

Flint Hills Wildland Fire Update

March 26, 2021

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



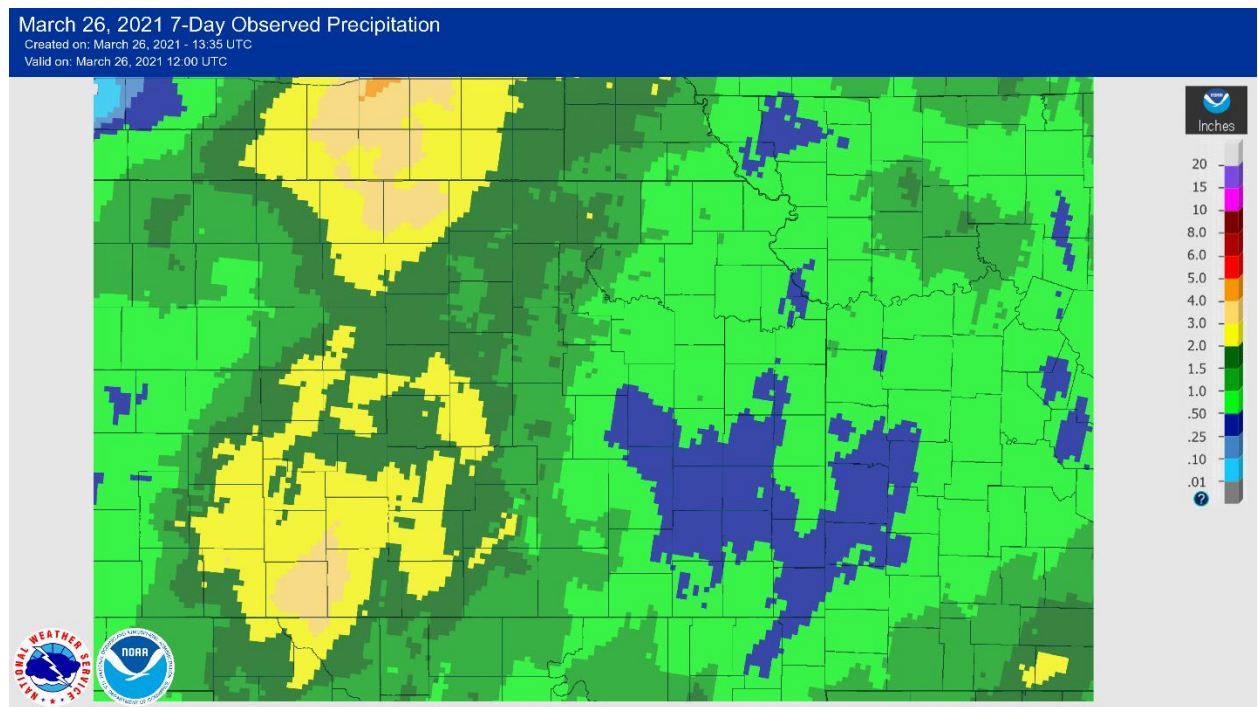


Meteorology

The Flint Hills saw a dry stretch on Friday-Sunday (March 19-21) between two storm systems before periods of clouds and rain moved back in for the Monday-Thursday (March 22-25) period. Precipitation totals varied between a quarter inch to nearly two inches for the Flint Hills region. Winds were light and variable for Friday (March 19), but then the strong southerly winds were observed on Saturday and Sunday (March 20-21) with wind gusts well above 30 mph at times on Sunday (March 21).

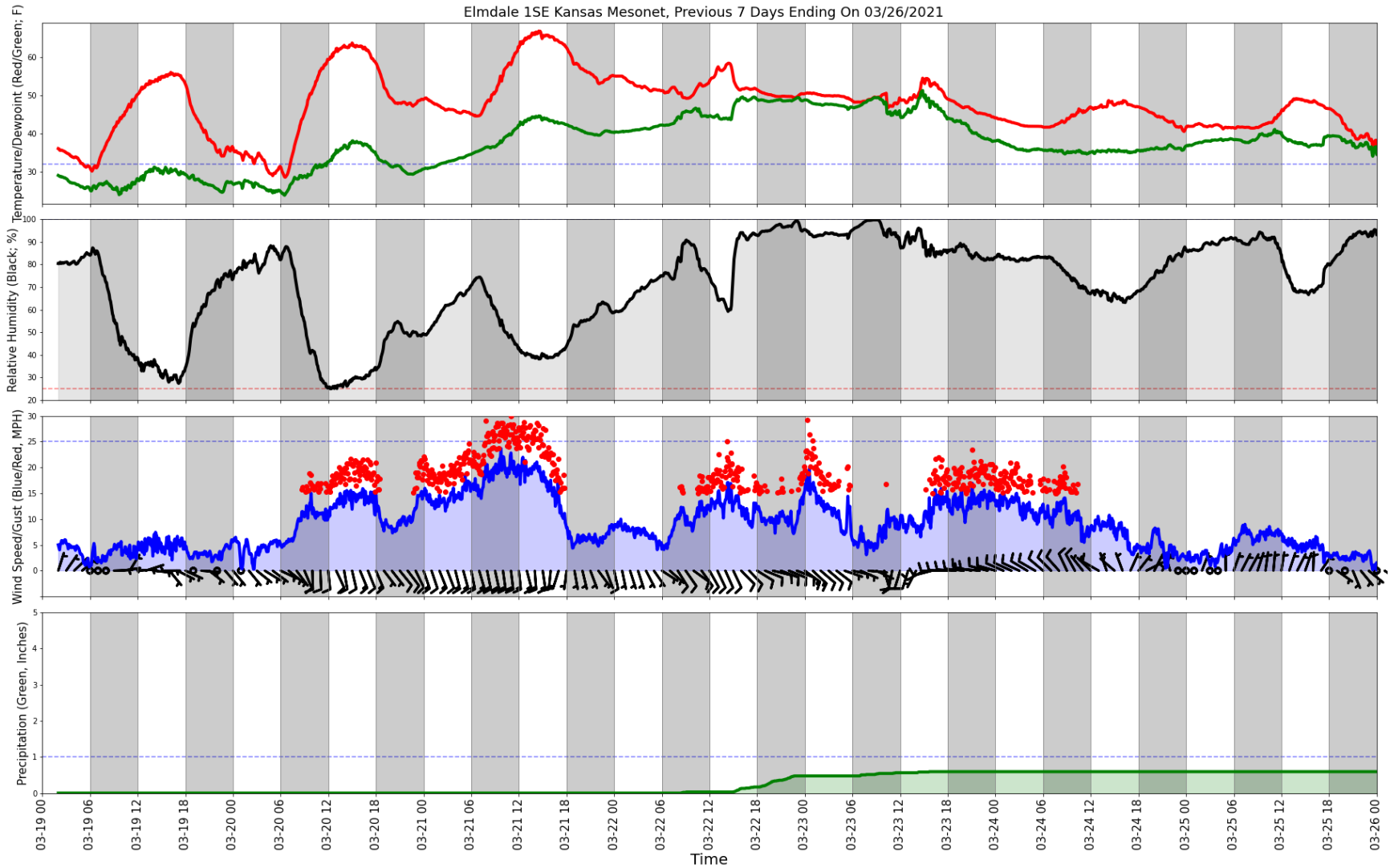
Temperatures were seasonable early in the period (March 19-21), but then were a bit below average for much of the latest work week (March 22-25) under cloudy skies and periods of rain. The combination of rain and some dry and sunny conditions has certainly started the green-up for parts of the Flint Hills and will continue to develop from southeast to northwest as temperatures warm.

Precipitation



NOAA/NWS Observed Total Precipitation for March 19-25, 2021.

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7-day (March 19-25, 2021) Observed Weather from Kansas Mesonet station near Elmdale, Kansas
<https://mesonet.k-state.edu/>



Air Quality Data

Air quality data for the period of March 19-25, 2021:

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

PM_{2.5}: Preliminary data indicates **no** exceedances of the NAAQS daily 24-hour average maximum of 35 $\mu\text{g}/\text{m}^3$.

