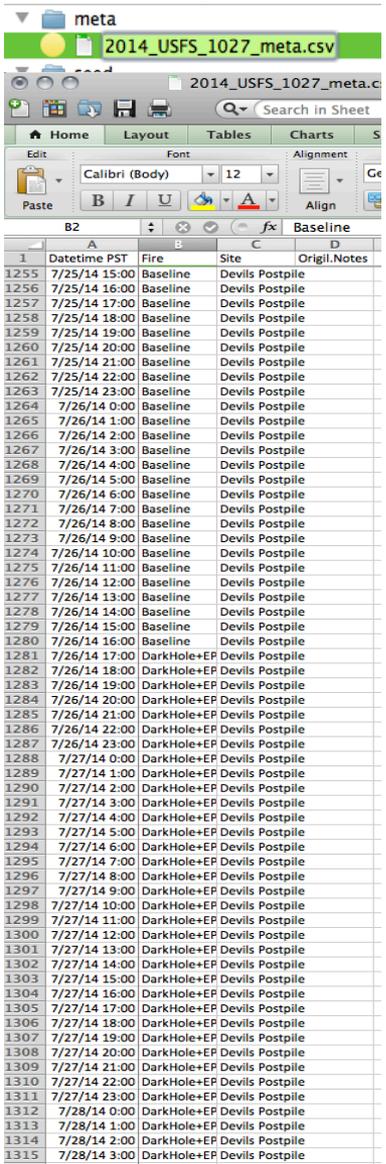


2013-2014 Smoke Monitoring Review



Metadata (i.e., we need to learn from every incident)



```

> levels(dat.AAR_2013_14_data$site_inst)
[1] "_YOSE_ebam3"
[3] "Bear Valley_ARB_1010"
[5] "Cool_ARB_0er13"
[7] "DevillePostpileNM_USFS_1016"
[9] "DownTown Mariposa_ARB_0er15"
[11] "El Portal FS_YOSE_ebam3"
[13] "Foresthill_ARB_0er16"
[15] "GreeleyHill_ARB_1007"
[17] "Huntington Lake_USFS_1045"
[19] "LaGrange_ARB_1008"
[21] "Loyalton_ARB_0er15"
[23] "Mariposa_ARB_0er14"
[25] "Mather Hodgdon Entrance_YOSE_ebam1"
[27] "Oakhurst FS_YOSE_ebam1"
[29] "Pinecrest Lake_YOSE_ebam1"
[31] "Ponderosa Basin_FS_APCD_mrpsa"
[33] "Rim Fire ICP_USFS_1020"
[35] "SawyersBar_USFS_1044"
[37] "South Lake Tahoe_ARB_1012"
[39] "Tuolumne Meadows CG_YOSE_ebam2"
[41] "Wawona Hotel_YOSE_ebam3"
[43] "Yosemite Valley_ARB_0er2"
[45] "Yosemite Valley CGs_2013_ARB_0er17"
[47] "Yreka, S. end_USFS_1029"
[49] "Burney_ARB_0er23"
[51] "Camp Nelson_USFS_1016"
[53] "Coulterville_ARB_0er13"
[55] "Deville Postpile_USFS_1027"
[57] "Etna_APCD_sisk1002"
