

Flint Hills Prescribed Fire Update

April 3, 2020

The following information on the Flint Hills prescribed fires will be sent weekly to keep stakeholders up to date on fires and related smoke.



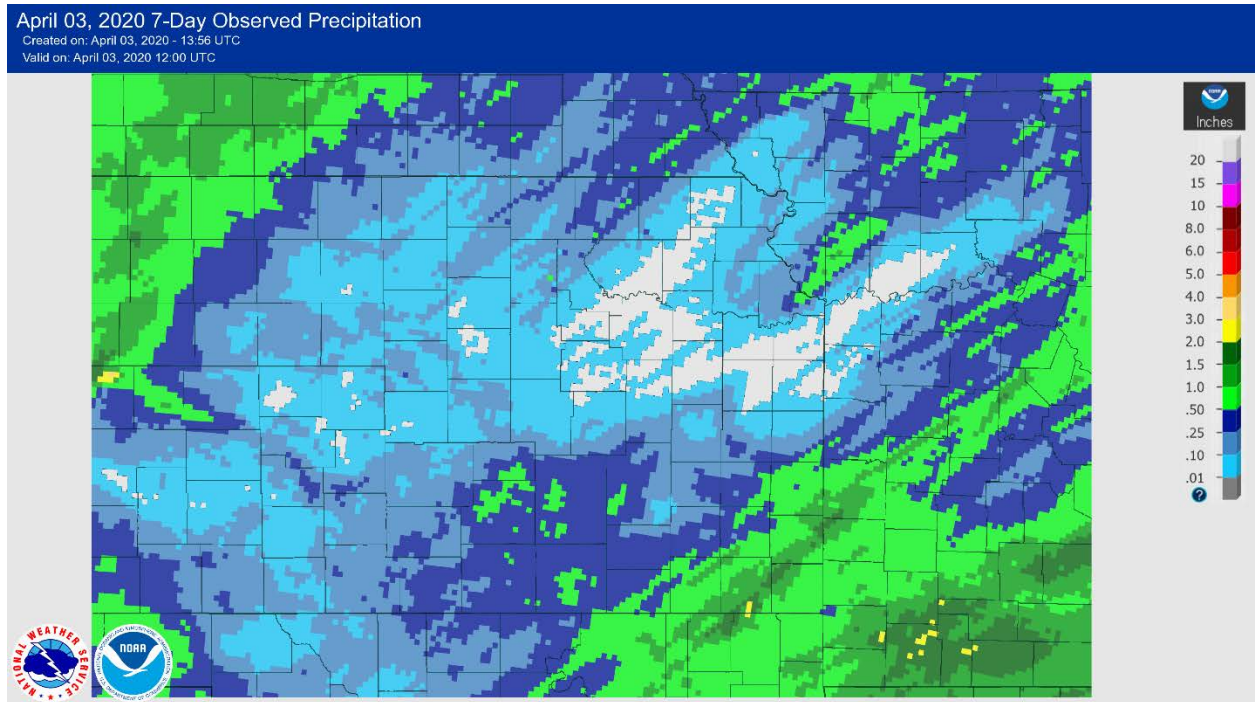


Meteorology

Warm temperatures were observed throughout the last week with daily high temperatures in the 60s and 70s. Wind speeds were light on Friday (March 27) under cloudy skies and scattered rain showers. A front moving through gave way to very windy conditions on Saturday (March 28) with gusts reaching 40-50 mph throughout the Flint Hills region. The wind gusts subsided some for Sunday (March 29), but the westerly winds remained at 15-25 mph with gusts near 35 mph.

Monday (March 30) saw a shift to lighter southeast winds under sunny skies. Another front moving through Monday night gave a few showers and thunderstorms to the area. Winds were briefly from the west behind this front, but quickly transitions to the south as Tuesday (March 31) came to an end – regardless of direction the winds remained steady below 15 mph. South winds and very warm temperatures were seen Wednesday (April 1) and Thursday (April 2) across the area with 10-25 mph winds and gusts near 35 mph. A strong cold front has swept across the area overnight and led to well below normal temperatures and areas of cold rain and freezing rain for this morning.

Precipitation



NOAA/NWS Observed Total Precipitation for March 27 – April 2, 2020.



Air Quality Data

Air quality data for the period of March 27 – April 2, 2020:

Ozone: Preliminary data indicates no exceedances of the NAAQS daily 8-hour average maximum of 70 ppb.

PM_{2.5}: Preliminary data indicates one (1) exceedance of the NAAQS daily 24-hour average maximum of 35 $\mu\text{g}/\text{m}^3$.

Ponca City, OK air quality monitor recorded a PM_{2.5} 24-hour average of 36.2 $\mu\text{g}/\text{m}^3$ for Friday, March 27, 2020.

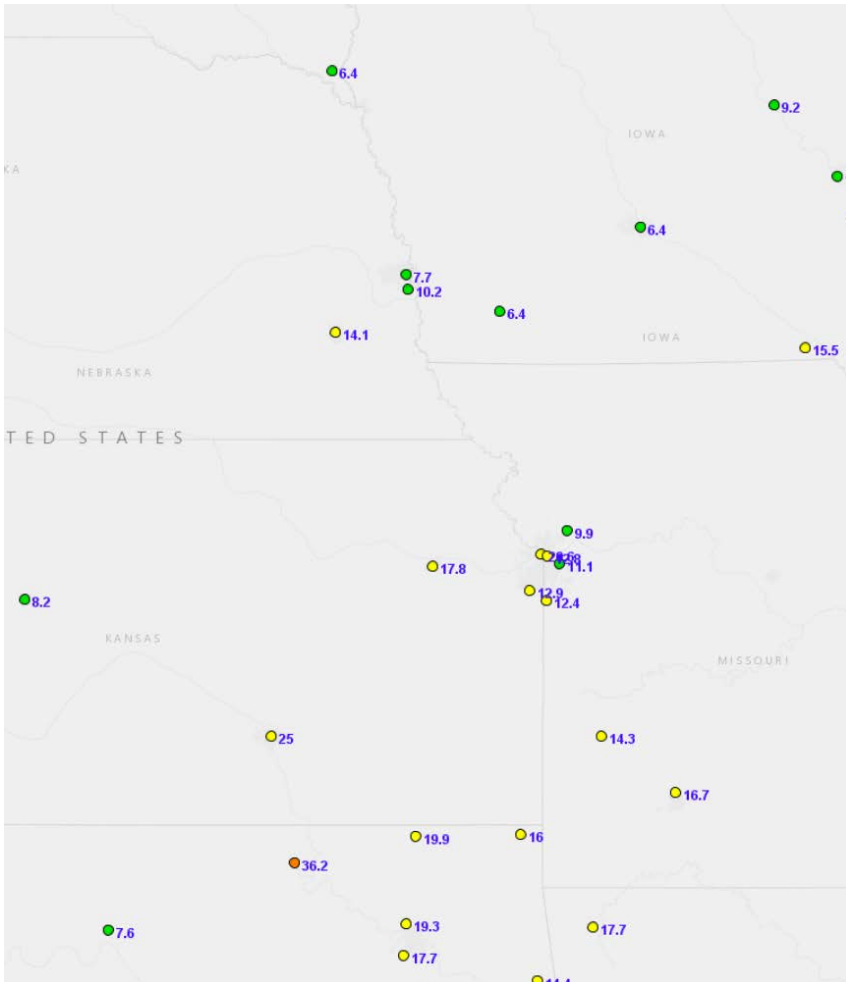
Air quality images on the following pages for each day show preliminary data, courtesy Air Now Tech.

