

Flint Hills Prescribed Fire Update

April 19, 2019

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

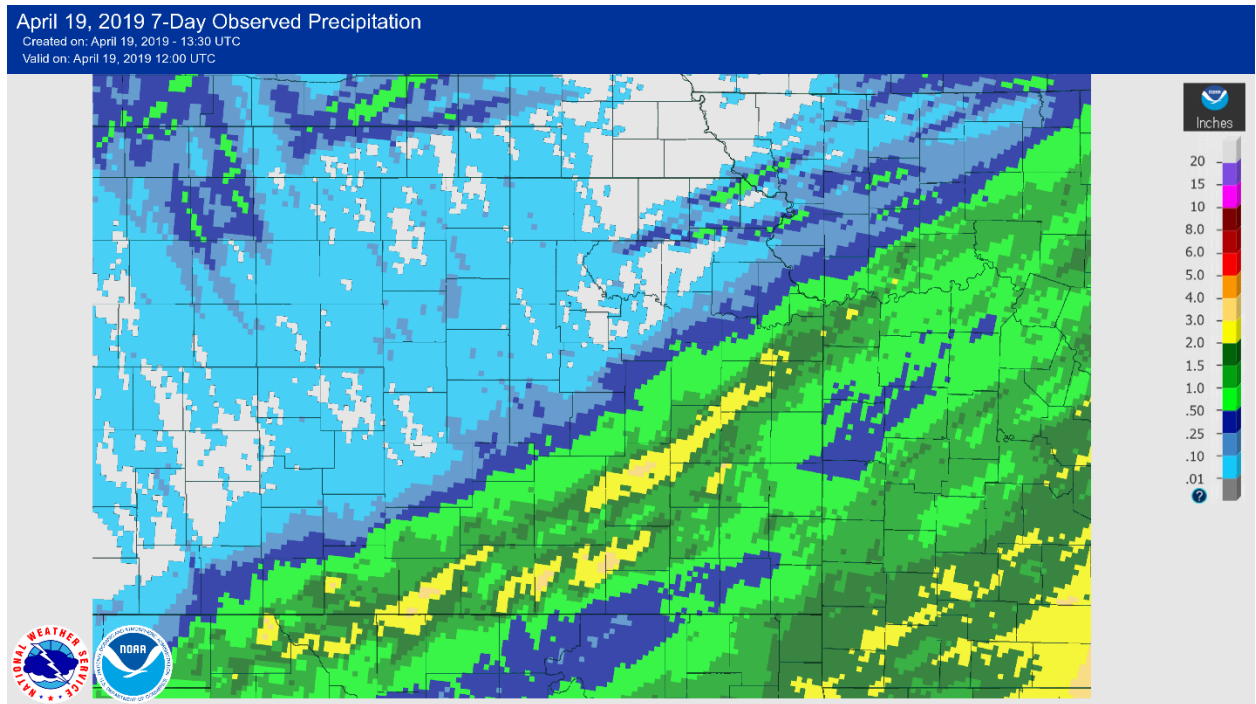




Meteorology

Temperatures were cooler last Friday and Saturday (April 12-13) with highs only in the 50s and a west to northeast breeze. Temperatures began their climb on Sunday (April 14) when highs neared 60 degrees for much of the Flint Hills and winds turned back to the south. Much warmer conditions were ushered in with strong south winds on Monday and Tuesday (April 15-16). Wind gusts were frequently reaching the 25-35 mph range, and high temperatures were in the 70s and 80s. Another day of warm temperatures and gusty south winds was observed on Wednesday (April 17) ahead of a cold front. This front brought thunderstorms, many severe, to the areas along and south of I-35 in Kansas and Oklahoma. Rainfall amounts were commonly in the 0.5-1.5-inch range, but isolated amounts topped 3 inches and some areas of flooding were reported. Thursday was cooler with highs back down into the 60s, and a northerly wind with gusts up to 35 mph were common.

