

Flint Hills Prescribed Fire Update

April 27, 2018

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

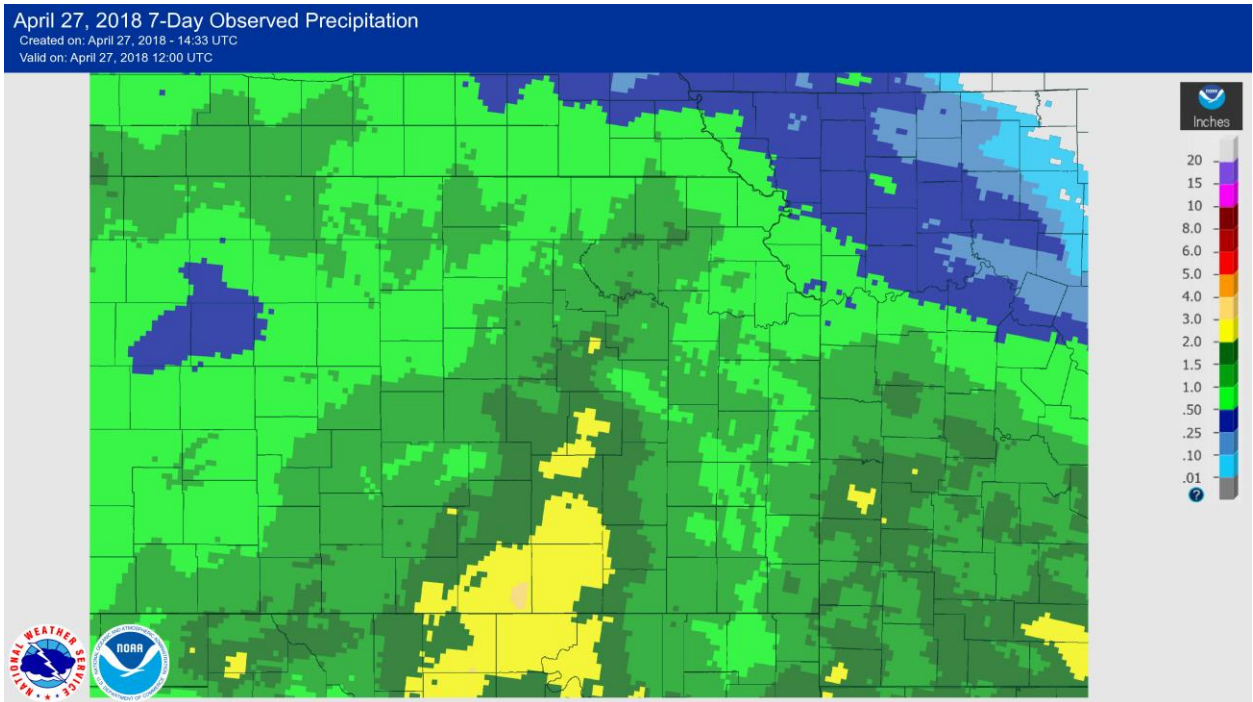




Meteorology

Seasonal temperatures and gusty winds were present last Friday (April 20) ahead of the next cold front and storm system which brought the first widespread soaking rain for the Flint Hills in some time on Saturday into Sunday (April 21-22). Temperatures rebounded nicely for Monday and Tuesday (April 23-24) with highs in the 70s and wind speeds in the 10-25 mph range. Another cold front brought much cooler temperatures and another round of rain for Wednesday (April 25). A return to seasonable temperatures occurring on Thursday with lighter northwest winds. Total precipitation amounts this past week ranged from a half-inch to more than 2 inches across the Flint Hills. Combined with the warming soil temperatures many areas have begun greening-up, and with forecast temperatures in the 70s and 80s with more rain next week we are likely at or nearing the end of widespread rangeland burning.

Precipitation

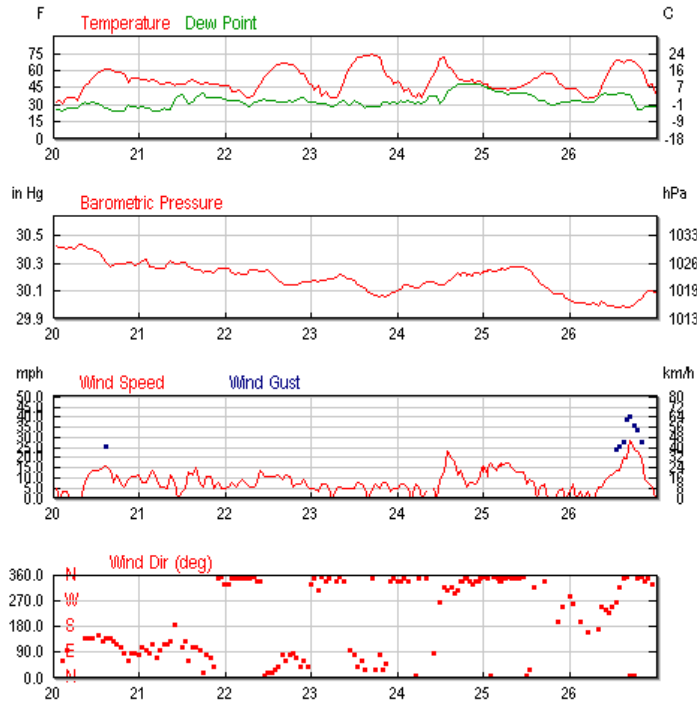


NOAA/NWS Observed Total Precipitation for April 20-26, 2018.

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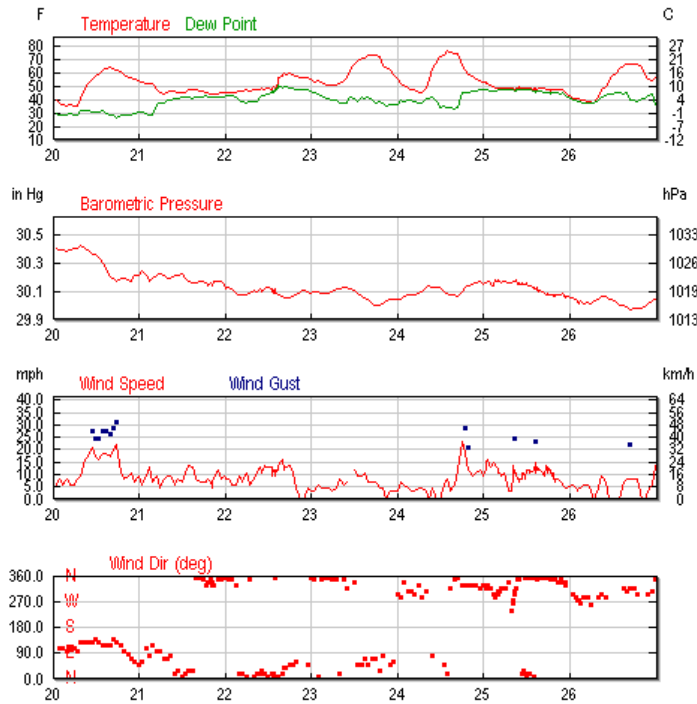


Lincoln, NE



April 20-26, 2018 Observed Weather from KLNK. Graphic: Weather Underground, Inc.

Emporia, KS



April 20-26, 2018 Observed Weather from KEMP. Graphic: Weather Underground, Inc.



Air Quality Data

Air quality data for the period of April 20-26, 2018:

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 24-hour daily average 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.