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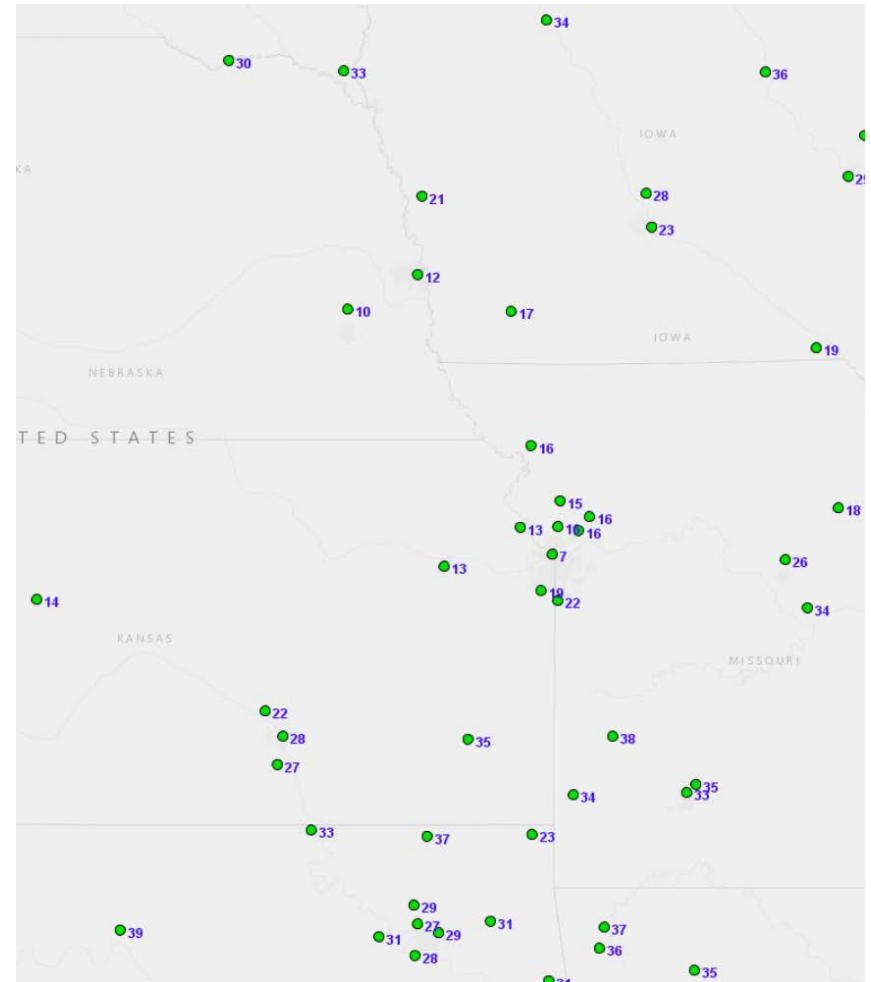


Friday, March 27, 2020

PM2.5 (24-hour average)



Ozone (8-hour average maximum)



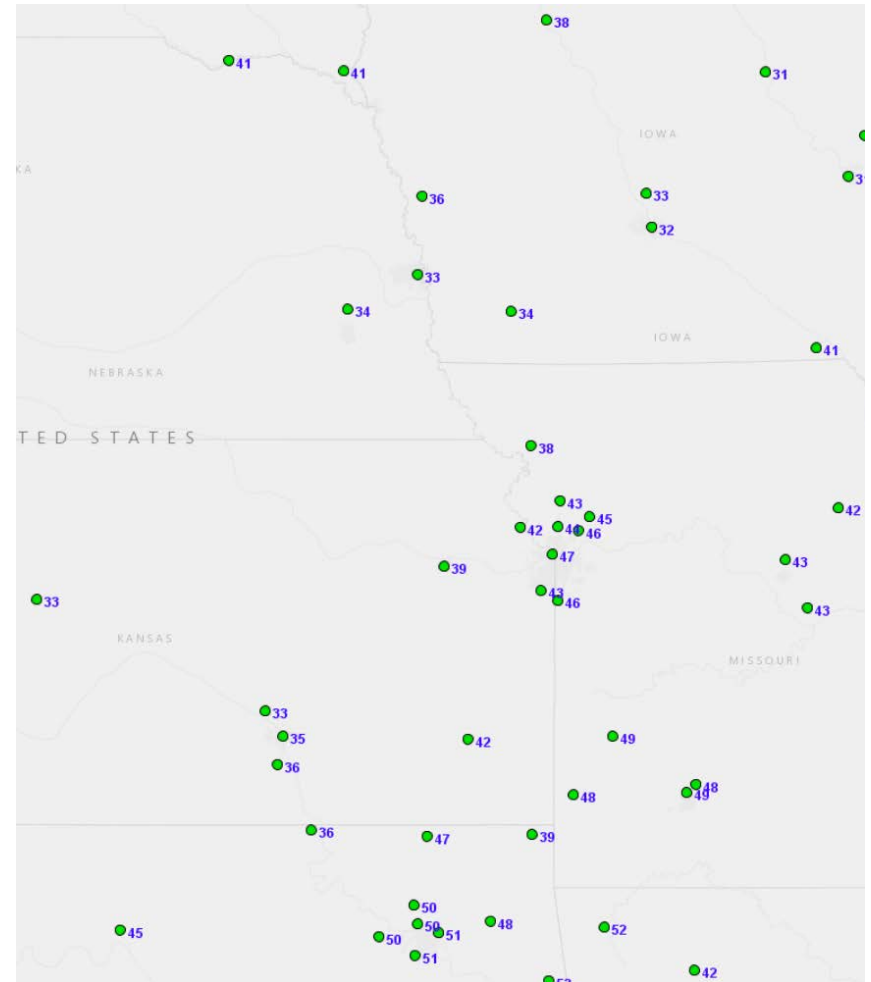
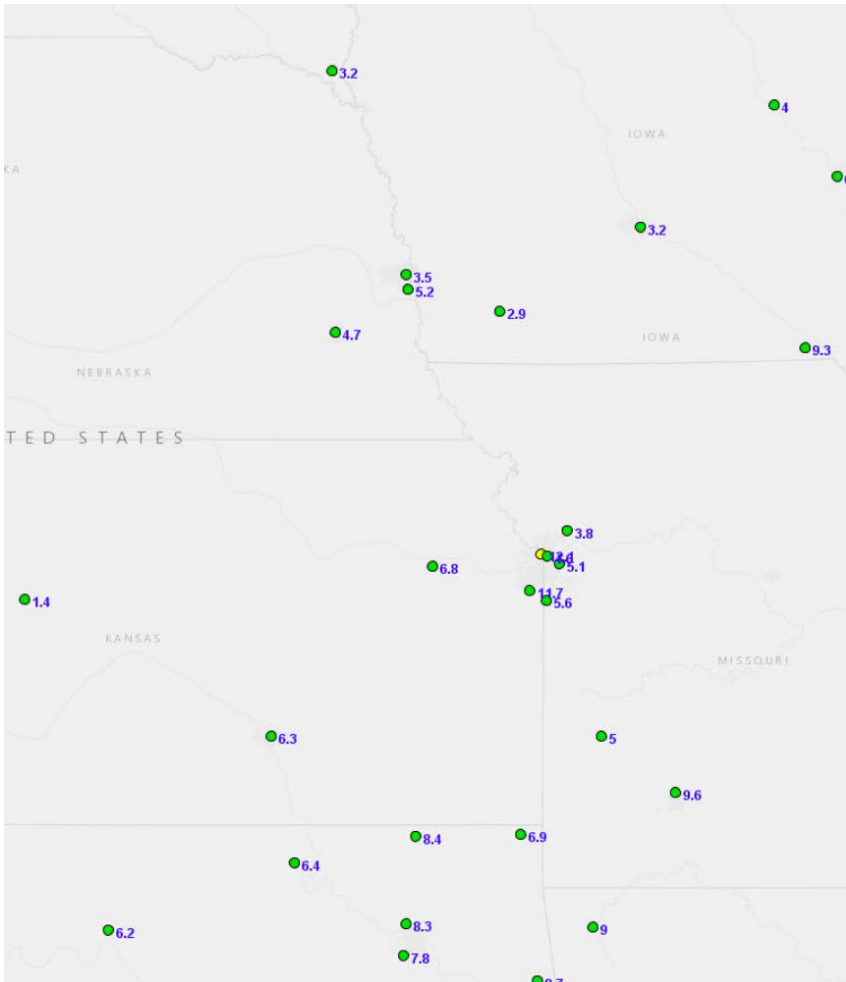
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Saturday, March 28, 2020

PM2.5 (24-hour average)

Ozone (8-hour average maximum)

