

# Smoke and Health Alerts

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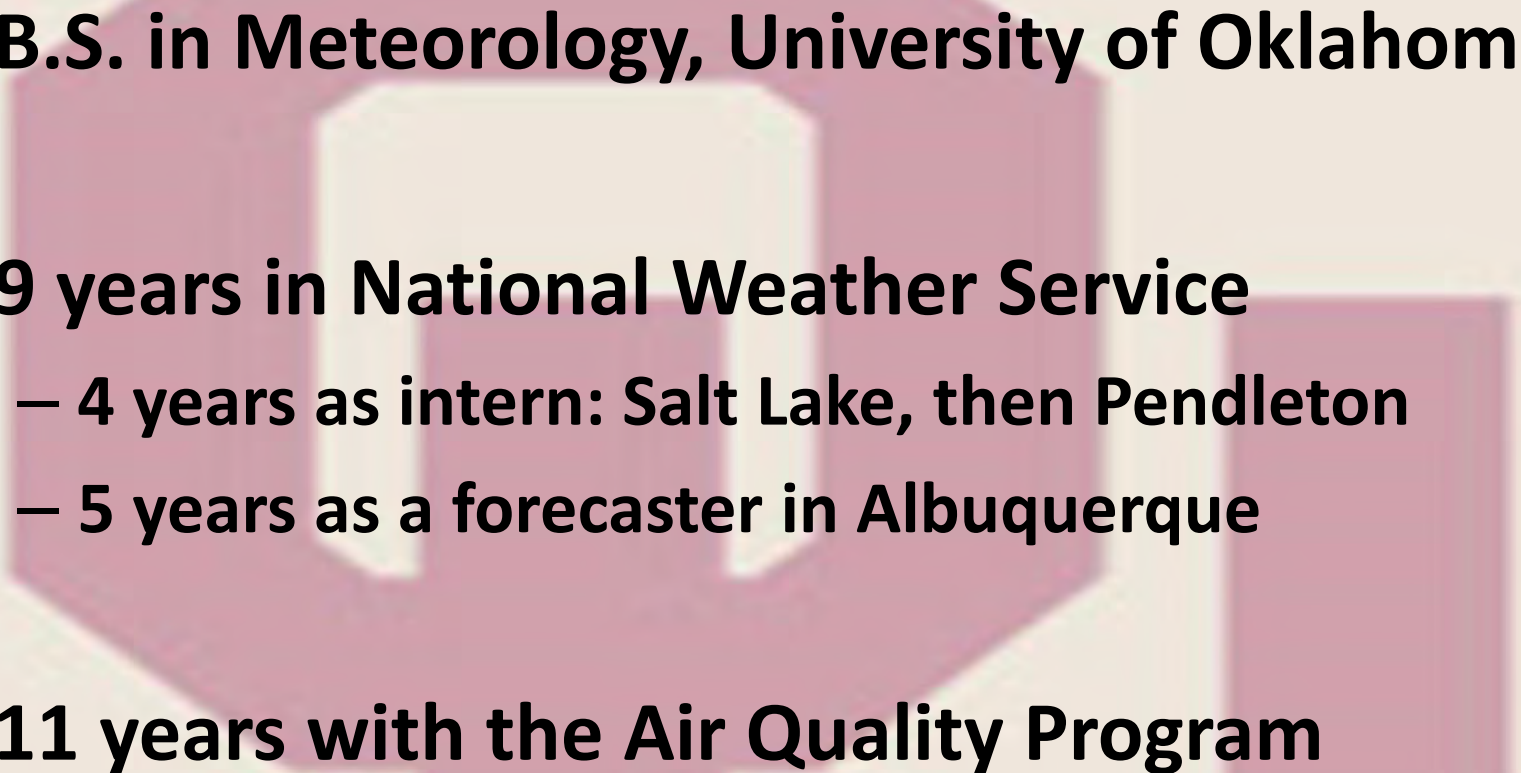
## Slide 1

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**DLH1**

Pretty blue sky picture.