Precipitation

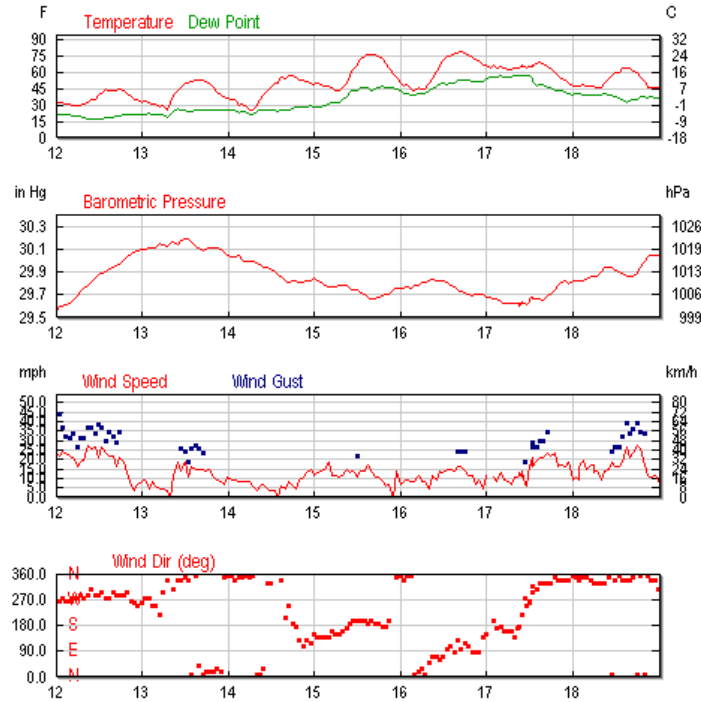


NOAA/NWS Observed Total Precipitation for April 12-18, 2019.

Flint Hills Prescribed Fire Update

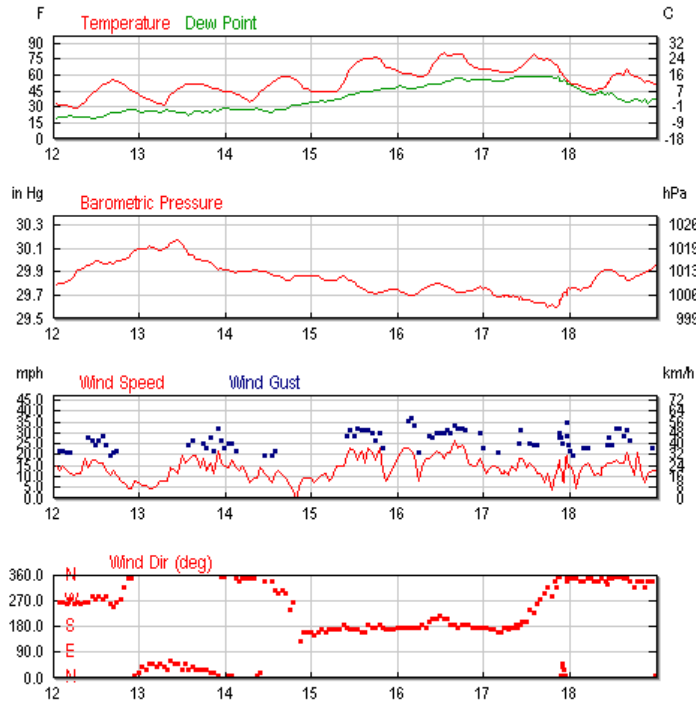


Lincoln, NE



April 12-18, 2019 Observed Weather from KLNK. Graphic: Weather Underground, Inc.

Emporia, KS



April 12-18, 2019 Observed Weather from KEMP. Graphic: Weather Underground, Inc.



Air Quality Data

Air quality data for the period of April 12-18, 2019:

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

PM_{2.5}: Preliminary data indicates no exceedance 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.