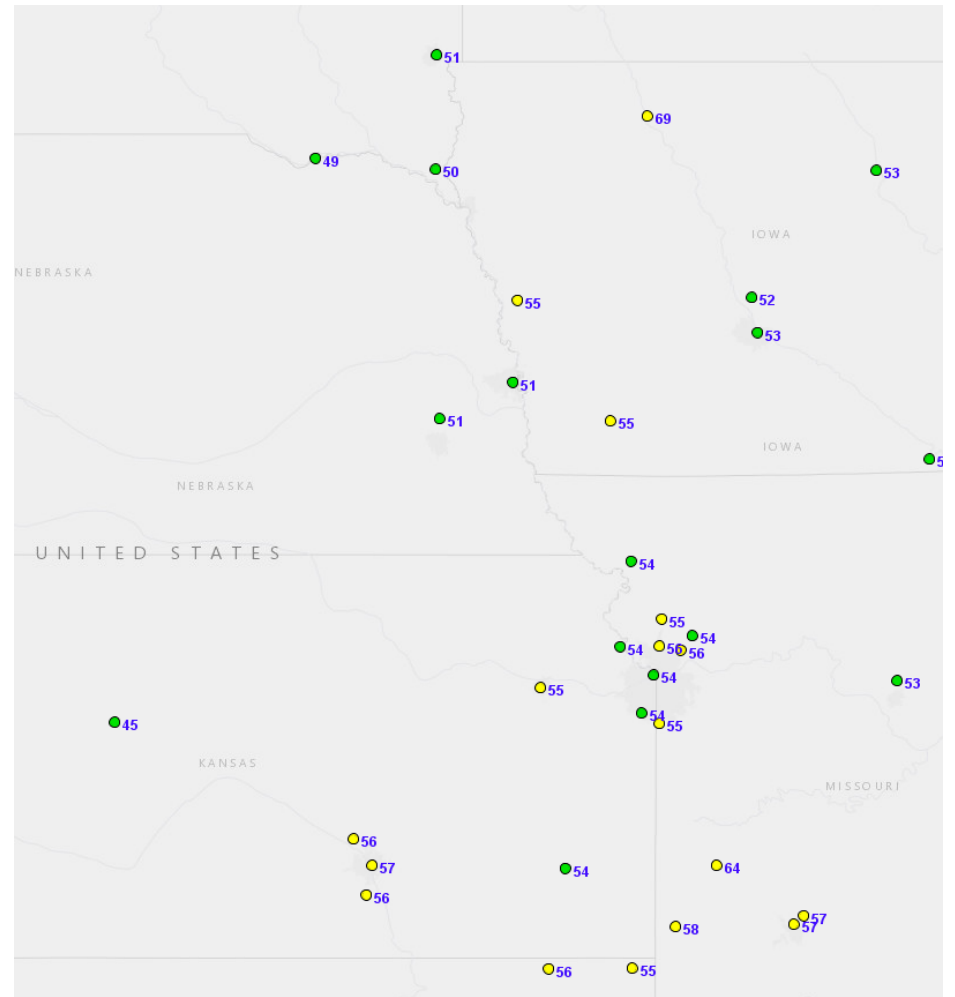
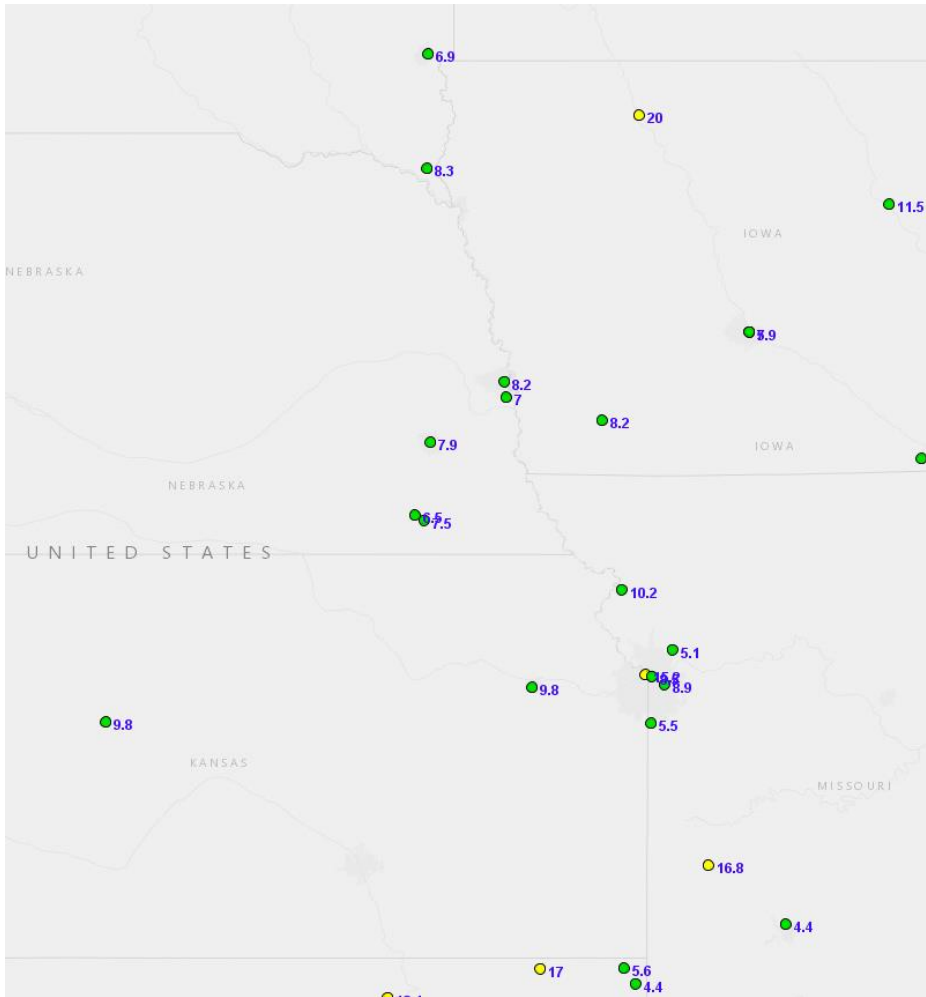
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Friday, April 20, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



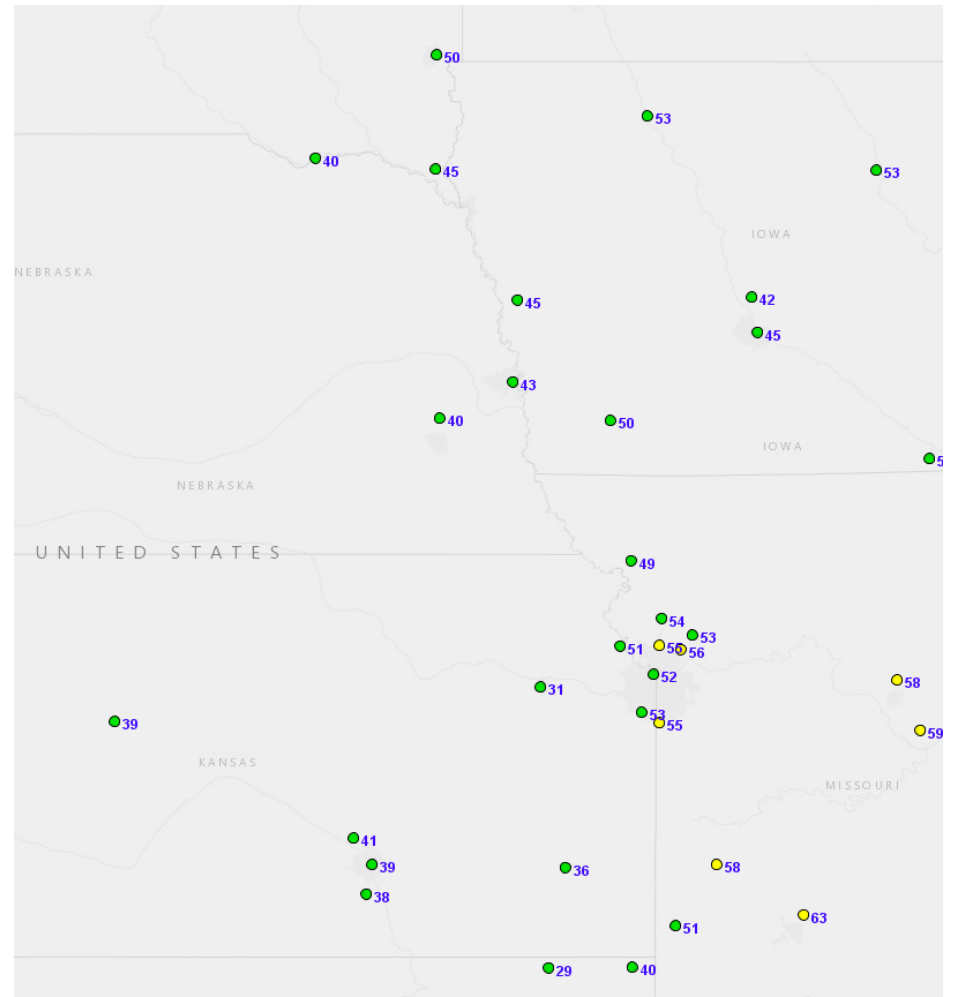
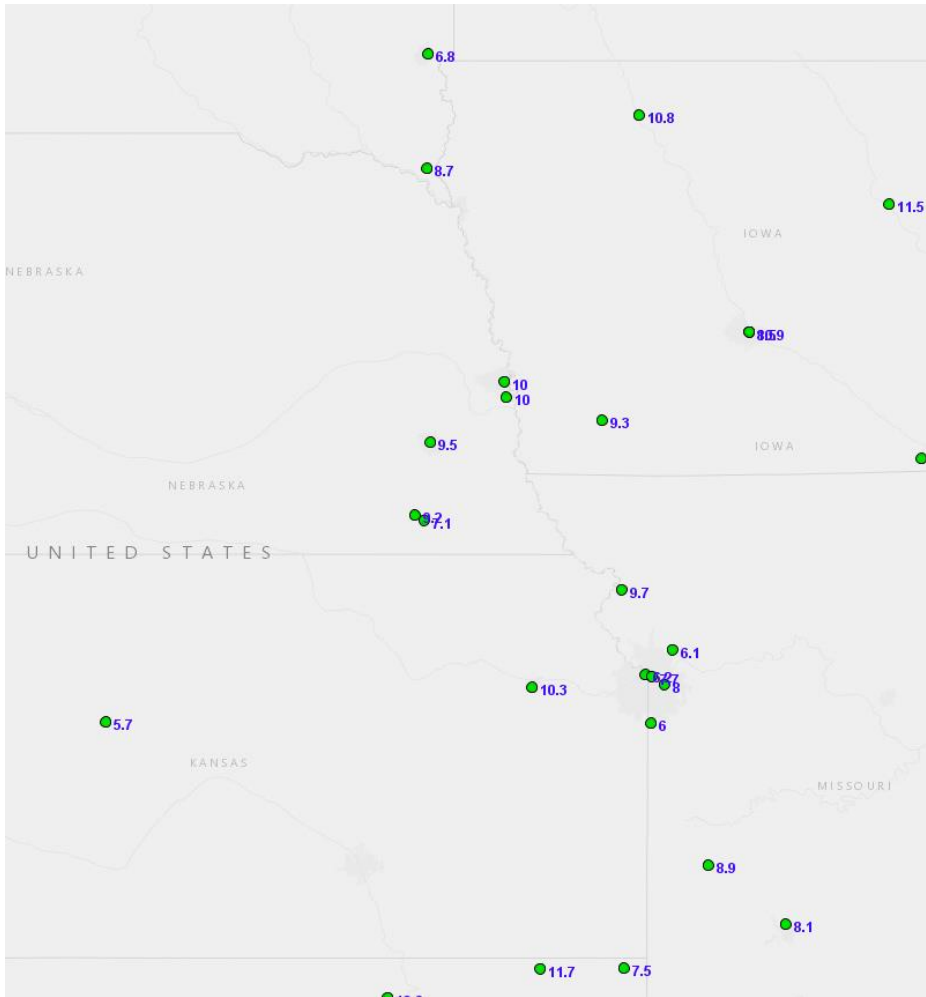
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Saturday, April 21, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



