

Flint Hills Wildland Fire Update

April 2, 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.

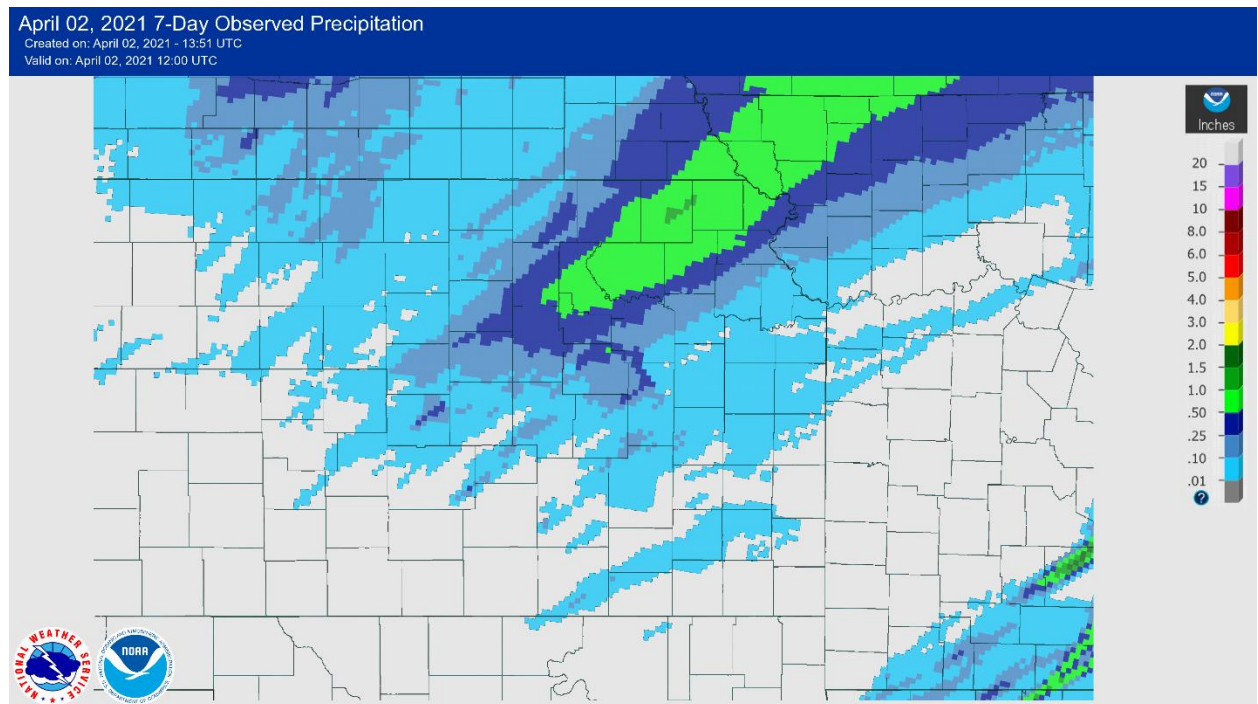




Meteorology

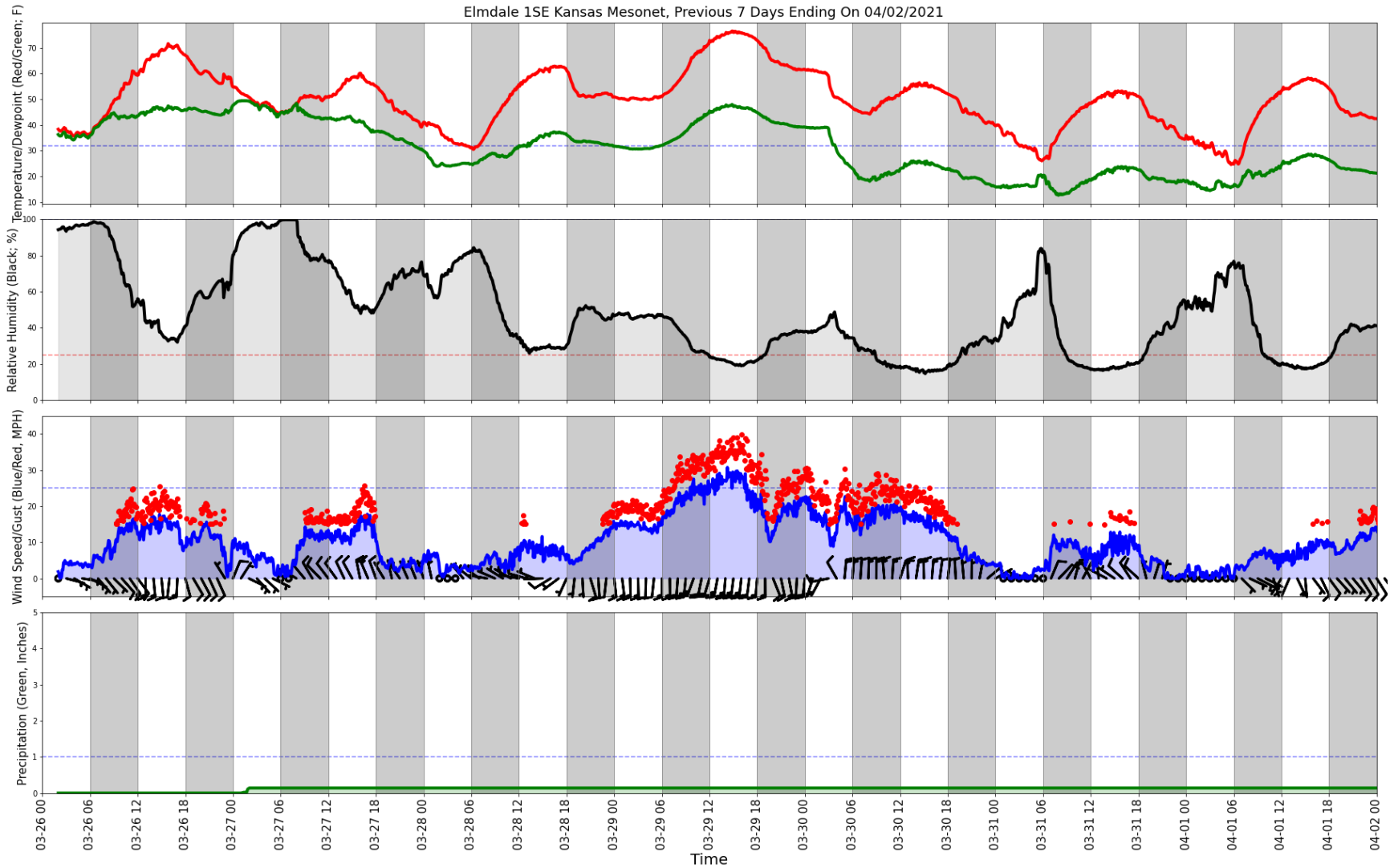
Breezy south winds and mild temperatures were seen last Friday (March 26) across the area ahead of a cold front that brought cooler temperatures and breezy northwest winds for Saturday (March 27). Light winds and clear skies on Sunday (March 28) provided a one-day reprieve before south winds arrived on Monday (March 29) with gusts in the 40-60 mph range for much of the area. Winds stayed gusty on Tuesday (March 30) but with a northwest direction following another cold front brought in cooler temperatures. Wind speeds decreased for Wednesday (March 31) as temperatures remained cooler than normal. Sunny skies and the return of a south wind have begun the moderating trend to temperatures on Thursday (April 1). Despite a couple of cold fronts passing through precipitation last week was scattered with some locations remaining dry and parts of the northern Flint Hills seeing up to an inch of rainfall.

Precipitation



NOAA/NWS Observed Total Precipitation for March 26 - April 1, 2021.

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7-day (March 26 - April 1, 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 26 - April 1, 2021:

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

PM_{2.5}: Preliminary data indicates **two** exceedances of the NAAQS daily 24-hour average maximum of 35 $\mu\text{g}/\text{m}^3$.

On April 1, 2021 the monitor in/near Copan, OK measured a 24-hour average value of 46.7 $\mu\text{g}/\text{m}^3$.

On April 1, 2021 the monitor in/near Ponca City, OK measured a 24-hour average value of 79.7 $\mu\text{g}/\text{m}^3$.