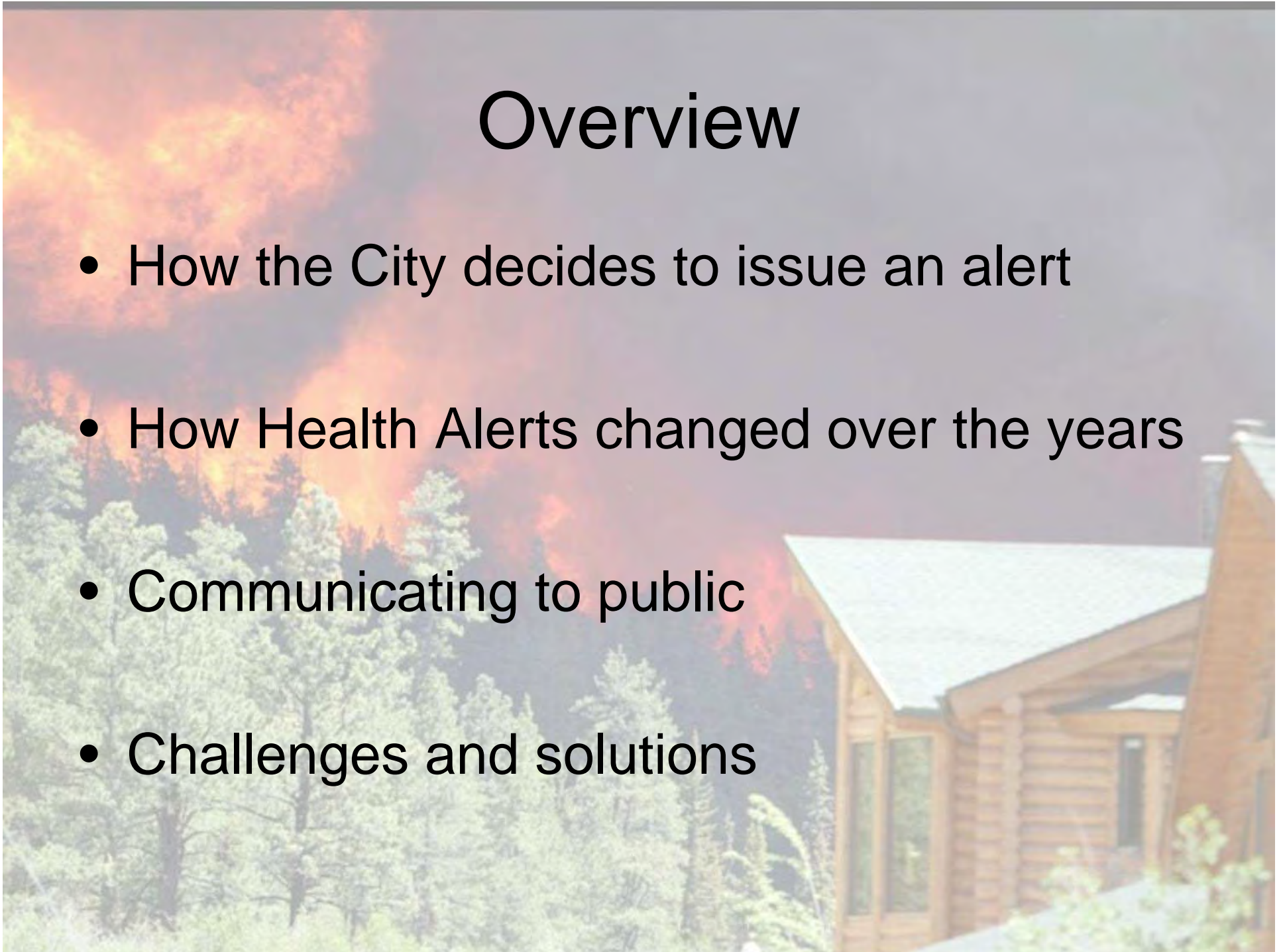
Dickerson, Lauren H., 1/14/2014

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- **B.S. in Meteorology, University of Oklahoma**
  - **9 years in National Weather Service**
    - 4 years as intern: Salt Lake, then Pendleton
    - 5 years as a forecaster in Albuquerque
  - **11 years with the Air Quality Program**



# Overview

- How the City decides to issue an alert
- How Health Alerts changed over the years
- Communicating to public
- Challenges and solutions