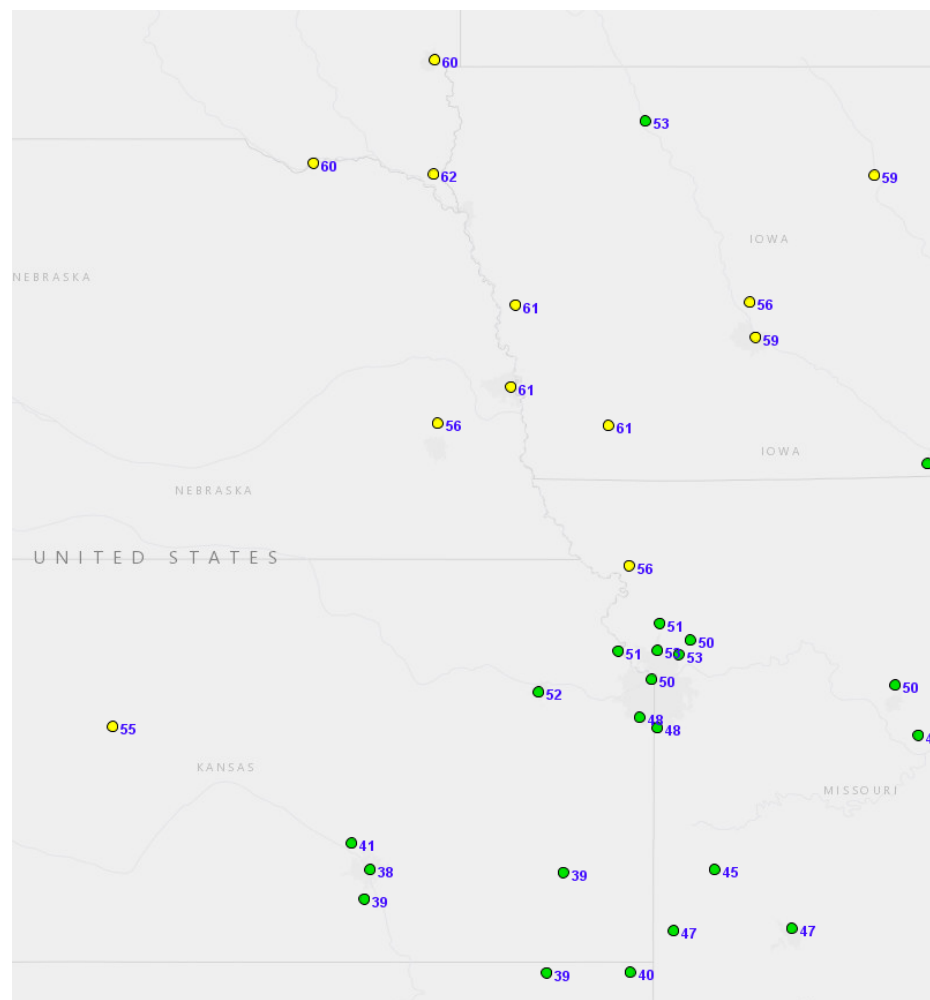
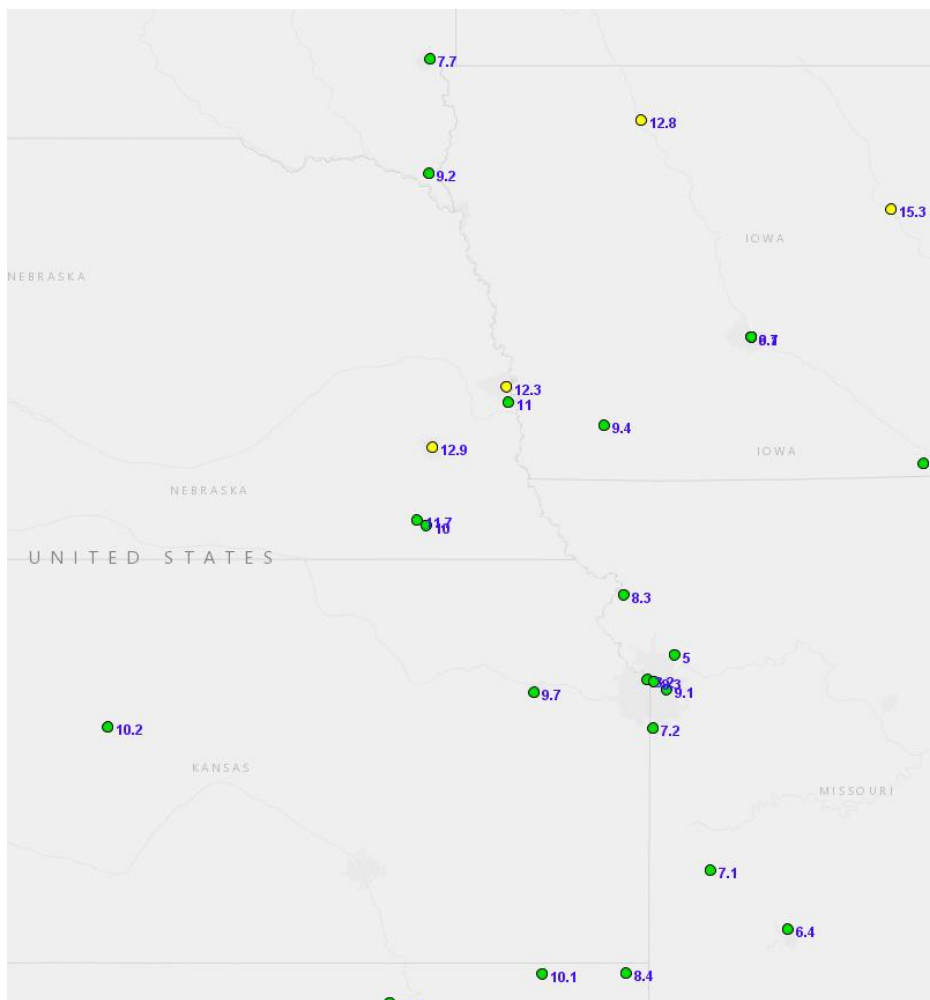
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Sunday, April 22, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