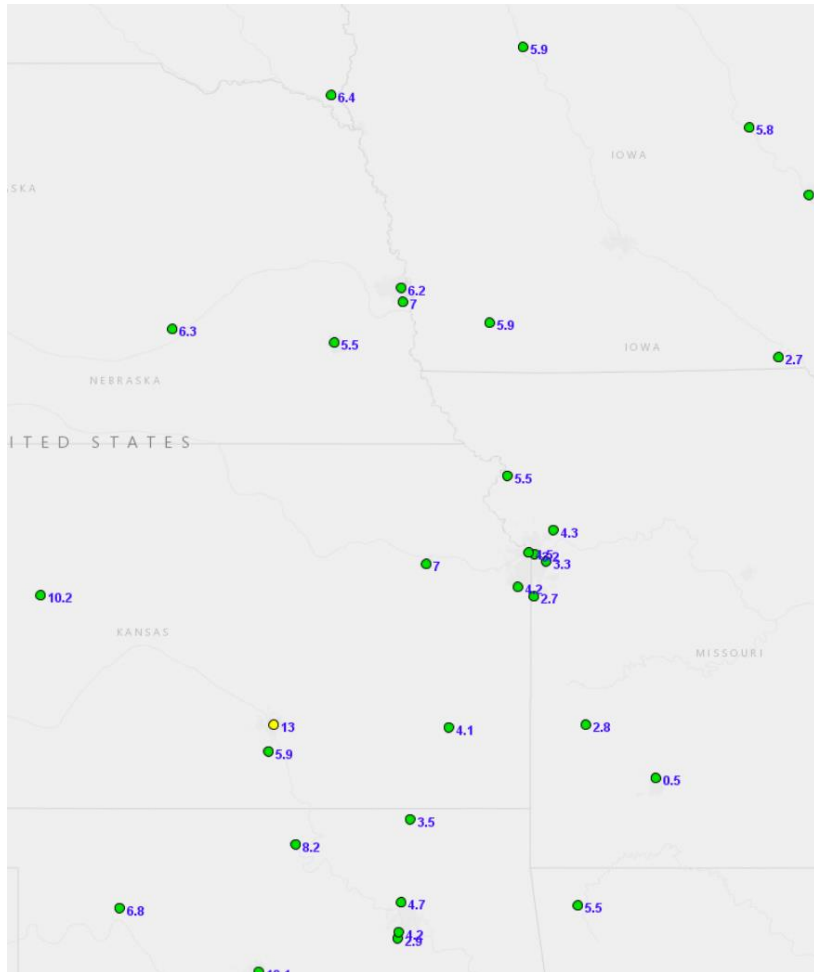
Air quality images on the following pages for each day show preliminary data, courtesy Air Now Tech.

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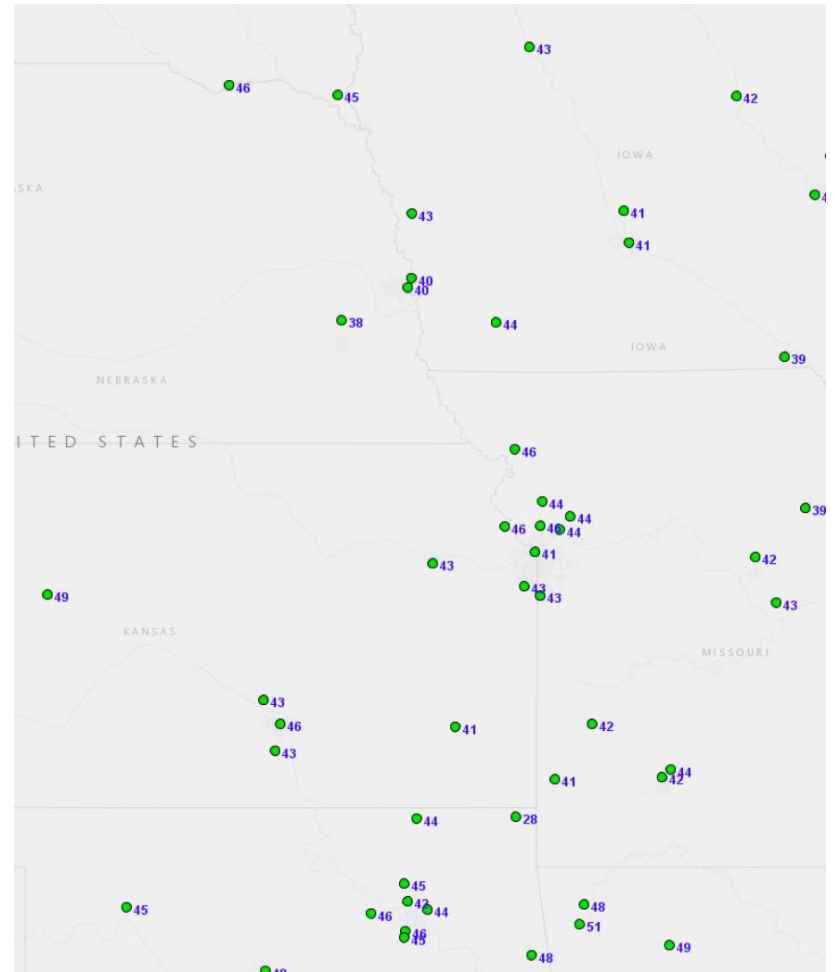


Friday, March 19, 2021

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

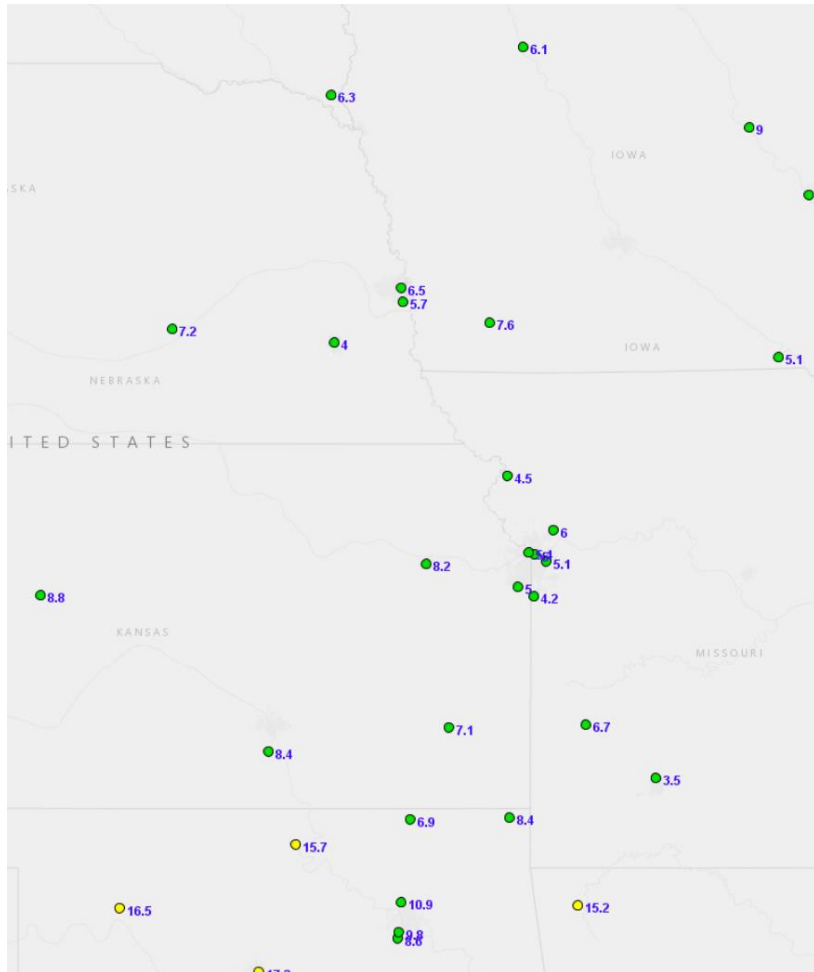


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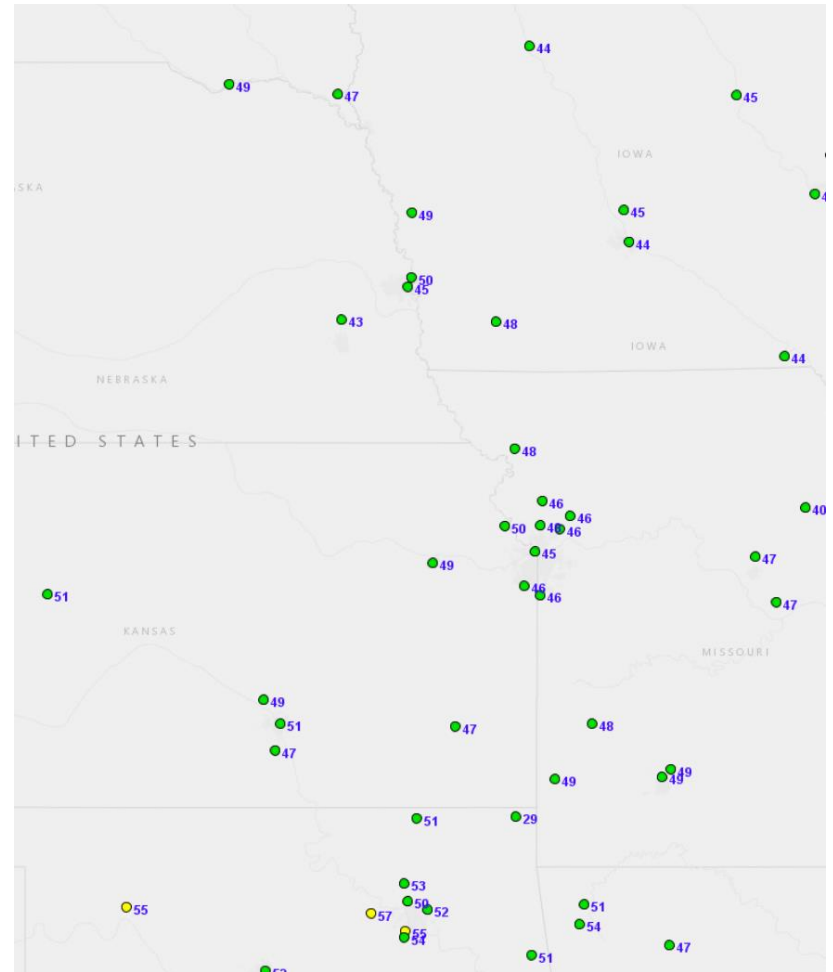


