*Smoke Communication

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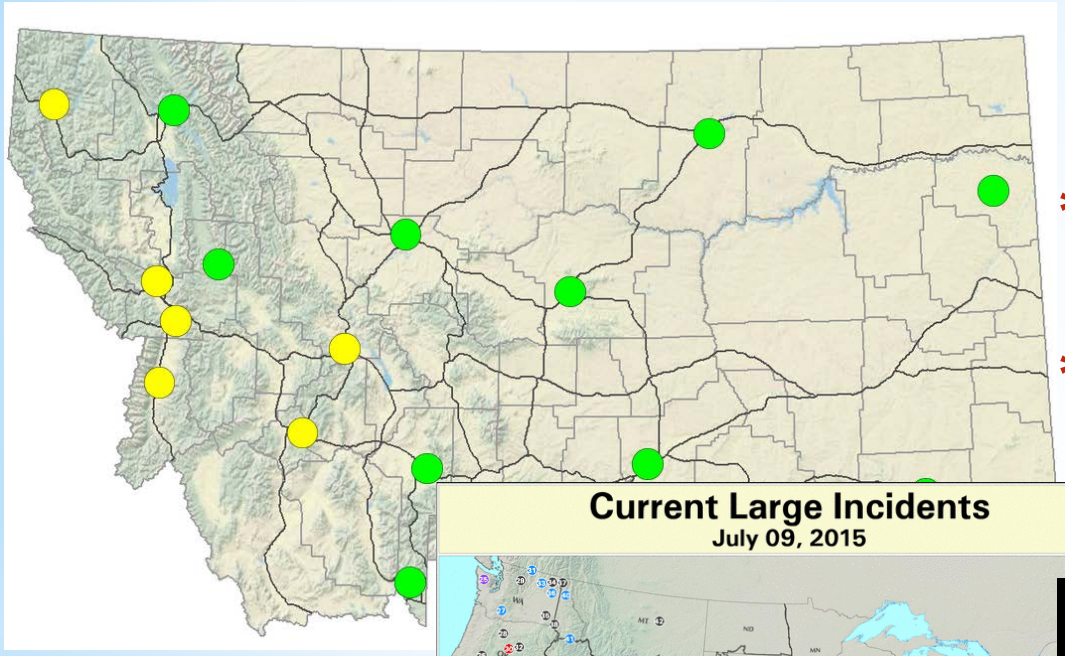
Table of Contents

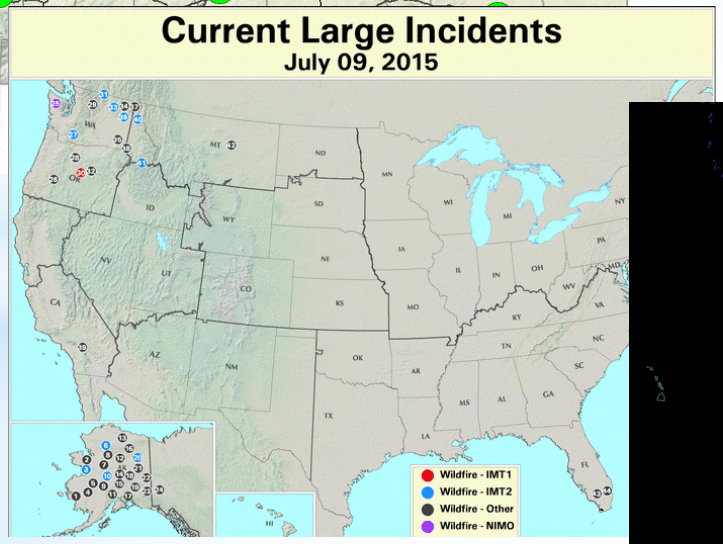
- Introduction
- Wildfire Season
- Open Burning
- Exceptional Events
- 2015 Wildfire Highlights