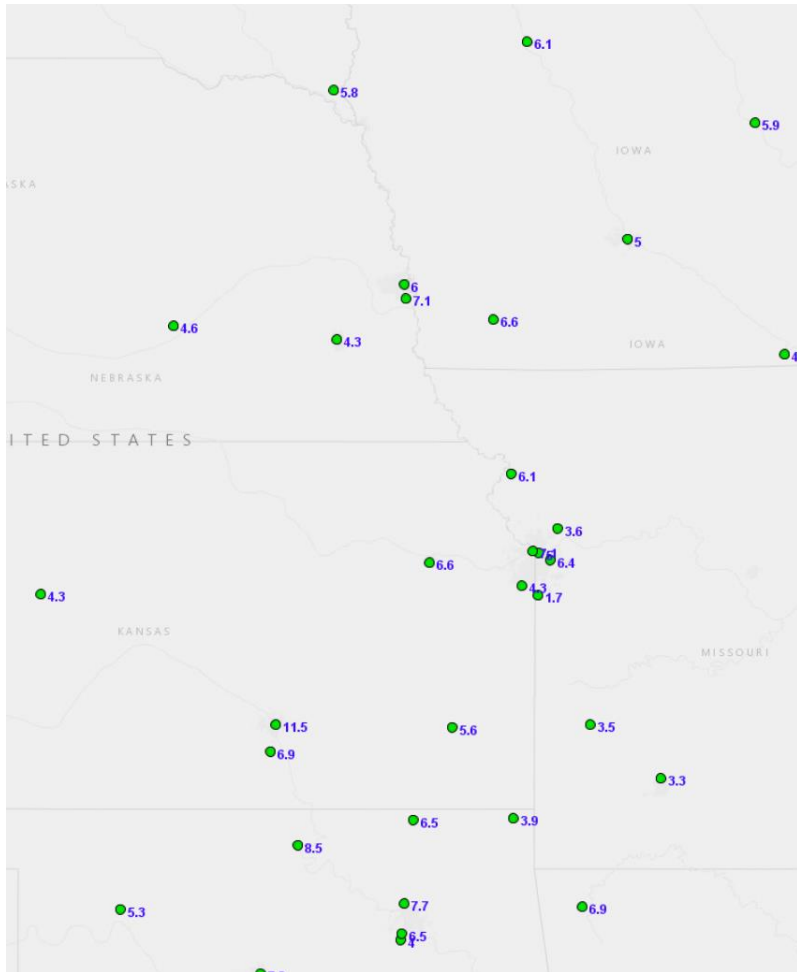
Air quality images on the following pages for each day show preliminary data, courtesy Air Now Tech.

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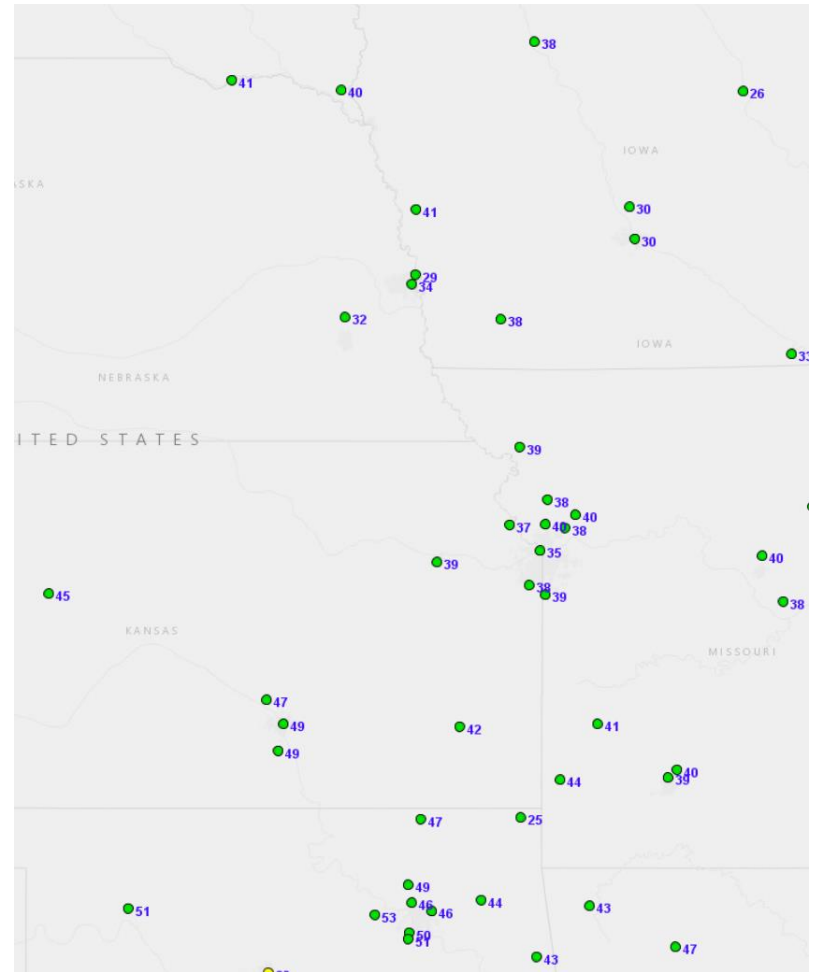


Friday, March 26, 2021

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

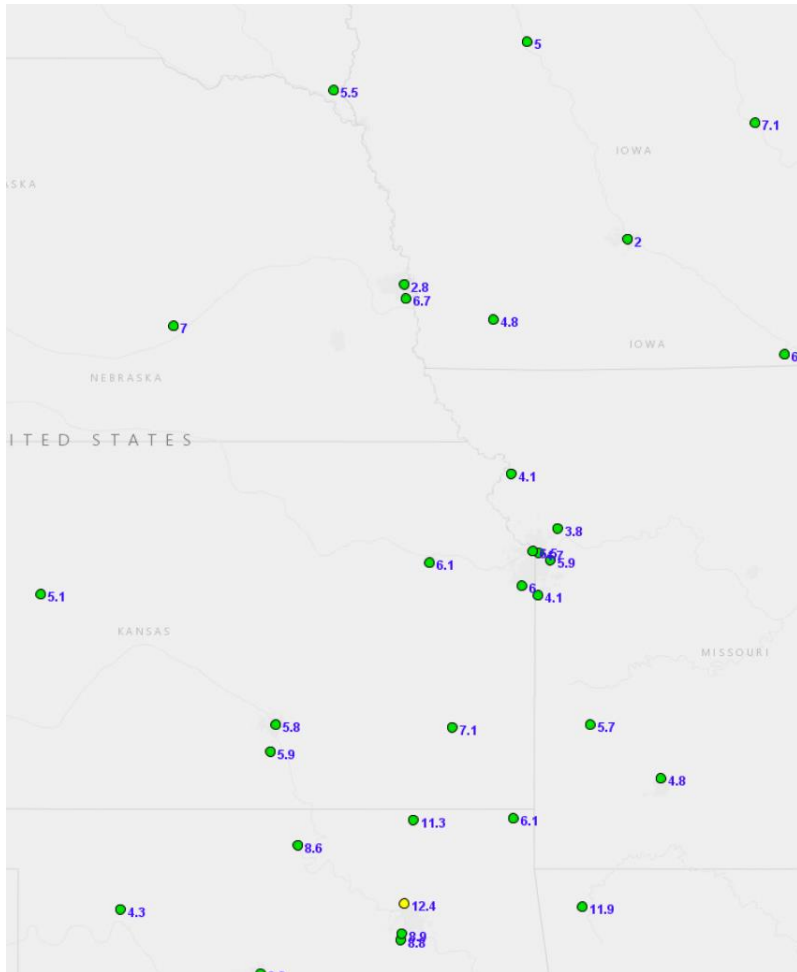


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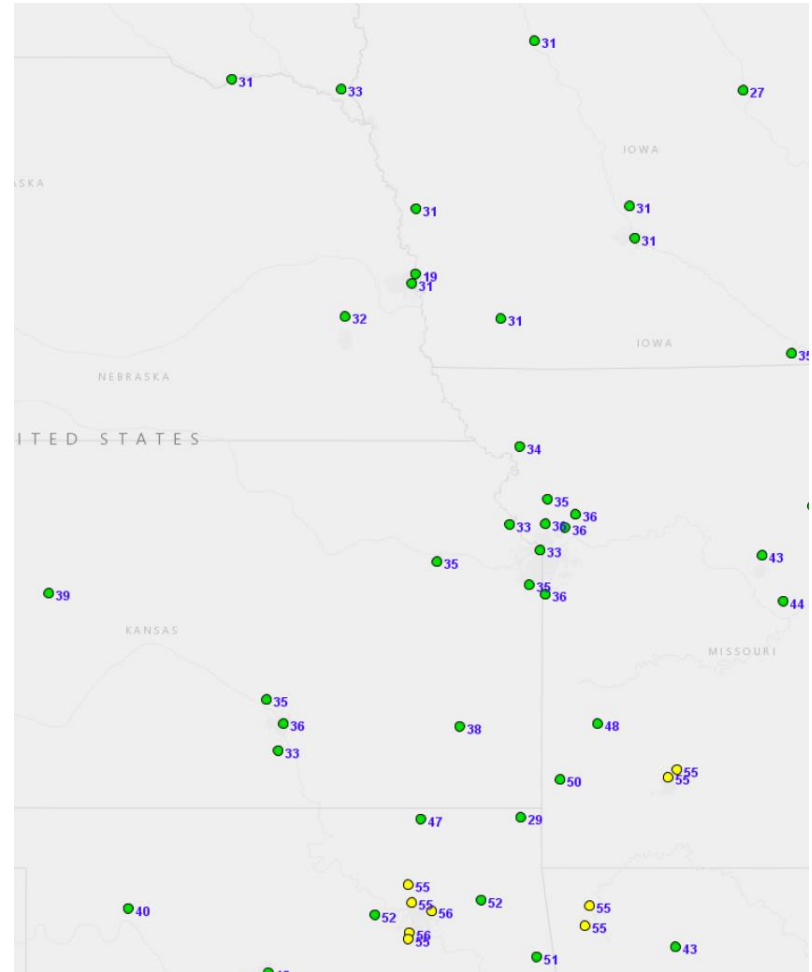