Saturday, March 20, 2021

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

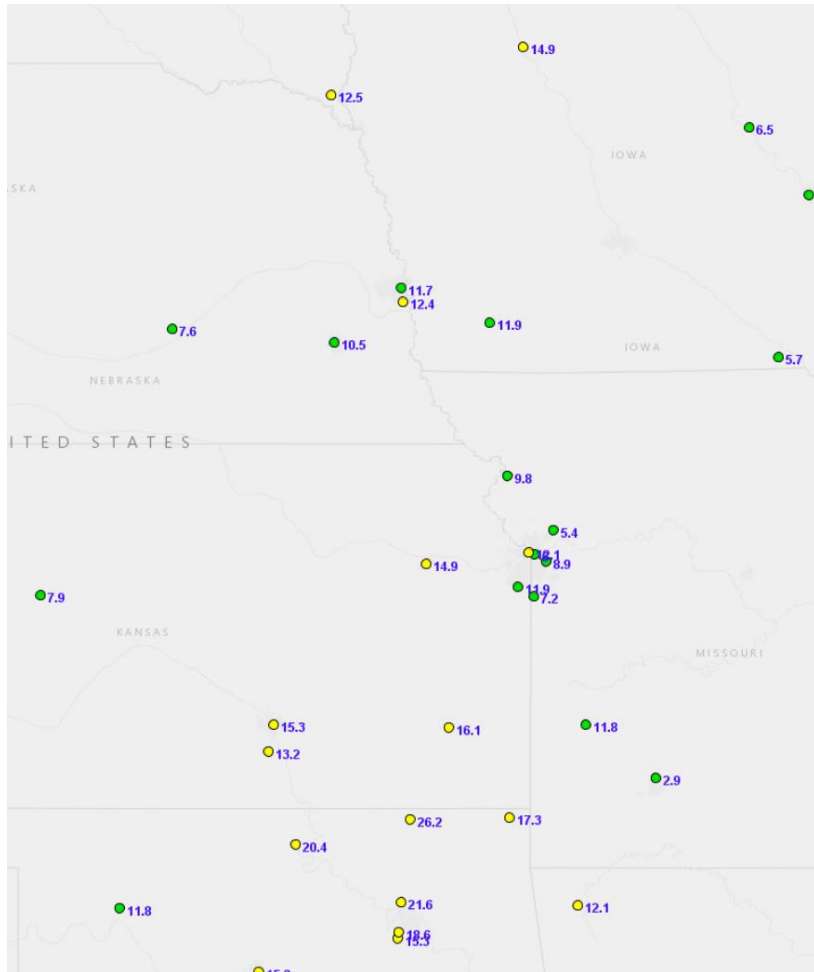


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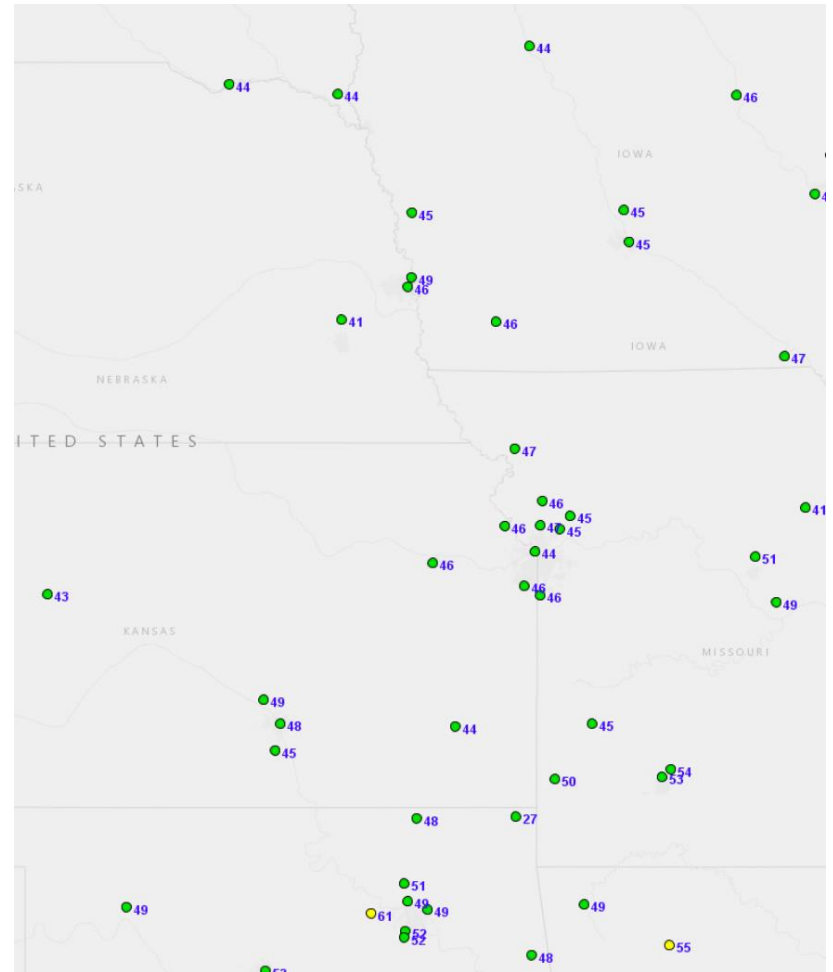