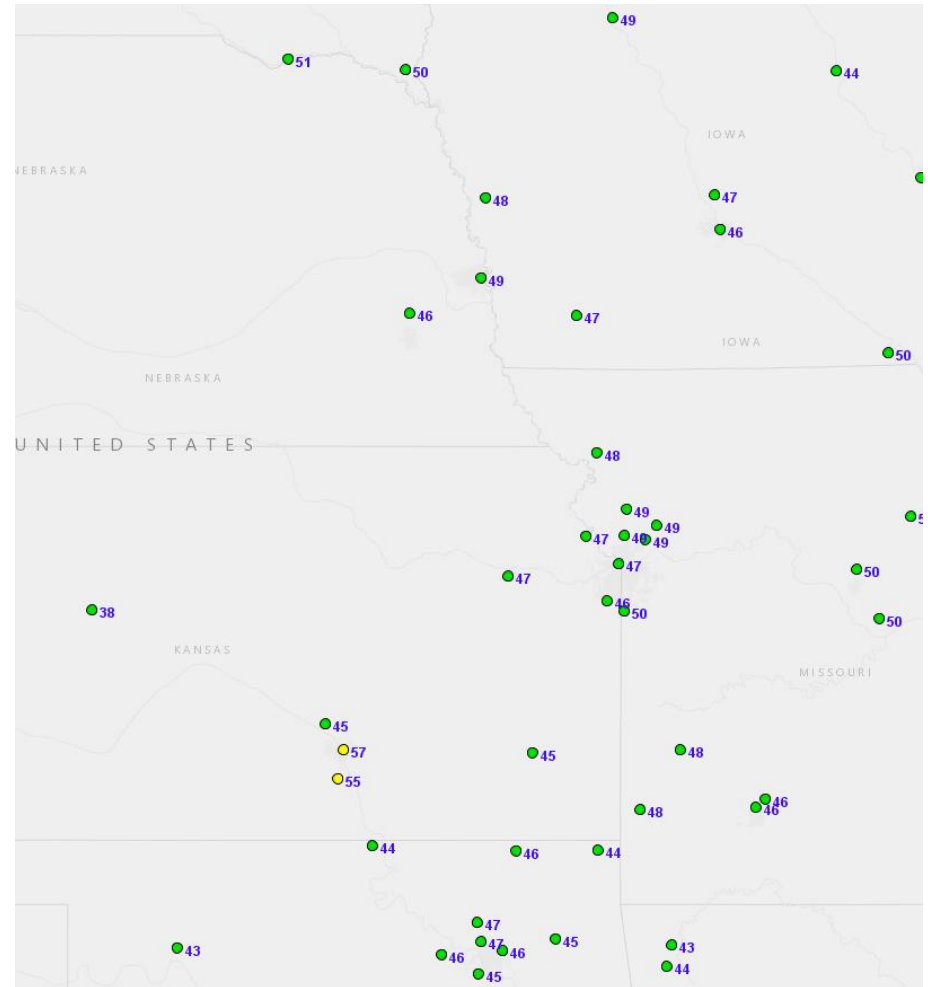
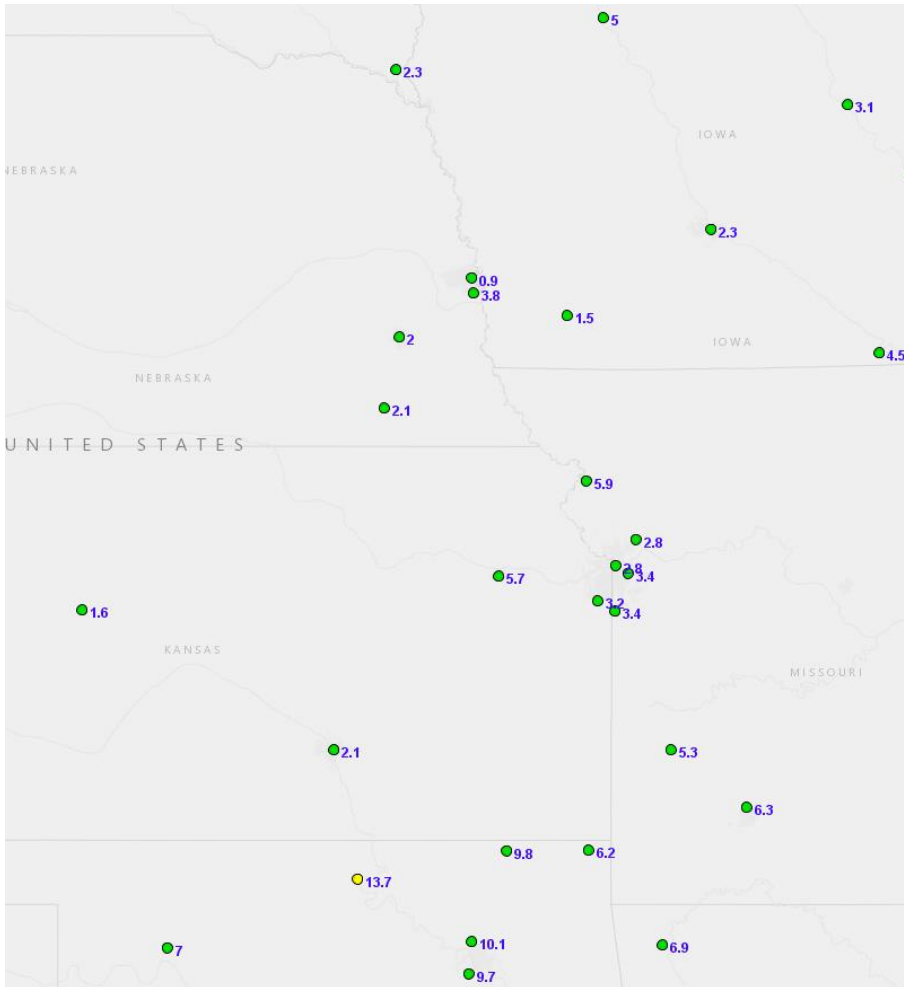
Flint Hills Prescribed Fire Update