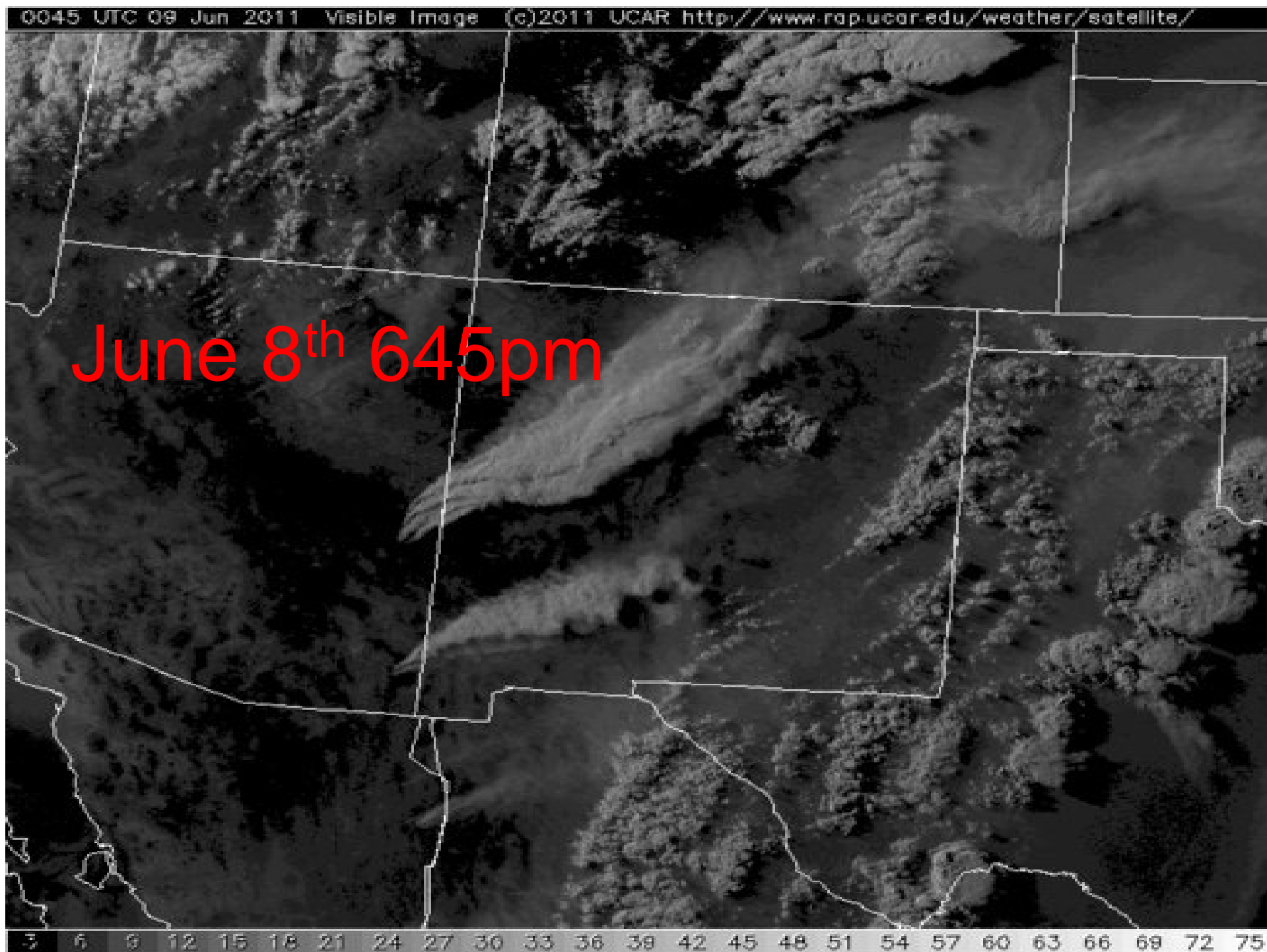


# Basis for Health Alerts

- Visibility
- Monitored particulate levels
- Communicate with other agencies



June 8<sup>th</sup> 645pm





# Gathering information

- Satellite imagery and analysis
- NOAA HYSPLIT model
- National Weather Service on twitter
- NWS Spot forecast webpage
- SWCC intelligence webpage
- Call BLM and Forest Service
- Multiagency conference calls

# Health Alerts have changed

- More media friendly format
- Issue earlier, before event if possible
- Leave technical details for interviews
- Focused on health advice





# Health Alerts: 2004 vs 2014

## AIR QUALITY HEALTH ADVISORY

May 20, 2004 – 10:00 AM

Environmental Health Department Director Alfredo Robert Santistevan has issued a health advisory based on elevated coarse and fine particulate matter levels caused by fires in southeast Arizona. Southwesterly winds above the surface pushed the smoke into Albuquerque overnight. The Sandia Mountains trapped the smoke in the Central Rio Grande Valley.