Sunday, March 21, 2021

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

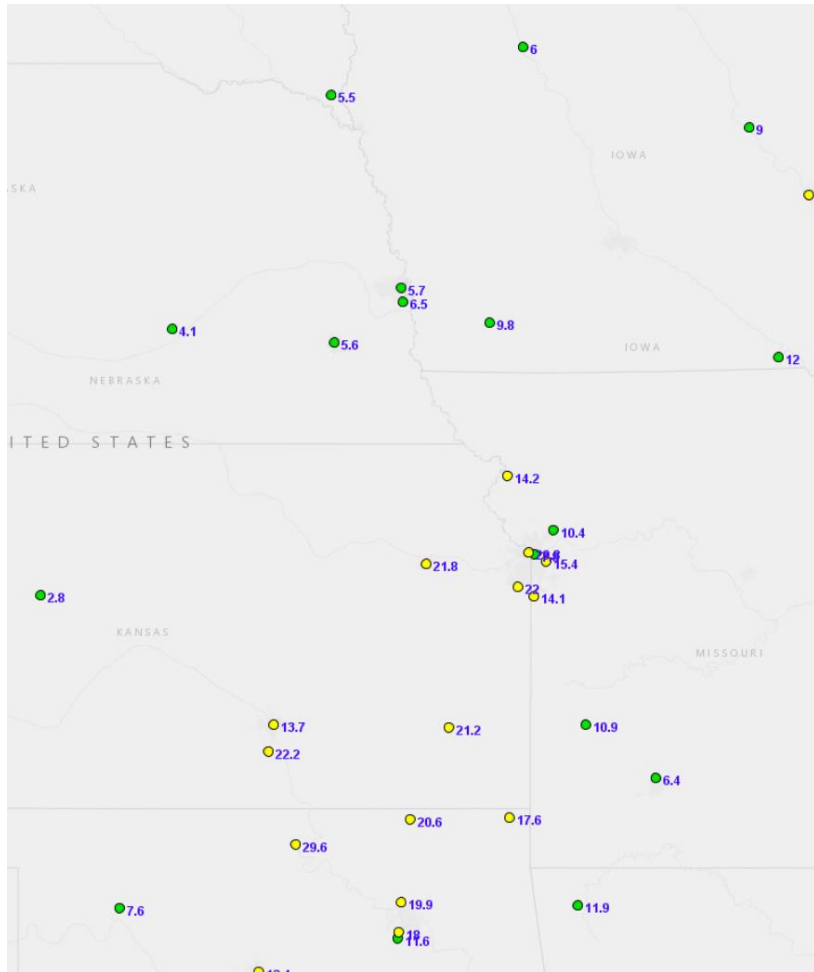


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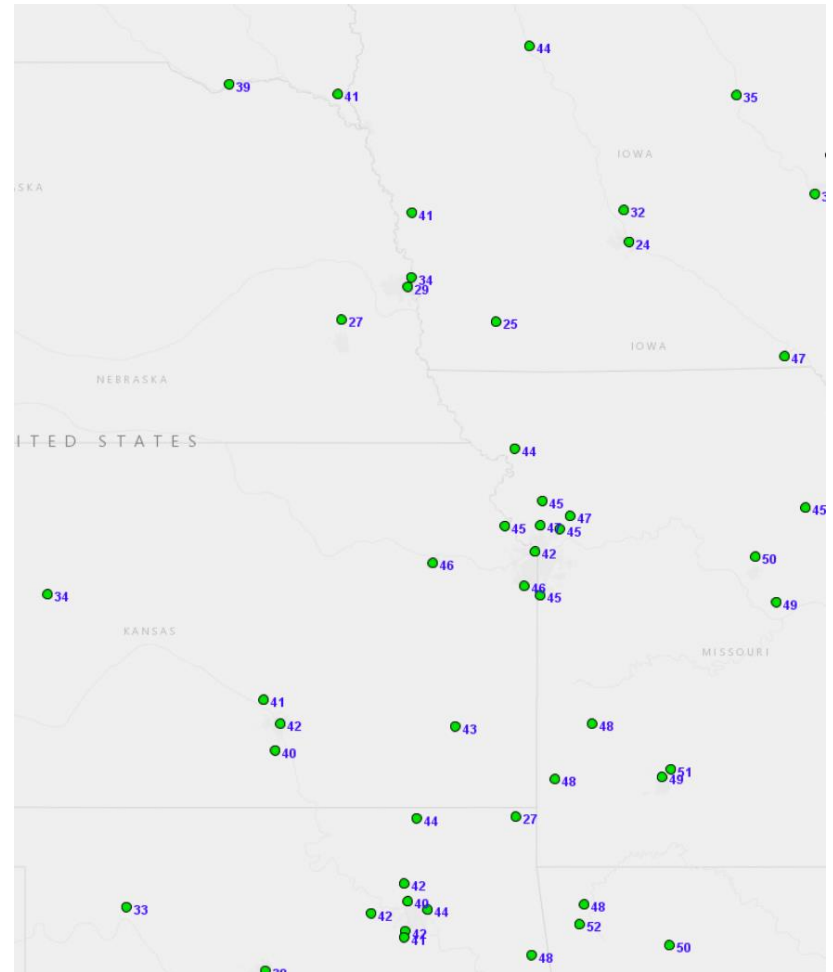


Monday, March 22, 2021

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

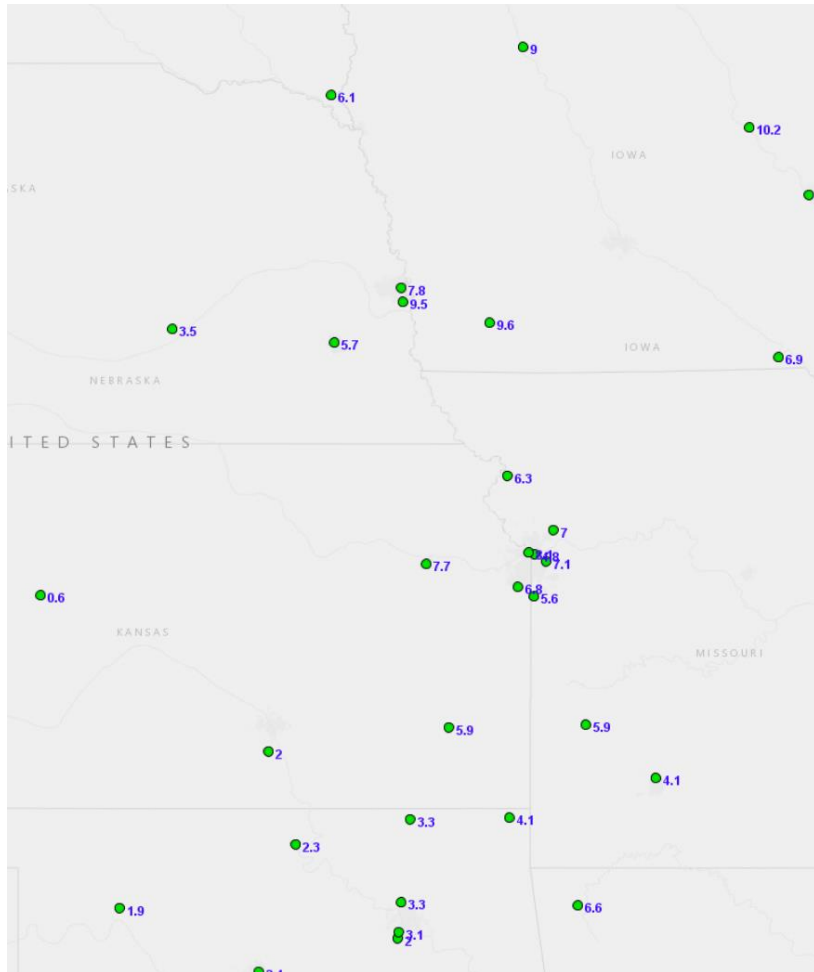


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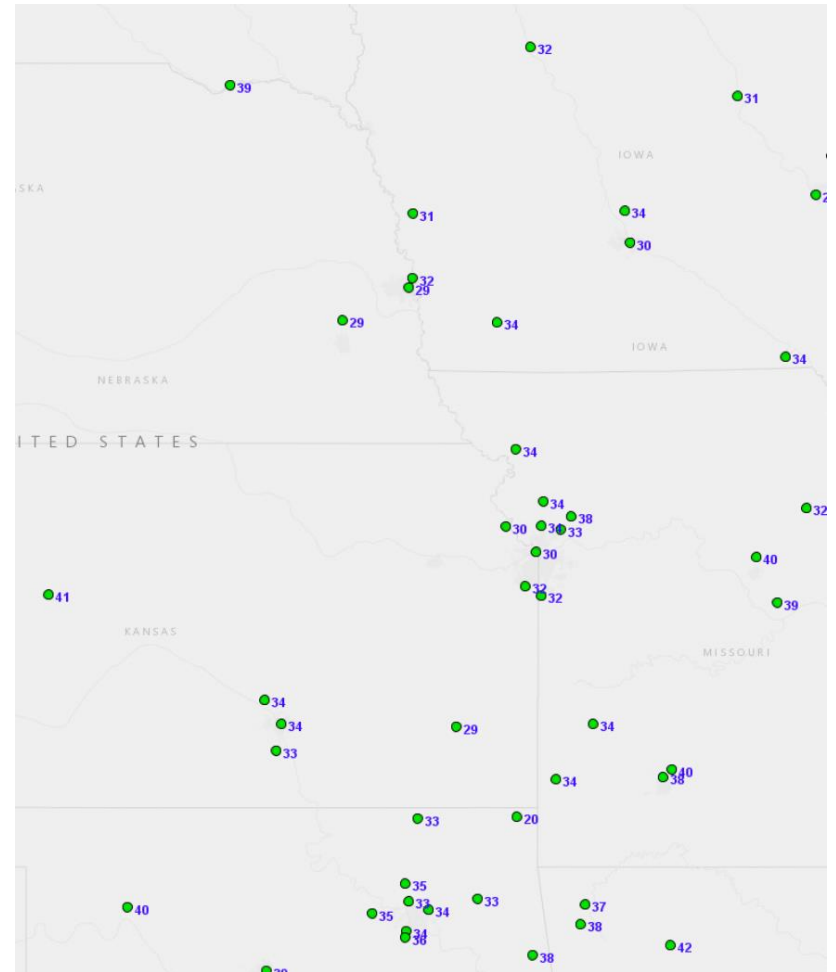