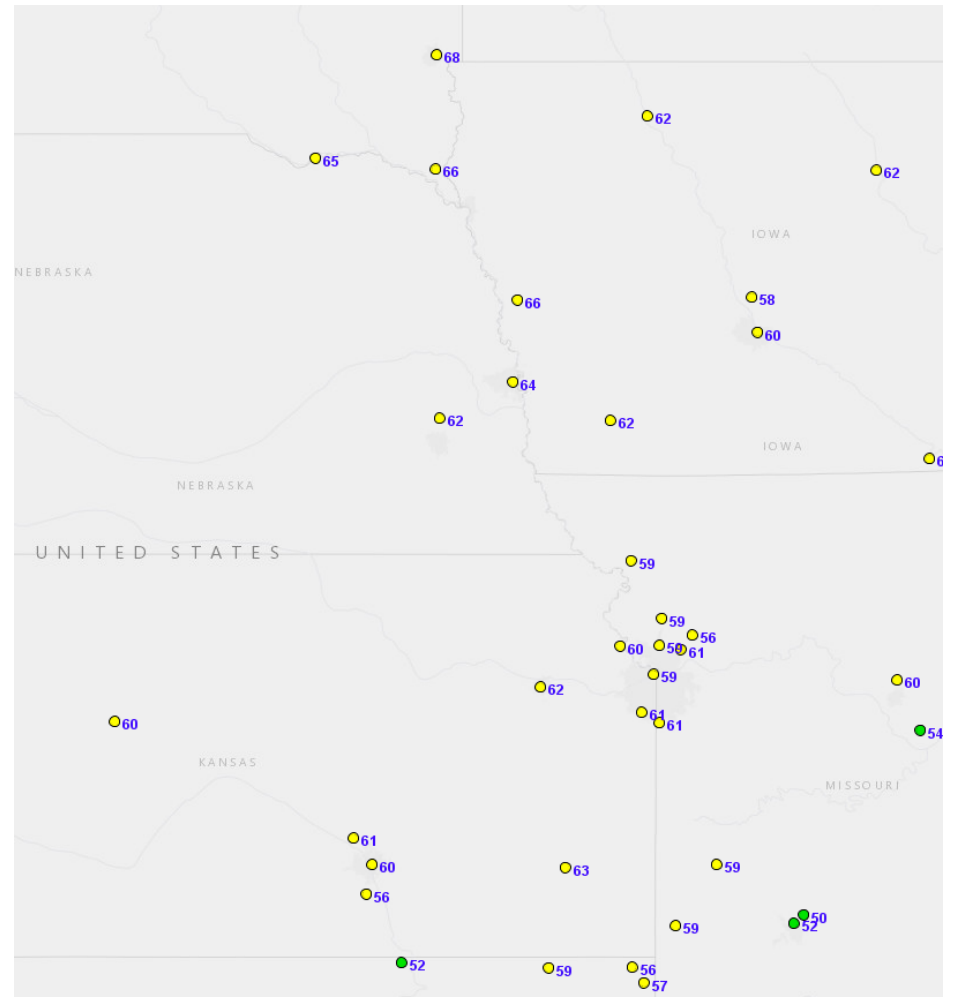
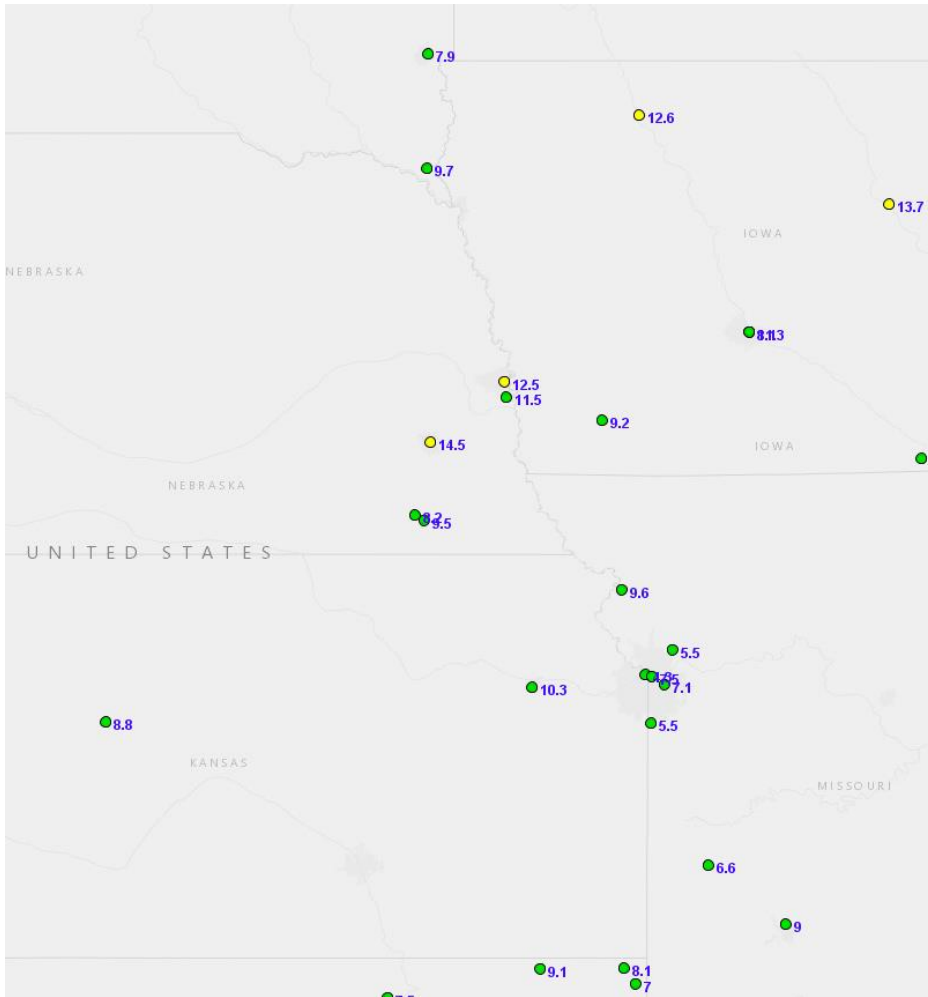
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Monday, April 23, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



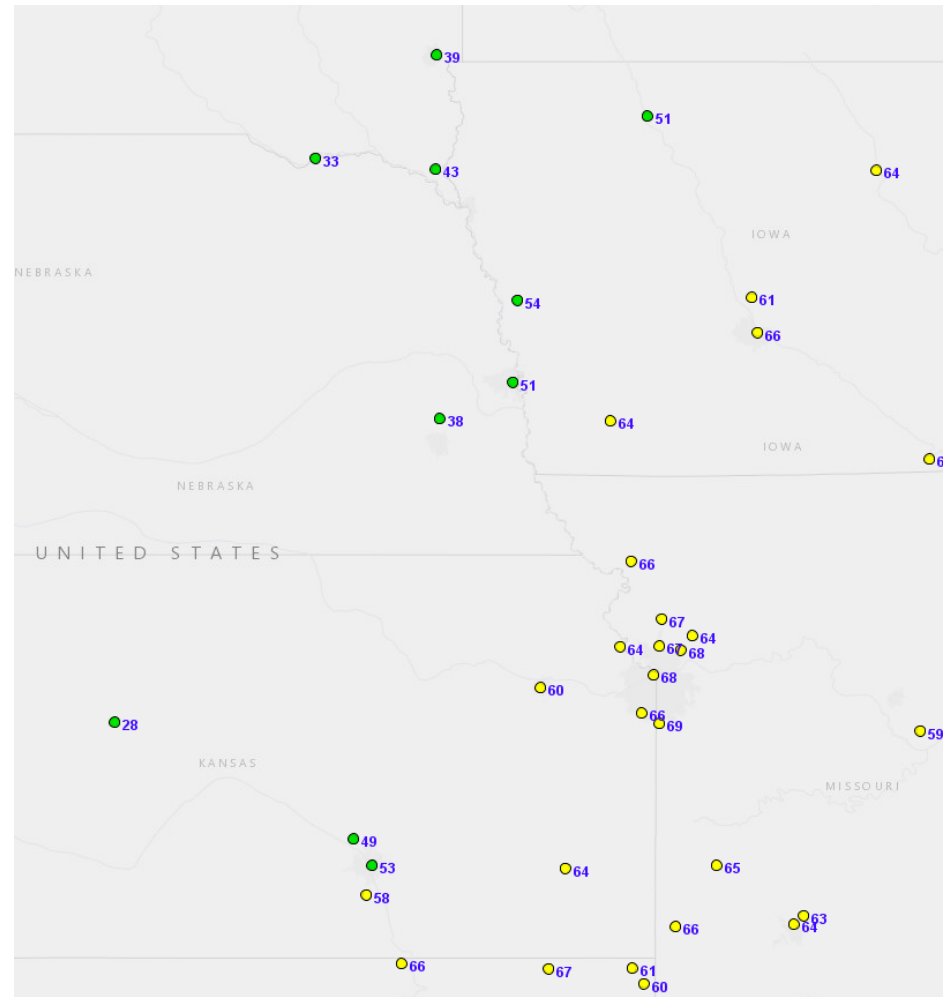
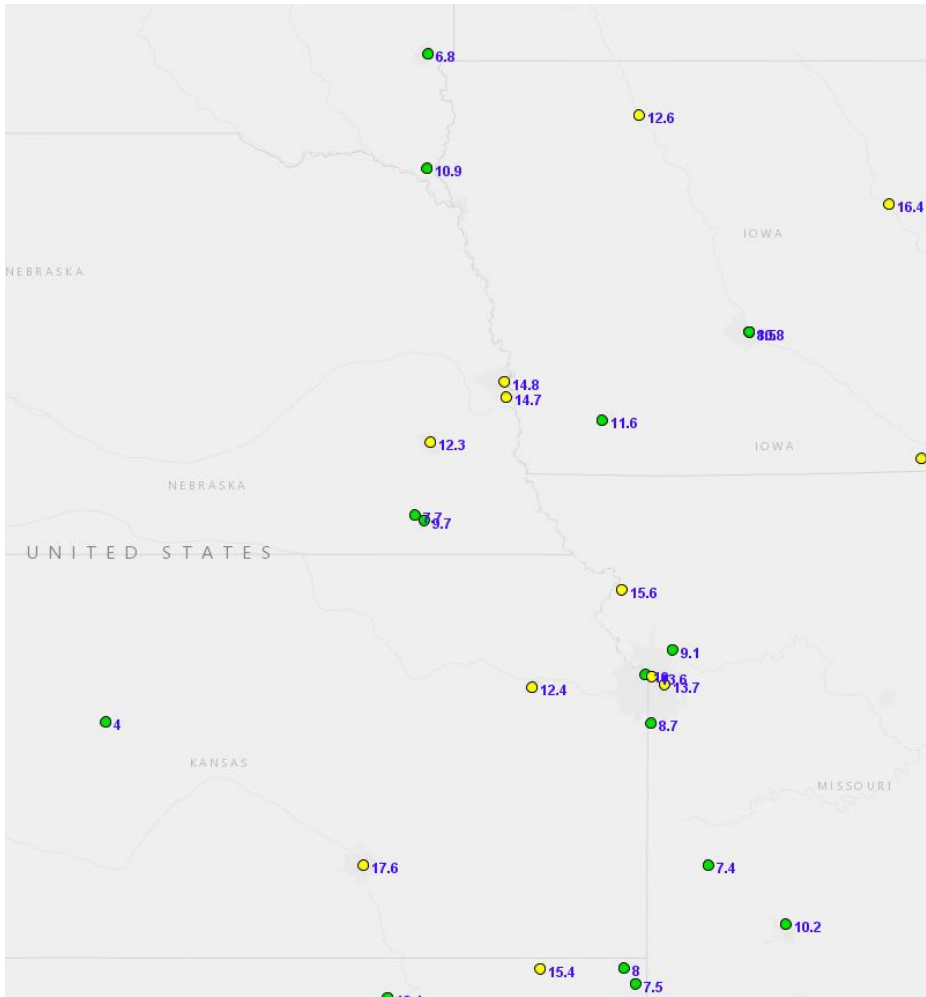
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Tuesday, April 24, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



