

# AAQTF Update

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# Wildland Fire Air Quality Response Program

## ● National Effort

- Cadre of Air Resource Advisors (THSP-ARA)
- National Monitor Cache/Display (AirNow Smoke Page)
- PNW AirFire Team incident smoke model runs (1km+)
- Two Classes held – Trainee Program- another Spring 2015
- Range of Skills in 24 ARA, 12 trainees
- FS, BLM, FWS, NPS, NRCS, AD-Contractor, EPA???, States: GA, NC,
- Dispatches: 2011- handful, 2012-13, 2013-25, 2014-39
- Typical Assignment is 2-weeks
- 2014-Low impacts (ozone too) due to frequent wind shifts
- 2014-King Fire-Iron Man cancelled by wildfire smoke
- Canada and other country interest (shadow in 2015)

# WFAQR Program-Challenges

- Thresholds for warnings and evacuation
  - Federal/state/districts can have different thresholds
  - No defined evacuation threshold (level, duration, extant)
- PM2.5 Limited Monitoring (small #, device type, placement)
  - Other pollutants: monitors, models, display
  - Other pollutants: combined exposure/thresholds
- Program awareness issues and acceptance (ARAs)
- Display of monitored data
  - National, state, tribal, local district, Blogs, Chinese hourly site
  - Thresholds and duration (1-hr, 3-hr, 24-hr, NowCast)
- Smoke Alerts
  - Shelter in place and Air Quality Shelters – criteria,
  - N95 masks – Role and information for medical providers
  - Kids and schools...

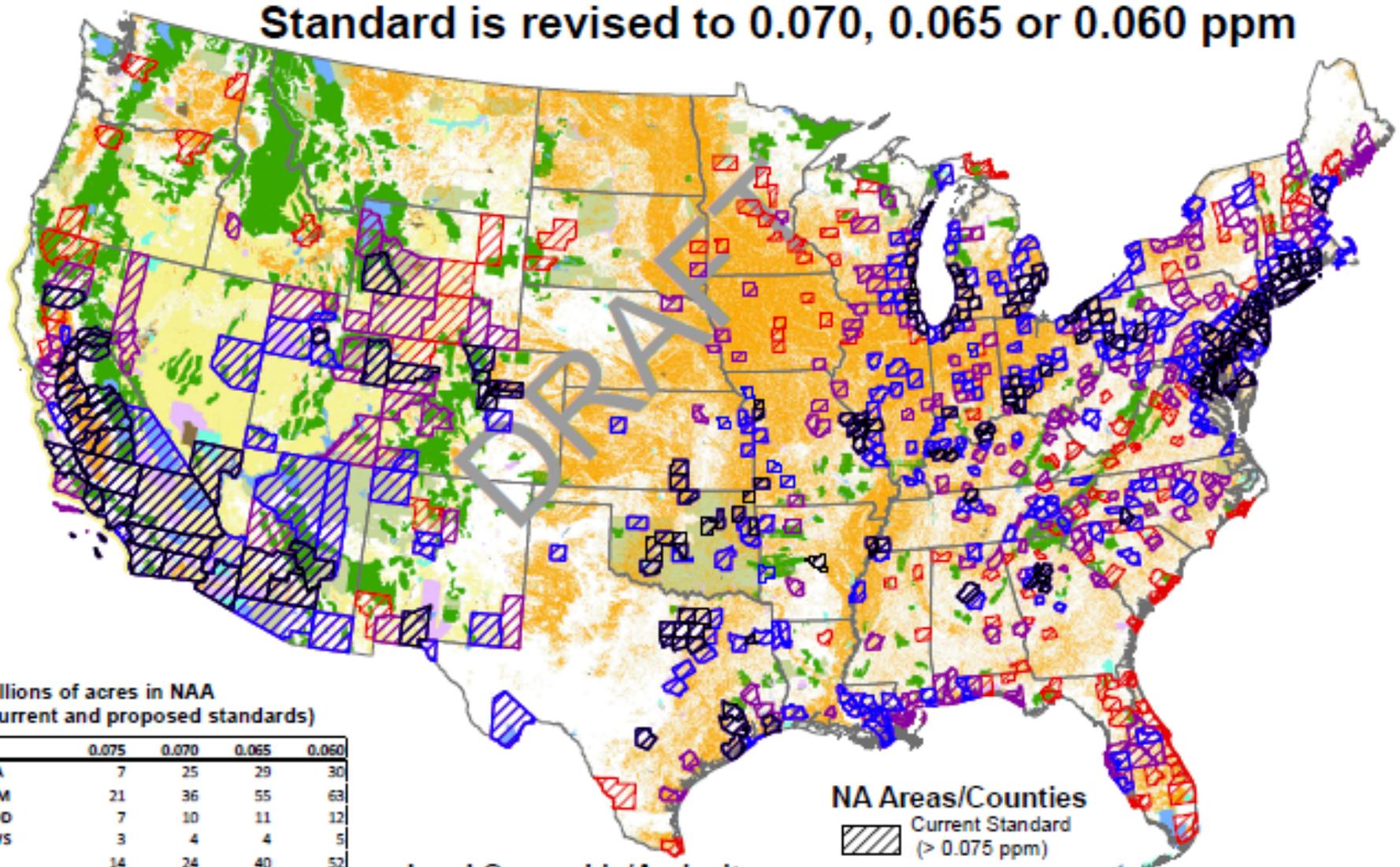
# **2014 National Ambient Air Quality Standards for Ozone – EPA Proposal 12/1/14**