Tuesday, March 23, 2021

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

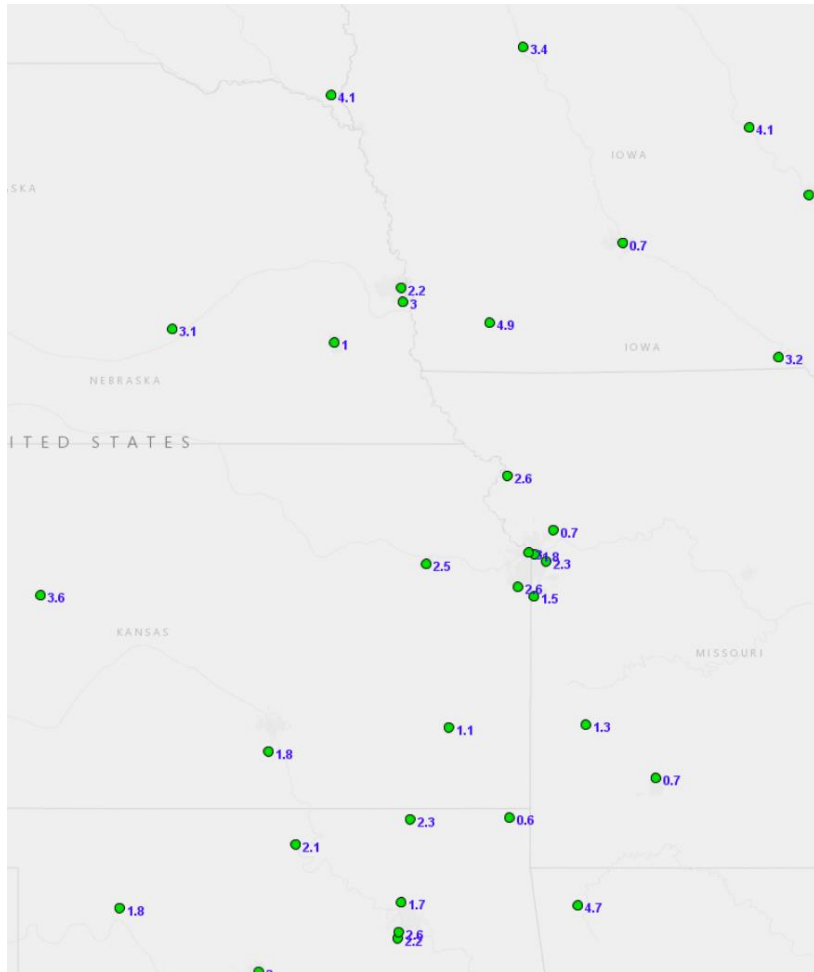


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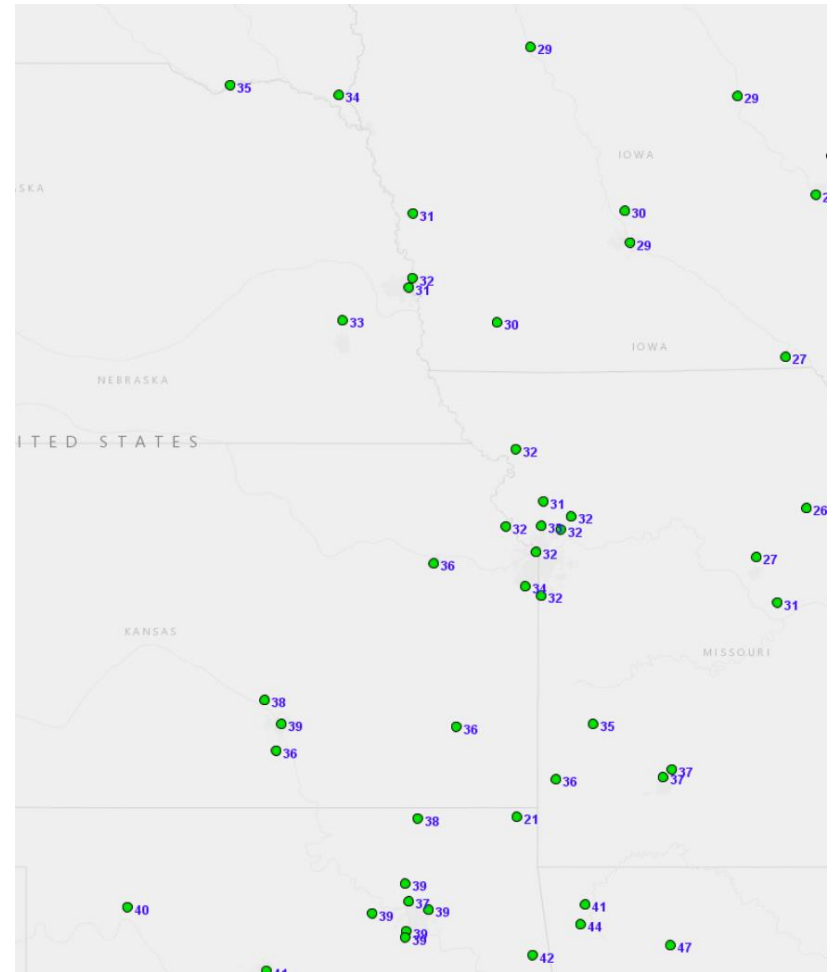


Wednesday, March 24, 2021

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

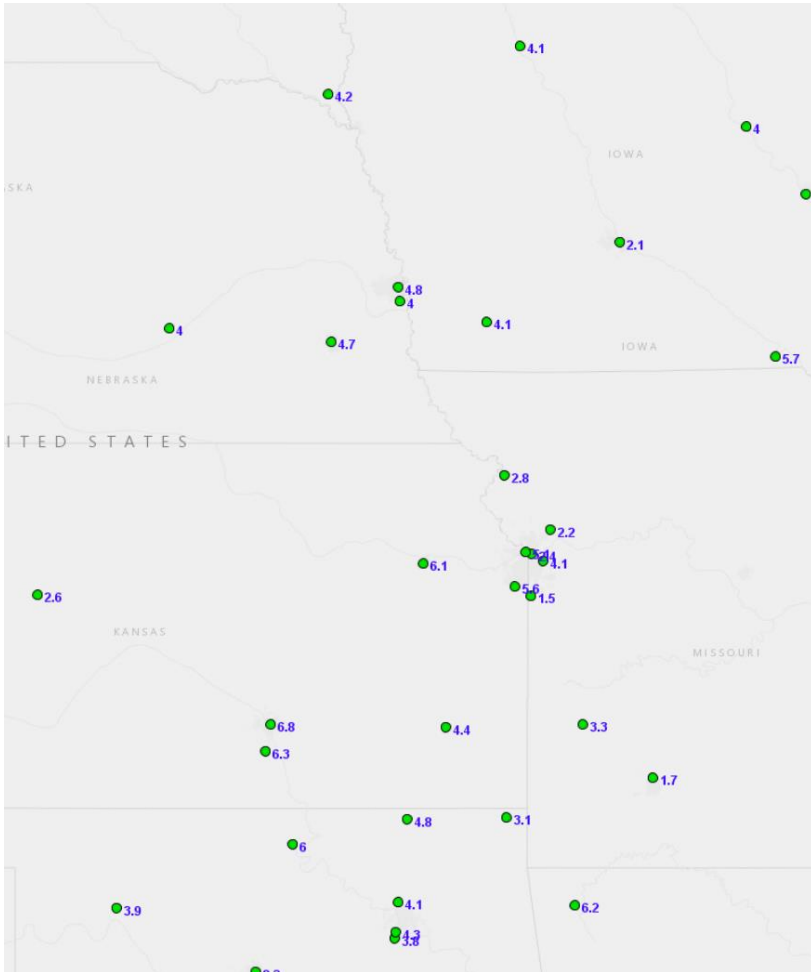


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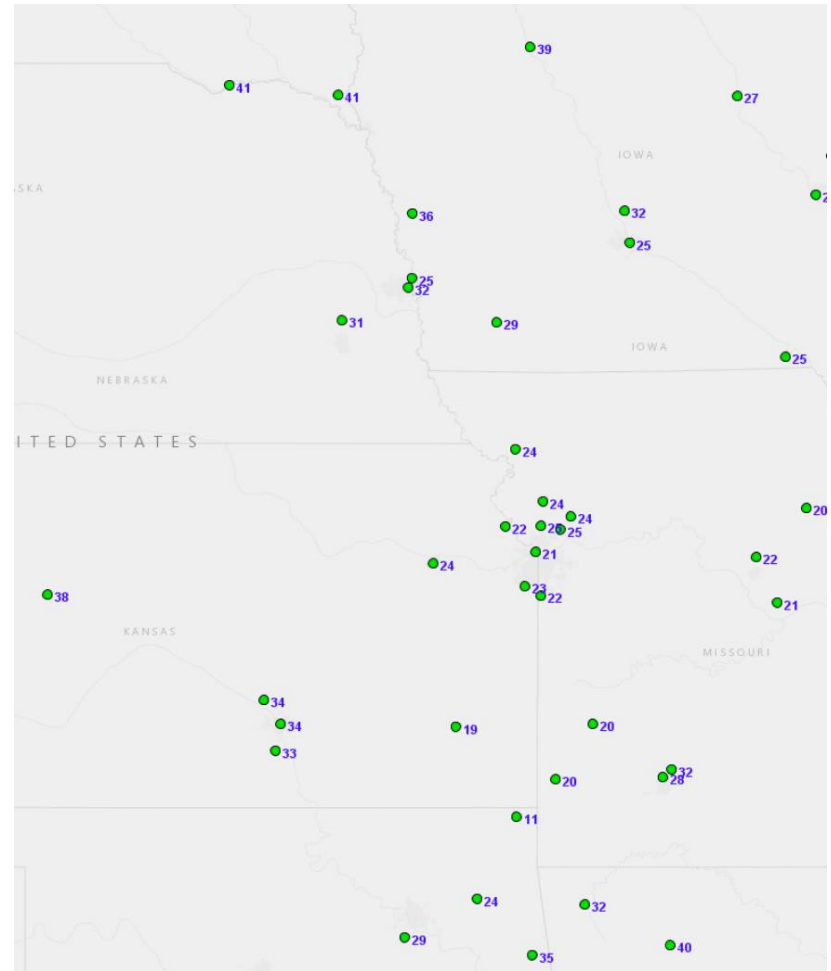