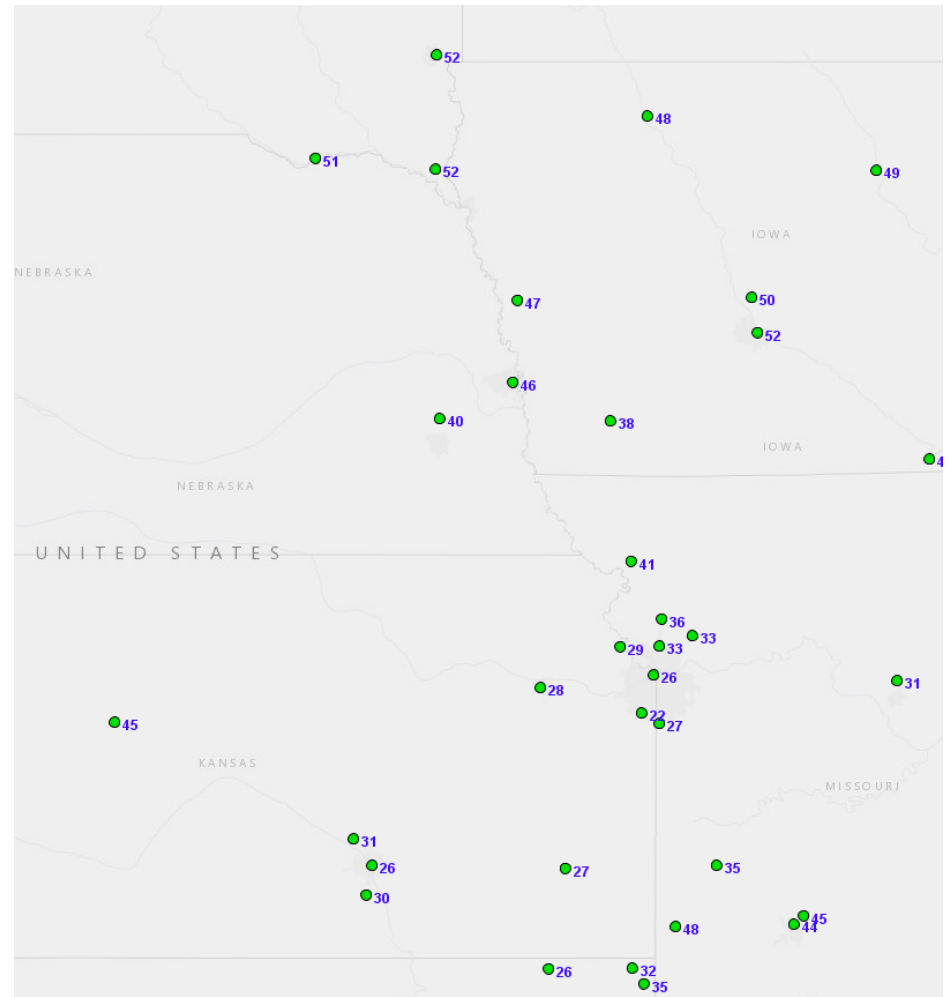
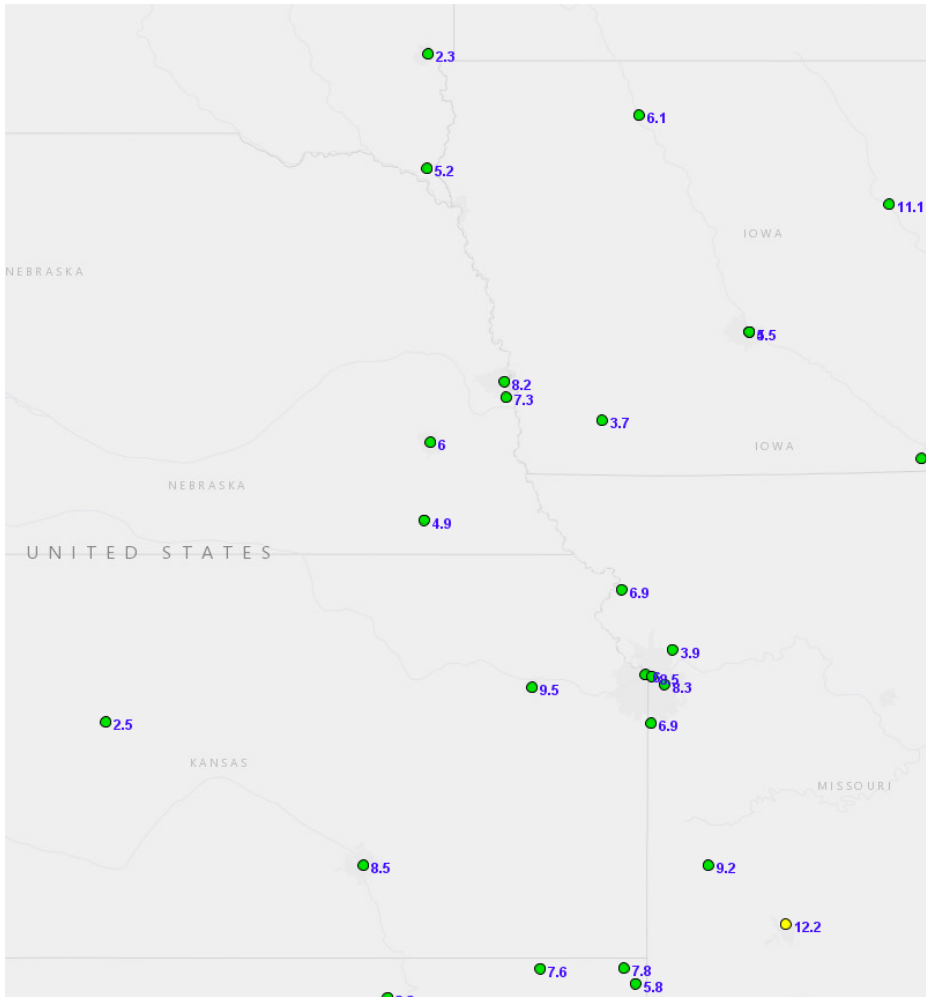
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Wednesday, April 25, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



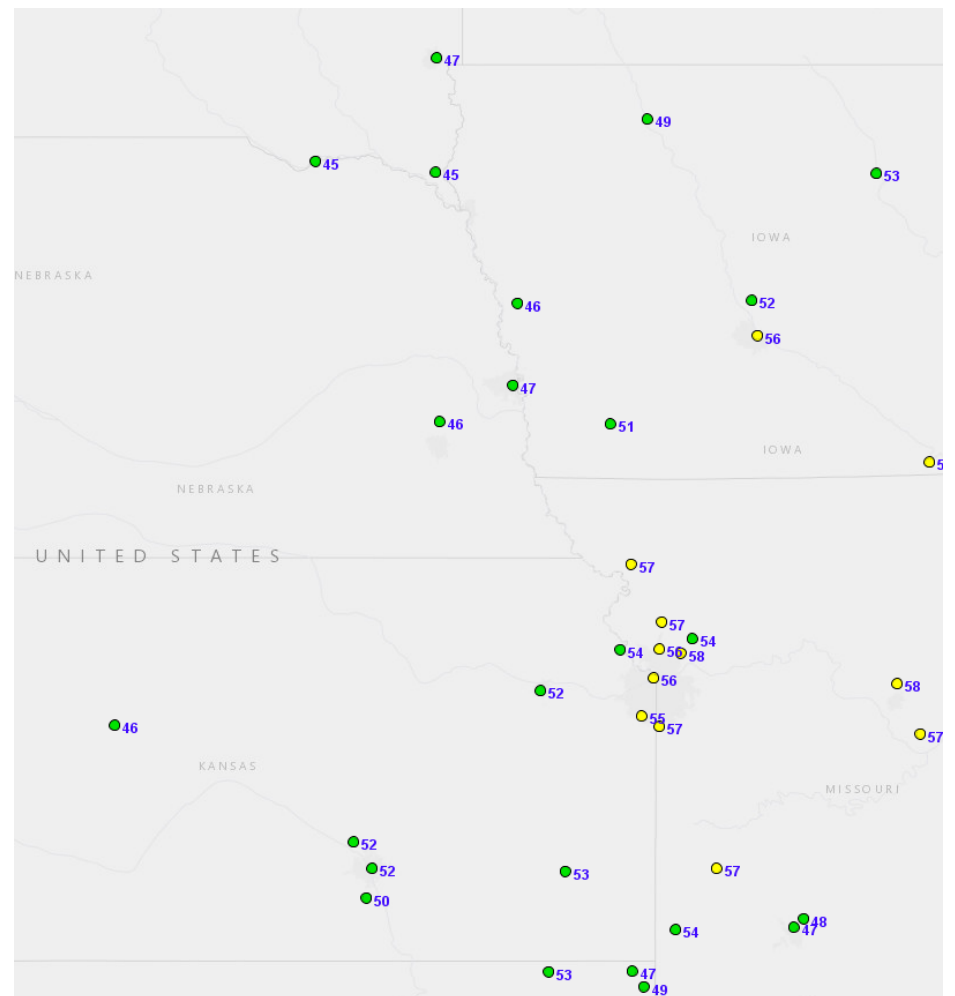
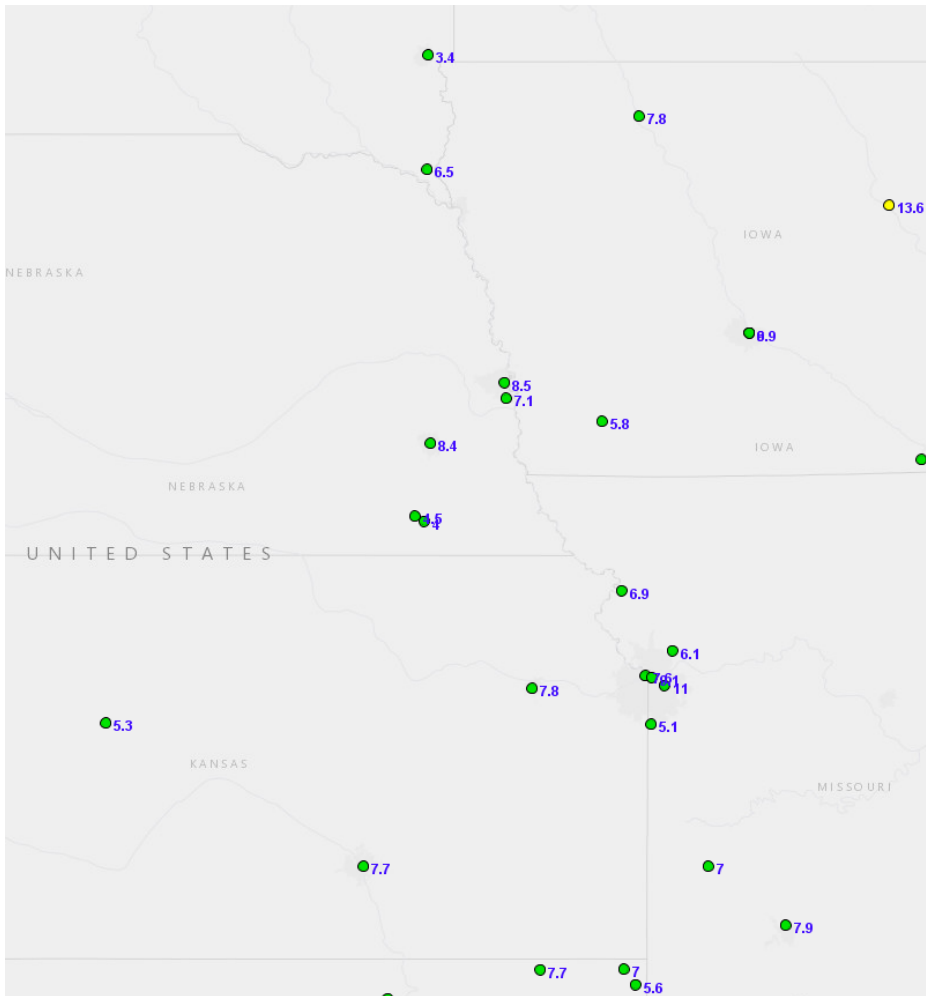
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Thursday, April 26, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)