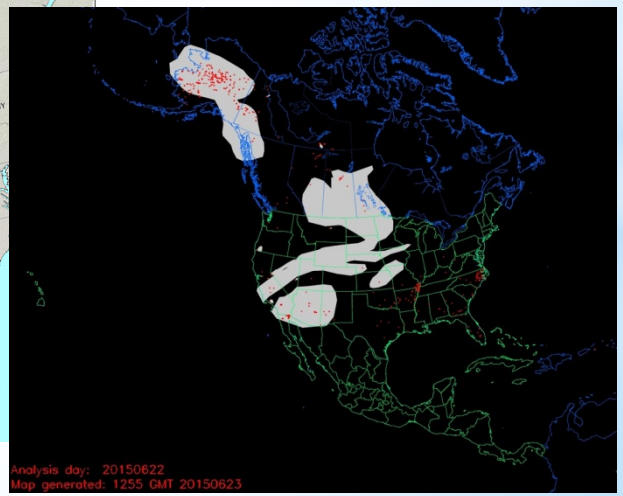
Introduction

- Kristen Martin
  - Air Quality Meteorologist
  - Joined DEQ in March 2014
- Responsibilities include:
  - Daily Wildfire updates during fire season
  - Major and Minor open burning decisions
  - Documentation of Exceptional Events for EPA

*Wildfire Season







- *Wildfire season begins when smoke impacts come to Montana
- *Track daily concentration levels
- *Review fire and smoke activity across the region

*Daily Information

Wildfire Smoke Update
for
Saturday, July 19, 2014 11:05 AM
Satellite Photos | Locations and Smoke Conditions

Today's Report and Forecast	Today's Summary
Smoke conditions deteriorated overnight across much of Montana. Overnight hourly conditions reached UNHEALTHY levels in Missoula, Frenchtown, Butte and Helena, and UNHEALTHY FOR SENSITIVE GROUPS in Hamilton, Libby, Flathead, Bozeman and Great Falls as the dense plume of smoke from the Washington fires aligned itself directly over west central Montana. Cumulative concentrations reached VERY UNHEALTHY levels in Missoula and Frenchtown and UNHEALTHY levels in Libby, Flathead, Great Falls, Helena, Butte, Seeley Lake and Hamilton. Cumulative concentrations are UNHEALTHY FOR SENSITIVE GROUPS in Lewistown, Malta, Bozeman, Billings, and Birney, while levels are MODERATE in Sidney and West Yellowstone. The jet streak in the upper atmosphere is causing very high winds over the fires in Washington. These high winds are causing both extreme fire behavior and sending the smoke directly into Montana. The satellite imagery shows the smoke pooling in the valleys this morning, which has led to the VERY UNHEALTHY to UNHEALTHY conditions seen across much of western Montana. Unfortunately, the fast westerly winds will continue to fuel the fires in Washington and send smoke our way for the rest of the day and most of tomorrow. Conditions will likely remain UNHEALTHY at many locations, with slight improvement possible in the early afternoon due to the gusty winds, particularly in northern Montana. Unfortunately the high winds will also lead to more smoke production at the fires. Expect overnight smoke to be similar to last night with some valleys reaching VERY UNHEALTHY levels and widespread UNHEALTHYconditions. Eastern Montana will likely see improvement during the day as the winds pick up, but widespread UNHEALTHY FOR SENSITIVE GROUPS smoke impacts are likely. Winds will be shifting to the southwest on Sunday evening into Monday. This shift may cause temporary improvement across the state. However, the effects will be temporary as Montana will then be downwind of even larger fires burning in Oregon.	UNHEALTHY and VERY UNHEALTHY conditions are widespread across Montana this morning, with conditions deteriorating from east to west. Expect smoke to continue to impact the area today and tomorrow. A wind shift tomorrow to the southwest may redirect the smoke from the Washington fires away from Montana, but then put Montana downwind of the massive fires burning in Oregon. It looks like we will have these smoke impacts for quite some time.

Residents near active fires and under plumes aloft need to remain aware of current conditions and use the visibility guidelines to guide their activ
changes.

