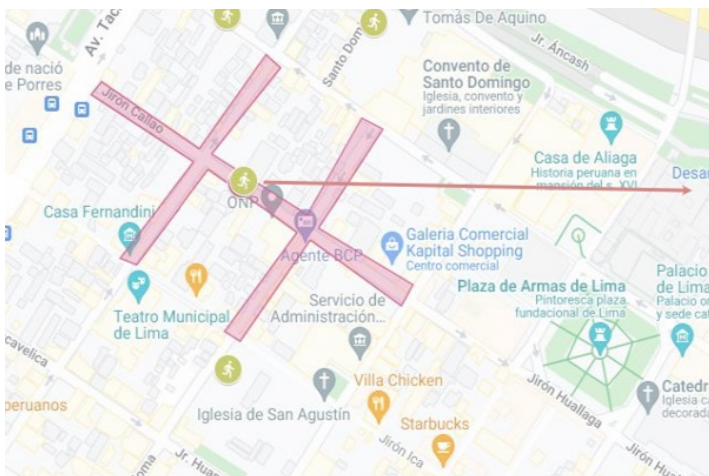
Aldea Infantil SOS Pachomac



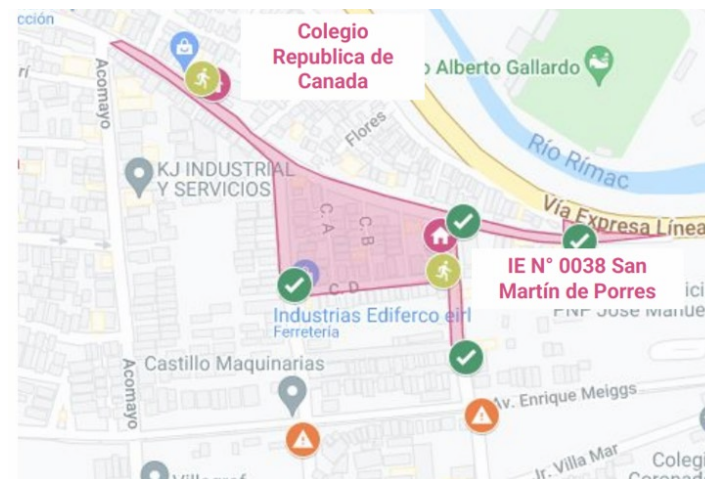
LIMA



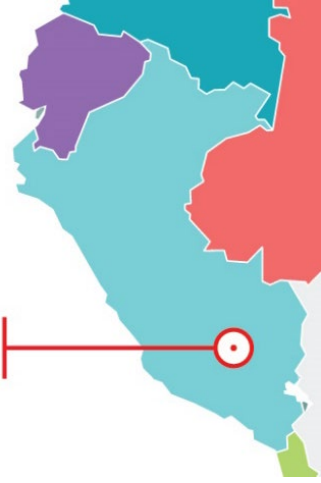
Centro Histórico



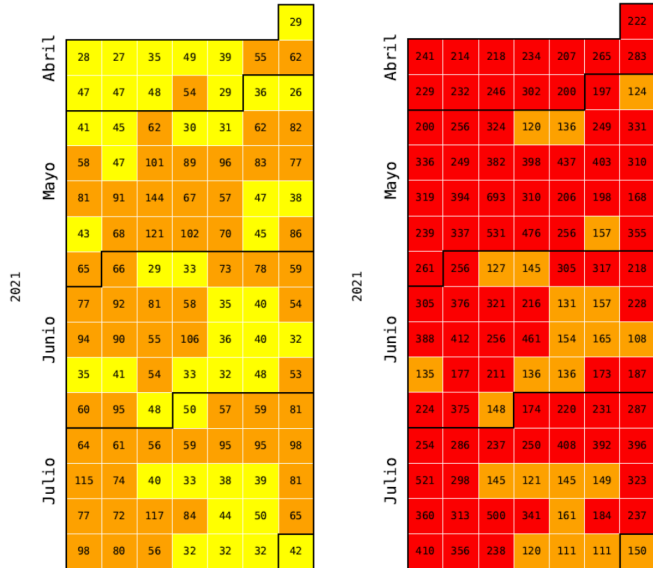
Morales Duarez Parque Primavera



IMPLEMENTED MITIGATION: LOS OLIVOS PARK LIMA, PERU



DATA FINDINGS



Daily averages of PM_{2.5} and PM₁₀ at the “Colegio Fe y Alegría” station between April and July 2021. Values in µg/m³. Colors according to the INCA category

BEFORE

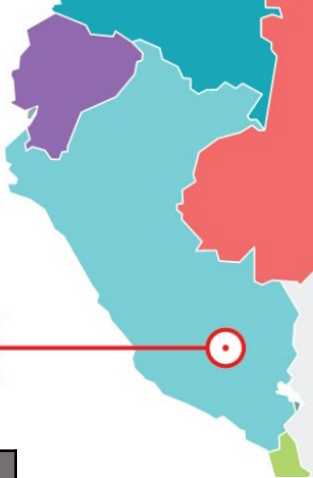


AFTER



583 m² transformed space to prevent rising dust

IMPLEMENTED MITIGATION: LOS OLIVOS PARK LIMA, PERU



LIMA

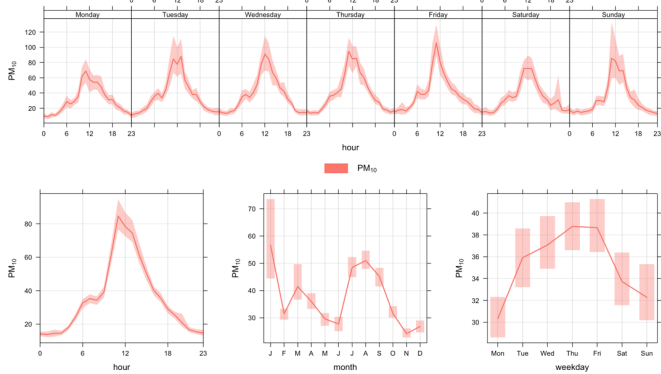
436 m² transformed
planting vegetation



LOCAL ACTION PLANS

OTHER COUNTRIES

Quito, Ecuador



PM₁₀ analysis San Antonio de Pichincha sector



Monterrey, Mexico

Implement tactical urbanism designs through painting to convert current spaces to pedestrian zones

Designate low emissions and no idling zones around preschools



Quilmes, Argentina

Afforestation of the garden patio and the surrounding area as a protective barrier against traffic emissions

Installation of vertical gardens and garden workshops within the framework of food sovereignty and security and healthy eating



CONCLUSIONS AND FUTURE WORK

- Air quality monitoring and improvement plans are estimated to benefit:
 - 1.5M children under the age of four
 - 30M people in total
- Creating sustainable change starts in local communities
- Crowd sourcing research in hyperlocal environments → scalable air quality mitigation policies
- Special thanks to Marcela Otto and Loreto Stambuk.