- EPA is proposing to update both the primary ozone standard, to protect public health, and the secondary standard, to protect the public welfare.
- Both proposals are 8-hour standards set within a range of 65 to 70 parts per billion (ppb).
- EPA is seeking comment (90-day open period) on levels for the health standard as low as 60 ppb and on retaining the existing standard.
- The agency will issue a final decision by Oct. 1, 2015.
- Monitoring season extended in many locations in the US into spring and fall months. Year-round some locations.
- Changes proposed to the Air Quality Index – proportionally changed to reflect the new standard.

<b>AQI Category</b>	<b>Index Values</b>	<b>Current Breakpoints (2008 AQI) (ppb, 8-hour average)</b>	<b>Proposed Breakpoints (ppb, 8-hour average) <i>Note: parentheses indicate a range</i></b>
<b>Good</b>	0 - 50	0-59	0 to (49-54)
<b>Moderate</b>	51 - 100	60-75	(50-55) to (65-70)
<b>Unhealthy for Sensitive Groups</b>	101 – 150	76-95	(66-71) to 85
<b>Unhealthy</b>	151 – 200	96-115	86-105
<b>Very Unhealthy</b>	201 – 300	116-374	106-200
<b>Hazardous</b>	301 –500	375 to the Significant Harm Level*	201 to the Significant Harm Level*

*\*The Significant Harm Level for ozone is 600 ppb, two-hour average*

# Possible Nonattainment Areas if the Primary Ozone Standard is revised to 0.070, 0.065 or 0.060 ppm



Millions of acres in NAA  
(Current and proposed standards)

	0.075	0.070	0.065	0.060
BIA	7	25	29	30
BLM	21	36	55	63
DOD	7	10	11	12
FWS	3	4	4	5
FS	14	24	40	52
NPS	5	11	13	14
Non Fed	83	169	255	317
Other Fed	0.4	1	1	2
<b>Total</b>	<b>140</b>	<b>280</b>	<b>408</b>	<b>495</b>