Fires and Smoke

A handful of fires were seen last Friday (April 20) prior to wind speeds increasing and making fires difficult to control. Fires were non-existent on Saturday (April 21) due to widespread cloud cover and rainfall with only a couple of fires within the Flint Hills on Sunday (April 22) after widespread rain exited the region. Fires across Nebraska and Iowa on Sunday did lead to elevated ozone and particulate matter values due to poor dispersion.

Numerous fires across the region were conducted on Monday (April 23) under northeast to east winds primarily. These fires led to elevated particulate matter and ozone values across the region. Continued burning for portions of the area on Tuesday (April 24) led to a handful of elevated air quality values. Additional rain on Wednesday (April 25) for the Flint Hills kept fires confined to portions of Nebraska and Iowa.

A few fires were conducted on Thursday (April 26) over the Flint Hills, however wet conditions likely inhibited the potential for additional burning.

Daily Fires and Smoke Analysis provided by NOAA Hazard Mapping System Fire and Smoke Product are provided on the following pages.

KSFIRE.ORG

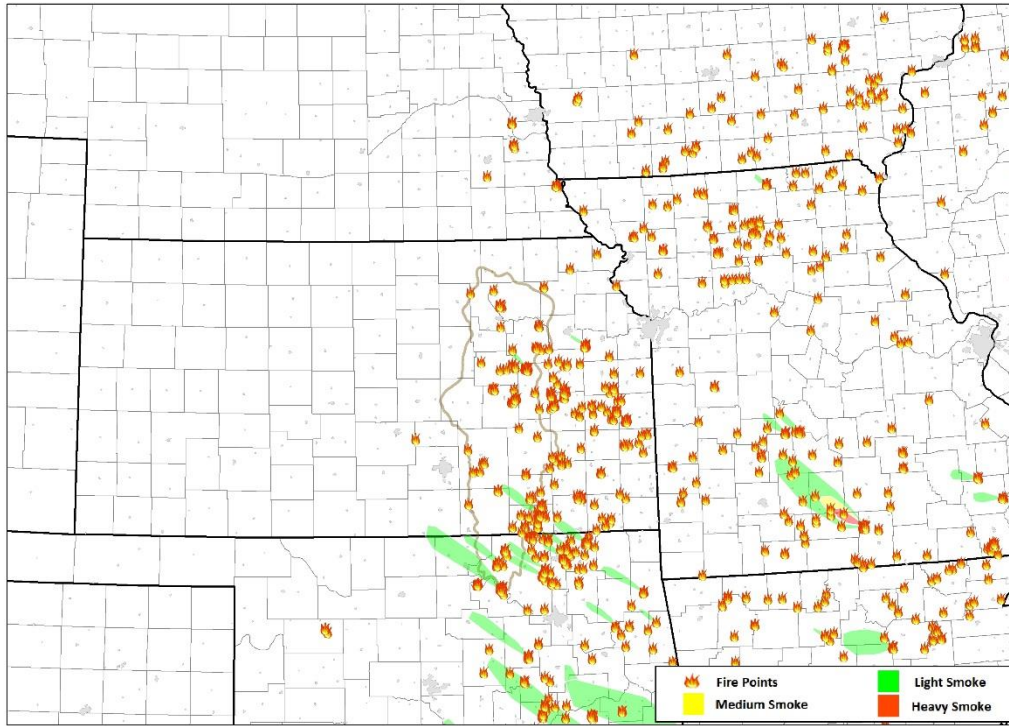


This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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

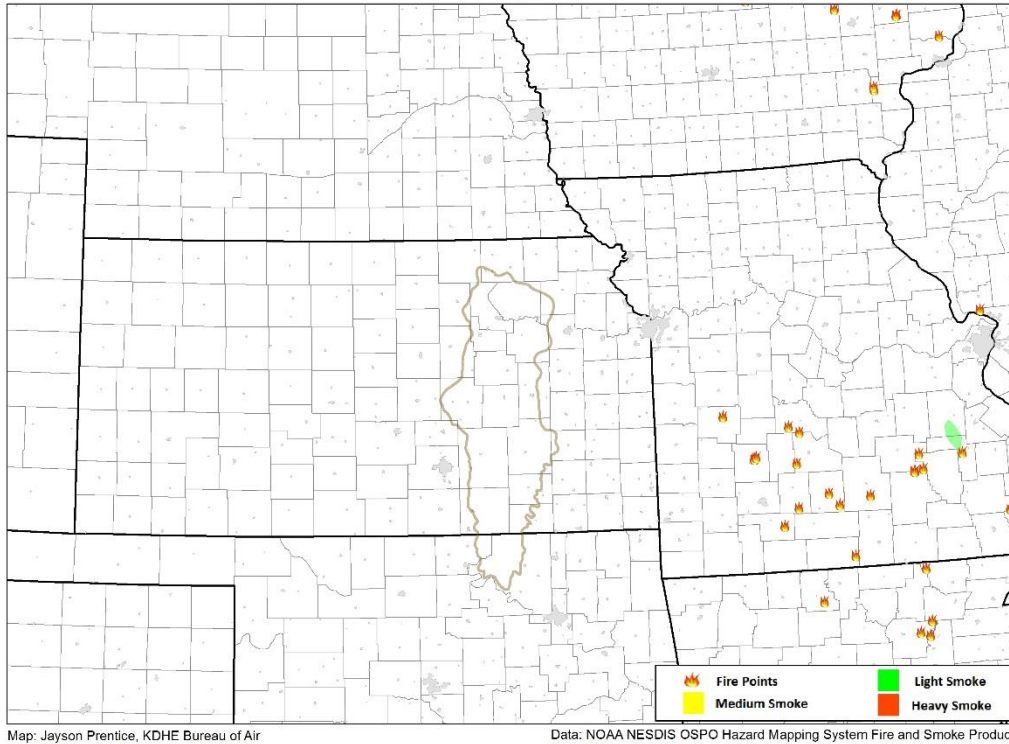
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HMS Fire & Smoke Analysis April 20, 2018