[59] "Foresthill_ARB_0er25"
[61] "Garberville_APCD_ncu1001"
[63] "GrassValley (S. Nev. Cnty)_ARB_0er24"
[65] "Happy Camp_ARB_0er21"
[67] "Hodgdon Housing_YOSE_ebam1"
[69] "Klamath_USFS_1051"
[71] "Klamath_ARB_0er29"
[73] "La Grange_ARB_0er20"
[75] "Lakeshore_ARB_0er24"
[77] "Loyalton_ARB_0er13"
[79] "Macdoel_ARB_0er28"
[81] "Midpines_ARB_0er24"
[83] "North Fork USFS_1026"
[85] "AspenWF"
[87] "ForbiddenWF"
[89] "Wawona NW Rx_2burndown_phase"
[91] "ForbiddenWF, AspenWF"
[93] "AmericanRimWF"
[95] "Rim Fire"
[97] "French WF"
[99] "Drks+EP+Frnch Fire"
[101] "Drks+Frnch Fire"
[103] "MeadowWF"
[105] "Happy Camp Complex"
[107] "King Fire"
[109] "July Complex"
[111] "Beaver"
[113] "Beaver+HappyCamp"
[115] "El Portal WF"
[117] "Yreka_APCD_sisk1000"

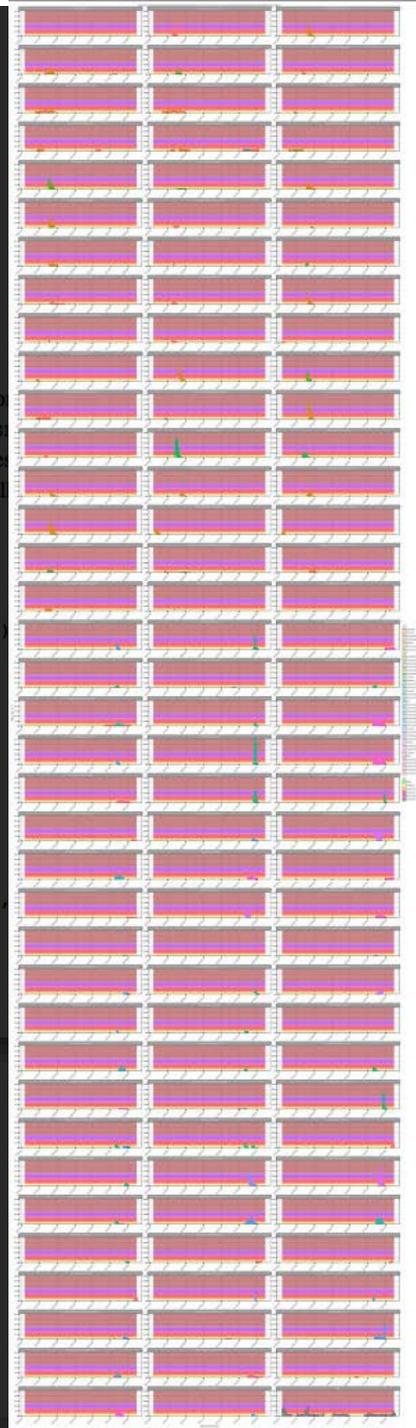
"AuberryFS_ARB_0er16"
"Columbia_APCD_tcebm"
"Crowley Lake_ARB_0er13"
"DevillePostpileNM_USFS_1027"
"El Portal FS_YOSE_ebam1"
"Foresta FS_YOSE_ebam2"
"Garberville_ARB_0er14"
"GrovelandFS_USFS_1019"
"Jamestown_ARB_0er3"
"Lower Rivers Amphitheater_YOSE_ebam1"