	0.075	0.070	0.065	0.060
Agriculture	24	51	72	86

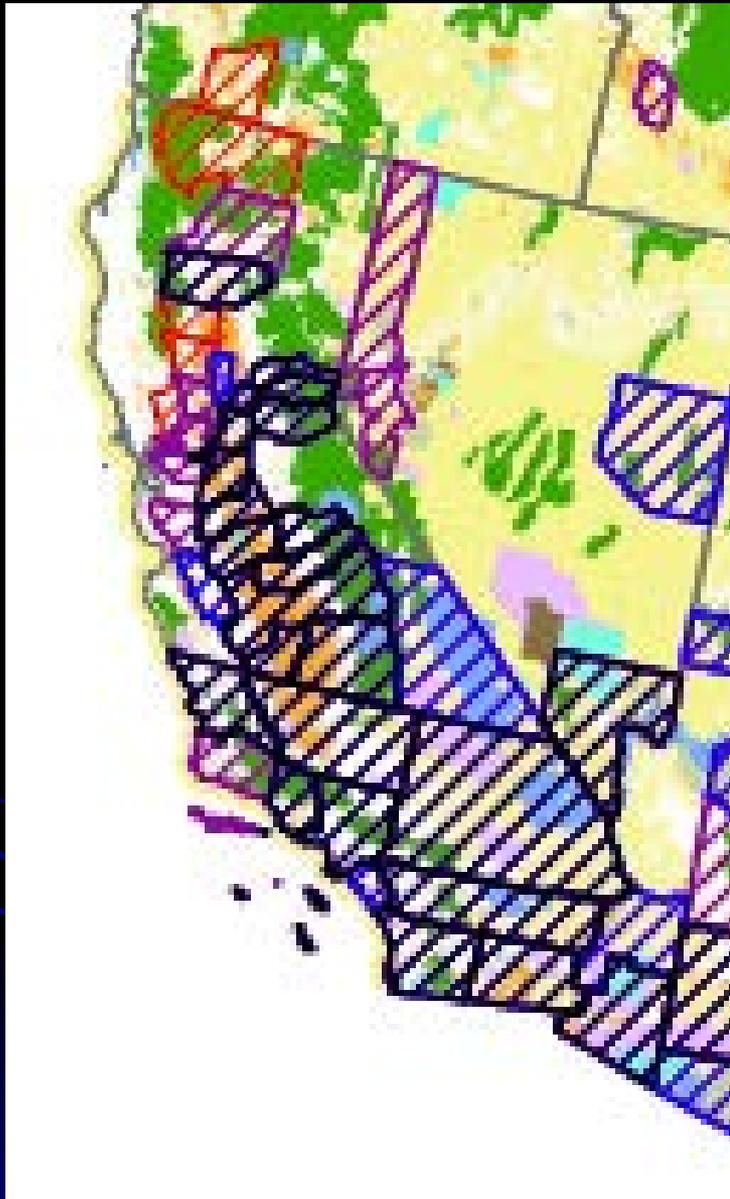
## Land Ownership/Agriculture

- BIA
- FS
- Non-Federal
- BLM
- FWS
- Other Federal
- DOD
- NPS
- Agriculture

## NA Areas/Counties

- Current Standard (> 0.075 ppm)
- Proposed Standard (> 0.070 ppm)
- Proposed Standard (> 0.065 ppm)
- Proposed Standard (> 0.060 ppm)

Non-attainment areas were identified as areas that exceeded a threshold the three-year (2011-2013) average of the 4th highest 8-hour average for each monitoring site. Land Owner data from National Map ([nationalmap.gov](http://nationalmap.gov)). Land Cover data (agriculture) from LANDFIRE ([landfire.gov](http://landfire.gov)).