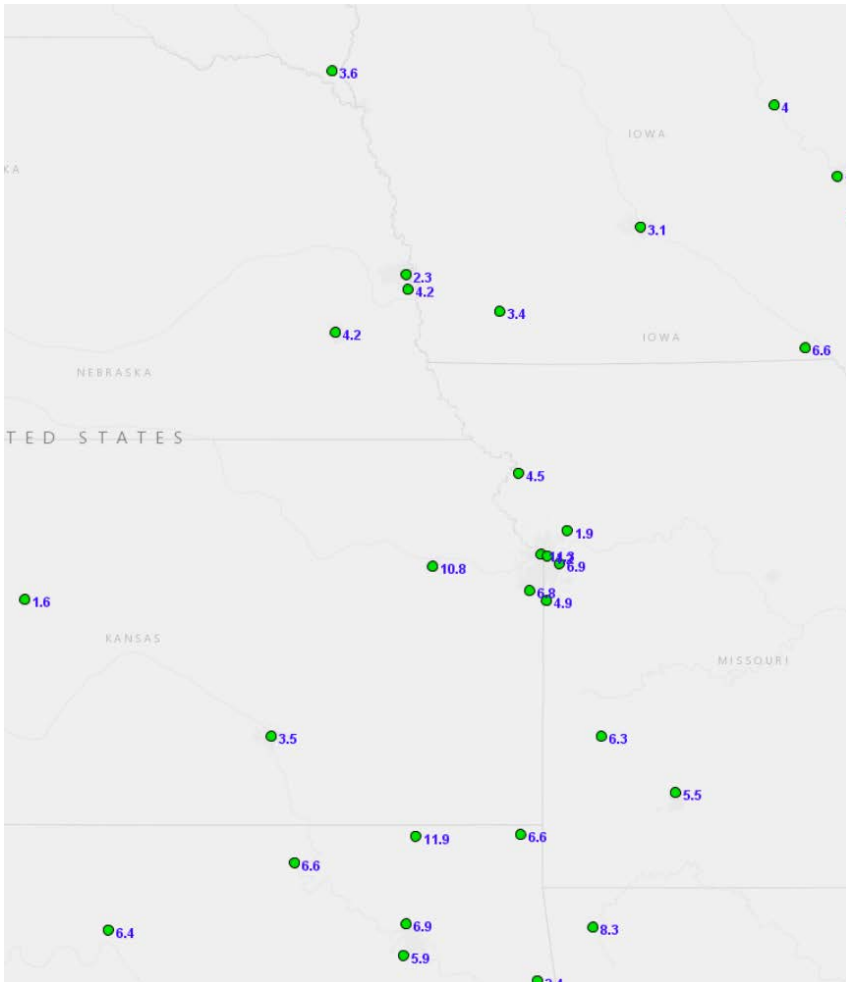


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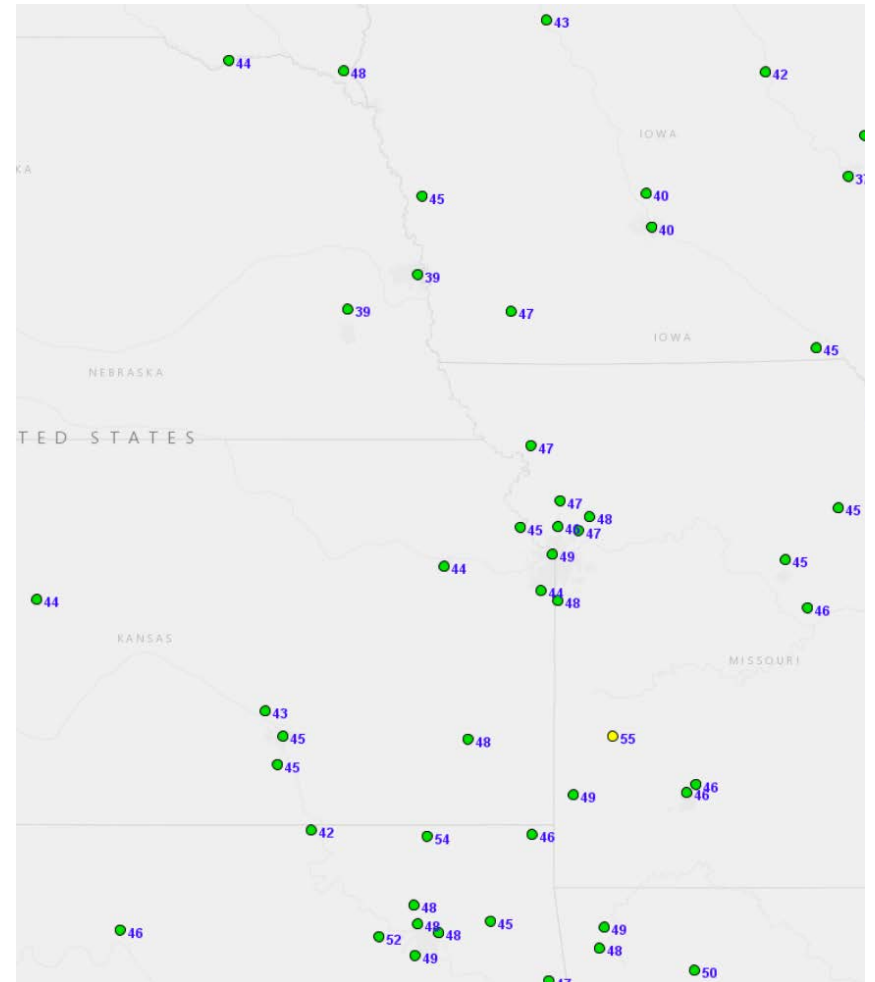


Sunday, March 29, 2020

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

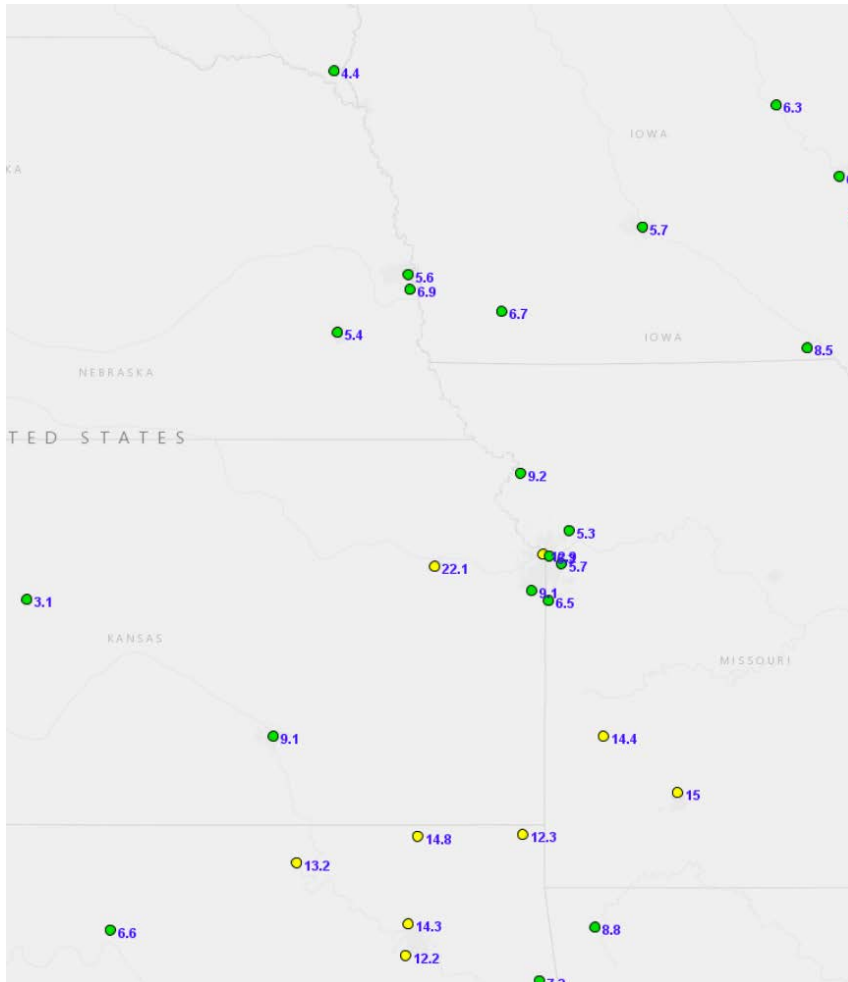


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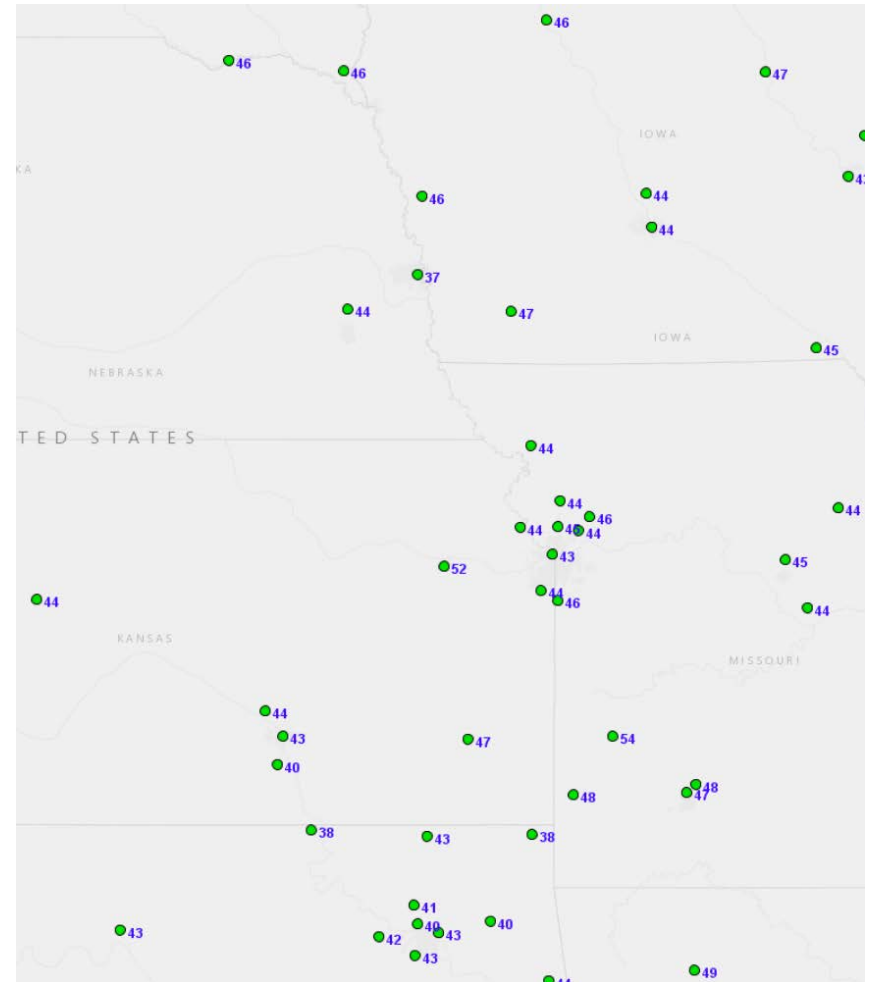