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Wildfire Information – July 19, 2014
Martin, Kristen
Sent: Sat 7/19/2014 11:14 AM
To:

Wildfire Information – July 19, 2014
http://svc.mt.gov/deq/smokereport/mostRecentUpdate.aspx

Impacted Locations
Very Unhealthy
Frenchtown
Missoula
Unhealthy
Libby
Flathead
Helena
Seeley Lake
Great Falls
Hamilton
Butte
Lewistown
Unhealthy for Sensitive Groups (all 24 hour)
Bozeman
Billings
Birney
Broadus
Malta
Moderate
West Yellowstone
Sidney

Summary
Very unhealthy air settled in overnight in Frenchtown and Missoula and Unhealthy conditions are present in most other locations of Western Montana. Strong winds are causing the wildfires in Washington to produce an enormous amount of smoke and heading straight for Montana.

Forecast
Significant impacts are expected to continue throughout the weekend. Winds will shift on Sunday evening, but relief is not expected as smoke from Oregon will likely impact Montana at that point. Citizen should check the Today's Air site for up-to-date conditions.

- *Post daily updates to the Today's Air Website
- *Alert interested parties of a new update through email and twitter

*Agency Coordination

Situation Report Communicable Disease Control and Prevention Bureau	**For Activity Occurring During** **MMWR 2014 Week 32** August 3, 2014 - August 9, 2014	**Release Date:** August 15, 2014
Bureau Chief : Jim Murphy **ORG** : DPHHS/PHSD/CDCB		

Situation Report
CDCPB

The items below are included in this situation report

DPHHS PHEP SUMMARY.....2
- Activation Levels
- Duty Officer Calls
- Health Alert Network (HAN) Messages
- CDCPB Public Communications Activity
- PHEP Supplemental
- Food Recalls
- MT VOAD

MONTANA COMMUNICABLE DISEASE WEEKLY UPDATE – DISEASE INFORMATION SUMMARY
- Summary
- Hot Topics
- Information & Announcements
- MT CDEpi Report

SUPPLEMENTAL INFORMATION.....
- Interim Ebola Evaluation Guidance for Patients: Local Health Jurisdictions and DPHHS Staff
- Communicable Disease in Montana: 2013 Annual Report

PHEP Supplemental

Weekly Wildfire Smoke Summary
http://svc.mt.gov/deq/smokereport/mostRecentUpdate.aspx

On Sunday, August 10th, large plumes of smoke from Washington and Idaho moved into Montana causing air quality to reach unhealthy for sensitive groups in Hamilton and Butte, and moderate levels in many locations throughout western Montana. The widespread smoke impacts continued through the evening of August 12th. Beginning August 12th, and continuing through the end of the week a low pressure system along the west coast caused showers and thunderstorms across most of Montana. These storms led to good air quality in almost all locations by Wednesday, August 13th. Some smoke lingered in Flathead Valley and parts of eastern Montana on Wednesday and Thursday, but by Friday, August 15th, air quality was good at all locations. Two large fires in Montana, near Thompson Falls and Dixon did not cause widespread impacts. However, areas downwind of these fires saw elevated smoke. A temporary monitor, set up in Thompson Falls, recorded hourly concentrations as high as unhealthy levels, but concentrations quickly returned to good when precipitation impacted the area.

- *Weekly Summaries in Friday email
- *Summaries go in DPHHS SIT Report

Agency Coordination

Decision making recommendations during wildfire season for

Outdoor Sporting Events

based on visibility and air quality

Health Effect Category*	Visibility†	Recommendation
Good	13.4 miles and up	Hold outdoor sporting events as usual. Athletes with asthma should keep rescue inhalers at hand. Athletes with other smoke related sensitivities should take precautions as symptoms dictate.
Moderate/ Unhealthy for Sensitive Groups	5.1 to 13.3 miles	Hold outdoor sporting events as usual. Athletes with asthma should have rescue inhalers readily available and pretreat before exercise as directed by their healthcare provider. All athletes with respiratory illness should limit outdoor activity, monitor symptoms and reduce/cease activity if symptoms arise.
Unhealthy	2.2 to 5.0 miles	Consider postponing/delaying outdoor sporting events, especially high exertion activities like soccer and track and field. If possible, move athletic practices indoors. If event/practice is held, athletes with asthma or other respiratory illnesses are advised not to participate. All athletes should limit their outdoor activity for prolonged periods of time.
Very Unhealthy	1.3 to 2.1 miles	Consider postponing/delaying all outdoor sporting events. Move all athletic practices indoors. All athletes with asthma and other respiratory illnesses are advised to stay indoors. All others should avoid prolonged exertion outdoors.
Hazardous	1.3 miles or less	Cancel all outdoor sporting events or relocate to an indoor location. Move all athletic practices indoors.