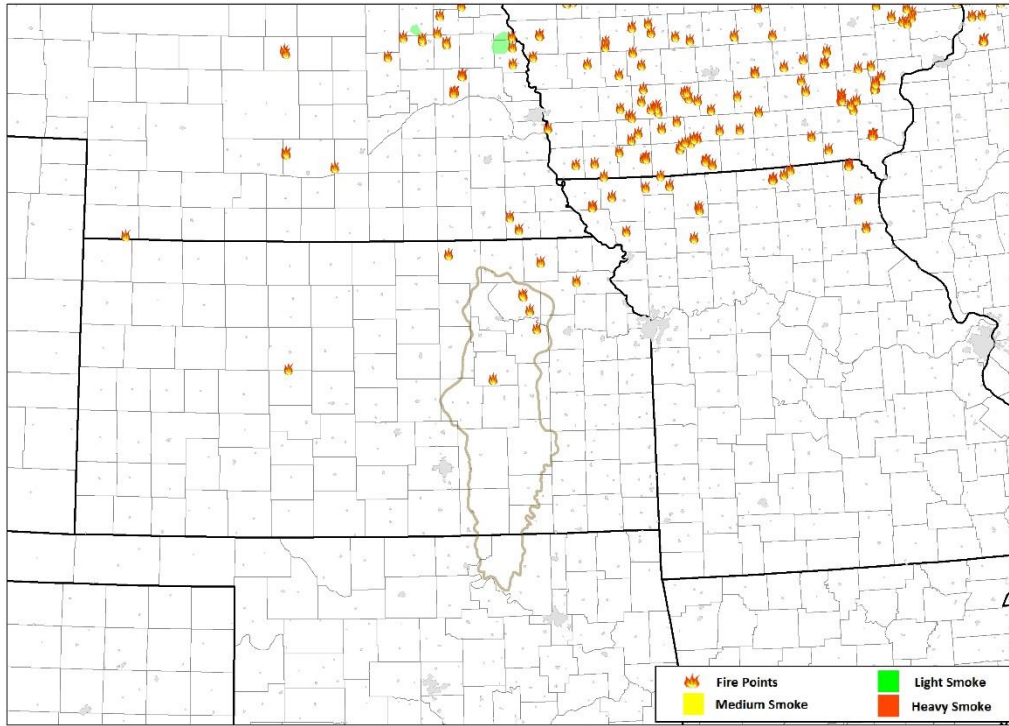
HMS Fire & Smoke Analysis April 21, 2018



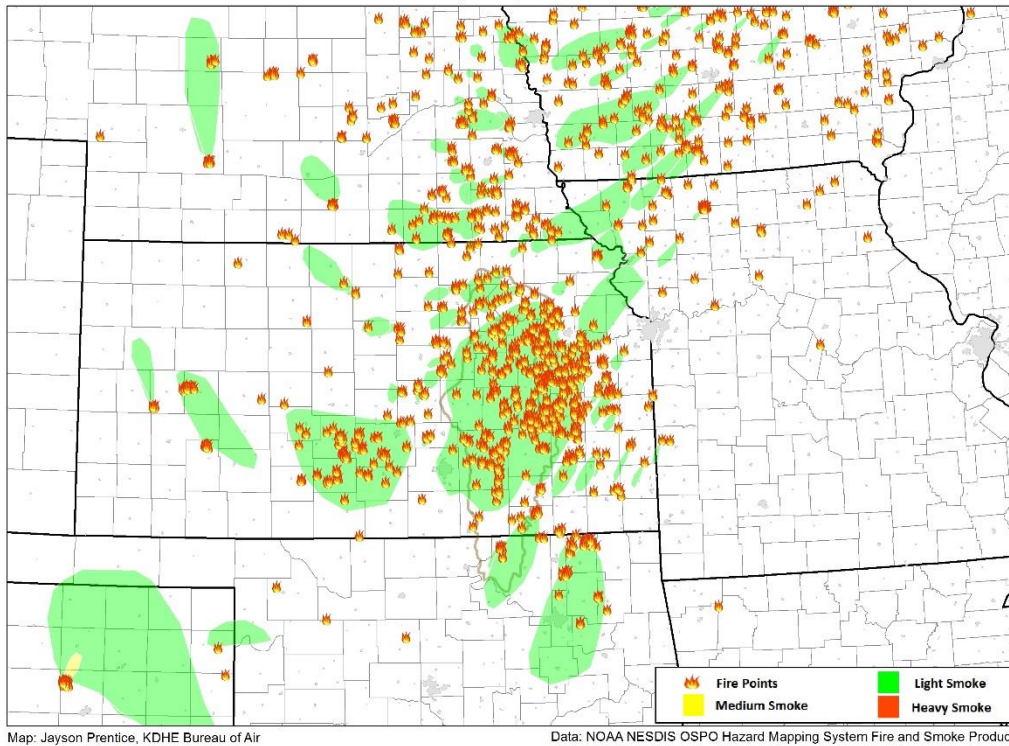
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HMS Fire & Smoke Analysis April 22, 2018



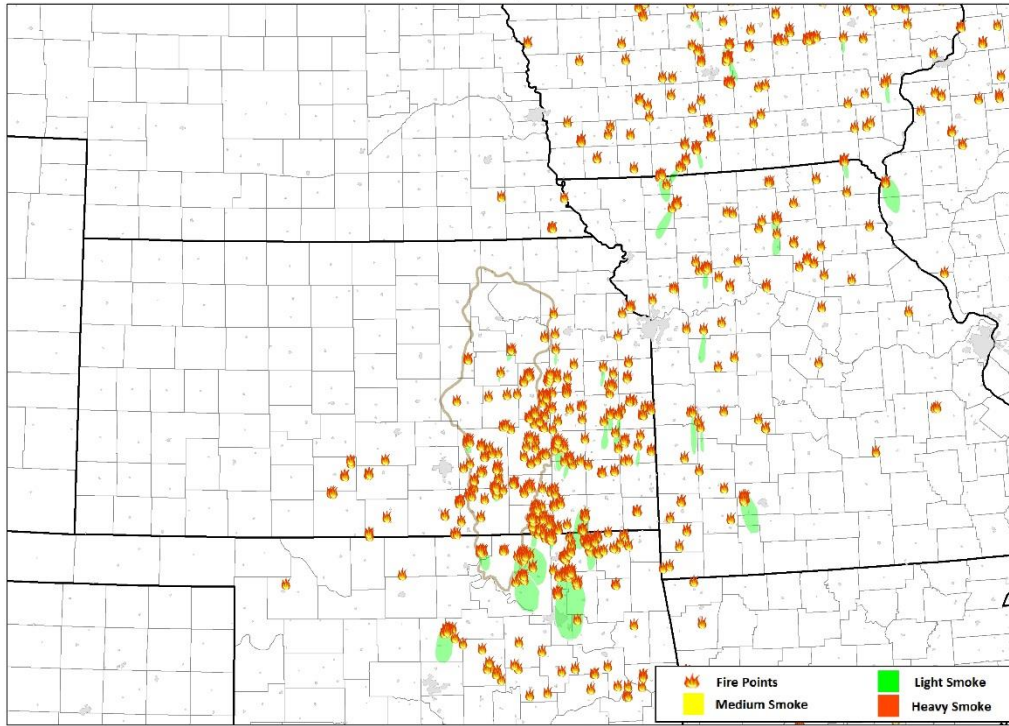
HMS Fire & Smoke Analysis April 23, 2018



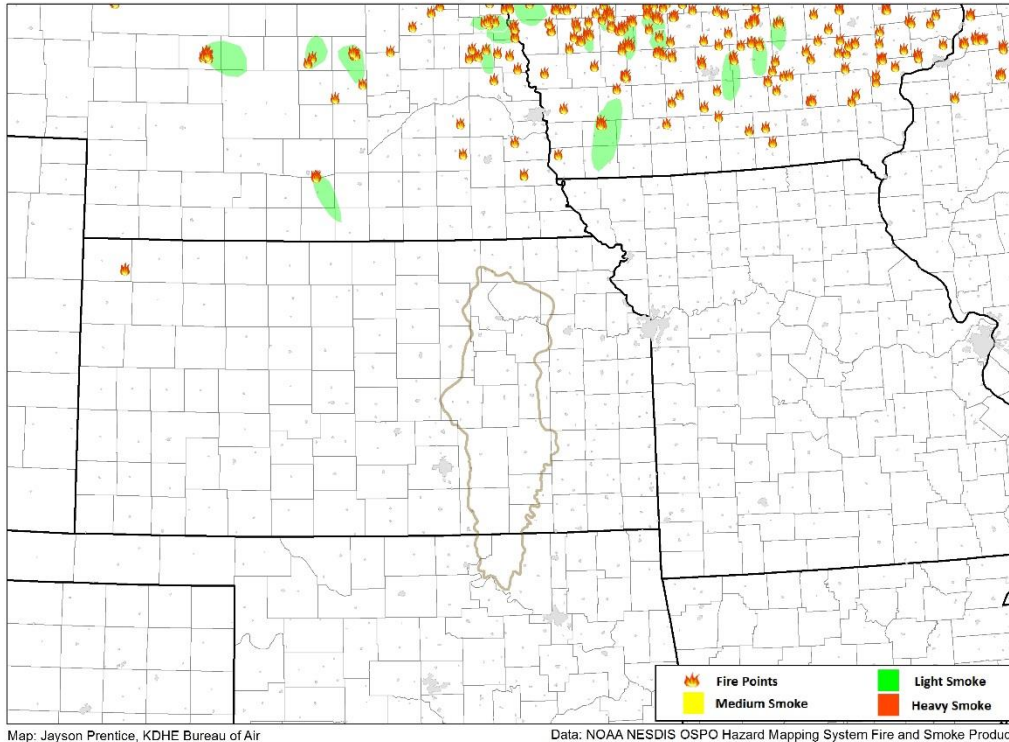
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HMS Fire & Smoke Analysis April 24, 2018