Monday, March 30, 2020

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

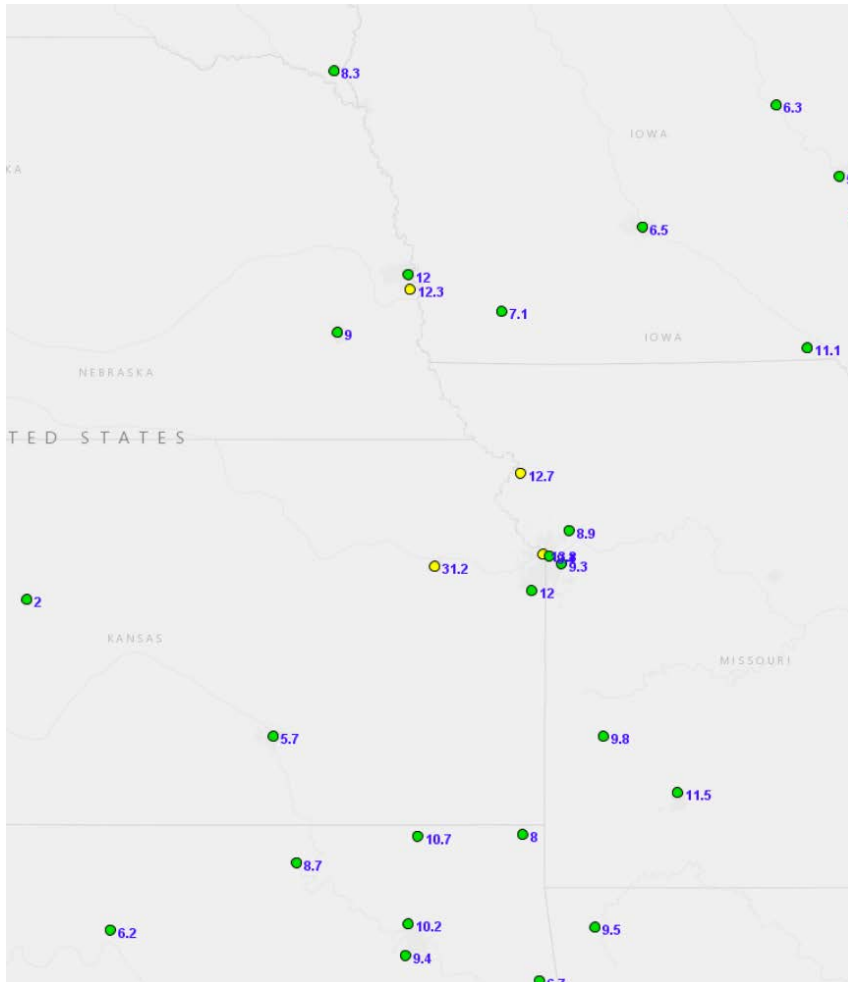


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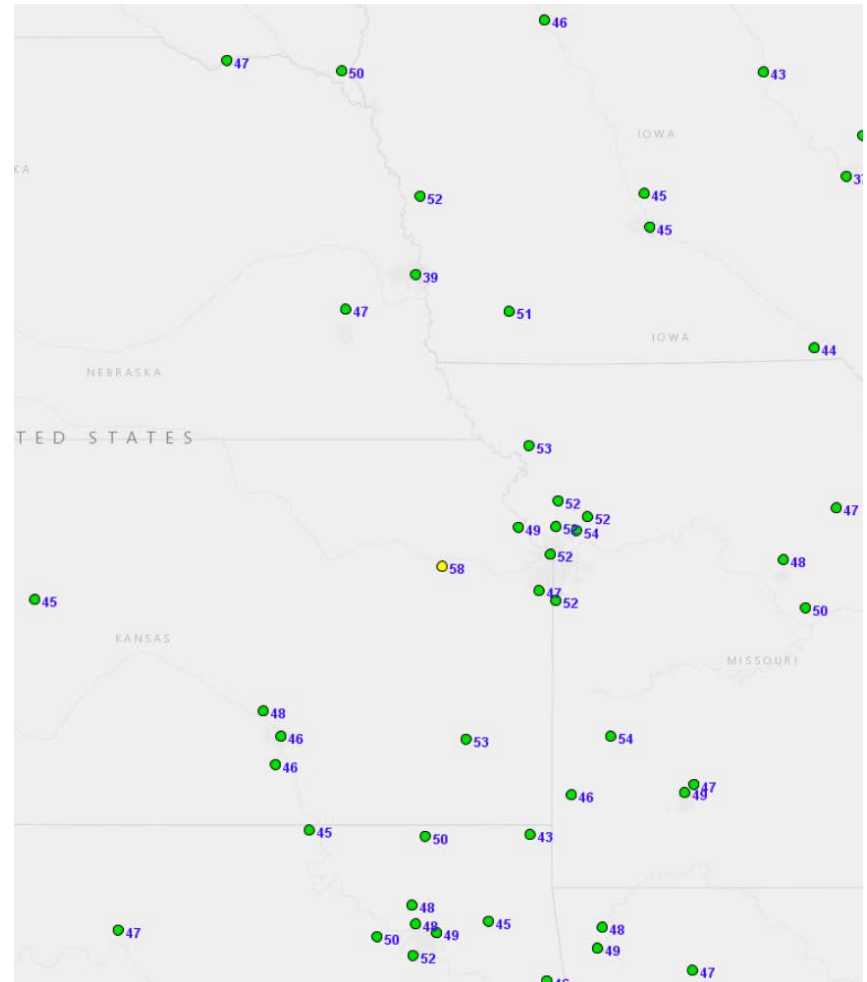


Tuesday, March 31, 2020

PM2.5 (24-hour average)



Ozone (8-hour average maximum)