Saturday, April 13, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



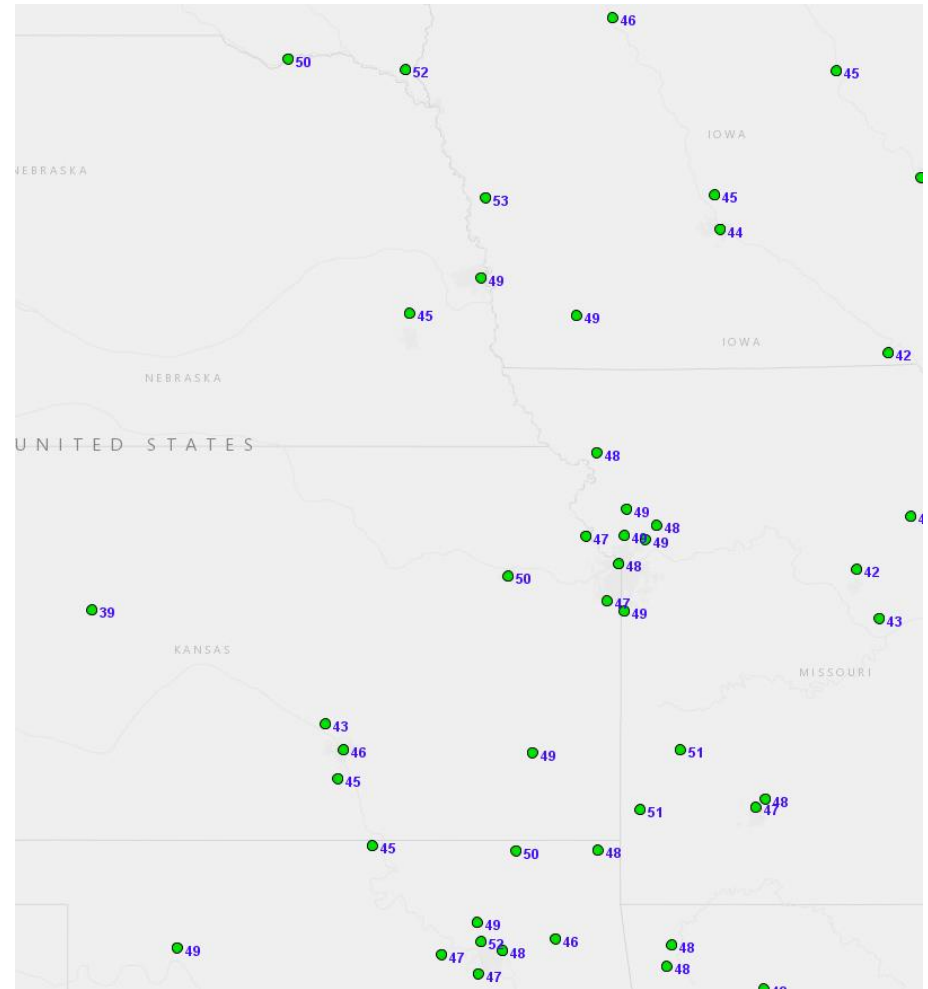