Concentrations of particulate matter are in the moderate to unhealthy categories. As the west side of Bernalillo County warms up, winds will mix down and clear most of the smoke out between noon and 2:00 PM. However, some smoke may return each morning for the next couple of days as the southwest flow aloft will continue through the weekend. This is dependent on whether or not the wildfires in Arizona can be brought under control.

Those individuals who are the most at risk are:

- People with respiratory or cardiovascular disease;
- Children;
- Elderly people who are engaged in high energy activities such as running, jogging, or biking.

### Precautionary Steps

- Limit physical exertion outdoors;
- Pay attention to your respiratory condition;
- Check for wheezing, coughing;
- Be vigilant about asthma management;
- Make sure your medications are on hand and follow your physician's advice for your health care;
- Consider alternative activities or move the activity indoors if possible.

It is anticipated that the elevated particulate matter levels will continue through the early afternoon. The advisory will continue through 2:00 PM May 20, 2004 for the Central Rio Grande area. For updated air quality information call 766-7664, 768-4734 or 768-2610 to contact the Director's office.

June 5, 2014



## ENVIRONMENTAL HEALTH DEPARTMENT ISSUES AIR QUALITY HEALTH ALERT

Issue time: Thursday, June 5, 2014 at 7:00 AM

The Environmental Health Department's Air Quality Program is issuing a health alert due to elevated levels of particulate matter in the air. This notice is in effect for the following period:

Thursday, June 5, 2014 at 7:00 AM

to

Thursday, June 5, 2014 at 2:00 PM

The Environmental Health Department is investigating the nature and source of the particulate matter in the air over Albuquerque. Sensitive groups such as people with asthma or other chronic respiratory disease, heart disease, adults age 65 and over, young children, and pregnant women should avoid outdoor activities. Everyone else should minimize outdoor activities.

While these conditions persist, the following actions are recommended, especially for individuals sensitive to particulate pollution:

- Keep windows and doors closed. If needed for comfort, use air conditioners or heating systems on recycle/recirculation mode. Avoid using swamp coolers that can circulate outdoor air inside.
- If symptoms of heart or lung disease occur, (including severe coughing, shortness of breath, chest tightness, chest pain, or unusual fatigue) contact your health care provider.
- Individuals with heart or lung disease should follow their health management plan from their health care provider. Asthmatic individuals should follow a prescribed asthma management plan.
- Avoid outdoor exercise