Saturday, March 27, 2021

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

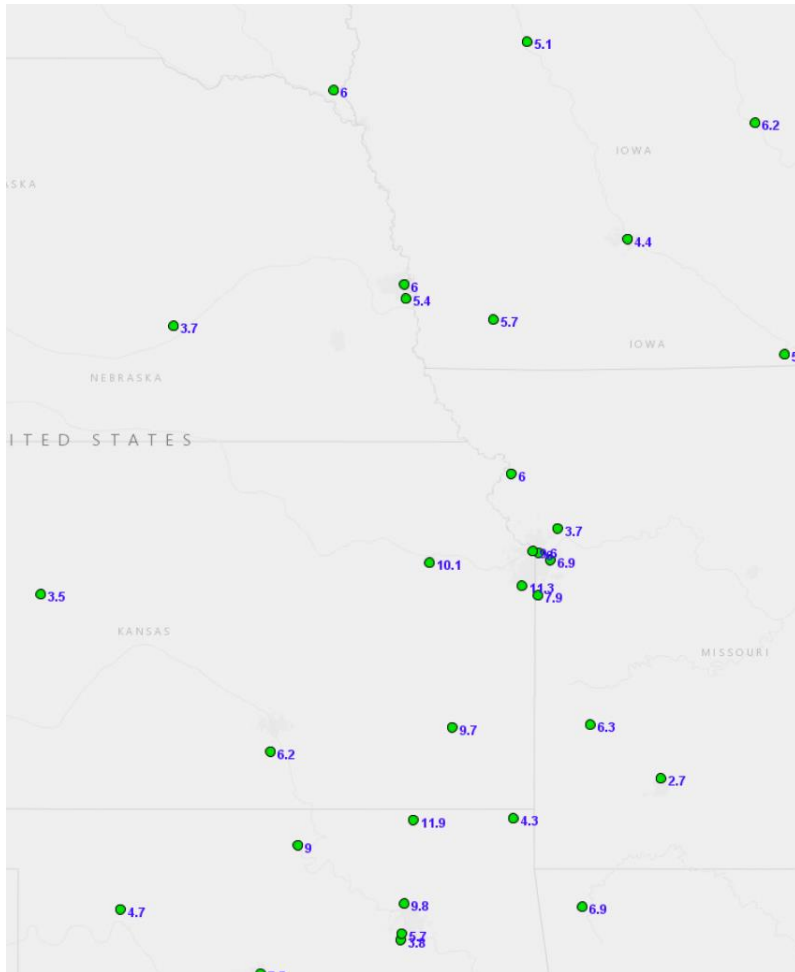


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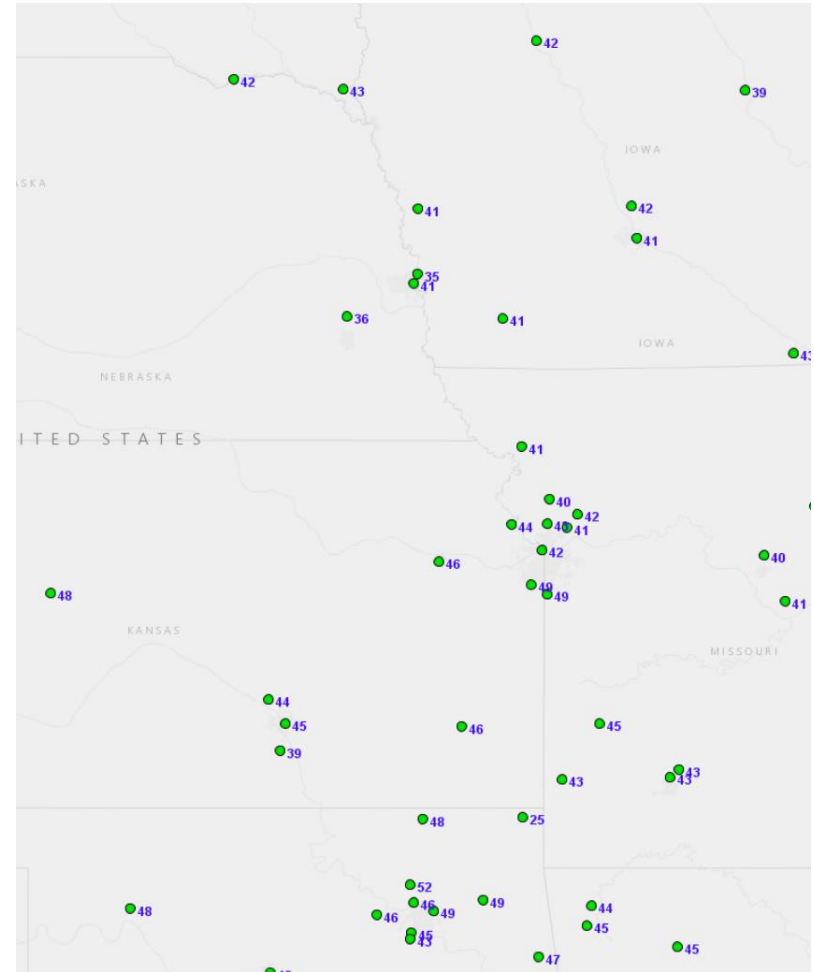