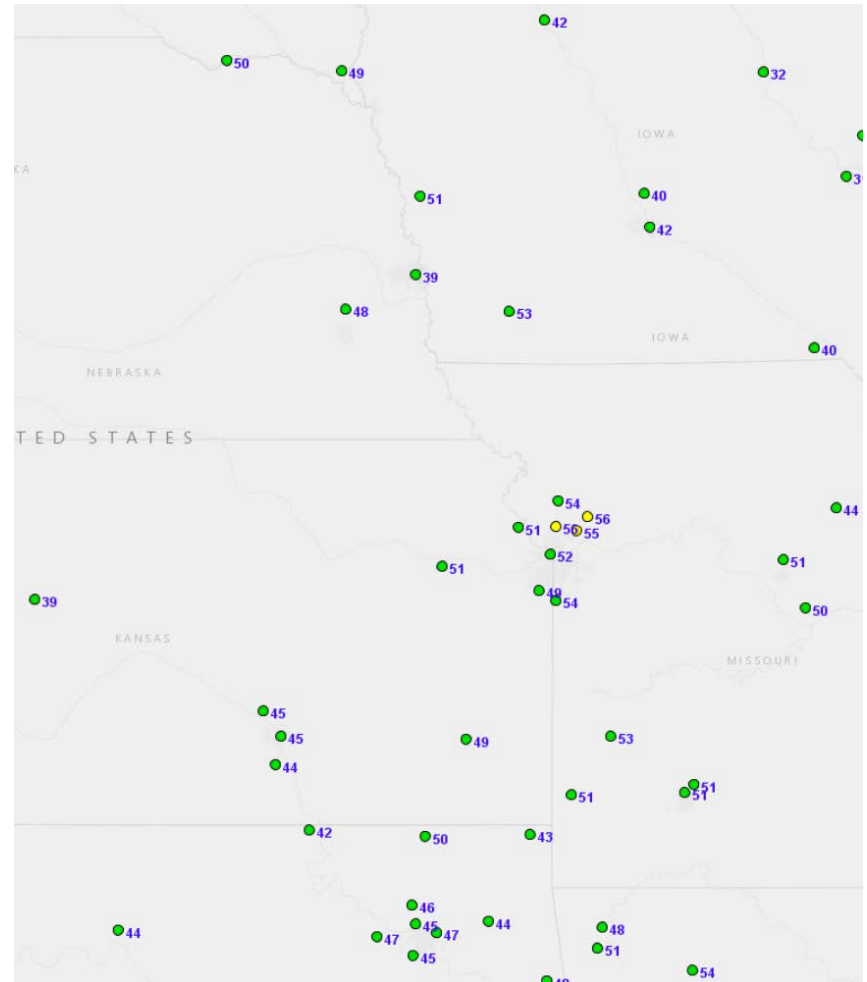
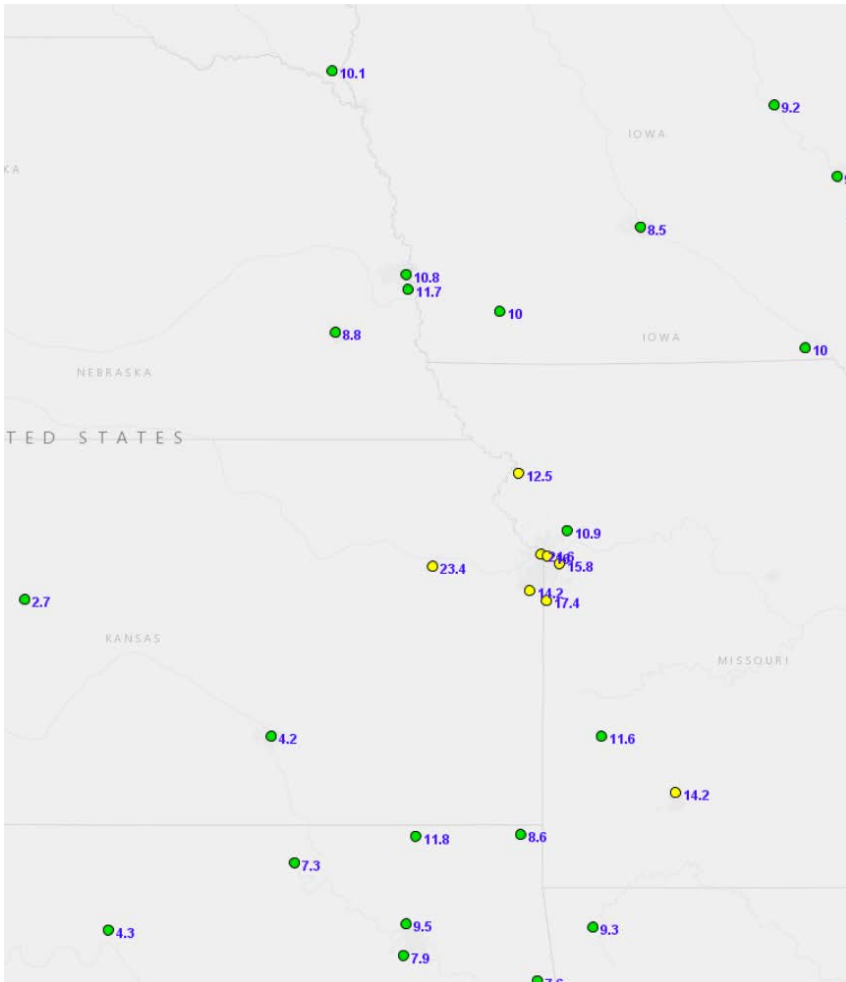
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Wednesday, April 1, 2020

PM2.5 (24-hour average)

Ozone (8-hour average maximum)

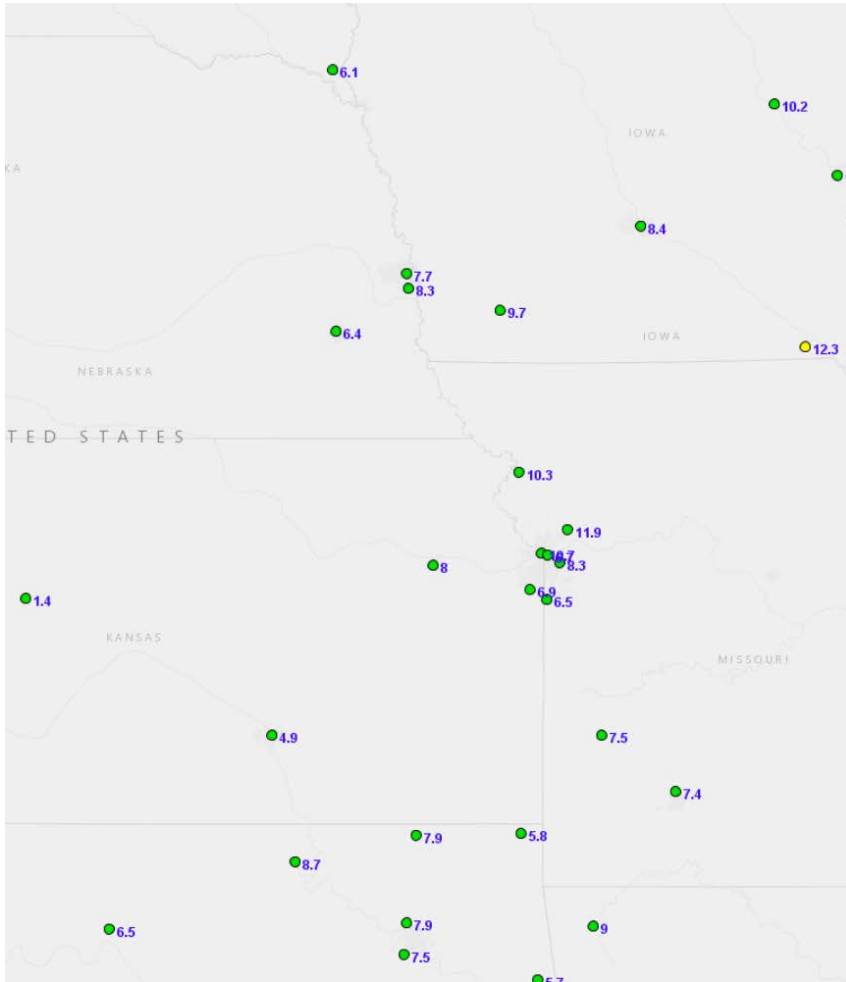


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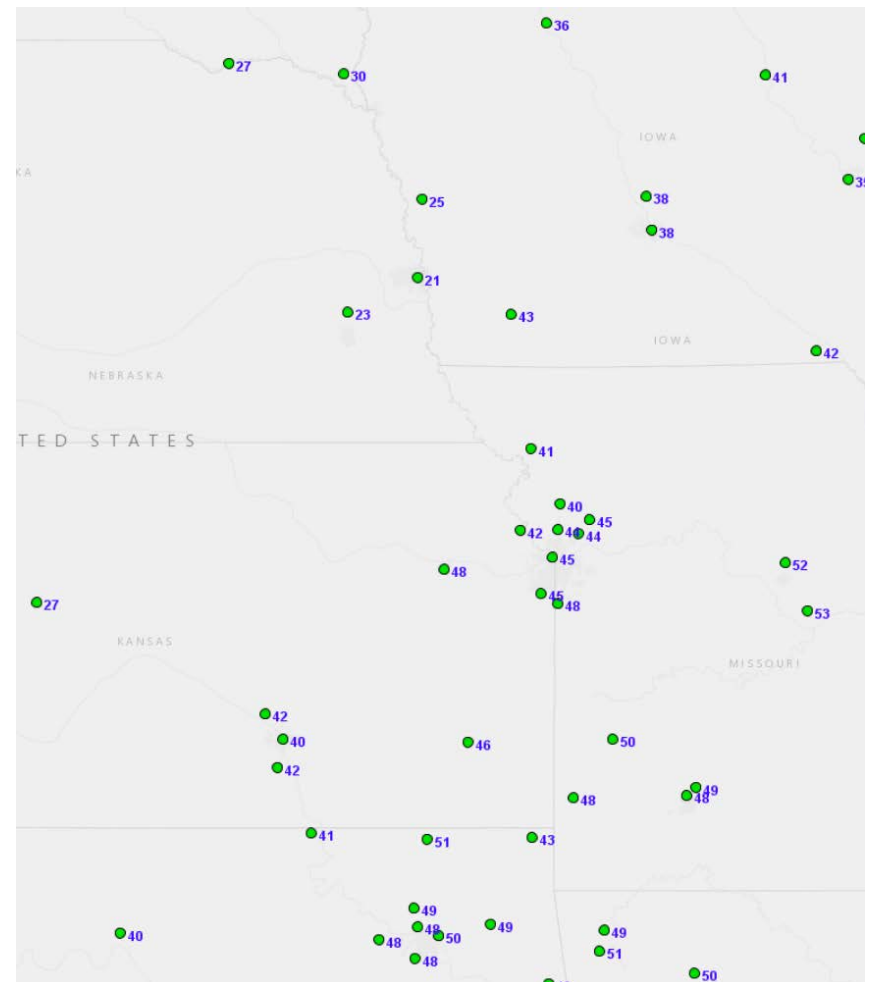


Thursday, April 2, 2020

PM2.5 (24-hour average)



Ozone (8-hour average maximum)





Fires and Smoke

Cloudy skies and looming potential for rain showers led to only a handful of prescribed fires, although many more also likely occurred but were not mapped due to the overcast skies. With light winds and overcast skies smoke dispersion was poor and likely led to local impacts to air quality nearby any fires.