# Communicating with public

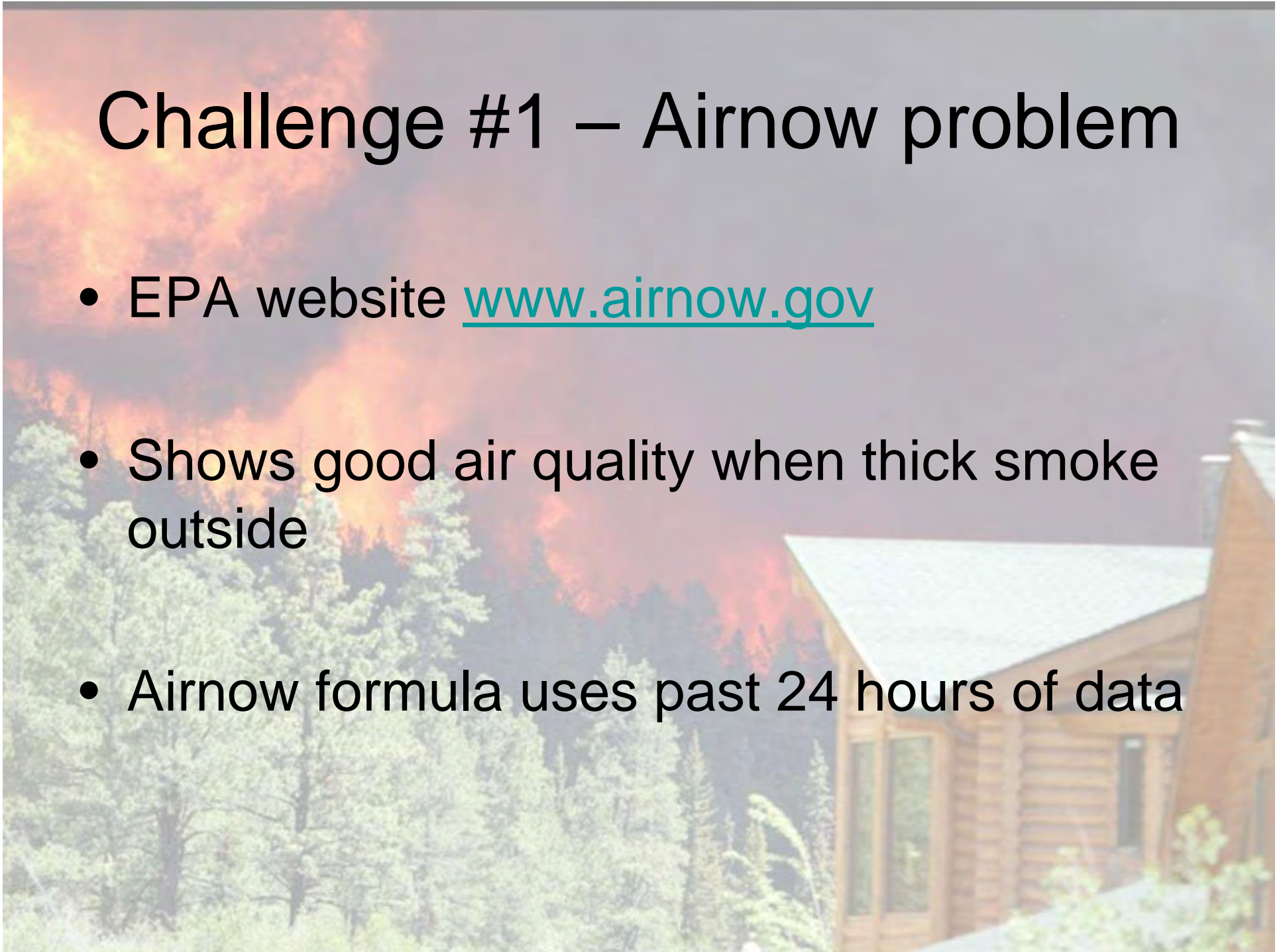
- Alerts traditionally disseminated via media
- Recently added twitter and 311
- Another possibility: sign up on City web page to automatically receive health alerts via e-mail





# Challenge #1 – Airnow problem

- EPA website [www.airnow.gov](http://www.airnow.gov)
- Shows good air quality when thick smoke outside
- Airnow formula uses past 24 hours of data