"Mariposa_APCD_mrpsa"
"Markleeville_ARB_1011"
"Oakhurst FS_ARB_0er15"
"Oakhurst_ARB_0er14"
"PollockPines_ARB_0er3"
"RidgeAboveBassLake_ARB_0er16"
"Round Valley_ARB_0er2"
"Somers Bar_USFS_1029"
"Tuolumne Meadows CG_ARB_0er15"
"TuolumneCityFS_ARB_1005"
"Wawona, Robin Lane_YOSE_ebam3"
"Woodland Elementary School_ARB_0er13"
"Yosemite Valley CGs_YOSE_ebam3"
"Ash Mountain_SEKI_ebam4"
"Camino_ARB_0er17"
"Columbia_ARB_0er13"
"Coulterville_ARB_0er20"
"Doyle_ARB_0er20"
"Fall River Mills_ARB_0er22"
"Fort Jones_APCD_sisk1001"
"Garden Valley_ARB_0er3"
"Hammond_SEKI_ebam5"
"Happy Camp_ARB_0er28"
"Hoopa_USFS_1045"
"Kennedy Meadows_USFS_1013"
"KlamathFalls,OR_USFS_1030"
"LaGrange_ARB_0er29"
"Lee Vining_YOSE_ebam2"
"Macdoel_ARB_0er25"
"Midpines_ARB_0er18"
"Mt. Shasta_ARB_0er24"
"Oakhurst FS_ARB_0er3"

Every hour, tagged with unique combinations of site and instrument

84 unique site_instrument combinations

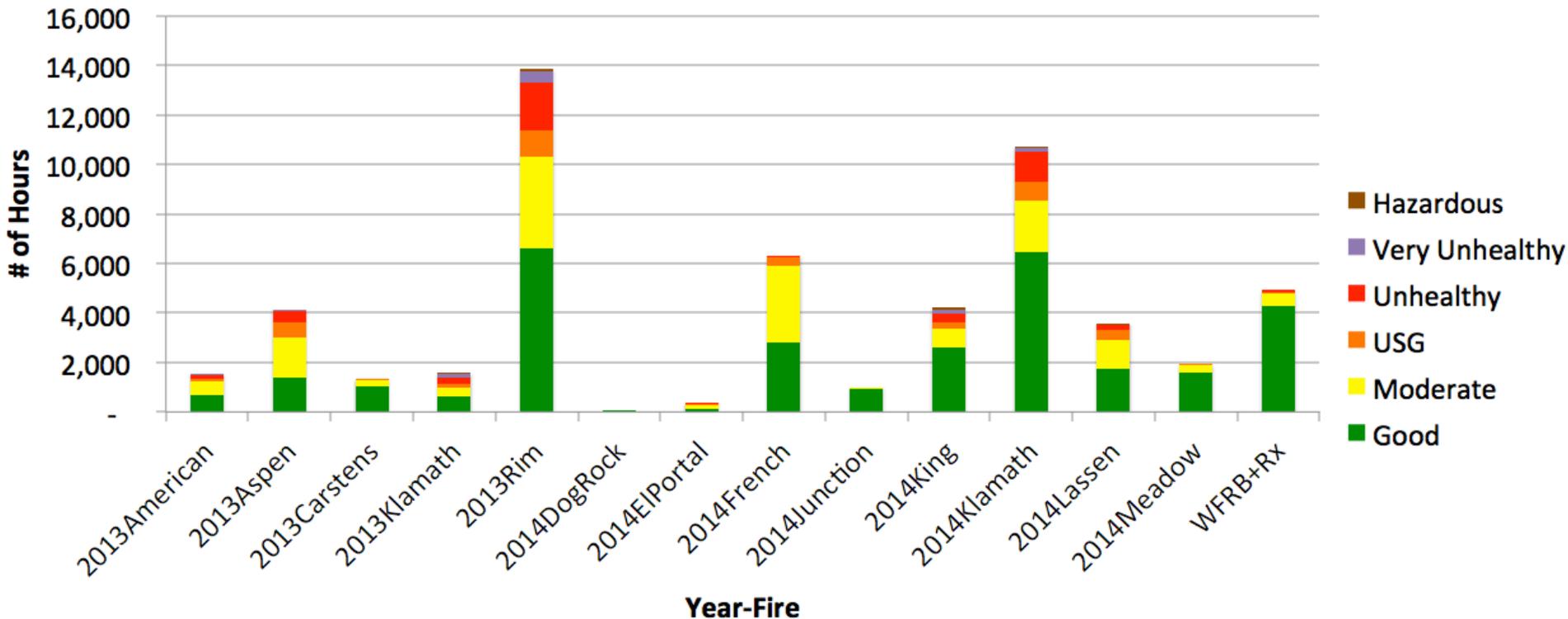
Every hour, tagged with unique combinations of Fire influence (subjective/interpreted)