At all times, athletes experiencing respiratory symptoms should consult their personal he

*For more information on the health effect categories visit the "Today's Air" website run by Environmental Quality at http://todaysair.mt.gov. Air monitoring stations exist in many locat state. The Today's Air website has hourly updates on the health effect category at these sites particulate matter levels. All other locations must determine the health effect category at thei visibility.

† To determine visibility:
1. Face away from the sun
2. Determine the limit of your visible range by looking for targets at known distances
3. Visible range is that point at which even high contrast objects totally disappear

Use the values above to determine the local forest fire smoke category

MONTANA DPHHS Healthy People. Healthy Communities.

http://todaysair.mt.gov

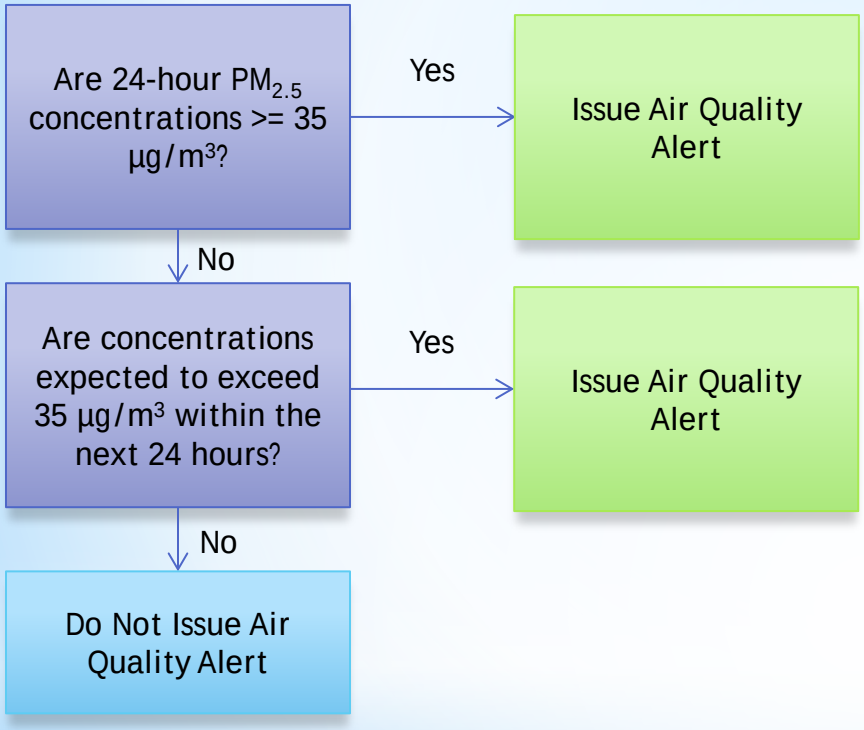
DEQ Montana Department of Environmental Quality

Office of Public Instruction Denise Juneau, State Superintendent

- Areas without air quality monitors are recommended to use visibility ranges to assess air quality
- These ranges and recommendations were developed by DPHHS and DEQ

Health Effect Categories	Visibility (miles)[3]	24-Hour BAM (ug/m³) [1]	8-Hour BAM (ug/m³) [2]	1-Hour BAM (ug/m³) [3]
Hazardous	< 1.3	>135.4	> 193.4	> 338.5
Very Unhealthy	2.1 - 1.3	80.5 - 135.4	115.0 - 193.4	201.1 - 338.5
Unhealthy	5.0 - 2.2	35.5 - 80.4	50.7 - 114.9	88.6 - 201.0
Unhealthy for Sensitive Groups	8.7 - 5.1	20.5 - 35.4	29.2- 50.6	51.1 - 88.5
Moderate	13.3 - 8.8	13.5 - 20.4	19.2 - 29.1	33.6 - 51.0
Good	> 13.4 +	0.0 - 13.4	0.0 - 19.1	0.0 - 33.5

