State of California

National Disaster Resilience Competition

Phase II
October 27, 2015

Attachment E: Optional Maps, Drawings, Renderings
AttEMaps.pdf
8/25 Rim/American Fire AQ Summary; 8/26-8/28 Outlook

- Under the influence of stronger SW winds, the Rim fire grew to 149,780, with 21,782 acres of that in Yosemite NP.
- The plume and pattern of impacts remains the same, as smoke continues to spread as far north as Reno and the Carson Valley, east over the Great Basin, and then downslope at night to communities immediately north and west of the fire.
- Tuolumne City in particular continues to experience smoke in the hazardous AQI range at night, though concentrations recover to good in the afternoon.
- Generally, models show same pattern (or worse) continuing for all sites for the next few days.
- Pinecrest Lake is likely experiencing direct plume impacts and heavy smoke, data from that monitor should be coming online soon.
- Models show Carson Valley and Reno/Tahoe will continue to see afternoon direct plume impacts in the late morning to early afternoon, with accumulation of drift smoke under inversions in the evening and overnight. See attached graphs for patterns and levels of impacts at a given site.

Prepared by Leland Tarnay, air resources specialist

Rim Fire Information:
http://inciweb.nwcg.gov/incident/3660/
August 25, 2013: Fires and Smoke over California and the Western U.S. (Satellite Observation)

- American Fire (Tahoe NF)
- Rim Fire (Stanislaus NF and Yosemite NP)
- Fish Fire (Sequoia NF)
24–hr Rolling Average PM2.5 Concentrations vs. AQI levels at Sites where Smoke from the Rim Fire is a Concern

<table>
<thead>
<tr>
<th>Date</th>
<th>Time (PST): Dates are midnight to midnight; 3–hr time intervals are indicated by lighter gray vertical lines</th>
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<tbody>
<tr>
<td>2013-08-16</td>
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<td>2013-08-26</td>
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PM2.5 (µg/m³) vs. AQI levels at Sites where Smoke from the Rim Fire is a Concern

- **Good**
- **Moderate**
- **Unhealthy for Sensitive Groups**
- **Unhealthy**
- **Very Unhealthy**

Reassigned to Pinecrest Lake, data not yet available.
1–hr (points) and 3–hr (lines) Rolling Average PM2.5 Concentrations vs. AQI Levels at Sites where Smoke from the Rim and American Fire are a Concern

AQI
- Hazardous
- Very Unhealthy
- Unhealthy for Sensitive Groups
- Unhealthy
- Moderate
- Good

Date–Time (PST): Dates are midnight to midnight; 3–hr time intervals are indicated by lighter gray vertical lines
24-hr Rolling Average PM2.5 Concentrations vs. AQI levels at Sites where Smoke from the Rim and American Fire are a Concern

<table>
<thead>
<tr>
<th>Date</th>
<th>PM2.5 (µg m⁻³)</th>
<th>AQI</th>
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<tr>
<td>2013-08-16</td>
<td></td>
<td>Good</td>
</tr>
<tr>
<td>2013-08-17</td>
<td></td>
<td>Moderate</td>
</tr>
<tr>
<td>2013-08-18</td>
<td></td>
<td>Unhealthy for Sensitive Groups</td>
</tr>
<tr>
<td>2013-08-19</td>
<td></td>
<td>Unhealthy</td>
</tr>
<tr>
<td>2013-08-20</td>
<td></td>
<td>Very Unhealthy</td>
</tr>
</tbody>
</table>

Date–Time (PST): Dates are midnight to midnight; 3–hr time intervals are indicated by lighter gray vertical lines.
Rim/American Fire, 8/26, 7 AM model projections, corroborating impacts we are seeing at the monitors. Pinecrest is not sending data yet

http://www.airfire.org/data/bluesky-daily/
Rim/American Fire, 8/26, 4 PM model projections, showing impacts to Pinecrest from direct plume surfacing...these impacts could continue through late evening

http://www.airfire.org/data/bluesky-daily/
Rim/American Fire, 8/27, 4 AM model projections, showing overnight accumulation sites: Grass Valley, Pinecrest, Carson Valley, and of course sites downslope/west of the fire.

http://www.airfire.org/data/bluesky-daily/
Rim/American Fire, 8/27, 8-9 AM model projections, showing potentially widening and worsening AM impacts to downslope communities west of the fire.

http://www.airfire.org/data/bluesky-daily/
Rim/American Fire, 8/27, 4 PM model projections showing the plume directly impacting Pinecrest and Reno/Sparks

Legend
- IR Fire Perimeter
- Mobile Smoke Monitoring Site
- APCD/Airnow Stationary Site

http://www.airfire.org/data/bluesky-daily/
Rim/American Fire, 8/28, 7 AM model projections showing the same pattern of impacts as previous days, with heaviest smoke downslope/west of the fires, and some impacts from accumulated drift smoke in the Carson Valley.

http://www.airfire.org/data/bluesky-daily/
Three Pillars of the Community and Watershed Resilience Program