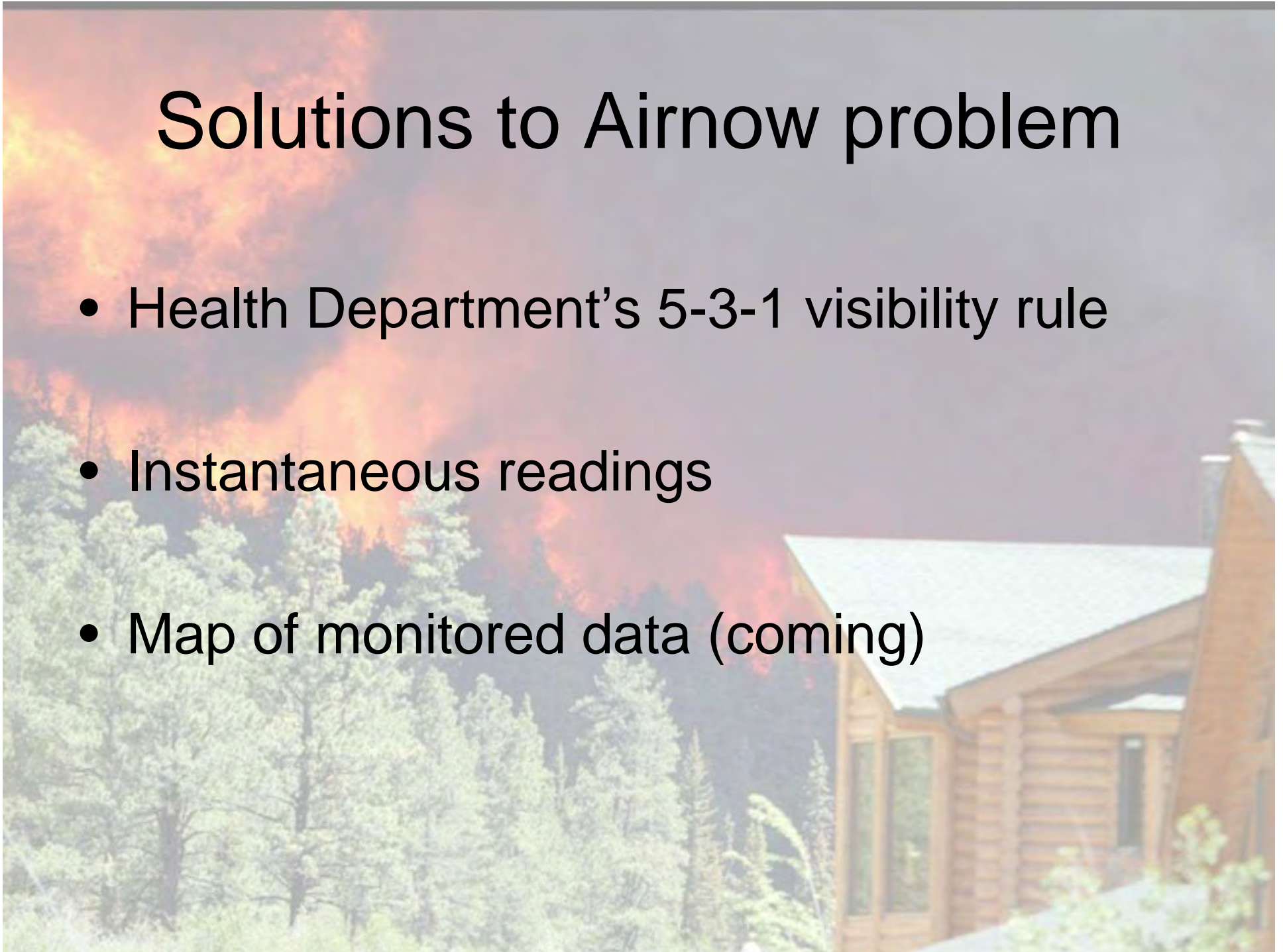
# Airnow.gov





# Solutions to Airnow problem

- Health Department's 5-3-1 visibility rule
- Instantaneous readings
- Map of monitored data (coming)



Is It Smoky Outside? Protect Your Health.

Use the **5-3-1** Visibility Method <https://nmtracking.org/fire>

During Fires  
If You Can See\*  
About:

*\*When Humidity is Low*

**5** miles

**3** miles

**1** mile

And You Are:

An Adult  
A Teenager  
An Older Child

Check  
visibility  
often.

Minimize  
outdoor  
activity.

Stay  
Inside.

Or You Have:

Age 65 and Over  
Pregnant  
A Young Child

Asthma  
Respiratory Illness  
Lung or Heart Disease

Minimize outdoor activity.

Stay Inside.

