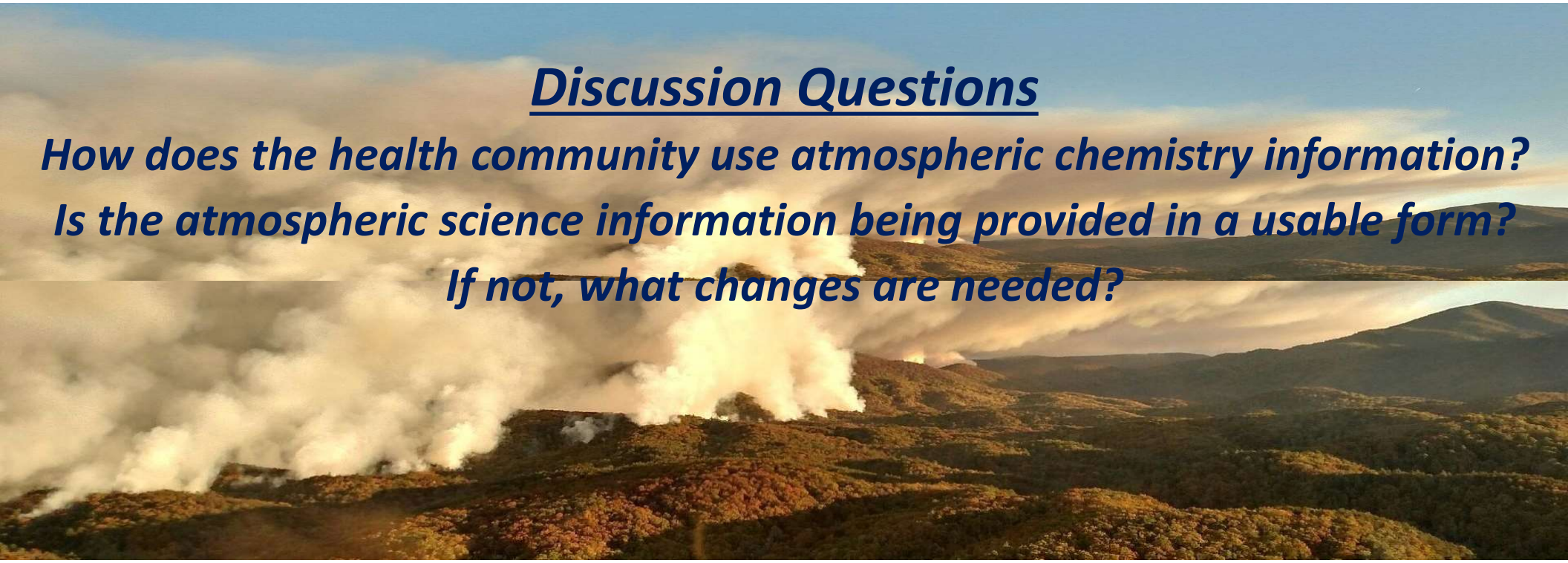


Discussion Questions

How does the health community use atmospheric chemistry information?

Is the atmospheric science information being provided in a usable form?

If not, what changes are needed?