Thursday, March 25, 2021

PM2.5 (24-hour average)

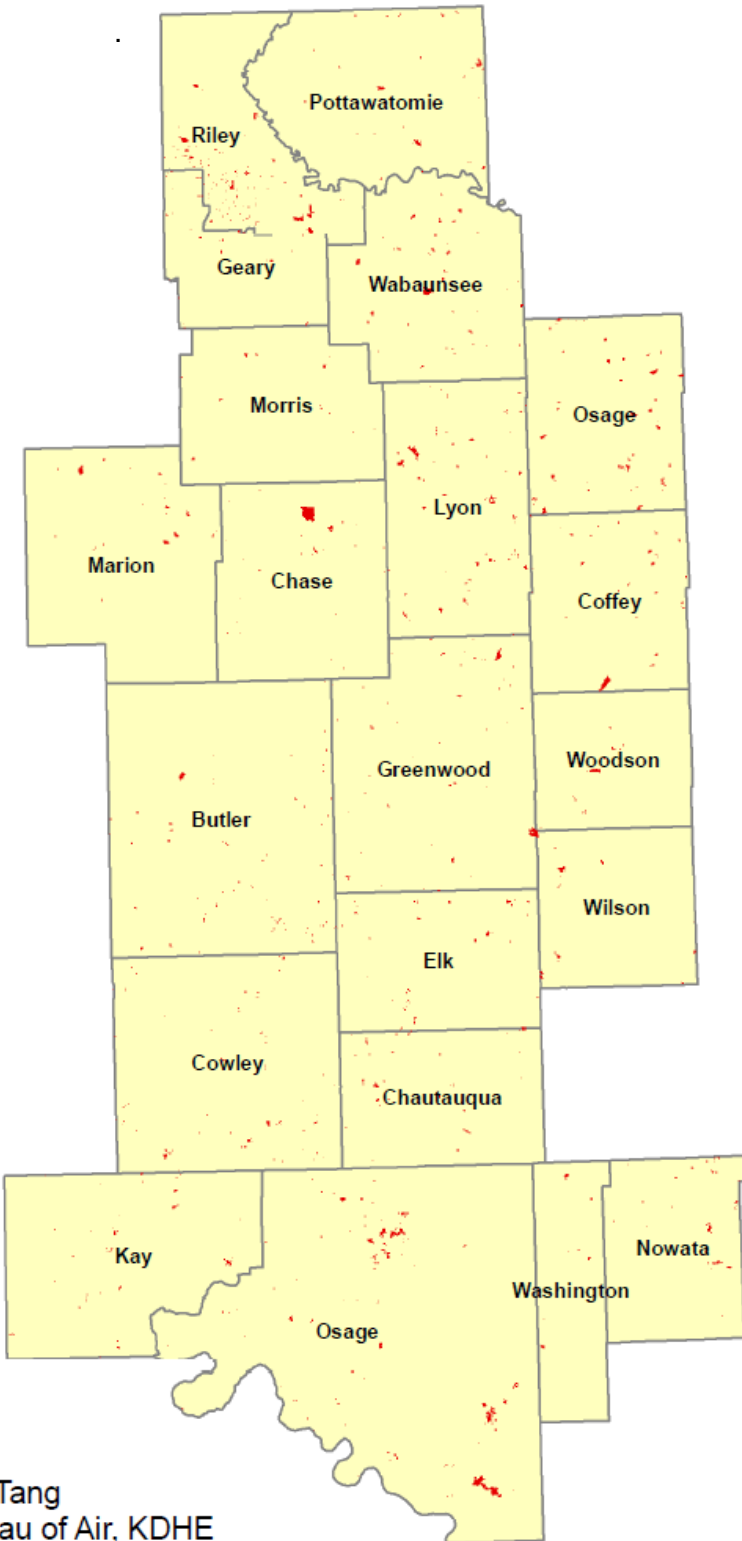


Ozone (8-hour average maximum)





Flint Hills Acreage Burned (February 23 – March 7, 2021)



<u>Counties</u>	<u>Acres Burned</u>
Butler	2,116
Chase	3,042
Chautauqua	1,297
Coffey	2,085
Cowley	2,054
Elk	1,575
Geary	958
Greenwood	2,610
Lyon	4,232
Marion	1,575
Morris	618
Osage (KS)	3,691
Pottawatomie	1,807
Riley	4,881
Wabaunsee	2,935
Wilson	1,359
Woodson	757
Nowata (OK)	1,359
Osage (OK)	7,969
Washington (OK)	633
Kay (OK)	1,436
Total	48,989
* Denotes county was partly or completely covered by clouds during latest analysis.	

Yao Tang
Bureau of Air, KDHE



Fires and Smoke

The brief period of dry conditions in between two weather systems prompted handfuls of fires on Friday (March 19) and Saturday (March 20) within the Flint Hills and the surrounding region. Parts of Oklahoma and Arkansas, south/east of the Flint Hills, was very active with prescribed burning on Saturday (March 20) and Sunday (March 21) as noted by the analysis below with numerous smoke plumes plotted. Strong southerly winds inhibited prescribed burns within the Flint Hills on Sunday (March 21).

The combination of smoke on Saturday and Sunday under steady, but strong south winds led to an increase in particulate matter at air quality monitors from Oklahoma, through Kansas and Missouri, and along the Missouri River impacting Nebraska, Iowa, and even into South Dakota and Minnesota where Moderate Air Quality Index was observed. As a cold front moved southeastward through the region this smoke returned south and led to elevated particulate matter at monitors on Monday (March 22) for parts of the region despite minimal burning the day of.

This cold front brought more rain, clouds, and wind to the region which led to minimal fire activity for the remainder of the week.