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2013-2014 impacts, by fire

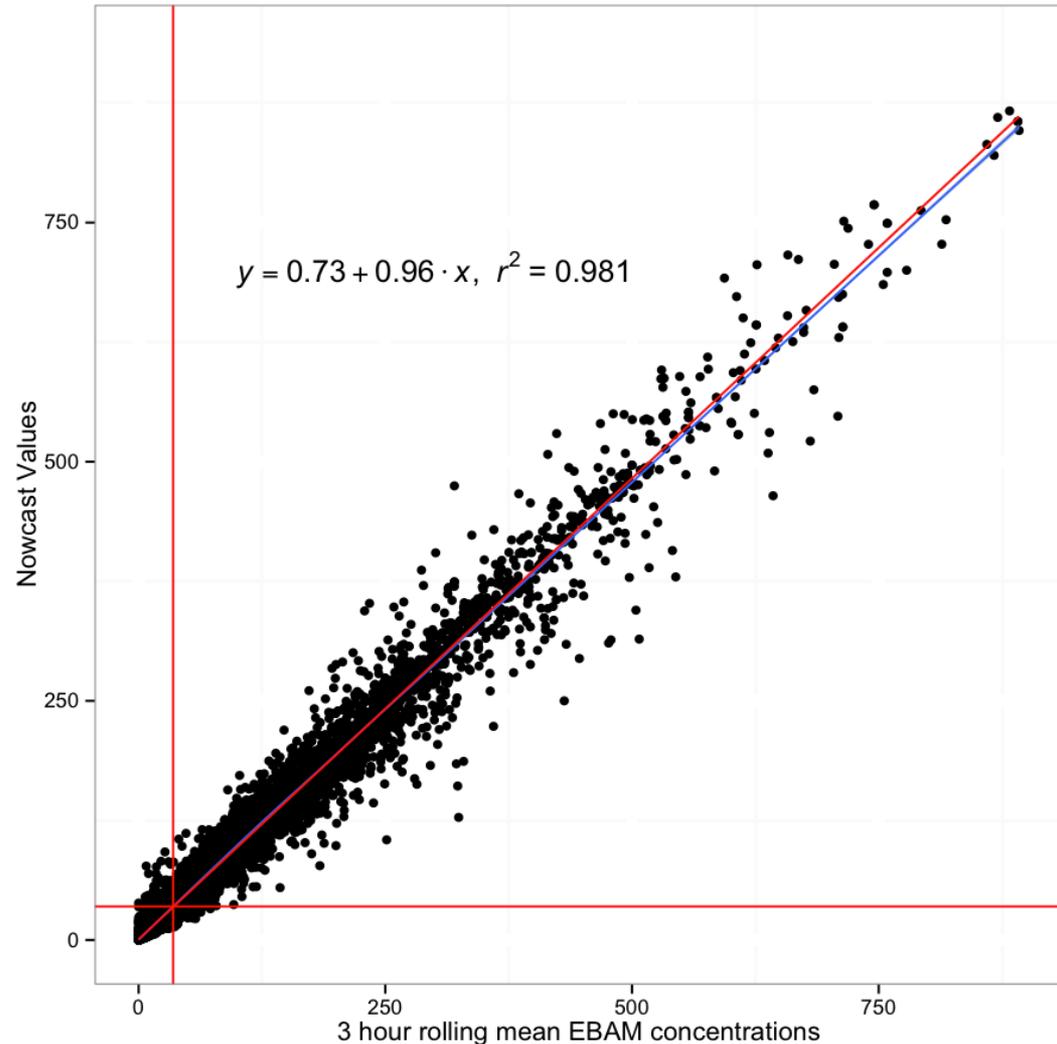
Summary of AQI from CA E-Bamdata, 2013-2014



Yes...I cheated and used excel to graph this...

...And by the way, NOWCAST = 3 hr averages for EBAMS

Insert AQI graphs here with nowcast and 3hr on same graph...



- Need to check this out for BAM 1020 data too...

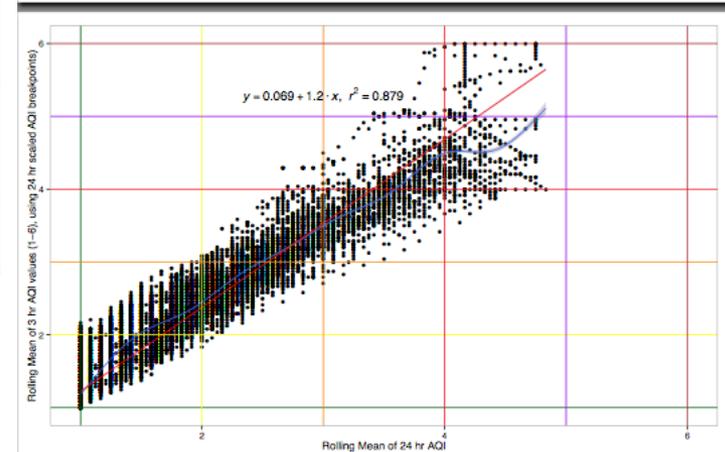
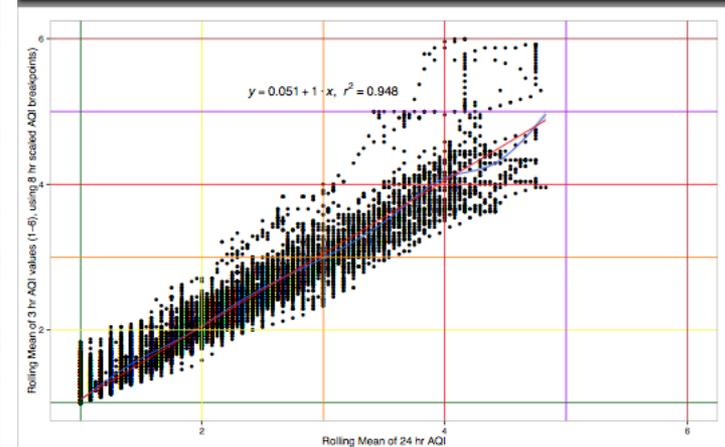
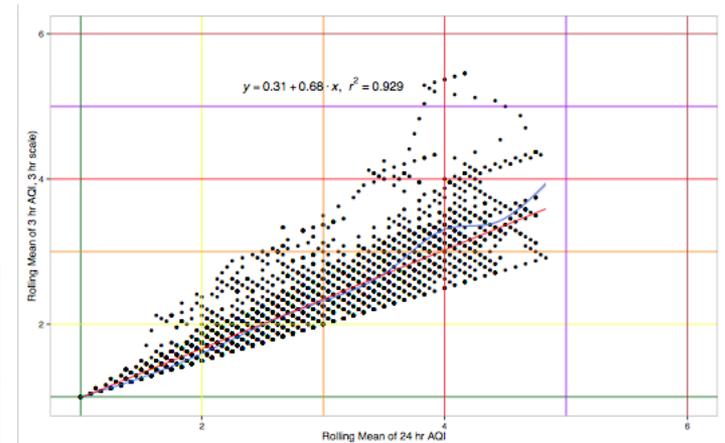
AQI, Table 3, and “breakpoint scaling bias”

Table 3. Recommended Actions for Public Health Officials^{2,3}

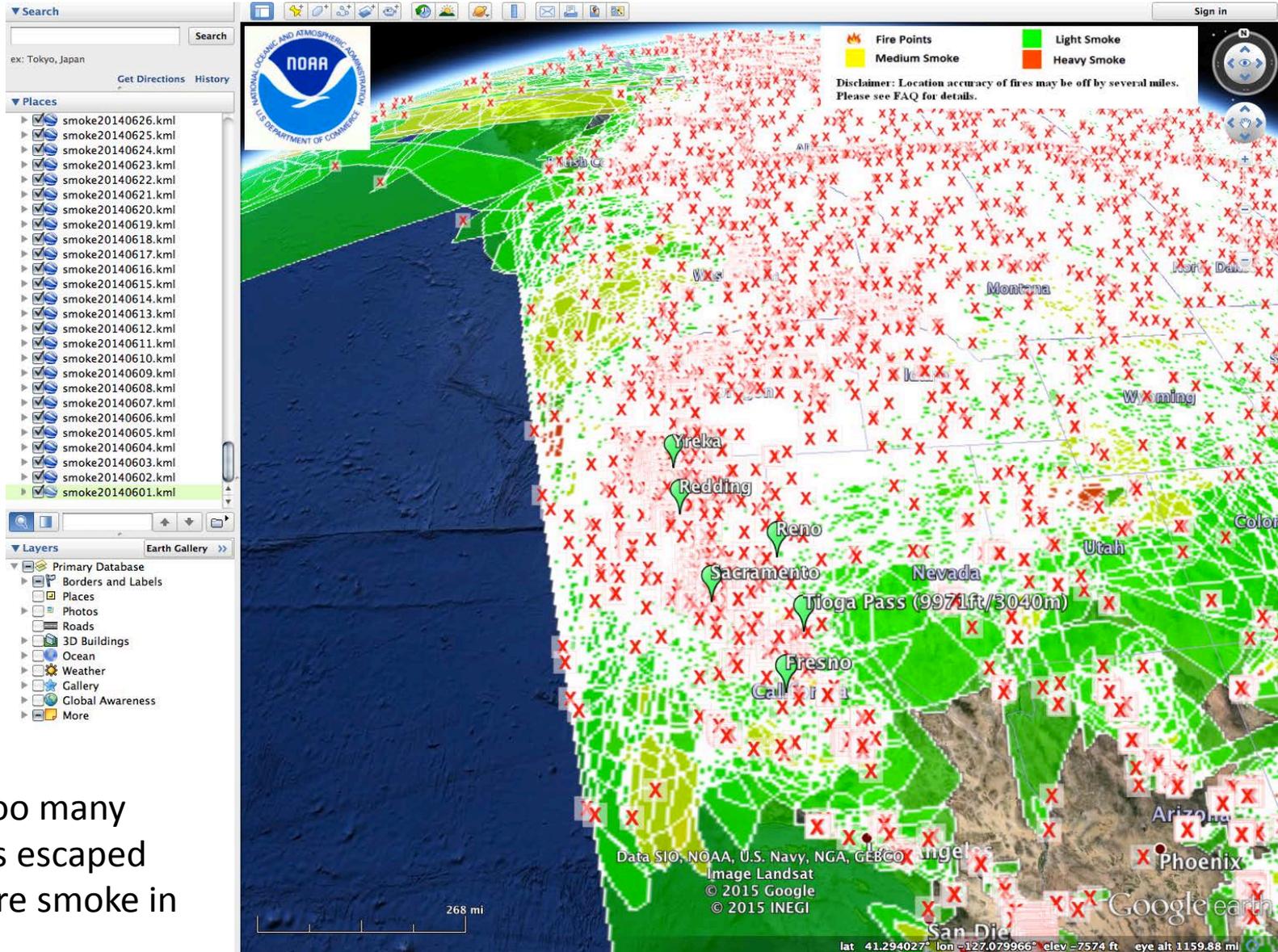
AQI Category (AQI Values)	PM2.5 or PM10 Levels (ug/m ³)			Visibility - Arid Conditions (miles)	Recommended Actions
	1-3hr avg	8 hr avg	24 hr avg ¹		
Good (0 to 50)	0 – 38	0 – 22	0 – 12	≥ 11	<ul style="list-style-type: none"> If smoke event forecast, implement communication plan
Moderate (51 to 100)	39 – 88	23 – 50	12.1 – 35.4	6 – 10	<ul style="list-style-type: none"> Issue public service announcements (PSAs) advising public about health effects and symptoms and ways to reduce exposure Distribute information about exposure avoidance