Copious amounts of burning occurred on Sunday under sunny skies and west winds – smoke dispersion was good with ample mixing and strong transport winds. As winds shifted on Monday the smoke from Sunday moved back to the north and northwest with additional fires also introducing more smoke into the region.

Lighter winds on Tuesday combined with sunny skies and warm temperatures provided another day with large prescribed fire use across the Flint Hills. Smoke drifted to the east overnight and largely settled across the Flint Hills for Tuesday night into Wednesday which led to some high hourly air quality values.

As winds increased for Wednesday and Thursday the number of prescribed fires steadily decreased. The large area of smoke from Tuesday was observed further east over the Mississippi River valley on Wednesday but was primarily above the surface.

Note: Due to limited resources during the COVID-19 response the burned acreage map is not able to be updated at this time. Updates will resume as soon as possible.

KSFIRE.ORG

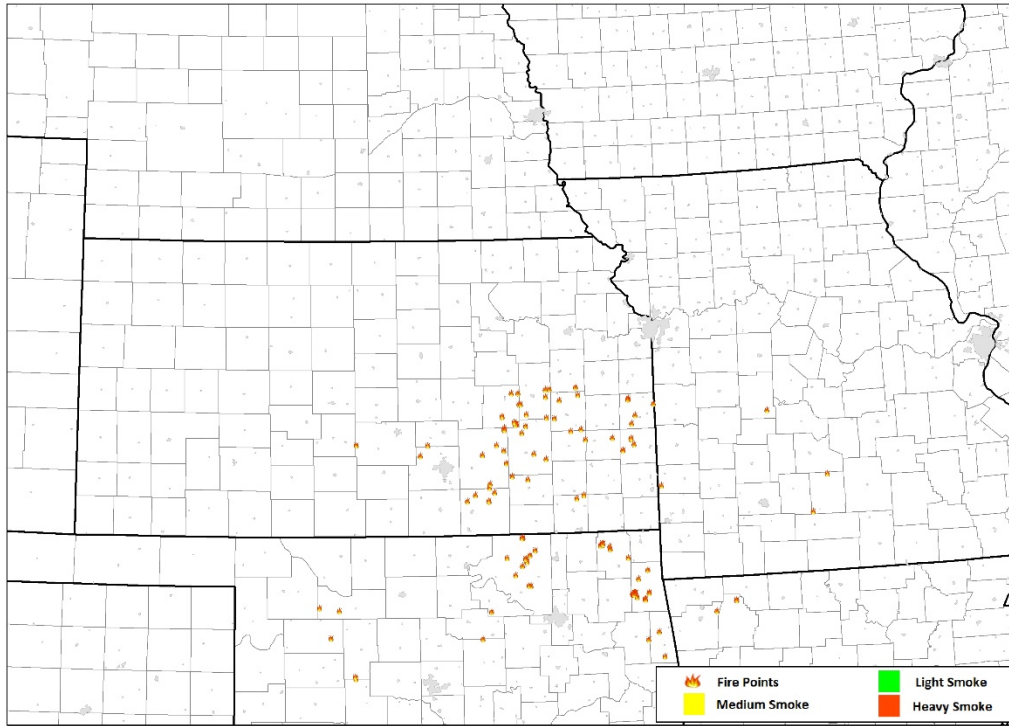


This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications, a modeling tool and other links to guide people looking for information on smoke management. The development of the Flint Hills Smoke Management Plan is an attempt to balance the need for prescribed fire in the Flint Hills with the need for clean air in downwind areas.

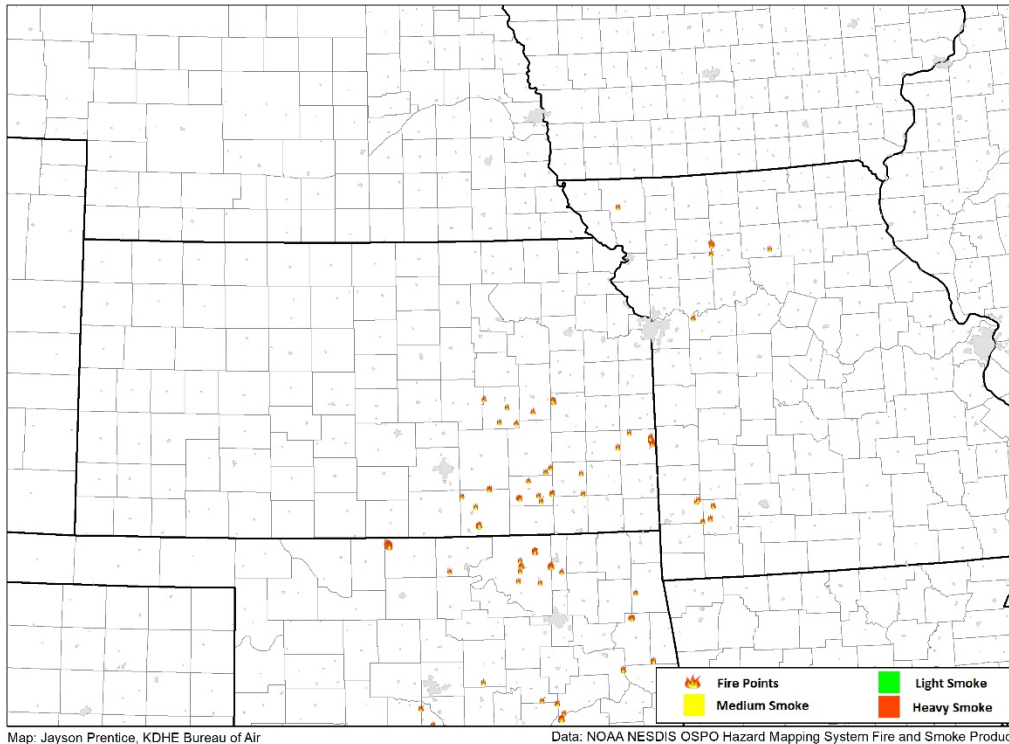
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HMS Fire & Smoke Analysis March 27, 2020



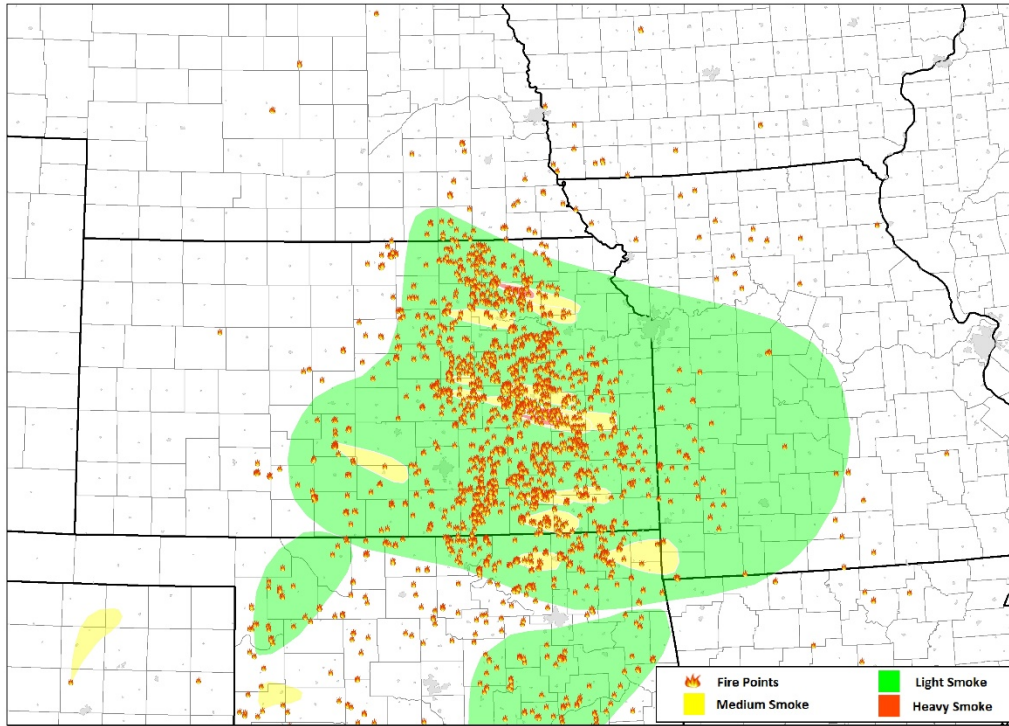
HMS Fire & Smoke Analysis March 28, 2020