## NA Areas/Counties

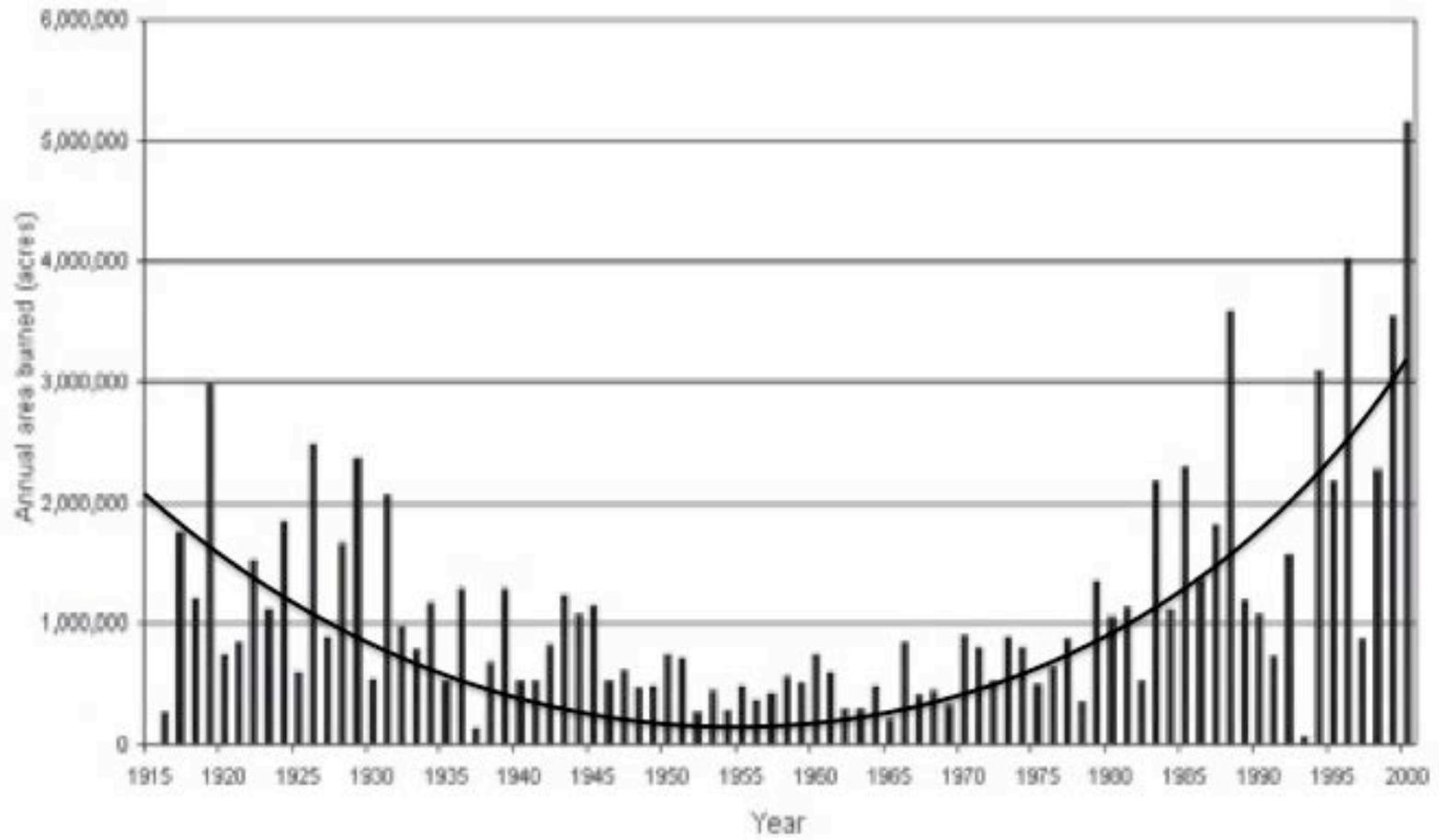
-  Current Standard  
( > 0.075 ppm)
-  Proposed Standard  
( > 0.070 ppm)
-  Proposed Standard  
( > 0.065 ppm)
-  Proposed Standard  
( > 0.060 ppm)