*Pending Updates



- *Work with the National Weather Service to Issue Alerts when air quality is poor
- *Will reach a wider audience when air quality levels require the attention of the public
- *Alerts will appear on the wildfire smoke update/emails/twitter
- *The NWS will display the alert on their homepage

*Air Quality Alerts

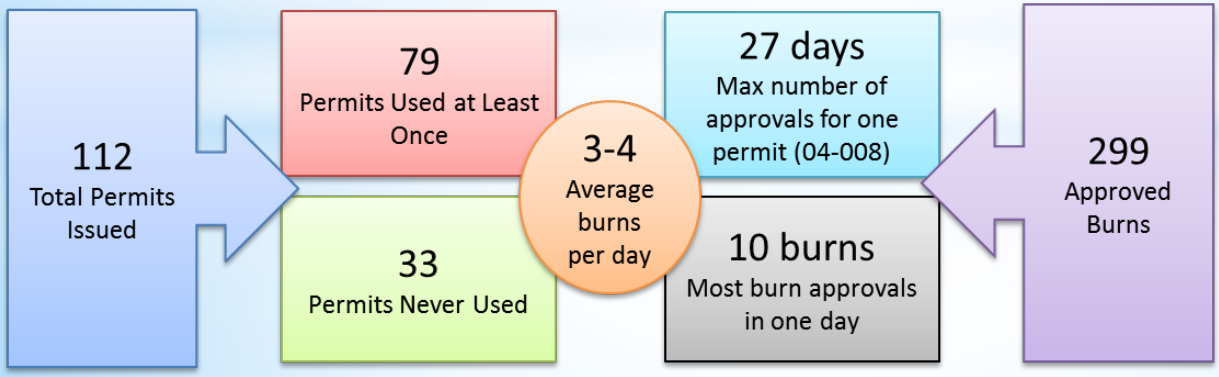
* THE MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY HAS ISSUED AN AIR QUALITY ALERT FOR LEWIS AND CLARK COUNTY IN EFFECT UNTIL 11am MDT.
* AN AIR QUALITY ALERT MEANS THAT PARTICULATES HAVE BEEN TRENDING UPWARDS AND THAT AN EXCEEDENCE OF THE 24 HOUR NATIONAL AMBIENT AIR QUALITY STANDARD (NAAQS) HAS OCCURRED OR MAY OCCUR IN THE NEAR FUTURE.
* PARTICULATE LEVELS IN HELENA ARE UNHEALTHY.
* WHEN AIR QUALITY LEVELS ARE UNHEALTHY… STATE AND LOCAL HEALTH OFFICALS RECOMMEND THAT PEOPLE WITH RESPIRATORY OR HEART DISEASE, THE ELDERLY, AND CHILDREN SHOULD AVOID PROLONGED EXERTION; EVERYONE ELSE SHOULD LIMIT PROLONGED EXERTION.
* FOR MORE INFORMATION… VISIT THE MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY AT WWW.TODAYSAIR.MT.GOV.

Health Effects Categories	Health Effects	Recommendation
Hazardous	Serious aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; serious risk of respiratory effects in the general population.	Everyone should avoid any outdoor exertion; people with respiratory or heart disease, the elderly, and children should remain indoors.
Very Unhealthy	Significant aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; significant risk of respiratory effects in the general population.	People with respiratory or heart disease, the elderly, and children should avoid any outdoor activity; everyone else should avoid prolonged exertion.
Unhealthy	Increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; increased respiratory effects in the general population.	People with respiratory or heart disease, the elderly, and children should avoid prolonged exertion; everyone else should limit prolonged exertion.
Unhealthy for Sensitive Groups	Increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly.	People with respiratory or heart disease, the elderly and children should limit prolonged exertion.
Moderate	Possibility of aggravation of heart or lung disease among persons with cardiopulmonary disease and the elderly.	None