Sunday, March 28, 2021

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

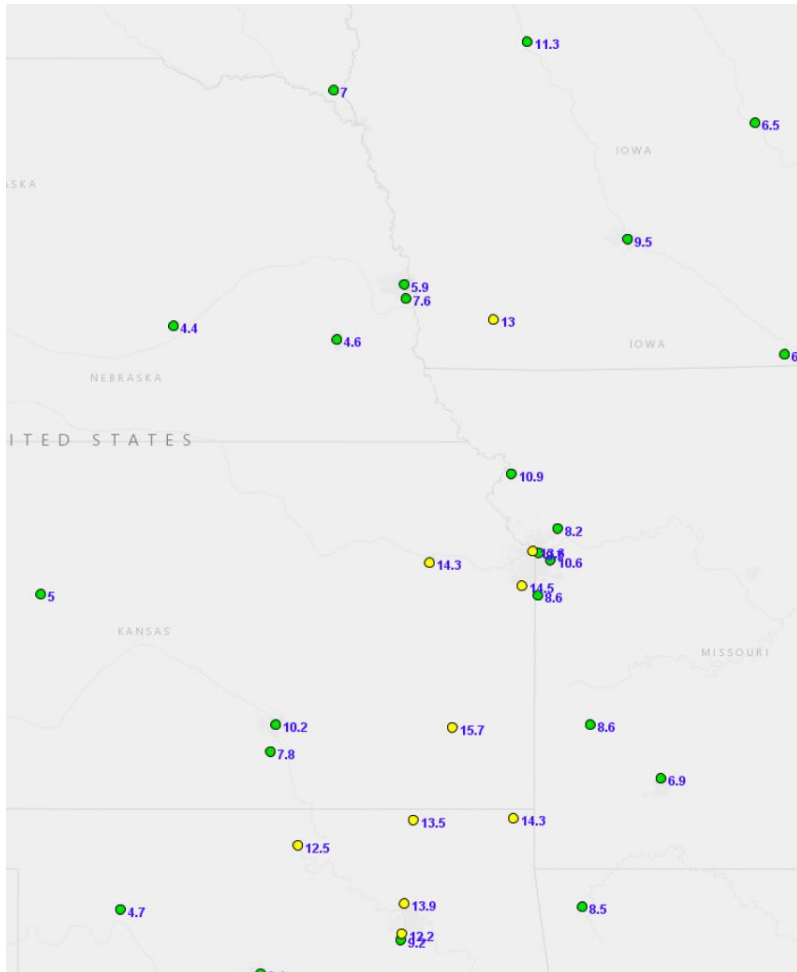


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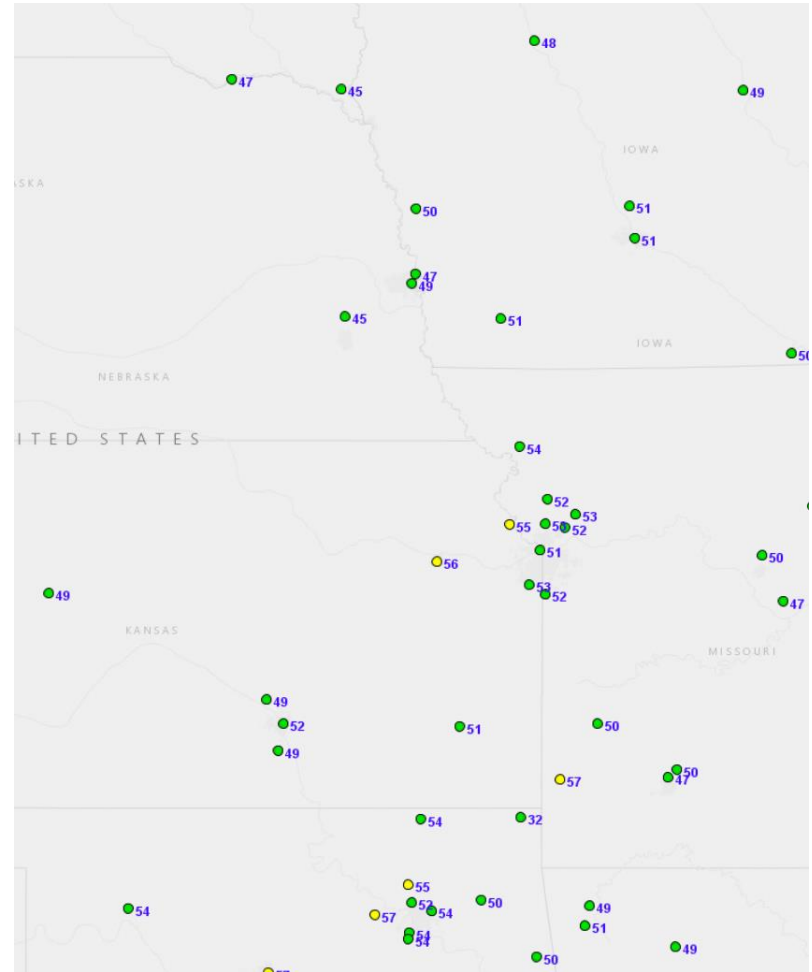


Monday, March 29, 2021

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

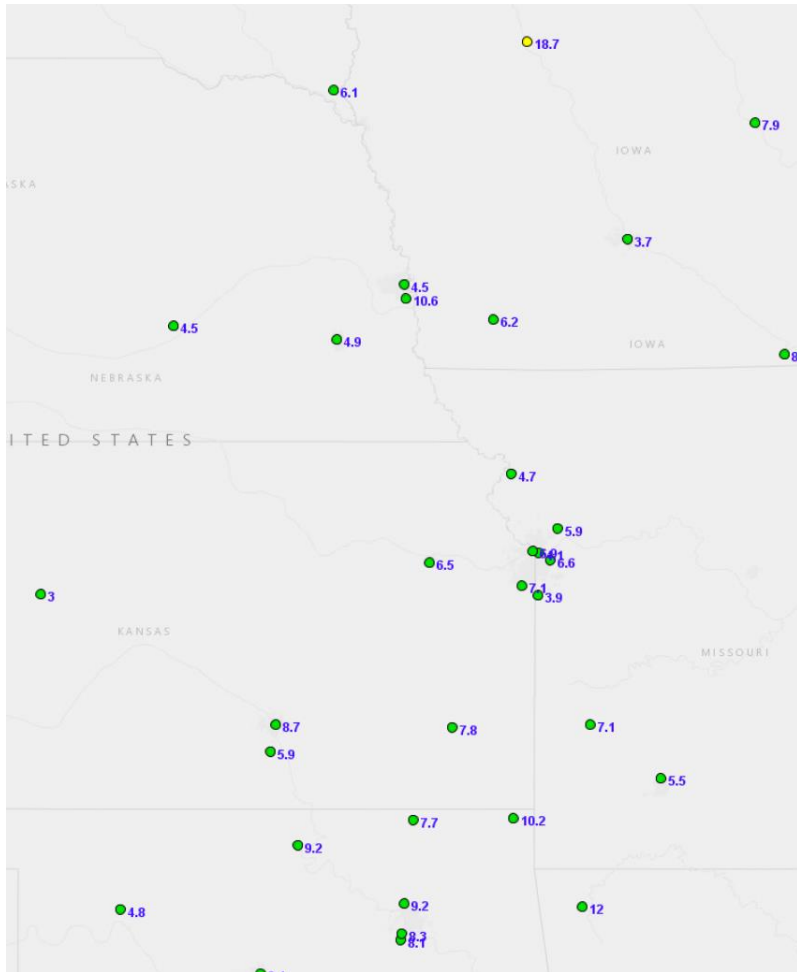


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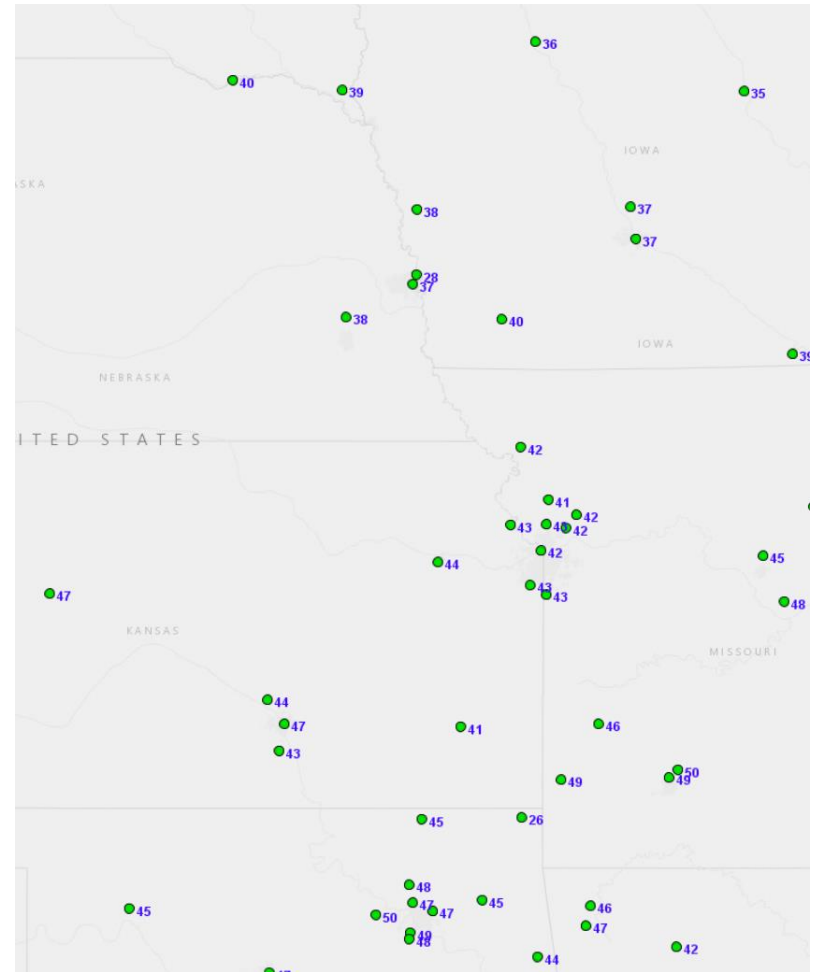