# The Fine Print of the Ozone NAAQS and Fire

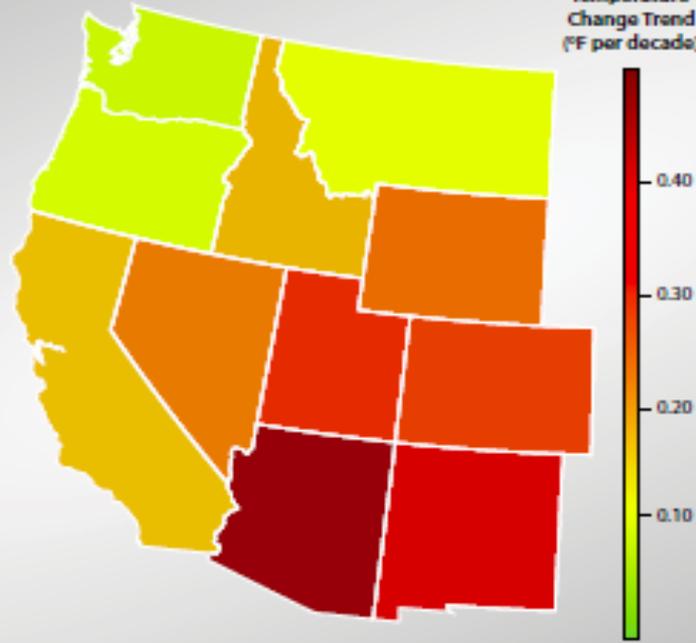
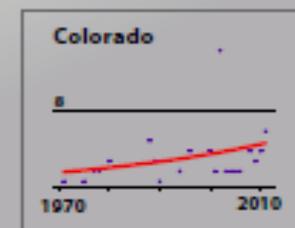
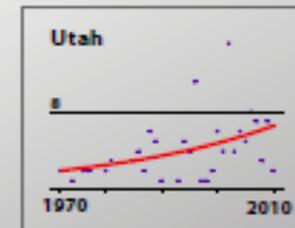
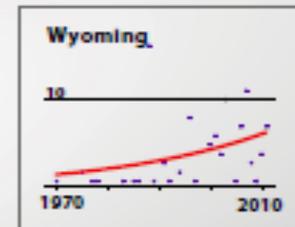
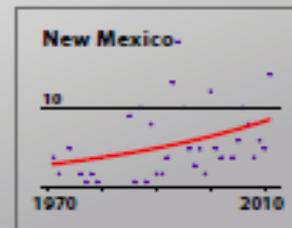
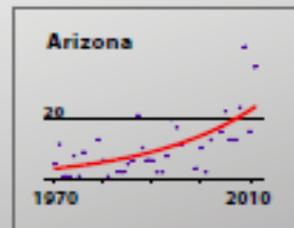
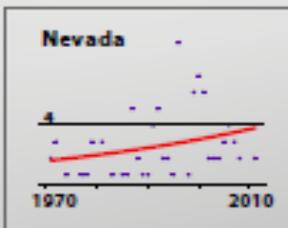
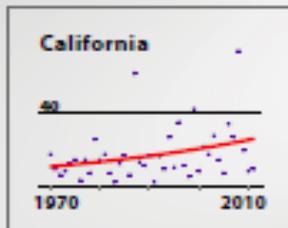
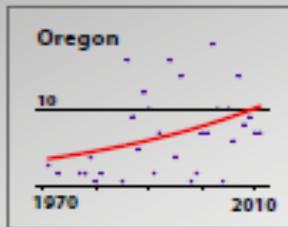
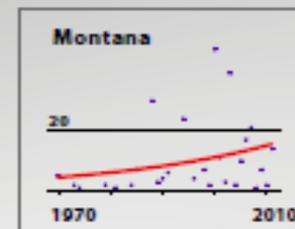
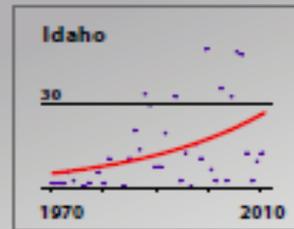
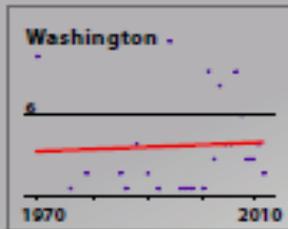
- Regulatory Impact Assessment (RIA) conducted
  - At 70 ppb, 2011-2013 358 counties nonattainment\*\*
  - At 65 ppb, 2011-2013 558 counties nonattainment\*\*
  - At 70 ppb, 2025 9 counties nonattainment\*\*
  - At 65 ppb, 2025 68 counties nonattainment\*\*
- \*\*Excluding California
- RIA projection did **not** address effects of:
  - Temperature increases due to climate change – high temp records being set in Spring and fall
  - Increased monitoring duration into spring and fall
  - Wildfire effect on high ozone and background ozone
  - Increase of wildfires, natural background & International sources
  - Dependence on Exceptional Events Rule for wildfires and other “natural” sources (stratospheric ozone or international)