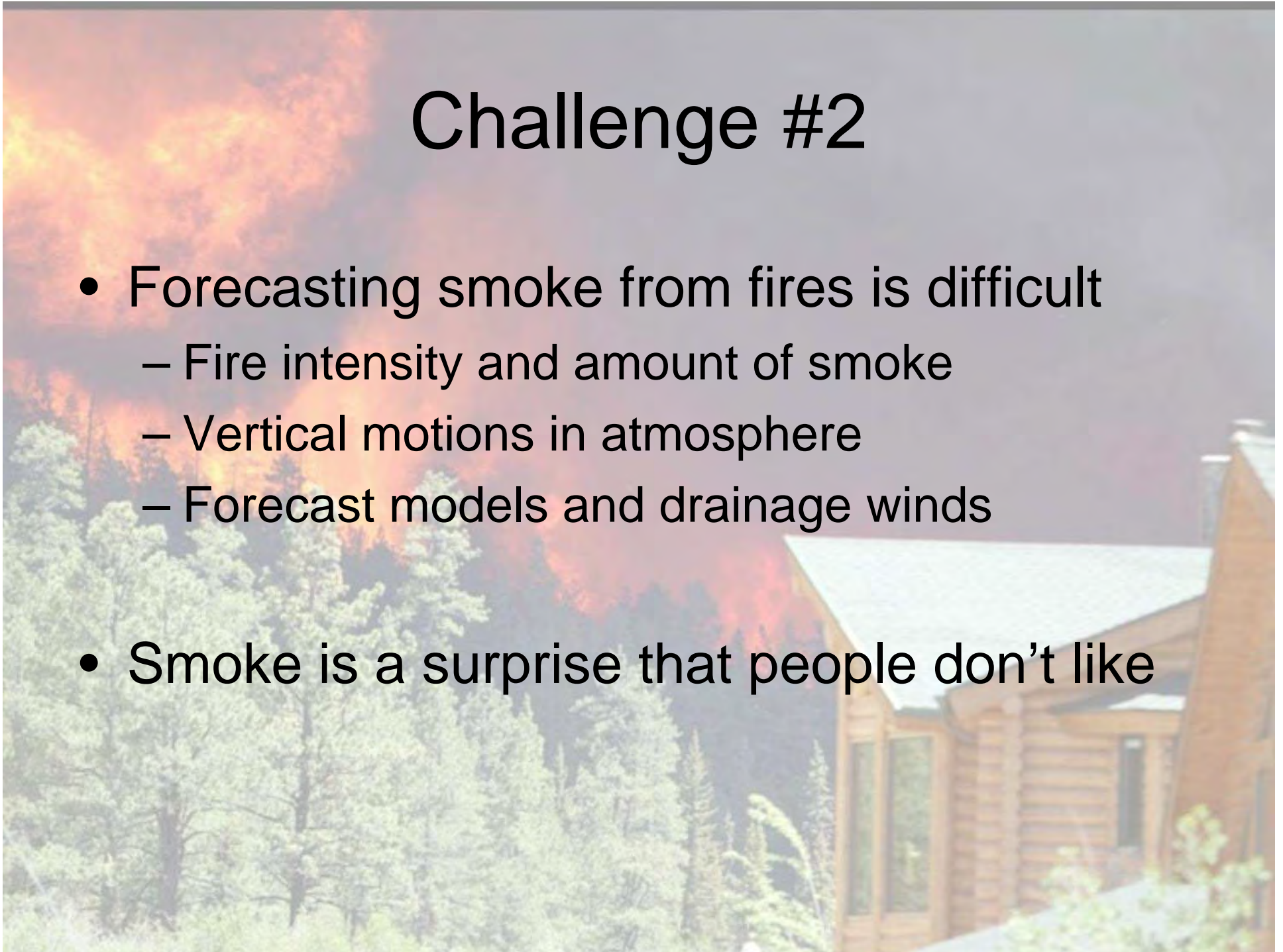
Stay Inside.