Community Resilience Centers (CRCs) - est. $55M
Tuolumne City & Groveland
Biomass Co-gen Facility & Wood Products Campus - est. $22M
Forest and Watershed Health - est. $40M
Three main focal points: biomass thinning, reforestation, critical fuel breaks
TARGET BIOMASS REMOVAL AREAS

RIM FIRE AREA

COUNTY LIMIT

LAKES AND MAJOR RIVERS

HIGHWAYS

TARGET REFORESTATION AREAS

FUEL BREAKS

BIOMASS removal, Restoration and Reforestation, Noxious Weed Treatment, Rangeland Improvements, Critical Fuel Breaks

Wood Products; Biomass Co-gen Facility (Heat, Power and Cooling Facility)

COMMUNITY RESILIENCE CENTER & EVAC CENTER

GROVELAND AND TUOLUMNE CITY LOCATIONS

WOOD PRODUCTS; BIOMASS CO-GEN FACILITY

TUOLUMNE COUNTY BURN AREAS

BIOMASS & WOOD PRODUCTS

COMMUNITY RESILIENCE CENTER & EVAC CENTER

TUOLUMNE CITY

GROVELAND

HWY 108

HWY 49

HWY 120

HWY 180

Miles

1

3

October 7, 2015

State of California
## U.S. Drought Monitor

**October 20, 2015**

(Released Thursday, Oct. 22, 2015)

Valid 8 a.m. EDT

### California

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

### Intensity:

- **D0 Abnormally Dry**
- **D1 Moderate Drought**
- **D2 Severe Drought**
- **D3 Extreme Drought**
- **D4 Exceptional Drought**

### Drought Conditions (Percent Area)

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<th>None</th>
<th>D0-D4</th>
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<td>99.86</td>
<td>97.33</td>
<td>92.27</td>
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<td>99.86</td>
<td>97.33</td>
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<td>94.59</td>
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<td>One Year Ago 10/21/2014</td>
<td>0.00</td>
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<td>100.00</td>
<td>95.04</td>
<td>81.92</td>
<td>58.41</td>
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### Author:

Brad Rippey  
U.S. Department of Agriculture

http://droughtmonitor.unl.edu
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<table>
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<th>Drought Conditions (Percent Area)</th>
<th>None</th>
<th>D0-D4</th>
<th>D1-D4</th>
<th>D2-D4</th>
<th>D3-D4</th>
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<tr>
<td>Current</td>
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<td>77.09</td>
<td>56.07</td>
<td>41.32</td>
<td>26.23</td>
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<td>57.06</td>
<td>41.92</td>
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<td>3 Months Ago 7/21/2015</td>
<td>25.49</td>
<td>74.51</td>
<td>61.04</td>
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</table>

Intensity:
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U.S. Department of Agriculture  

[http://droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)
CAL FIRE - FRAP has developed a rating of wildland fire threat based on the combination of potential fire behavior (Fuel Rank) and expected fire frequency (Fire Rotation) to create a 4-class index for risk assessment. Areas that do not support wildland fuels (e.g., open water, agricultural lands, etc.) are omitted from the calculation. Most large urbanized areas receive a moderate fire threat classification to account for fires carried by ornamental vegetation and flammable structures.
State of California NDRC
Wildfire Hazard Potential
2014

- Very Low
- Low
- Moderate
- High
- Very High
- Non-burnable
- Water

Source: United States Department of Agriculture (USDA), United States Forest Service (USFS)

Tuolumne County
Figure 1: Community and Watershed Resilience Program

Map Legend
- MID-URN Area - Rim Fire (●) and Communities (●)
- Sierra Nevada Region
- State of California
- Western States

Western States
State of California
Sierra Nevada Region
Economy
Community
Forest & Watershed Health

MID-URN Area: Rim Fire Burn Area & Communities
U.S. Forest Service
Propositions 1 and 84
Submitted Projects (Pending Award)

- Rim Fire Area
- NDRC Activity Areas
- Water
- Highway

Proposition 1 Activity - $1,897,100
Proposition 84 Activity - $5,883,559
Rim Fire Perimeter and Evacuation Areas

Source: CalFire Tuolumne-Calaveras Unit

USA Census Tract Boundaries
Evacuation Warning Areas
Evacuation Order Areas
Rim Fire Burned Area

(Mariposa County)
Casting a long shadow

Smoke from the massive Rim Fire in and around Yosemite National Park has drifted thousands of miles, according to data from NOAA and NASA satellites. The trail of soot on Friday merged with smoke from agricultural fires in the lower Mississippi River area.

Source: National Oceanic and Atmospheric Administration
BAY AREA NEWS GROUP
Tuolumne County Block Groups by Percent of Households under HUD Low-Mod Threshold

HUD Low-Mod Percentage
Tuolumne County Blockgroups
2006-10 ACS 5 year Sample Data
- 0 - 19.99%
- 20.00 - 39.99%
- 40.00 - 50.99%
- 51.00 - 100.0%

Rim Fire