Tuesday, March 30, 2021

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

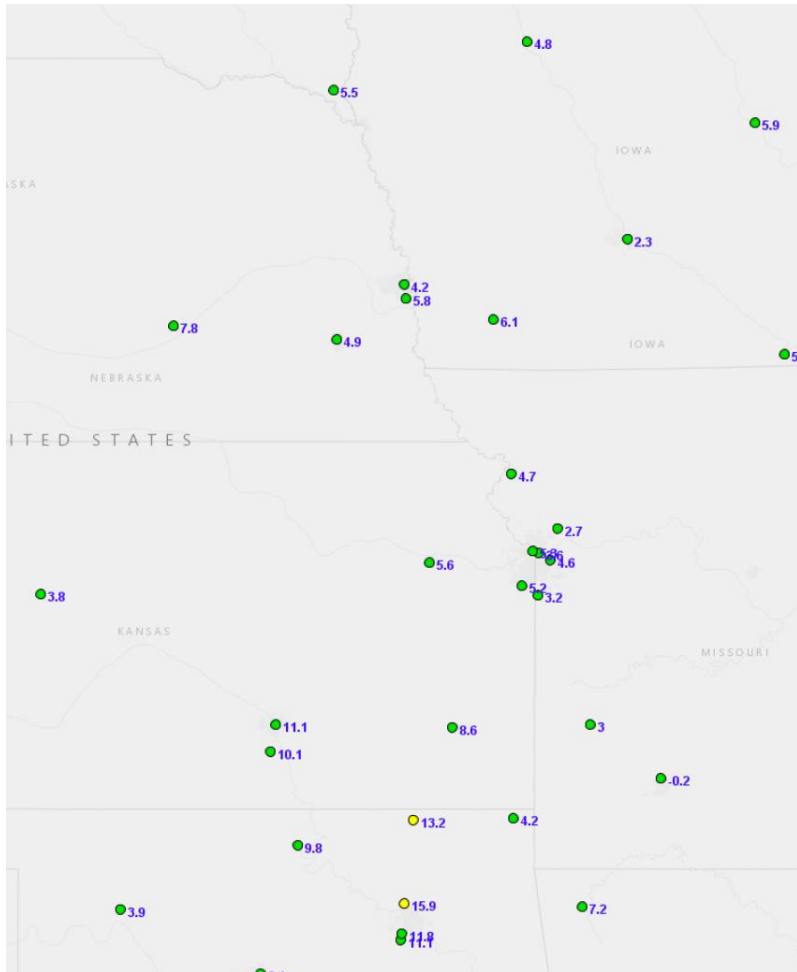


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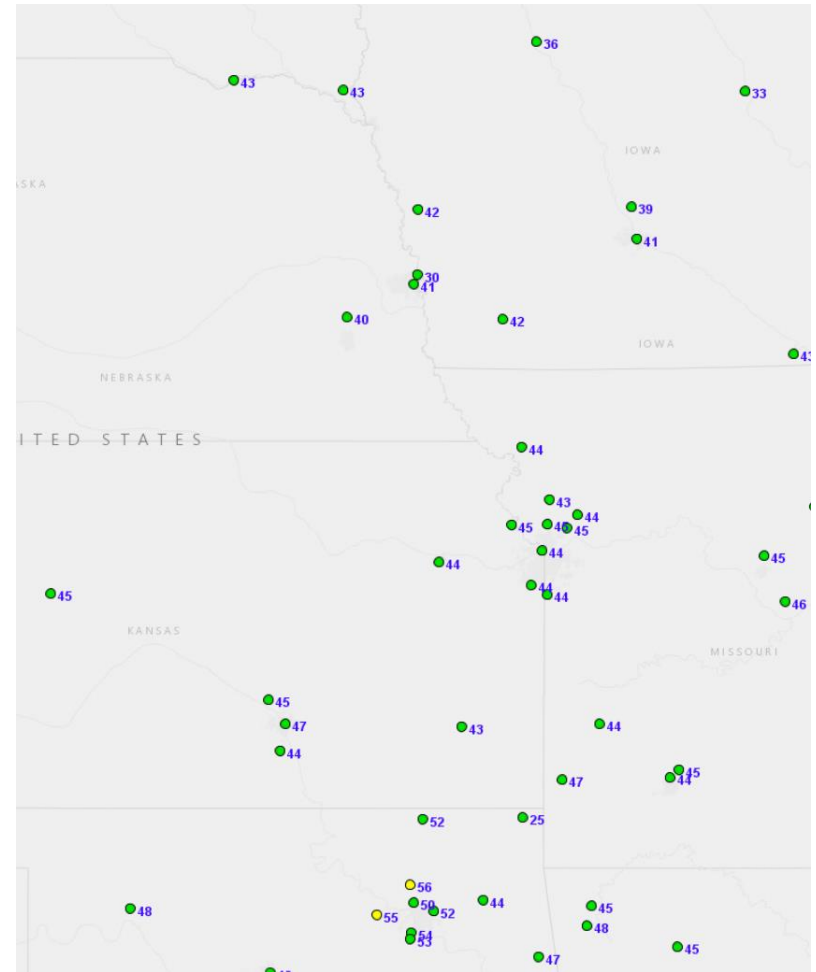


Wednesday, March 31, 2021

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

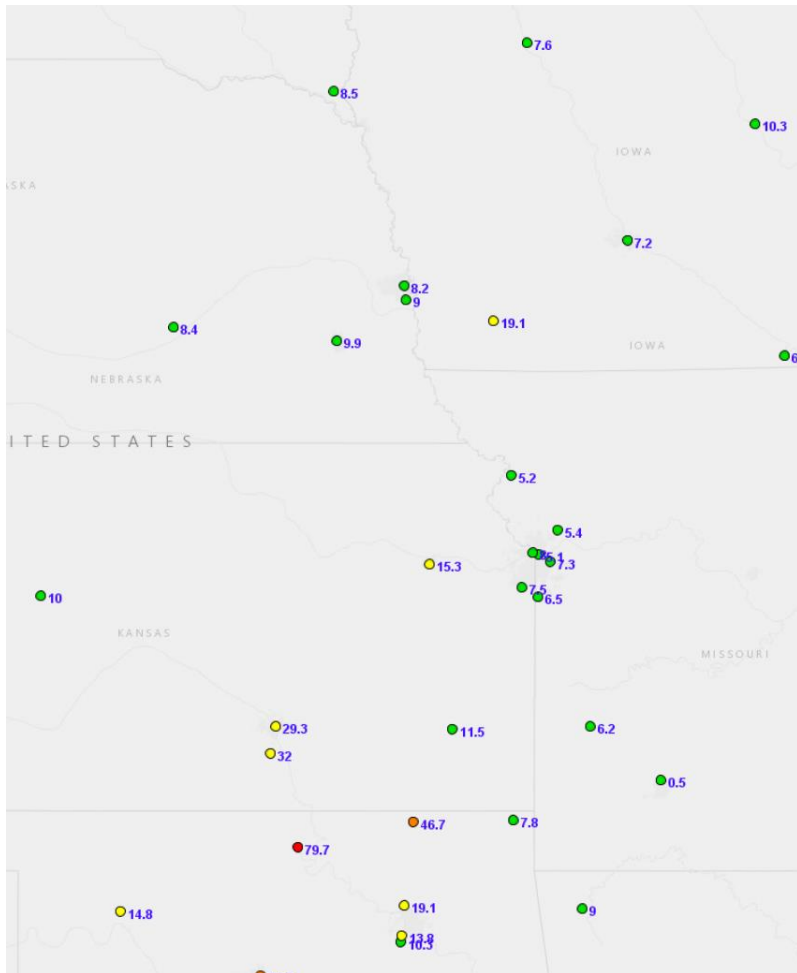


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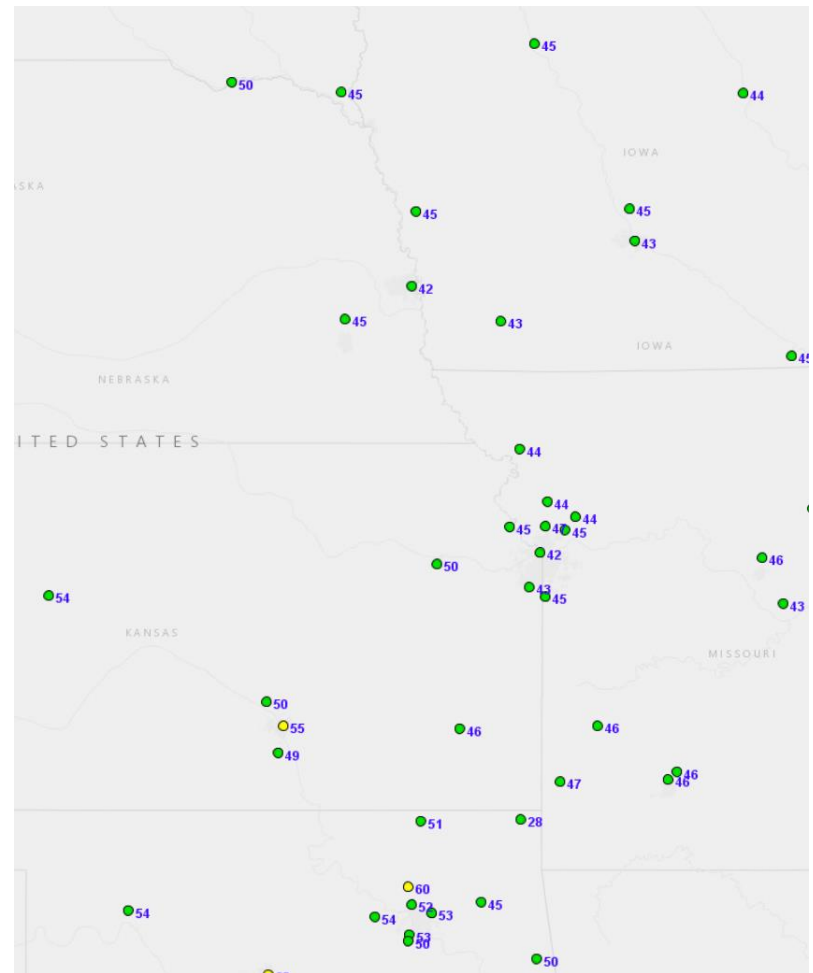


