The new WHO air quality and health database for the Americas

Unit of Climate Change and Environmental Determinants of Health (CE)
Health impact of air pollution in the Americas

Every year around 7 MILLION DEATHS globally are due to exposure to air pollution.

35% of deaths from lung disease
15% of deaths from stroke
44% of deaths from heart disease
6% of deaths from lung cancer

Deaths attributable to air pollution in the Americas (2016)

- Outdoor air pollution: 249,093
- Household air pollution: 83,302
- Joint air pollution: 319,627
Database coverage for the Americas:

- Number of countries: 20
- Number of cities: 927
Ambient air quality database

PM$_{10}$ ground monitors (GM) coverage

Annual mean PM$_{10}$ ($\mu$g/m$^3$)
- <20
- 20–<30
- 30–<50
- 50–<70
- 70–<100
- >100

Data not available
Data not applicable

0 850 1700 3400 Kilometers
PM$_{2.5}$ modelled estimates

Why:
- To cover areas that are not covered by GM measurements.
- To allow the calculation of the exposure, based on population and PM$_{2.5}$ concentration.

How:
- Using the Data Integration Model for Air Quality
  - Satellite remote sensing (Aerosol optical depth) compared with data from more than 9,000 GMs
  - Population
  - Resolution: $0.1^\circ \times 0.1^\circ$ globally (about 10 km $\times$ 10 km)
PM$_{2.5}$ modelled estimates: an example
Median modelled PM$_{2.5}$ concentration (μg/m$^3$) (2016)
Usage of clean and polluting fuels (%) (2016)
PAHO air quality program

Reduce the adverse health effects of air pollution in the Americas

Mainstreaming health in air quality management

- Expanding the knowledge base
- Monitoring and reporting
- Leadership and coordination
- Institutional capacity strengthening

Legislation  Planning  Risk analysis  Household energy  Road transport  Health care providers

Governance
Thank you!