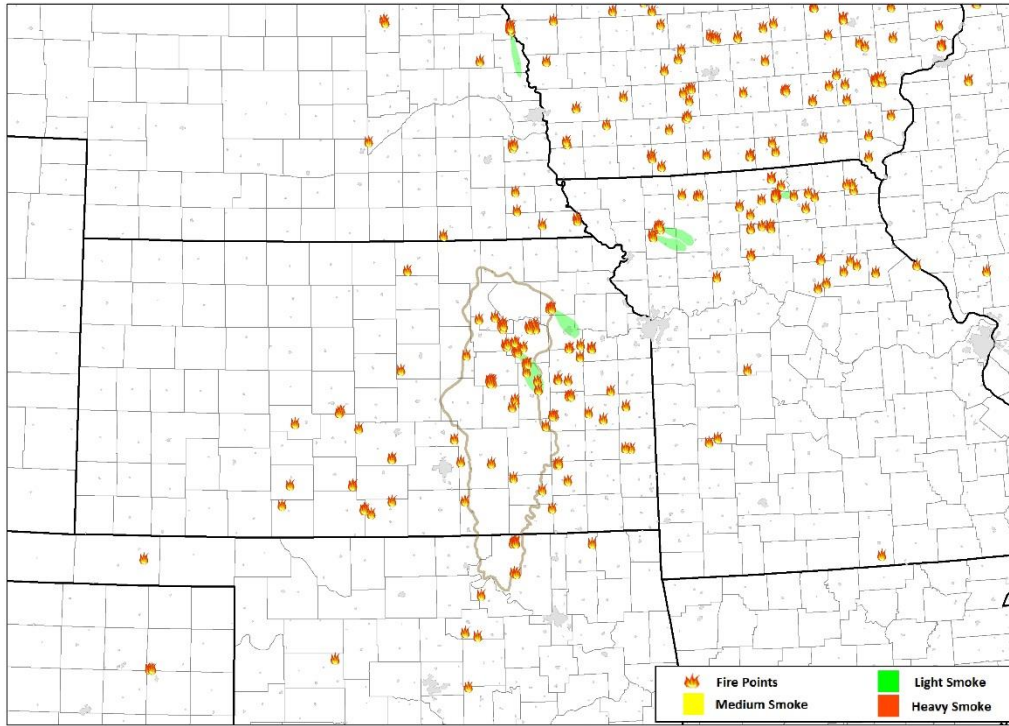
HMS Fire & Smoke Analysis April 25, 2018



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HMS Fire & Smoke Analysis April 26, 2018

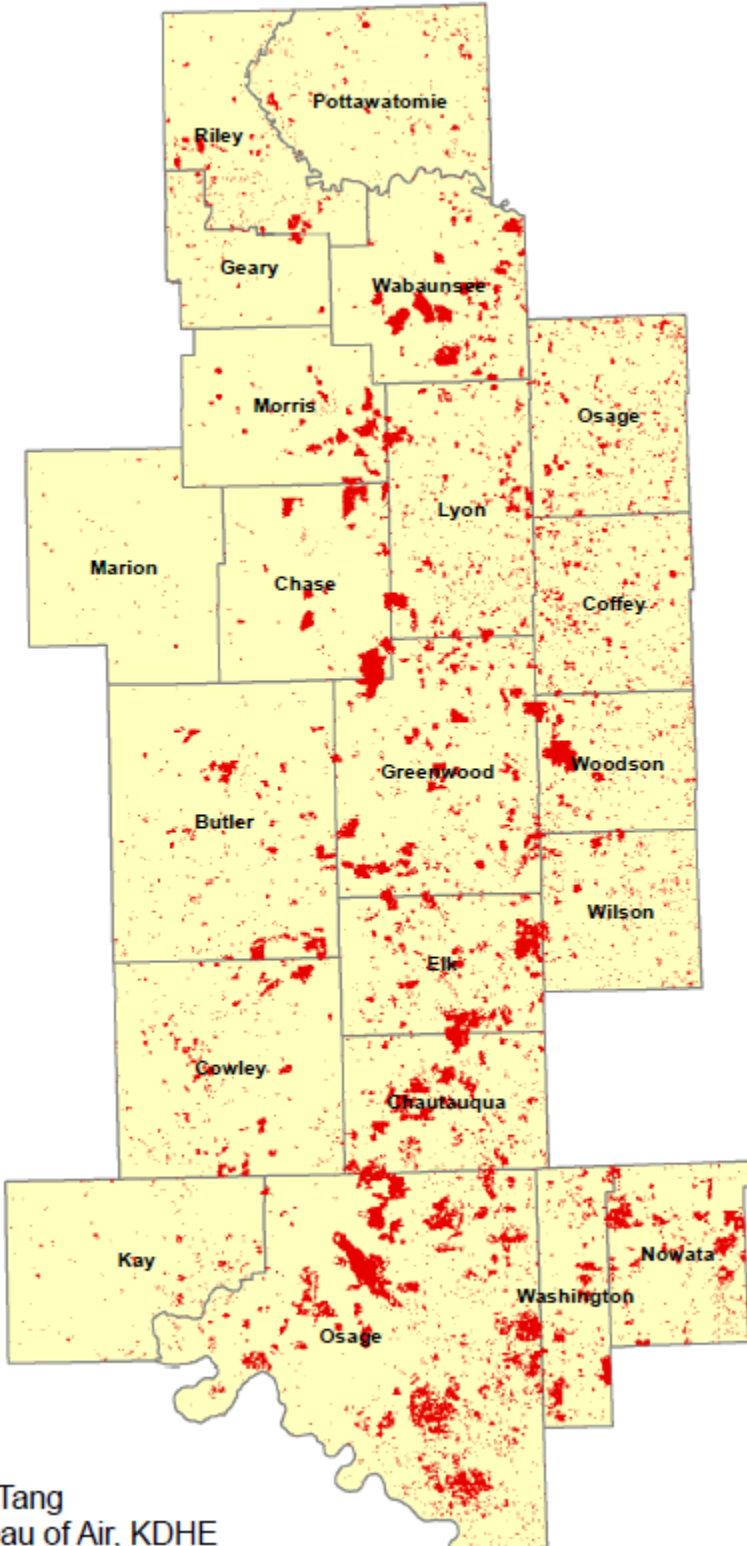


Map: Jayson Prentice, KDHE Bureau of Air

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



Flint Hills Acreage Burned (February 17 – April 16, 2018)



<u>Counties</u>	<u>Acres Burned</u>	
Butler	36,989	
Chase	34,796	
Chautauqua	54,472	
Coffey	27,553	
Cowley	30,456	
Elk	54,287	
Geary	5,421	*
Greenwood	73,392	
Lyon	43,090	
Marion	2,363	
Morris	23,908	
Osage (KS)	30,055	
Pottawatomie	14,301	*
Riley	16,340	
Wabaunsee	50,379	
Wilson	19,985	
Woodson	29,437	
Nowata (OK)	41,082	
Osage (OK)	193,085	
Washington (OK)	28,912	
Kay (OK)	9,637	
Total	819,940	
* Denotes county was partly or completely covered by clouds during latest analysis.		

Yao Tang
Bureau of Air, KDHE

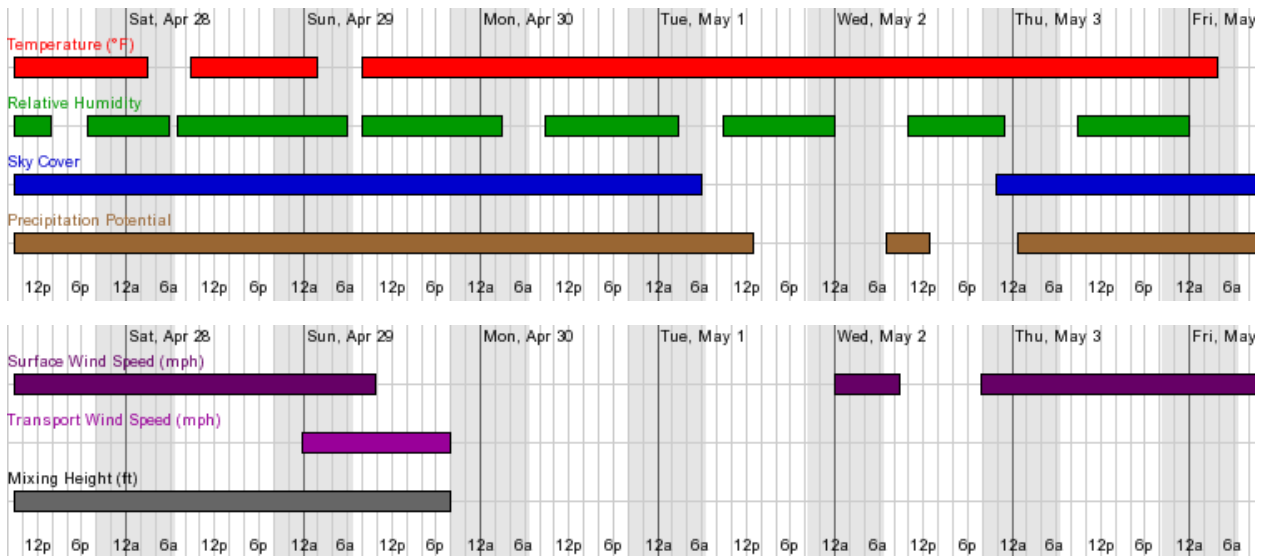


Upcoming Look at Fires and Smoke

Light to moderate winds alongside sunny skies and low humidity values will provide an opportunity for prescribed fire today and Saturday. Caveat being humidity values reach below 30% at times this afternoon and will lead to High to Very High fire danger. Surface winds increase during the day Sunday and look to remain strong and gusty through Tuesday, and again on Wednesday afternoon. Potential for thunderstorms also exists on Tuesday and Wednesday as an additional inhibitor for prescribed fire. Conditions for prescribed fire look to improve for Thursday of next week, however precipitation amounts from the prior two days may be an inhibiting factor.

As mentioned previously the recent rain combined with warming soil temperatures has likely allowed the green-up to begin for much of the Flint Hills. With additional rain for the upcoming week and highs in the 70s and 80s look for an end to widespread rangeland burning to be near.

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: 9am April 27, 2018.