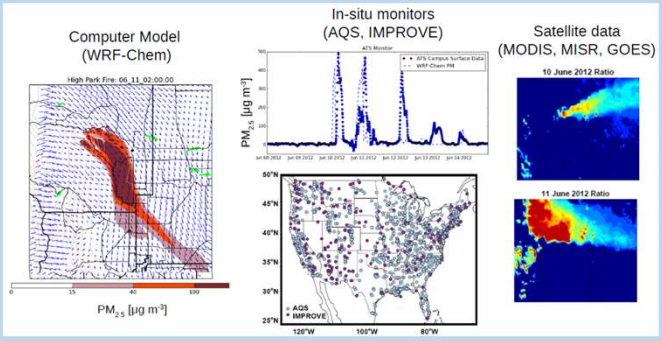
Ambarish Vaidyanathan, PhD

Climate and Health Program / Asthma and Community Health Branch

Atmospheric Science Information: Partnerships & Collaborations

Federal Partners

Atmospheric Science Information



Health applications / uses of atmospheric science information

1. Public health surveillance
2. Epidemiologic assessments
3. Situational awareness and emergency response

Academic Institutions

Funded Recipients of CDC Grants

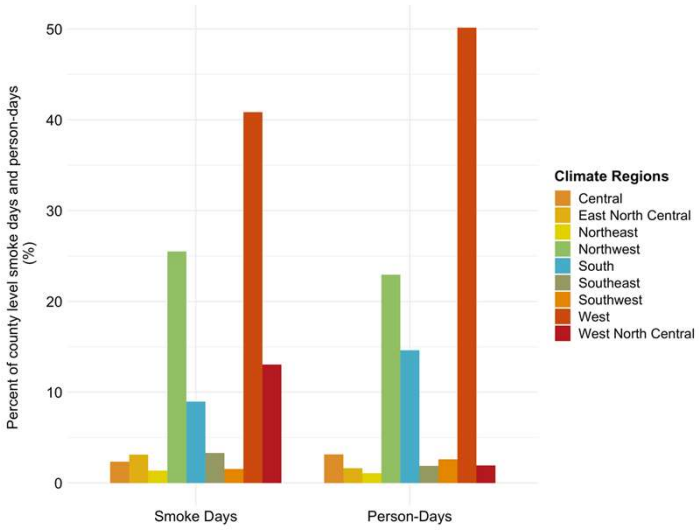
Asthma and Climate

Tracking

Health Applications: Surveillance / Epidemiology

Public Health Surveillance

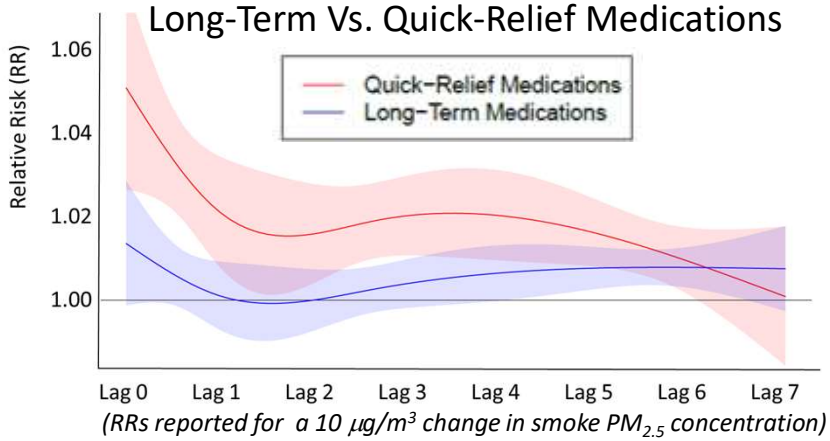
Surveillance indicators for smoke exposure