KSFIRE.ORG

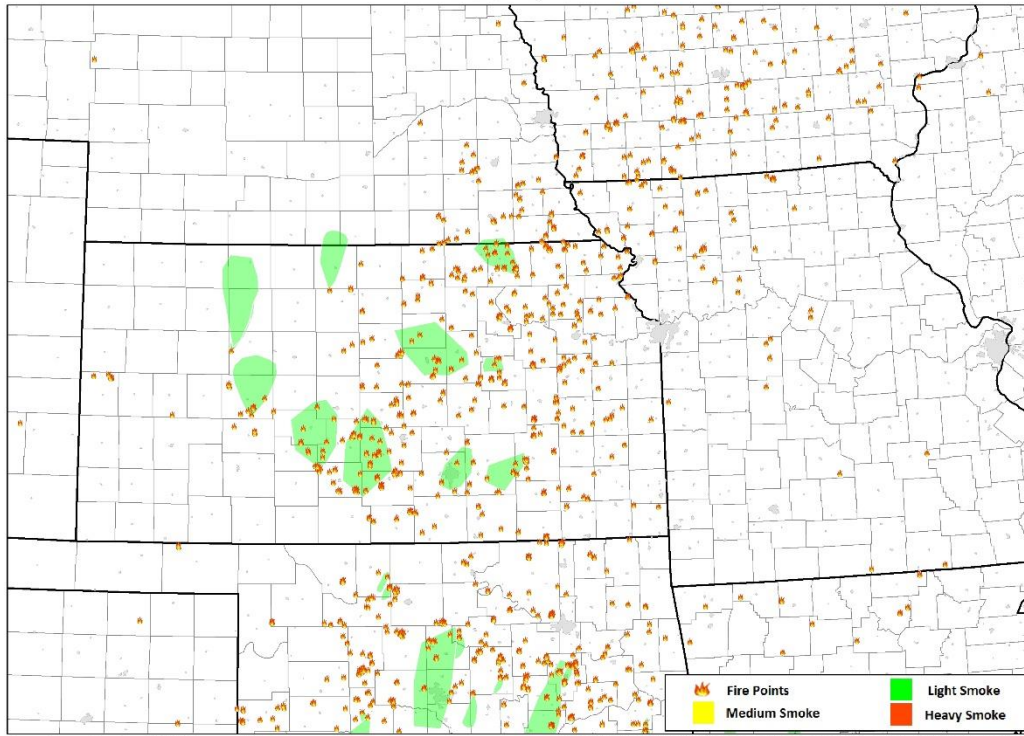


This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications, 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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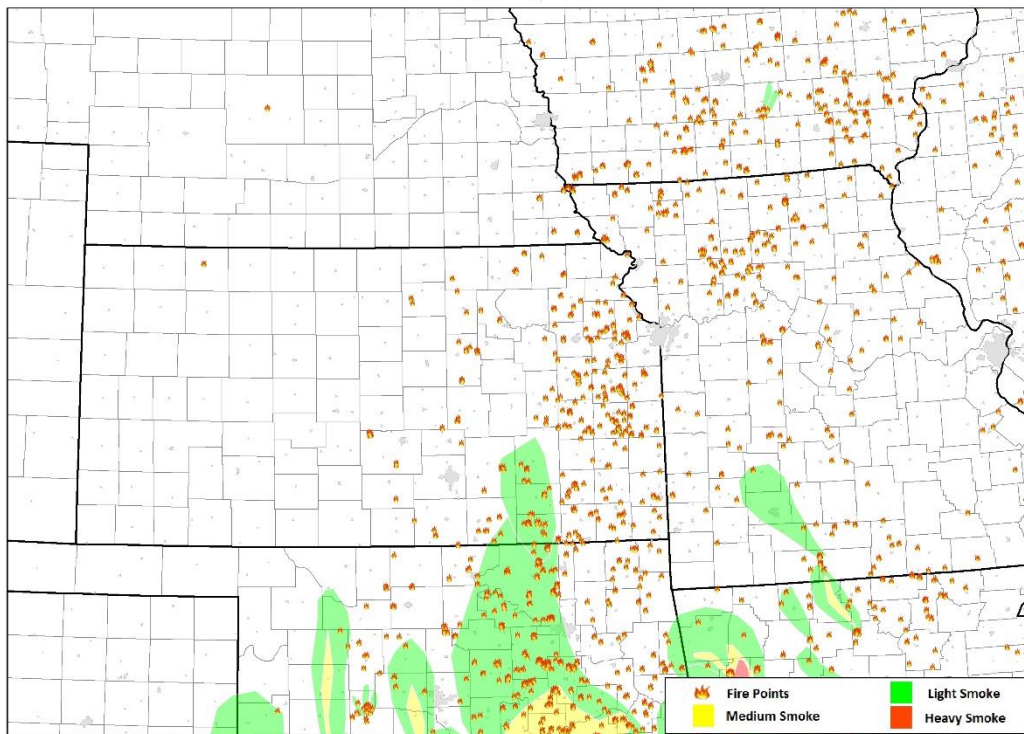
Satellite Fire & Smoke Analysis March 19, 2021



Map: Jayson Prentice, KDHE Bureau of Air

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

Satellite Fire & Smoke Analysis March 20, 2021



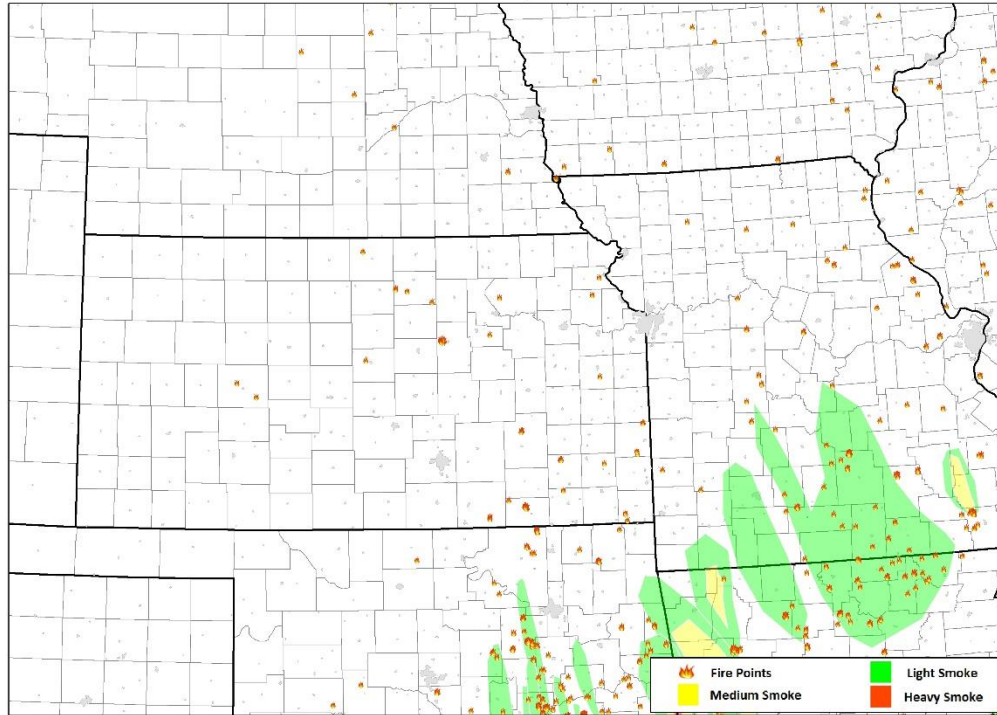
Map: Jayson Prentice, KDHE Bureau of Air

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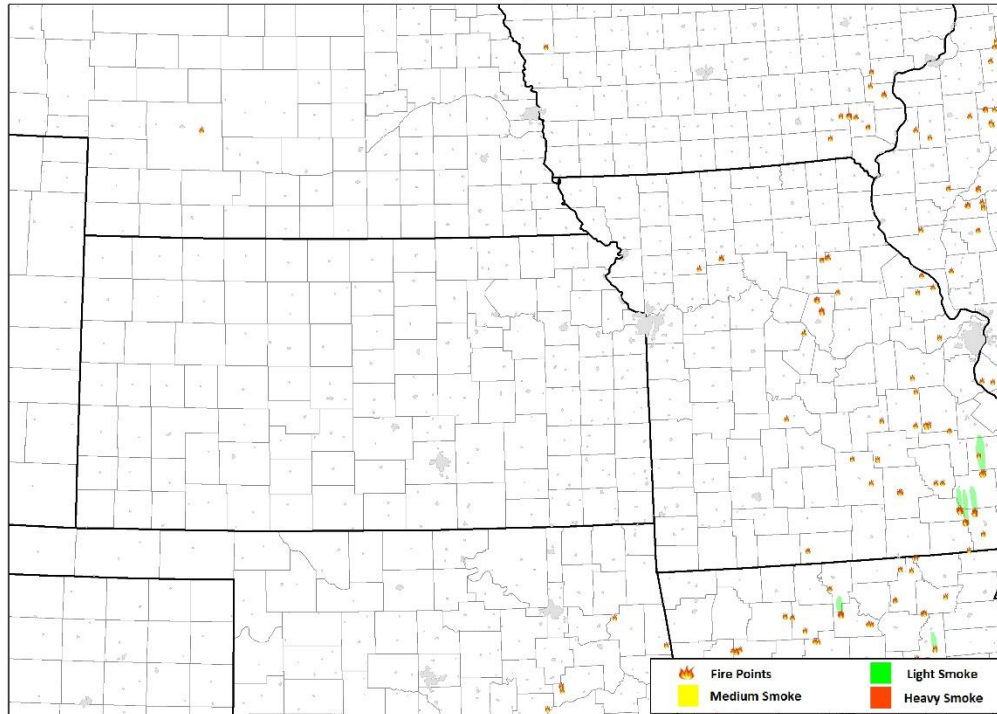
Satellite Fire & Smoke Analysis March 21, 2021