● Wildfire role of fire & Rx fire discussed

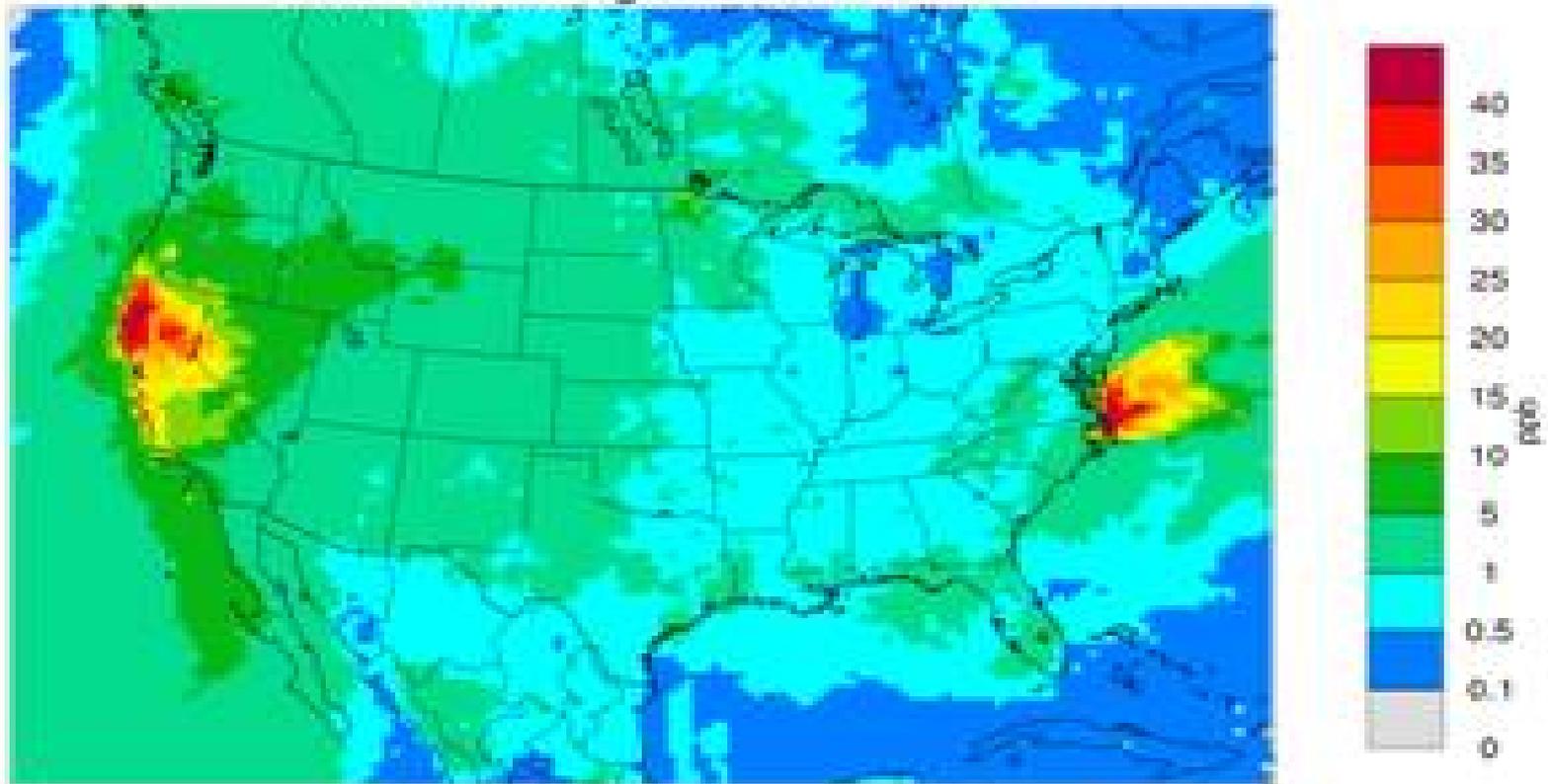


# Temperatures and Wildfire Numbers Have Increased Across the West



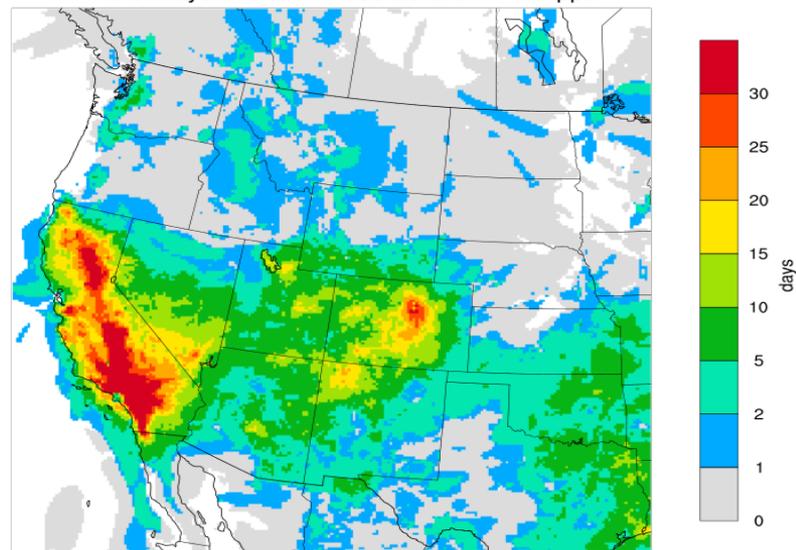
Wildfire contribution to the 4<sup>th</sup> highest ozone days across the United States for 2008.

**Contrib. to CAMx Daily Max 8-Hour Ozone  $\geq$  0 ppb**  
Wildfires 4th Highest Contribution



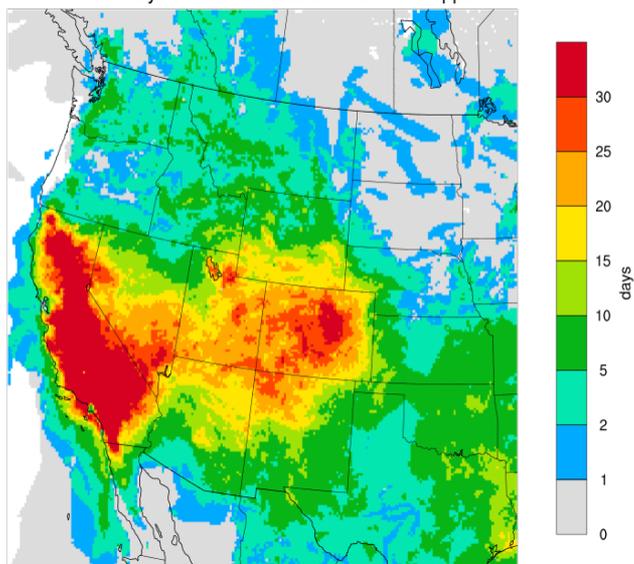
Max(129,53) = 60.13

**Contrib. to CAMx Daily Max 8-Hour Ozone  $\geq$  65 ppb**  
# of Days where Wildfires Contrib.  $\geq$  0.5 ppb



Max(44,65) = 55

**Contrib. to CAMx Daily Max 8-Hour Ozone  $\geq$  60 ppb**  
# of Days where Wildfires Contrib.  $\geq$  0.5 ppb



Max(38,88) = 73

Contribution of ozone from wildfire 2008 to maximum ozone values.

West-Wide Jump-Start Air Quality Modeling Study, Final Report (**PDF 15MB**), September 30, 2013".

<http://www.wrapair2.org/WestJumpAQMS.aspx>

# FAR-REACHING SMOKE SUNDAY

Numerous  
Fires

WINDS  
CARRY  
SMOKE  
INTO U.S.



# The Fine Print of the Ozone NAAQS and Fire

- Wildfire is considered a natural background source
- Wildfire impacts to be removed through use of the Exceptional Events Rule as a “natural event” (under revision and no current guidance)
- EPA cited example for wildfire ozone impact relied on regression modeling, back trajectories, and satellite imagery. This is a challenging and expensive process (ask SJAPCD).
- Based on EPA posted information, only one example of EER for ozone from wildfire approved by EPA and three from prescribed fire (KS and SC) since 2007.
- EPA seeking comment on Background, how to consider its effects and approaches...