Thursday, April 1, 2021

PM2.5 (24-hour average)

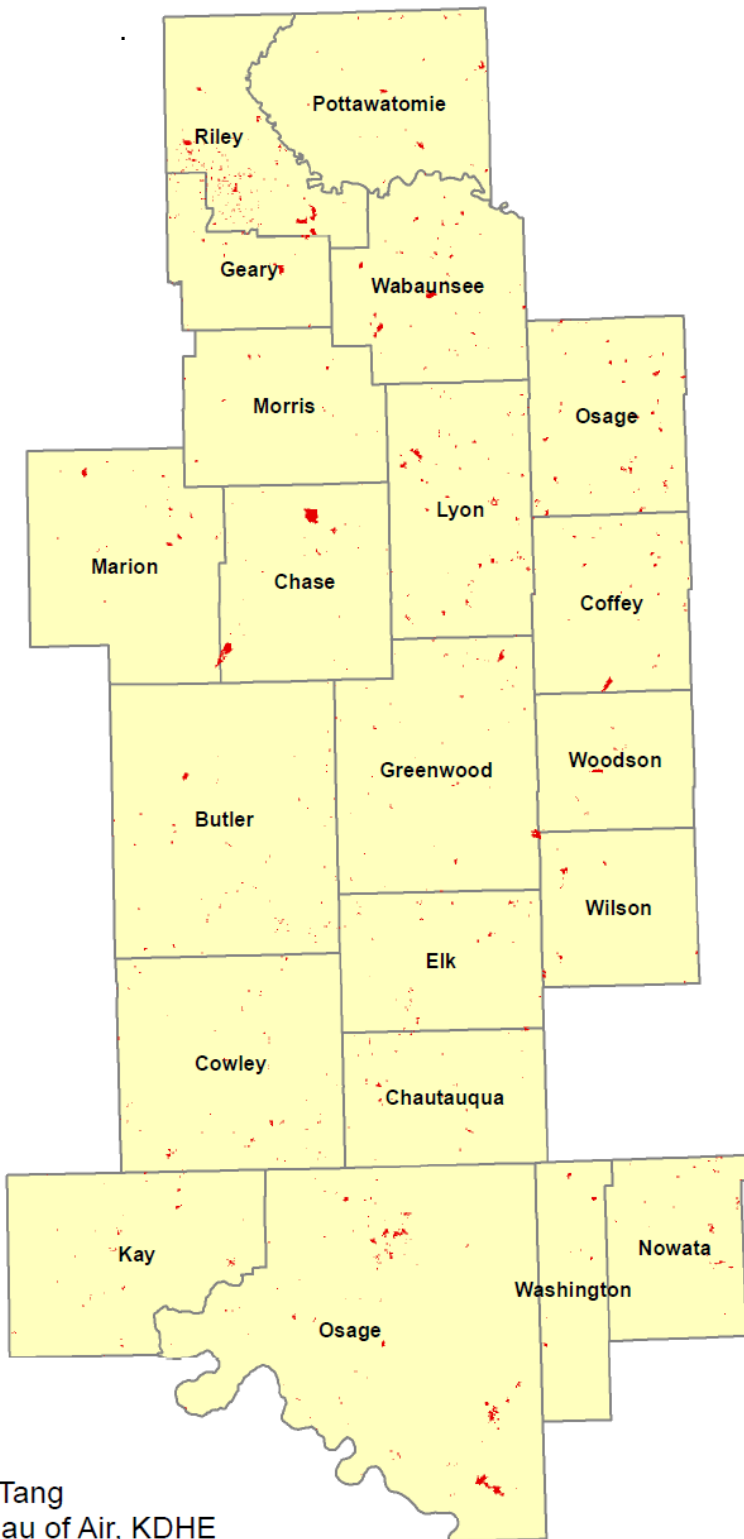


Ozone (8-hour average maximum)





Flint Hills Acreage Burned (February 23 – March 11, 2021)



<u>Counties</u>	<u>Acres Burned</u>	
Butler	2,116	*
Chase	4,726	
Chautauqua	1,297	*
Coffey	2,085	*
Cowley	2,054	*
Elk	1,575	*
Geary	1,854	
Greenwood	2,610	*
Lyon	4,232	*
Marion	1,946	
Morris	618	
Osage (KS)	3,691	*
Pottawatomie	1,807	*
Riley	6,765	
Wabaunsee	3,614	
Wilson	1,359	*
Woodson	757	*
Nowata (OK)	1,359	*
Osage (OK)	7,969	*
Washington (OK)	633	*
Kay (OK)	1,436	*
Total	54,503	
* Denotes county was partly or completely covered by clouds during latest analysis.		

Yao Tang
Bureau of Air, KDHE



Fires and Smoke

A handful of prescribed fires occurring last Friday (March 26) ahead of a cold front with any air quality impacts being localized immediately downwind of the fires. Stronger northwest winds on Saturday (March 27) kept prescribed fire activity reduced for most locations and any air quality impacts were minimal. Ideal weather conditions for prescribed fire activity appeared for Sunday (March 28) and folks throughout the Flint Hills and nearby areas took advantage with copious prescribed fires. Air quality impacts were observed Sunday night into Monday (March 29) within and northeast of the Flint Hills, but the persistent winds helped reduce downwind impacts.

Strong south winds and increased wildfire risk minimized prescribed fire activity on Monday (March 29). Similar strong northwest winds on Tuesday (March 30) kept prescribed fire activity to only a few fires in the southern Flint Hills. Wind speeds decreased on Wednesday (March 31), especially for the southern half of the Flint Hills, which prompted an increase in prescribed fire activity in the Flint Hills, Red Hills, and other nearby regions. Under lighter northwest and eventually calm winds smoke from this activity led to air quality issues across Oklahoma and southeast Kansas.

Ideal conditions on Thursday (April 1) led to widespread prescribed fire activity throughout the region, but an obvious focus within the Flint Hills. The combination of smoke from the prior day moving back north under the now southerly winds, and the current day smoke led to occasional air quality (sometimes significant) over Oklahoma, Kansas, and eventually further north into Nebraska by late Thursday. Smoke impacts continue this morning (April 2) throughout the entire region after widespread prescribed fire activity yesterday.

KSFIRE.ORG

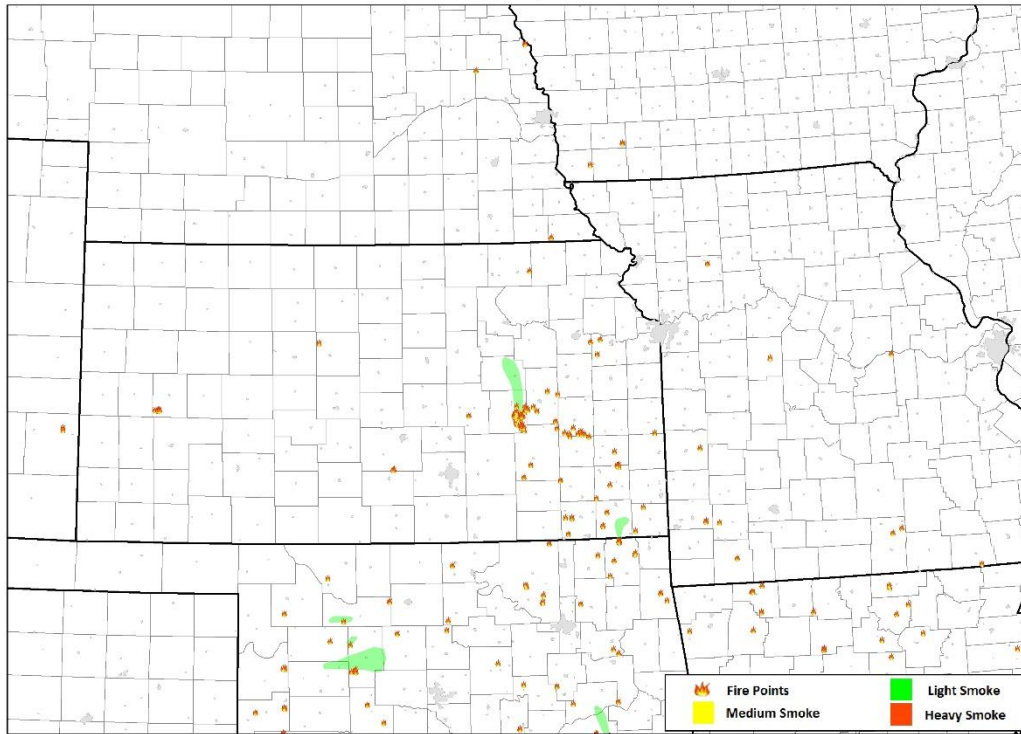


This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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