*Open Burning

- *DEQ regulates Open burning for Major and Minor burners in the Fall and Winter
- *Fall 2014 Summary
  - *Favorable weather for burning
  - *Below average wildfire year
  - *Excellent communication with MT/ID Airshed Group
- *Winter 2015 Summary

Burn Type	Count	Total Acres
Proposed	2,727	151,608
Approved	2,073 (76%)	111,070 (73%)
Completed	1,339 (64%)	54,594 (49%)



*Exceptional Events

- *If wildfires are not flagged as exceptional events, many Montana communities would be at risk for PM2.5 NAAQS violations
- *Wildfires are considered not reasonably controllable or preventable

JULY 2012

Summary of Exceptional Events

Date	Location	Conc. (µg/m3)	Reason
7/1/2012	Birney Sidney	13.8 15.8	Ash Creek W
7/2/2012	Birney	29.0	Ash Creek W
7/3/2012	Birney Sidney	29.4 18.2	Ash Creek W
7/4/2012	Birney	24.4	Ash Creek W
7/5/2012	Birney	41.4	Ash Creek W
7/6/2012	Birney	21.4	Ash Creek W
7/7/2012	Birney Frenchtown	23.5 13.7	Ash Creek W Numerous W
7/9/2012	Birney	18.9	Ash Creek W
7/10/2012	Birney Butte Frenchtown Hamilton Helena	13.8 12.5 15.5 17.5 14.8	Birney - Ash All others - T and Alaska
7/11/2012	Birney Broadus Frenchtown Hamilton Helena Missoula Sidney	16.8 15.1 15.7 16.7 12.2 12.0 12.5	Birney, Broad Wildfire All others – T Oregon and I Montana
7/12/2014	Birney Butte	23.8 12.1	Birney and Si

AUGUST 9, 2012

Location(s): Birney, Butte, Frenchtown, Hamilton, Helena, Lewistown, Missoula, NCORE

Synopsis: Air quality deteriorated in much of western Montana today, causing widespread areas where concentrations reached unhealthy for sensitive group levels. Smoke is clearly visible on satellite, moving from Idaho fires into Montana. Eastern Montana continues to see localized impacts from nearby fires and widespread impacts from transported smoke.

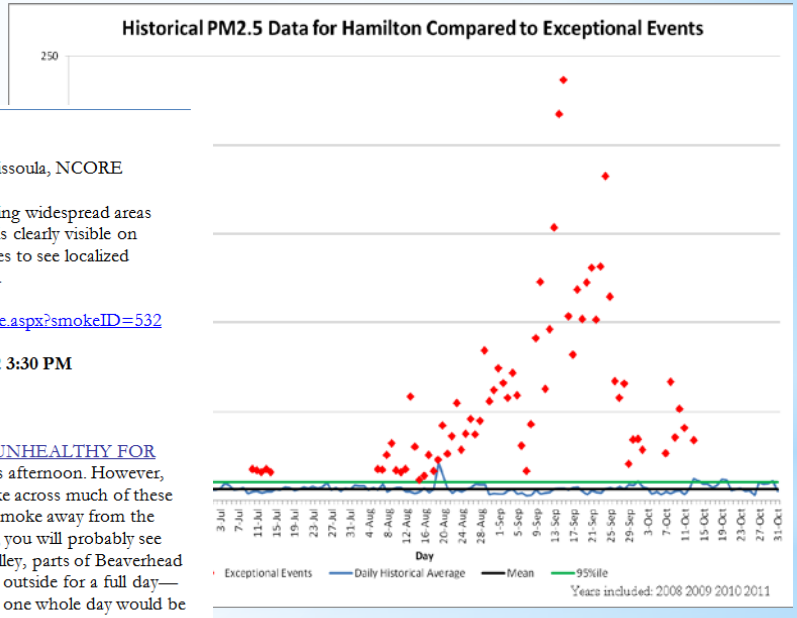
Documentation: http://svc.mt.gov/deq/smokereport/mostRecentUpdate.aspx?smokeID=532