Epidemiologic Assessments

Exposure – Response Profiles

Lag Relationship
Long-Term Vs. Quick-Relief Medications



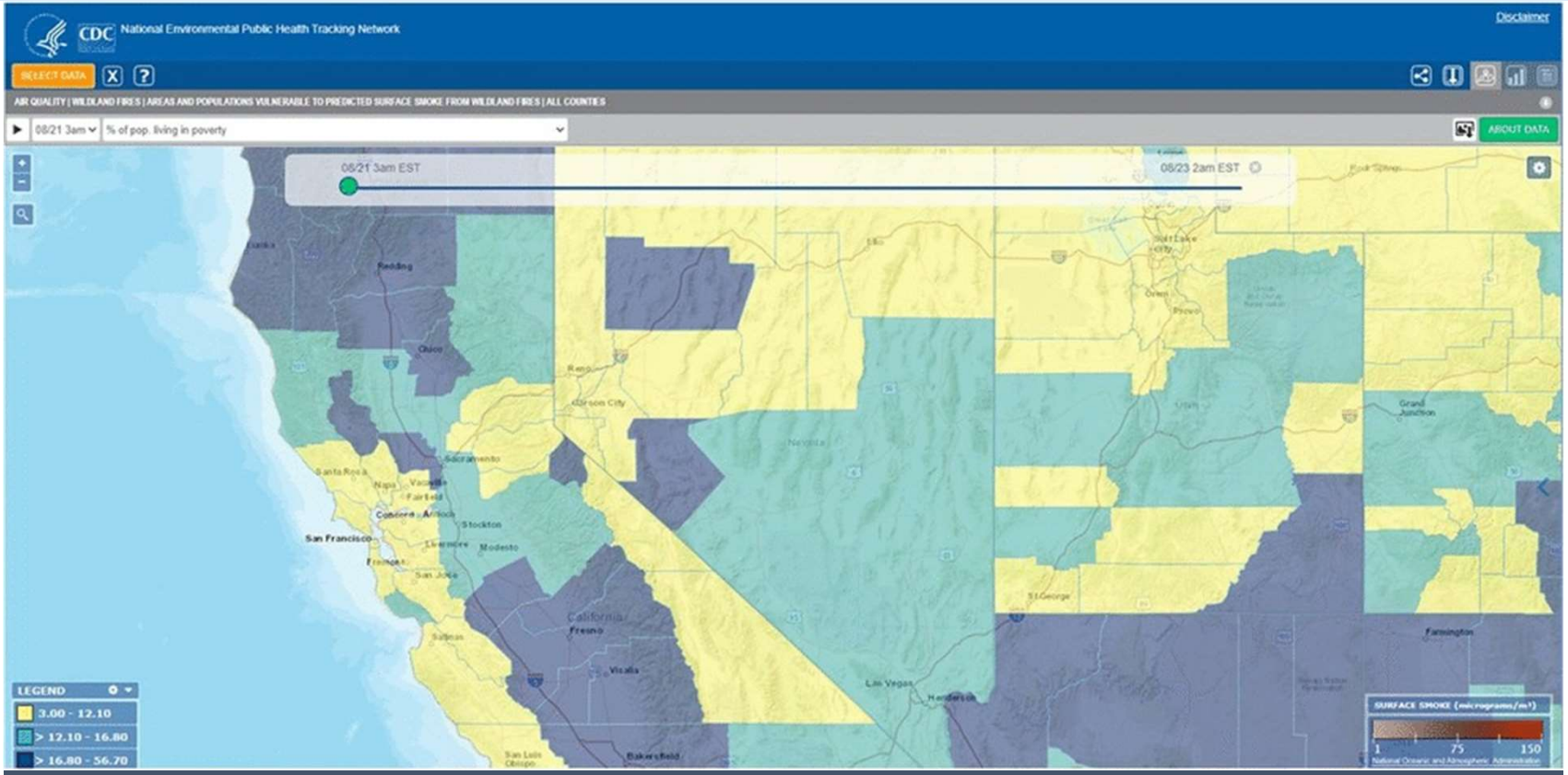
(RRs reported for a 10 $\mu g/m^3$ change in smoke $PM_{2.5}$ concentration)

- There exists a need for spatially and temporally resolved wildland fire-derived smoke datasets for use in public health research

Michael R, Mirabelli MC, & Vaidyanathan A. (Manuscript submitted to the journal)

Health Applications: Situational Awareness

Real-Time Smoke Vulnerability Assessment



Vaidyanathan A, Yip F, & Garbe P. Developing an online tool for identifying at-risk populations to wildfire smoke hazards. STOTEN, 619, pp.376-383.

https://ephtracking.cdc.gov

Summary / Challenges

- Highly-resolved atmospheric model outputs and data products can support the following:
  - Improving communication and consistency of smoke alerts / forecasts for wildfire events
  - Developing online tools to improve emergency preparedness and situational awareness capabilities
  - Conducting health impact assessments to characterize public health burden associated with smoke exposure that result from wildland fires

- Challenges / research gaps
  - Absence of a central repository with data collection standards for historical smoke predictions
  - Lack of routine access to county and sub-county level smoke exposure information for conducting health risk assessments
  - Atmospheric science information / data products to support comparative assessments (measured in terms of air quality and/or health impacts) of prescribed fire vs. wildfires