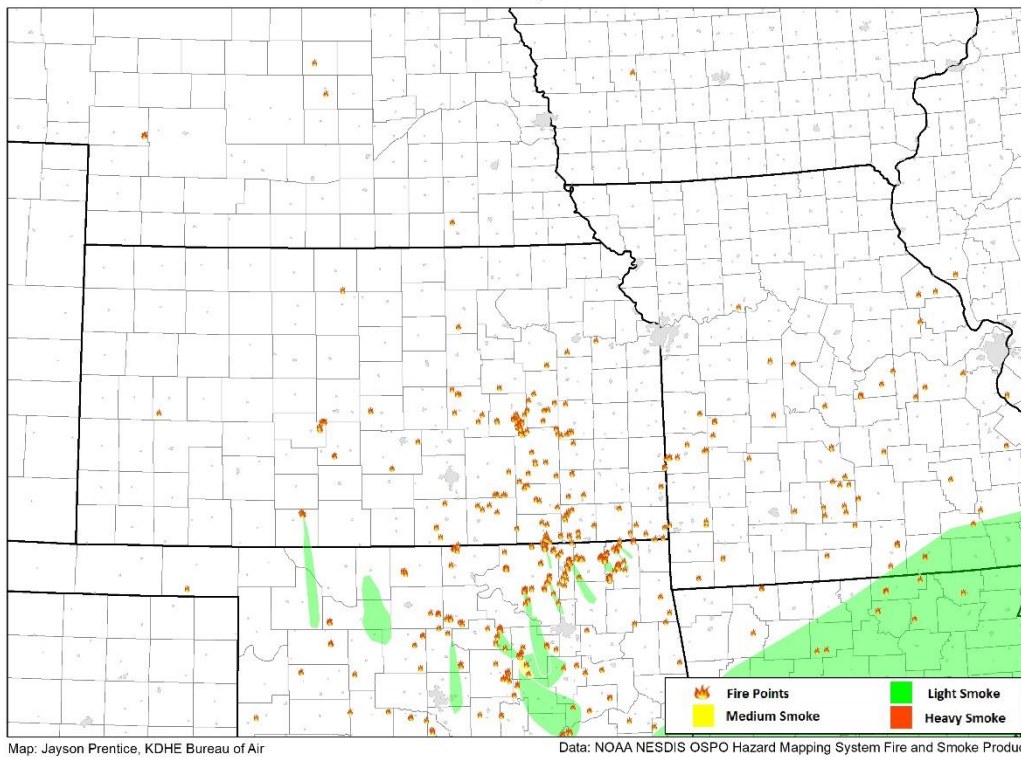
Flint Hills Wildland Fire Update



Satellite Fire & Smoke Analysis March 26, 2021



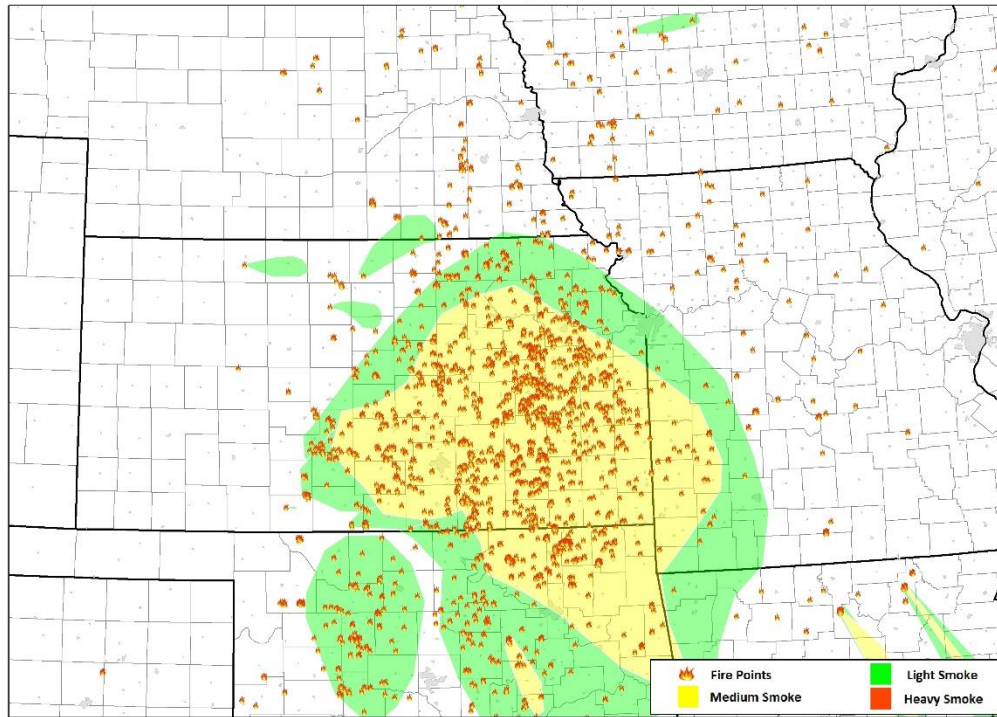
Satellite Fire & Smoke Analysis March 27, 2021



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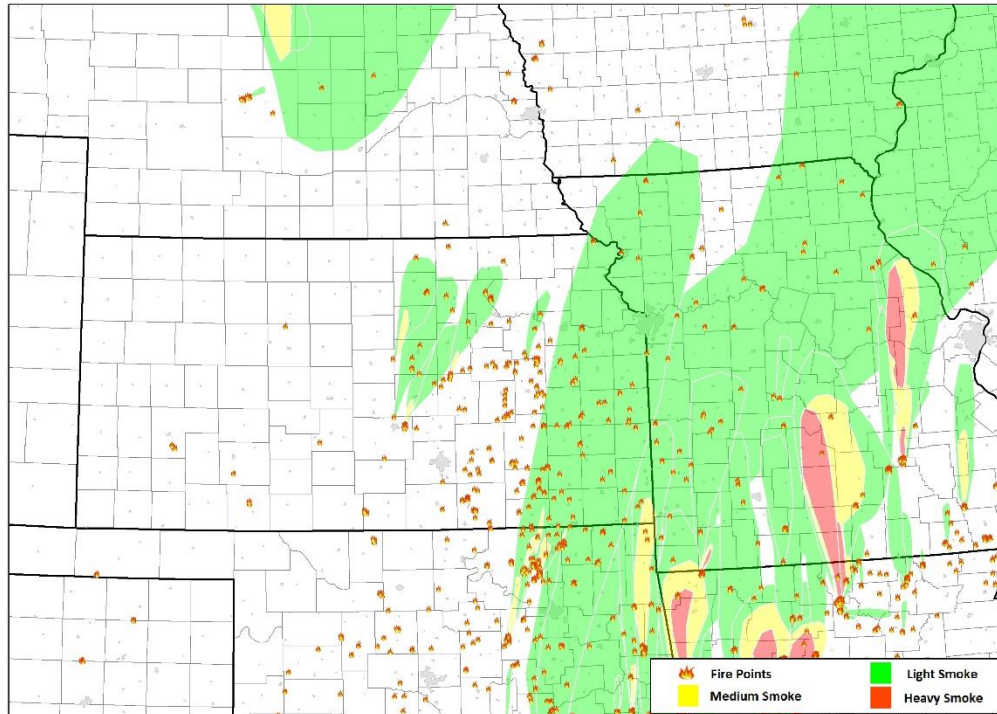
Satellite Fire & Smoke Analysis March 28, 2021



Map: Jayson Prentice, KDHE Bureau of Air

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

Satellite Fire & Smoke Analysis March 29, 2021



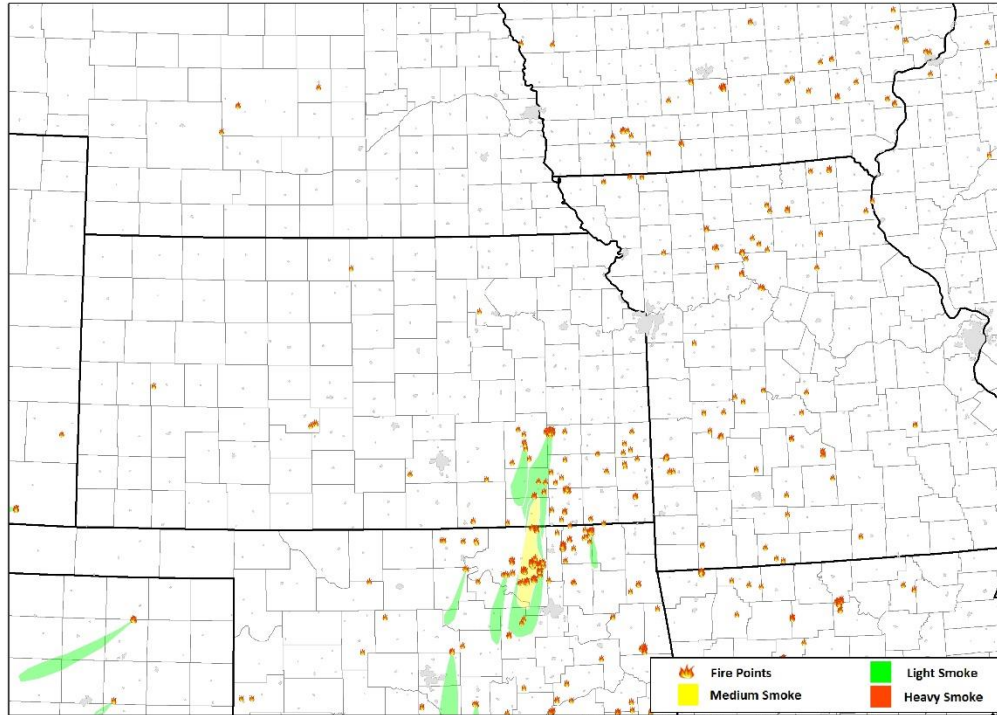
Map: Jayson Prentice, KDHE Bureau of Air