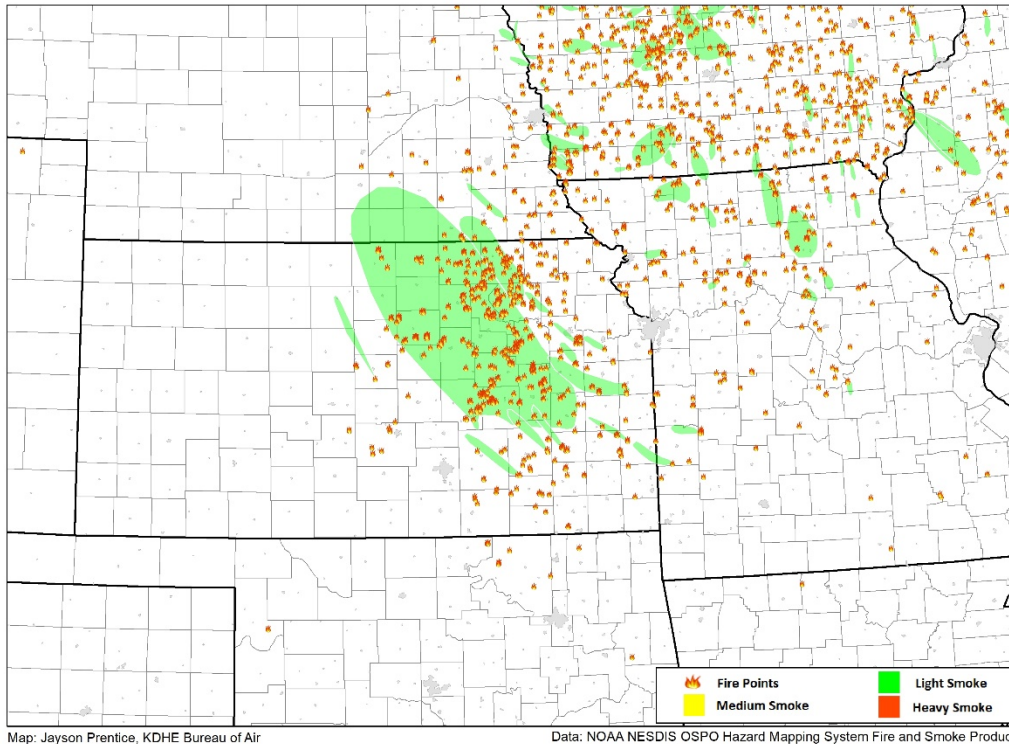
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HMS Fire & Smoke Analysis March 29, 2020



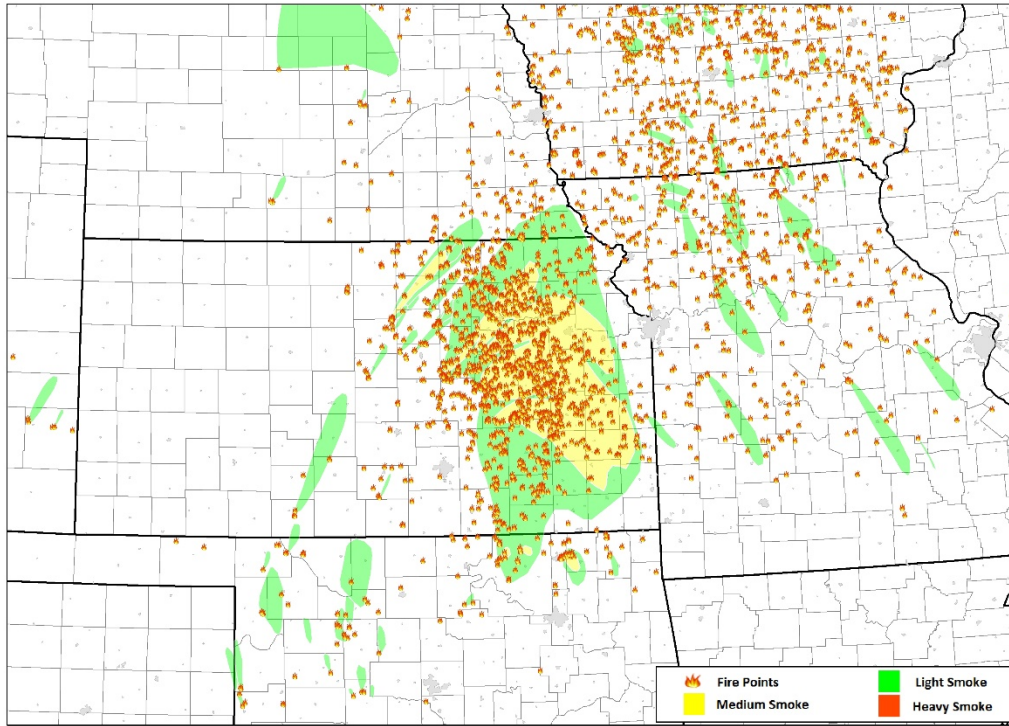
HMS Fire & Smoke Analysis March 30, 2020



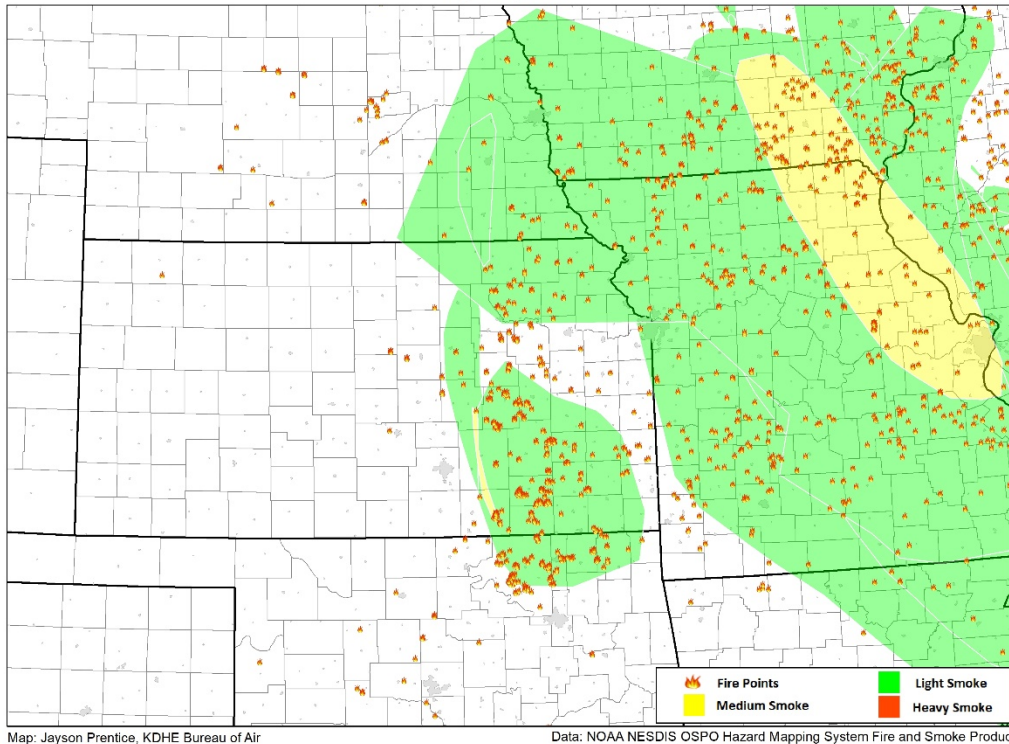
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HMS Fire & Smoke Analysis March 31, 2020