Health and Fire Information <https://nmtracking.org/fire>



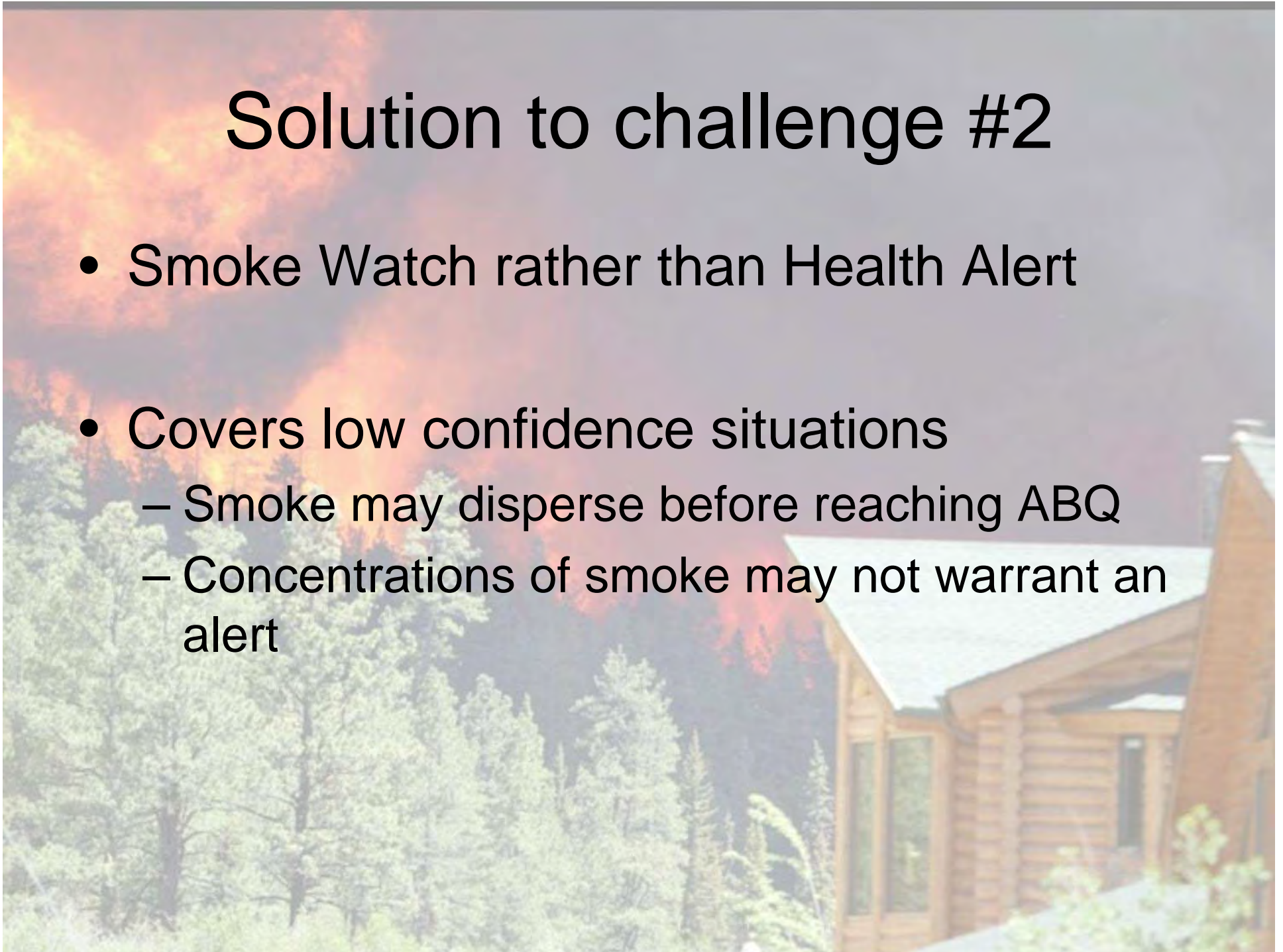
# Challenge #2

- Forecasting smoke from fires is difficult
  - Fire intensity and amount of smoke
  - Vertical motions in atmosphere
  - Forecast models and drainage winds
- Smoke is a surprise that people don't like



# Solution to challenge #2

- Smoke Watch rather than Health Alert
- Covers low confidence situations
  - Smoke may disperse before reaching ABQ
  - Concentrations of smoke may not warrant an alert





# Smoke watch example

June 19, 2013



## ENVIRONMENTAL HEALTH DEPARTMENT

### SMOKE WATCH

Issue time: Wednesday, June 19, 2013 at 4:30 PM

The Environmental Health Department's Air Quality Program is issuing a smoke watch for late tonight into Thursday morning.

This is not a health alert -

Due to the uncertainty in the forecast, the Environmental Health Department is issuing a smoke watch for late tonight and Thursday morning. If pollution levels from smoke are a concern Thursday morning, the Environmental Health Department will issue an updated statement with health-related suggestions for individuals with respiratory issues.

Southwest winds may push smoke from the Creek Wildfire in southeast Arizona toward Albuquerque overnight. The current weather pattern could lift most of the smoke above mountaintop level similar to what we saw this morning. Weather forecast models, on the other hand, suggest some of the smoke will remain below mountaintop level.

###

# Final points

- Relatively unique situation for City's Air Quality Program
- Now we're able to be proactive sometimes
- Number of changes over the years to improve how we deal with these events



Questions?

