

# **Citizen Scientists and Public Health Officials: Partners to Prevent Unhealthy Air in Your Community**

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Citizen Scientist

# What's a Citizen Scientist?

- Anyone (yes, anyone) practicing science AND
  - Might have a vested, civic, or personal interest in a local environmental health issue; or
  - Might be interested in government environmental health policies; or
  - Might just be curious about nature, etc.
- Scientists and Engineers practicing science AND
  - Might have an interest in engaging citizens; or
  - Might have civic, volunteer, hobby interests, etc.

# What's a Public Health Official?

- Government Public Health Staff
  - City, County, State, Tribe, CDC, etc.
  - Legal Authority to take Health Protective Actions
- Trained to Protect the Health of People
  - E.g., Post Warning Notices about Swimming at Public Beaches when Unhealthy Water
  - E.g., Warn the Public, Advise Vulnerable Groups, when Unhealthy Air Quality (e.g., AQI  $\geq$  Orange)
- Aspires to Prevent People Swimming in Unhealthy Water, Breathing Unhealthy Air, etc.

# Framing Partnerships

## 1. The Sensors/Observers

- Eyes, nose, ears, etc., the transduction of nature into a signal

## 2. The Data/Information, Stories

- Neurons, brain, etc., signal analyses, learning, insights

## 3. The Reflexes, Responses, Purposes

- Muscles, voice, etc., preserve your health, thrive, survive,

- **How much “Fitness” or “Quality” is Needed in Each (1, 2, 3)?**

- **Overlapping Interests of Citizen Scientists and Public Health Officials; but what about YOU?**

- **E.g., Filling Strategic Gaps above to Prevent your Community from Breathing Unhealthy Smoke from Wildland Fires**

# You There – Anybody There?

- Consider ground-level sensors and observers (free rider citizen scientists) to fill in gaps, check satellite signals
- Consider how remote monitoring data sits with (or is separate from) other same-locale monitoring data, is typically analyzed, and feeds into computer modeling and forecasting (alerts/warnings based on regulatory limits)
- Acknowledge the primary purpose of your activity and talk to actual (REAL PERSONS) intended users; consider the potential for secondary uses of your activity
  - Broadcast alerts/warnings, temporal and spatial extent of unhealthy episodes, public health prevention campaigns, etc.