Map: Jayson Prentice, KDHE Bureau of Air

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

Satellite Fire & Smoke Analysis March 22, 2021



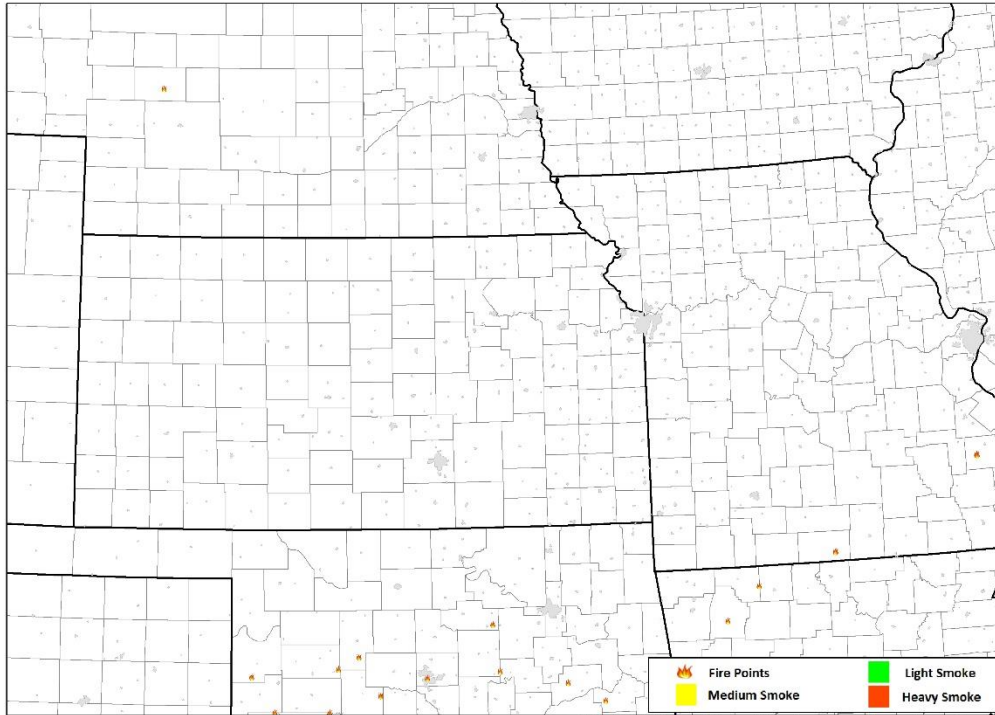
Map: Jayson Prentice, KDHE Bureau of Air

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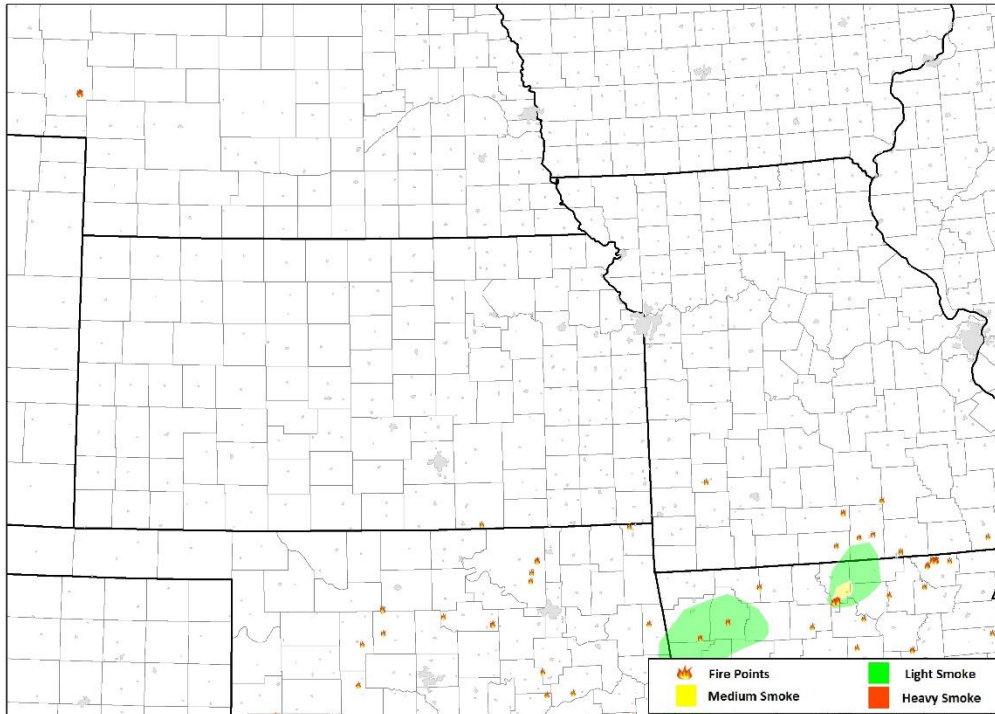
Satellite Fire & Smoke Analysis March 23, 2021



Map: Jayson Prentice, KDHE Bureau of Air

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

Satellite Fire & Smoke Analysis March 24, 2021



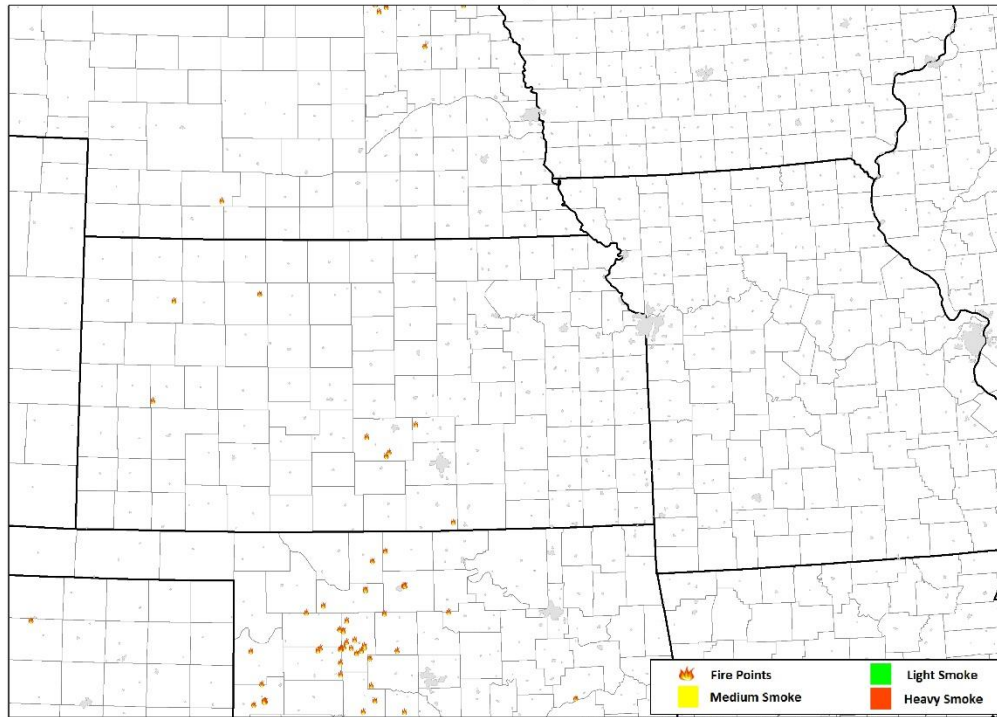
Map: Jayson Prentice, KDHE Bureau of Air

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

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Satellite Fire & Smoke Analysis March 25, 2021



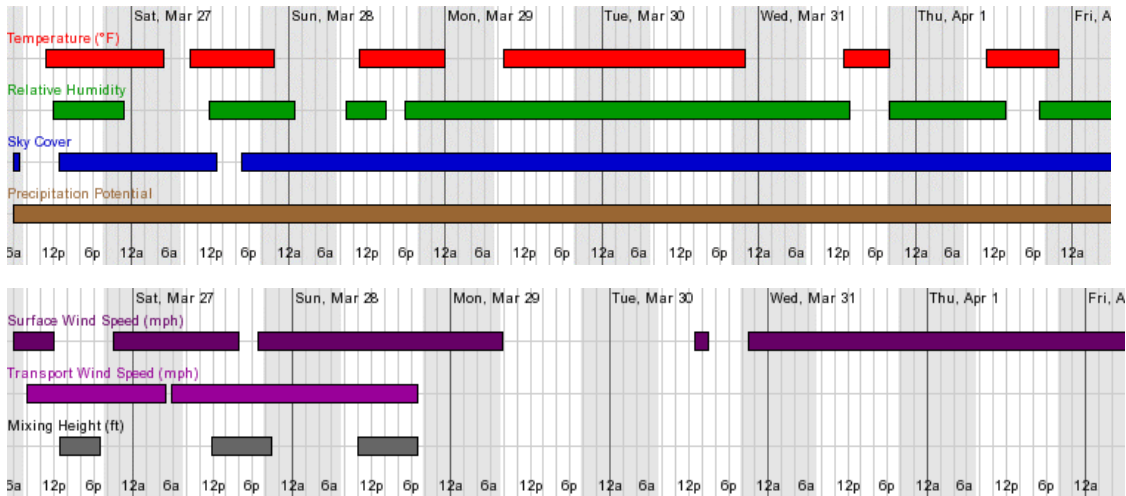


Upcoming Look at Fires and Smoke

Parts of the northern Flint Hills may see rain late today into tonight, but otherwise a primarily dry forecast for the upcoming week with only a low chance for additional rain late Tuesday into Wednesday. Breezy to windy conditions are expected though today (Friday, March 26), Saturday afternoon (March 27), and especially Monday into Tuesday (March 28-29). Conditions will also dry back out considerably with the potential for relative humidity below 30 percent on Sunday (March 28), Wednesday (March 31), and Thursday (April 1).

At least a few days with reasonable to good conditions for prescribed burning appear likely in the upcoming week with the current forecast. But caution will certainly need to be taken when considering higher wind speeds and lower relative humidity that appear likely at times.

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 March 26, 2021.

For more information, contact:

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