Unhealthy for Sensitive Groups (101 to 150)	89 – 138	51 – 79	35.5–55.4	3 – 5	<ul style="list-style-type: none"> If smoke event projected to be prolonged, evaluate and notify possible sites for cleaner air shelters If smoke event projected to be prolonged, prepare evacuation plans
Unhealthy (151 to 200)	139 – 351	80 – 200	55.5 – 150.4	1.5 – 2.75	<ul style="list-style-type: none"> Consider “Smoke Day” for schools (i.e., no school that day), possibly based on school environment and travel considerations Consider canceling public events, based on public health and travel considerations
Very Unhealthy (201 to 300)	352 – 526	201 – 300	150.5 – 250.4	1 – 1.25	<ul style="list-style-type: none"> Consider closing some or all schools (Newer schools with a central air cleaning filter may be more protective than older, leakier homes. See “Closures”, below.) Cancel outdoor events (e.g., concerts and competitive sports)
Hazardous (> 300)	> 526	> 300	> 250.5-500	< 1	<ul style="list-style-type: none"> Close schools Cancel outdoor events (e.g., concerts and competitive sports) Consider closing workplaces not essential to public health If PM level is projected to remain high for a prolonged time, consider evacuation of sensitive populations

¹Revised 24 hour average breakpoints from the Revised Air Quality Standards for Particle Pollution and Updates to the Air Quality Index, US Environmental Protection Agency, December 14, 2012. Available at <http://www.epa.gov/airquality/particlepollution/actions.html#dec12>.

²These 1- and 8-hr PM2.5 levels are estimated using the 24-hr breakpoints of the PM2.5 Air Quality Index included in the February 7, 2007 issue paper (http://www.epa.gov/airnow/aqi_issue_paper_020707.pdf) by dividing the 24-hr concentrations by the following ratios: 8-hr ratio is 0.7, 1-hr ratio is 0.4. Visibility is based on 1-hr values. If only PM10 measurements are



2014 HMS, June-Sept



Not too many
places escaped
wildfire smoke in
2014

HMS, 8/4/2014