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

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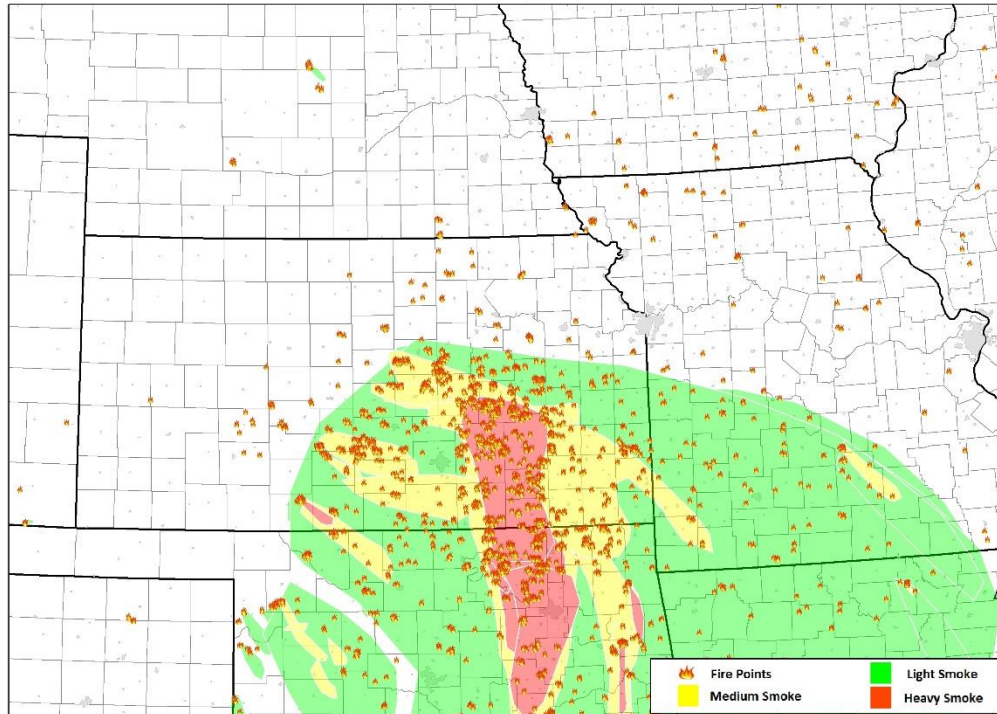
Satellite Fire & Smoke Analysis March 30, 2021



Map: Jayson Prentice, KDHE Bureau of Air

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

Satellite Fire & Smoke Analysis March 31, 2021



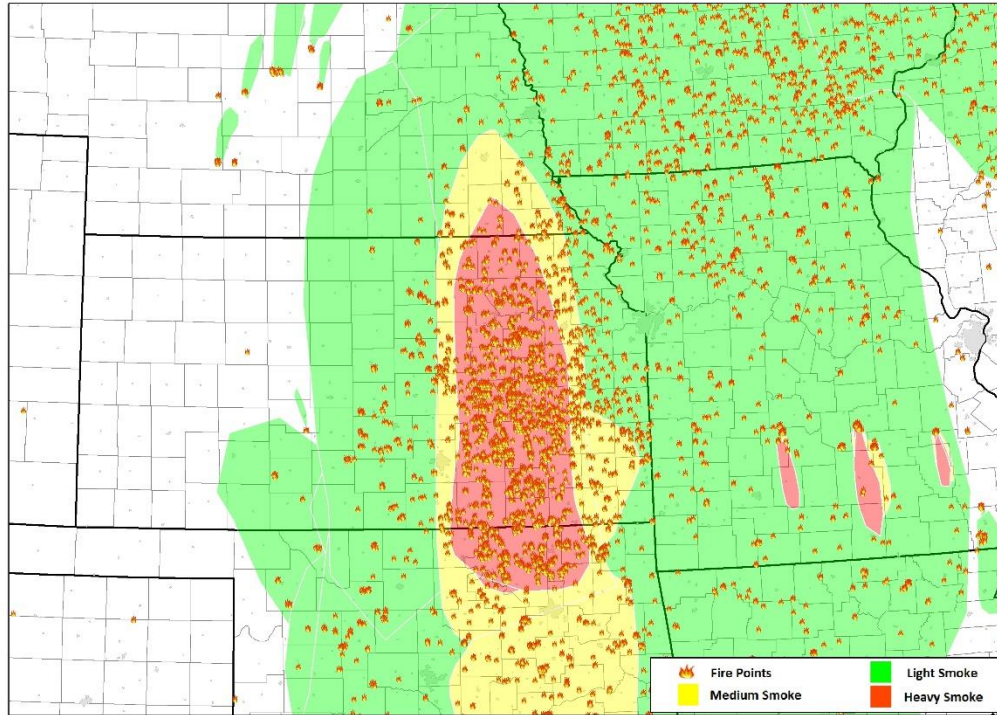
Map: Jayson Prentice, KDHE Bureau of Air

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

Flint Hills Wildland Fire Update



Satellite Fire & Smoke Analysis April 01, 2021



Map: Jayson Prentice, KDHE Bureau of Air

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

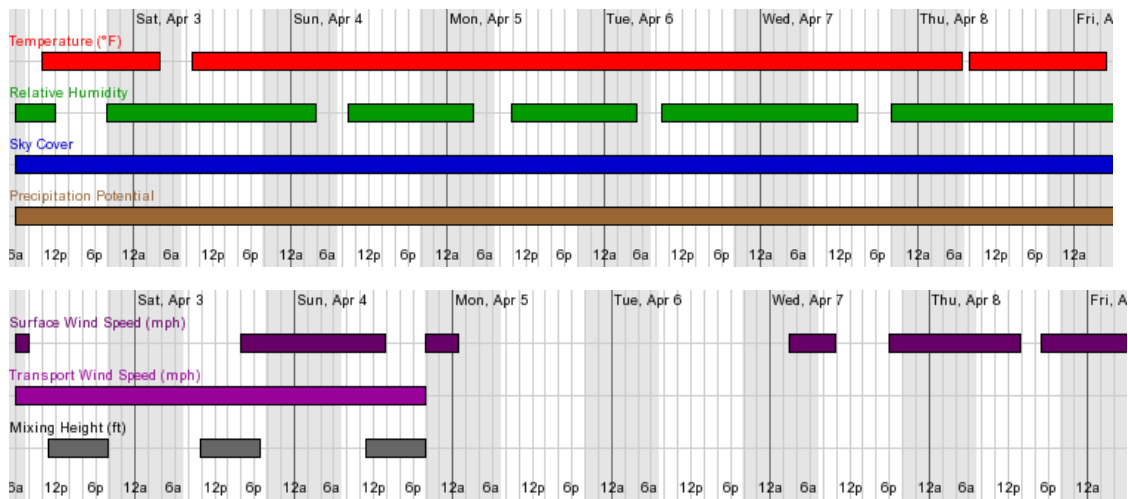


Upcoming Look at Fires and Smoke

Seasonable to above normal temperatures are expected for much of the upcoming week with primarily clear skies and minimal to no precipitation chances. Surface wind speeds and afternoon relative humidity values appear to be the primary factor in whether or not prescribed burning will be able to take place.

Low relative humidity and strong south winds are forecast today (April 2) for much of the region and will likely inhibit any widespread prescribed fire activity. Conditions improve somewhat on Saturday (April 3), especially late, but gusty winds are still expected again Sunday (April 4) afternoon. Windy conditions are forecast for Monday and Tuesday (April 5-6) with strong afternoon winds yet again on Wednesday and Thursday (April 7-8) albeit decreasing each day. There will likely be some prescribed fire activity on some of the marginal days, but winds will likely hinder any widespread prescribed fire activity and will aid in good dispersion of any smoke.

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 2, 2021.

For more information, contact:

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