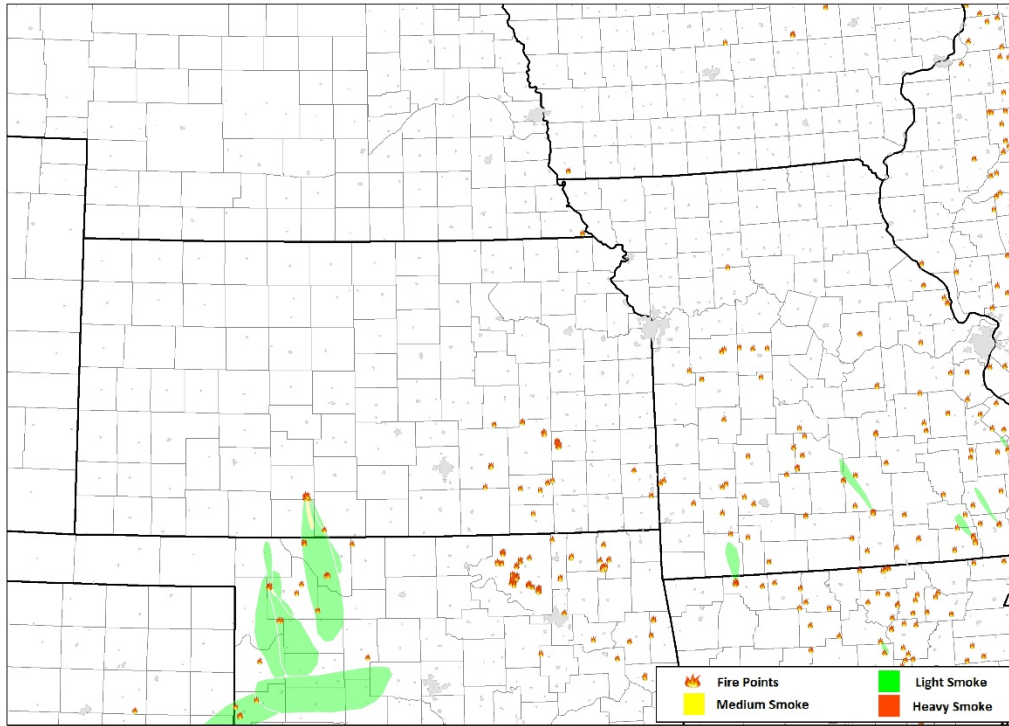
HMS Fire & Smoke Analysis April 01, 2020



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HMS Fire & Smoke Analysis April 02, 2020

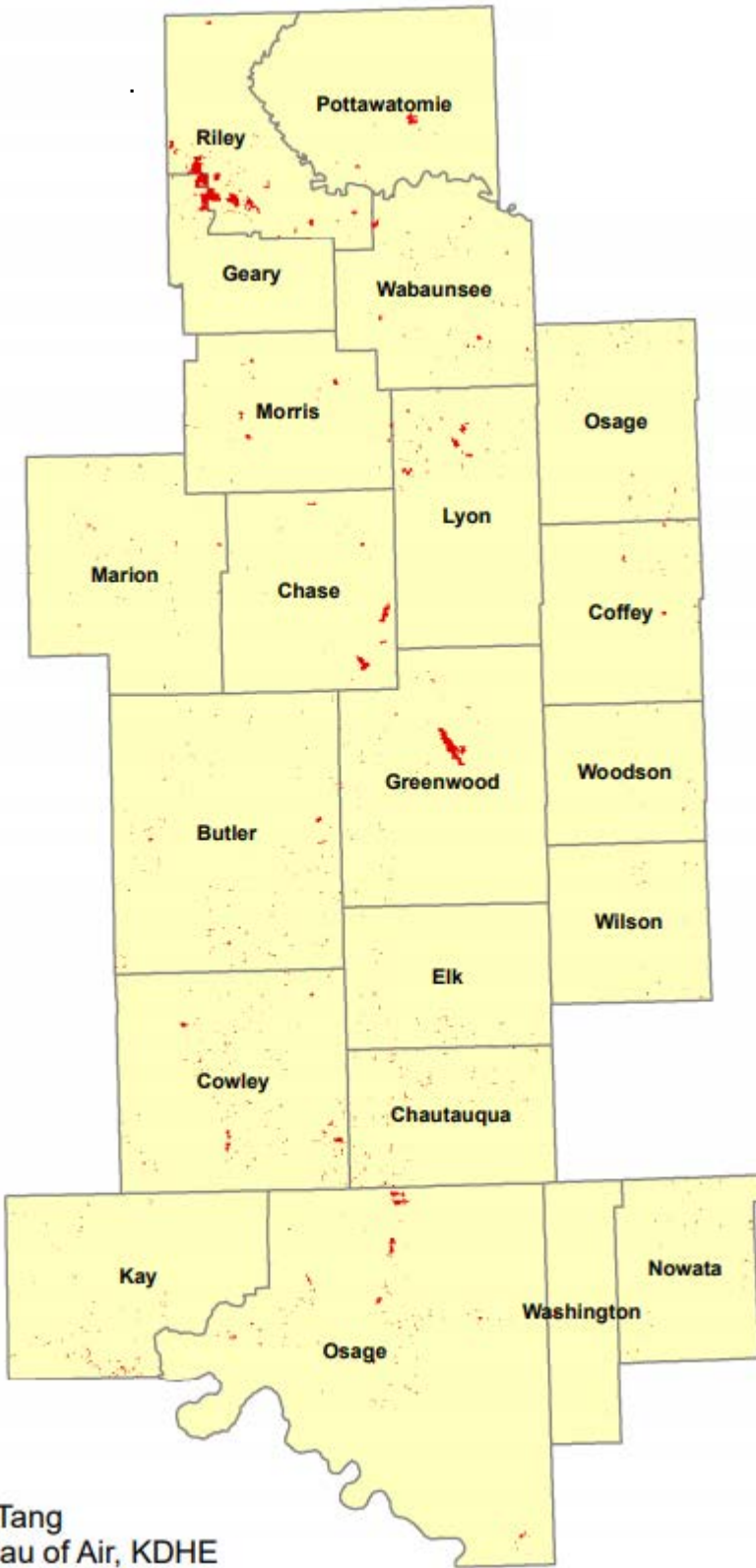


Map: Jayson Prentice, KDHE Bureau of Air

Data: NOAA NESDIS OSPO Hazard Mapping System Fire and Smoke Product



Flint Hills Acreage Burned (February 2 – March 6, 2020)



<u>Counties</u>	<u>Acres Burned</u>
Butler	2,873
Chase	3,382
Chautauqua	2,286
Coffey	973
Cowley	4,680
Elk	710
Geary	3,985
Greenwood	5,637
Lyon	2,949
Marion	1,282
Morris	1,699
Osage (KS)	973
Pottawatomie	1,405
Riley	10,703
Wabaunsee	2,224
Wilson	432
Woodson	340
Nowata (OK)	556
Osage (OK)	5,653
Washington (OK)	247
Kay (OK)	2,023
Total	55,012
* Denotes county was partly or completely covered by clouds during latest analysis.	

Yao Tang
Bureau of Air, KDHE

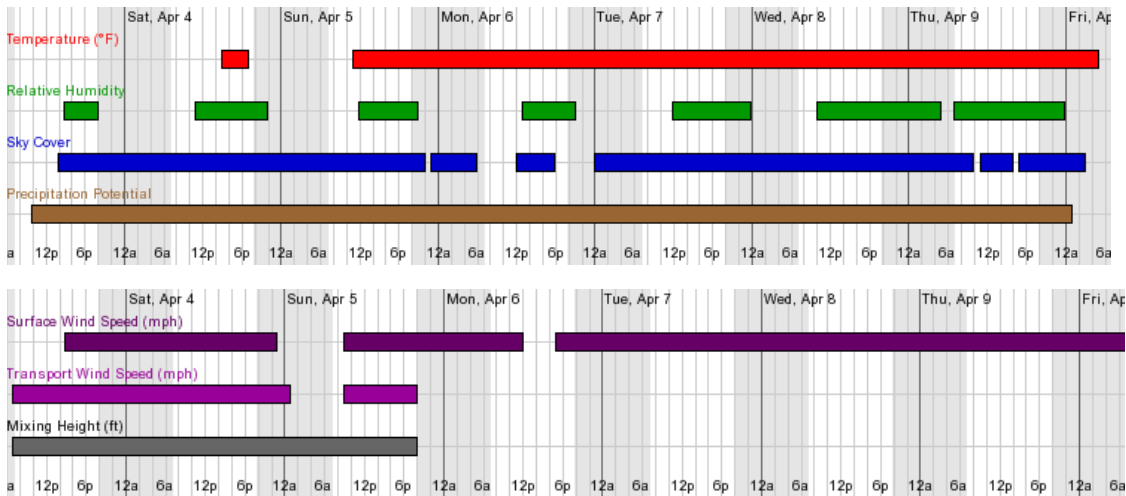


Upcoming Look at Fires and Smoke

Well below normal temperatures along with brisk northwest winds and areas of precipitation this morning will likely inhibit any prescribed burning today. Temperatures will warm somewhat for Saturday with highs likely in the 50s and a steady north wind. Light winds early Sunday will eventually give way to south winds and warmer temperatures, and likely improving conditions for prescribed fire activity.

Breezy conditions are forecast for Monday with periods of clouds, and perhaps some precipitation. The remainder of the week (Tuesday-Thursday) will remain warm and will generally be conducive for continued prescribed fire activity. A few chances for rain will have to be monitored and could be added to the forecast.

Ideal Weather Conditions for Prescribed Burning



Current National Weather Service forecast for the approximate center of the Flint Hills showing when conditions may be most favorable for wildland burning as described at KSFire.org. Conditions are most favorable when each parameter has a colored boxplot displayed.

*Note: Forecast for mixing height and transport winds are only out to 2 days.
Forecast valid: 8am April 3, 2020.*

For more information, contact:

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