WILDFIRE SMOKE UPDATE FOR THURSDAY, AUGUST 9, 2012 3:30 PM

Today's Report and Forecast

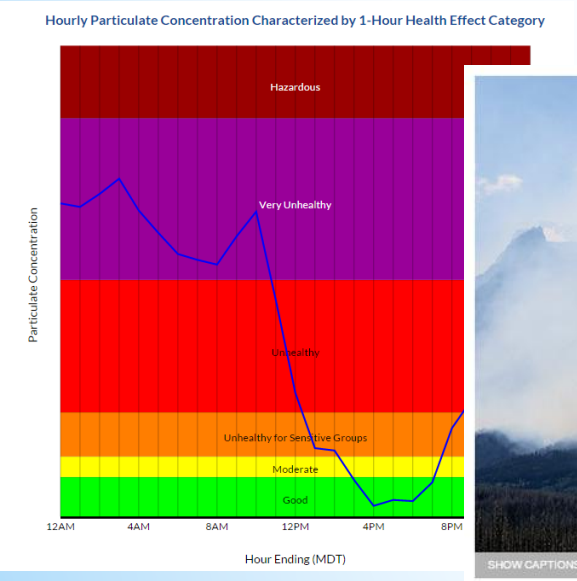
Long-term exposures to smoke, measured over 24-hours, has increased to UNHEALTHY FOR SENSITIVE GROUPS across much of southwest and central Montana this afternoon. However, since this morning's update, short-term (1-hour average) exposures to smoke across much of these cities has decreased as the air heats up, expands, and elevates some of that smoke away from the ground. What does all of this mean? If you were to walk outside right now, you will probably see GOOD conditions, unless you are in the southern half of the Bitterroot Valley, parts of Beaverhead County, or immediately downwind of any active fire. However, if you were outside for a full day—for example, if you were camping, your cumulative exposure to smoke over one whole day would be worse than an instantaneous exposure. Even if you were outside for only several hours, you might still see MODERATE to UNHEALTHY FOR SENSITIVE GROUPS smoke impacts, especially in southwestern Montana. Much of eastern and southeastern Montana are also seeing MODERATE to UNHEALTHY FOR SENSITIVE GROUPS smoke impacts from a broad area of smoke, as well as some smaller nuisance smoke from small fires, ignited by lightning yesterday.

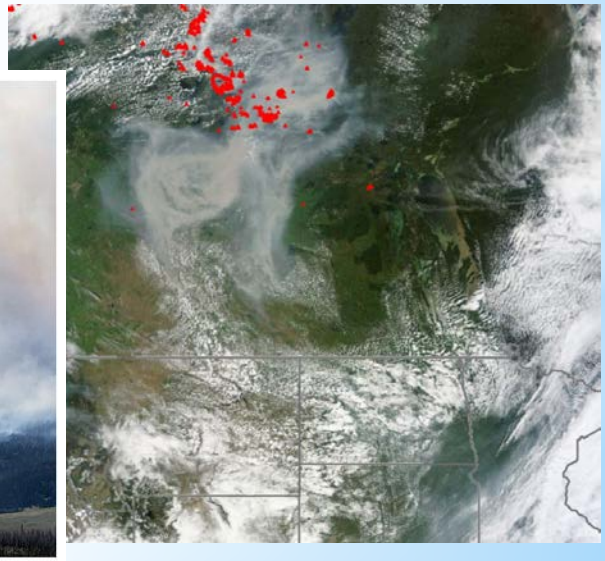
Satellite images today haven't really shown any smoke plumes from wildfires in our state, but there are several large wildfires in Idaho that are producing a lot of smoke, and so it continues to blow this way. For the rest of the evening, there is a slight chance for isolated thunderstorms, but overall, we will see less active weather, which means that the smoke will stick around. It will still be difficult to see across long distances because of the smoke influence, and overnight, we may see some elevated



*Wildfire Highlights 2015

* Wildfire Season started early and dramatically
  * June 26-29: Record breaking heat in Montana
  * June 30-July 9: Massive fires in Saskatchewan caused hazardous air quality in northeast Montana and smoke impacts throughout eastern Montana.
  * July 21: Large fires in Glacier National Park and Big Belt Mountains





*Questions?

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