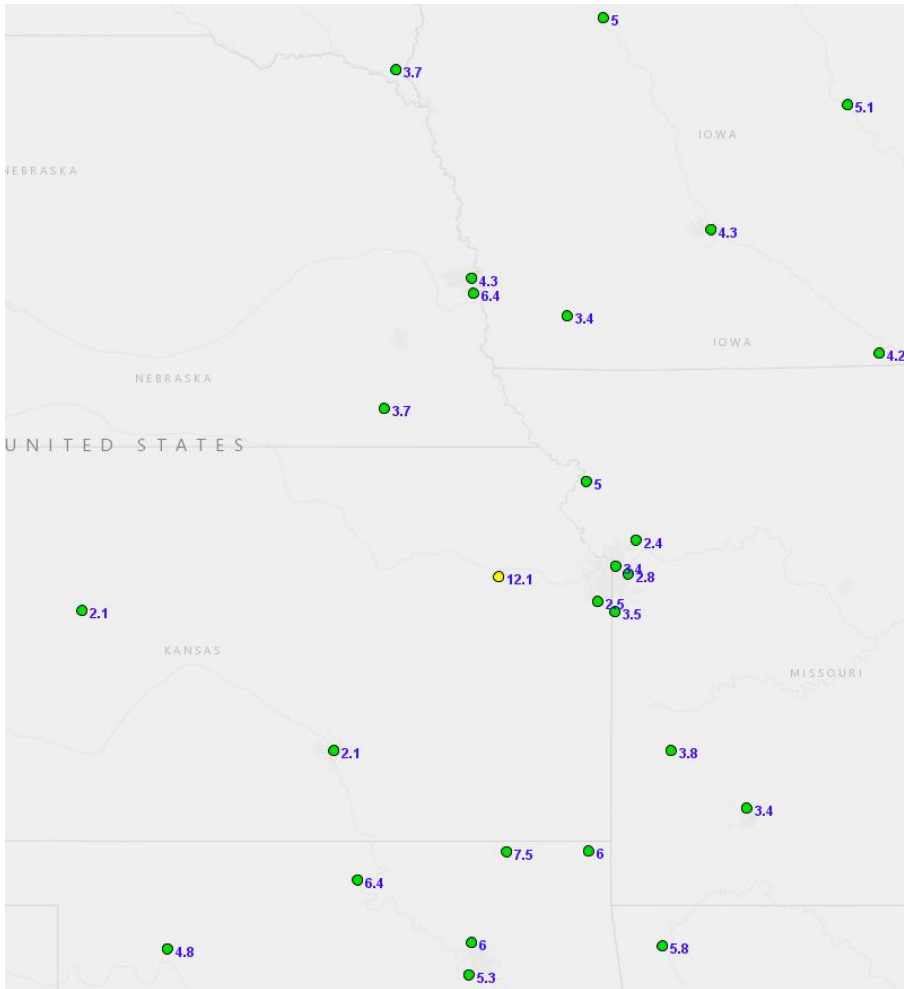
Flint Hills Prescribed Fire Update



Sunday, April 14, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



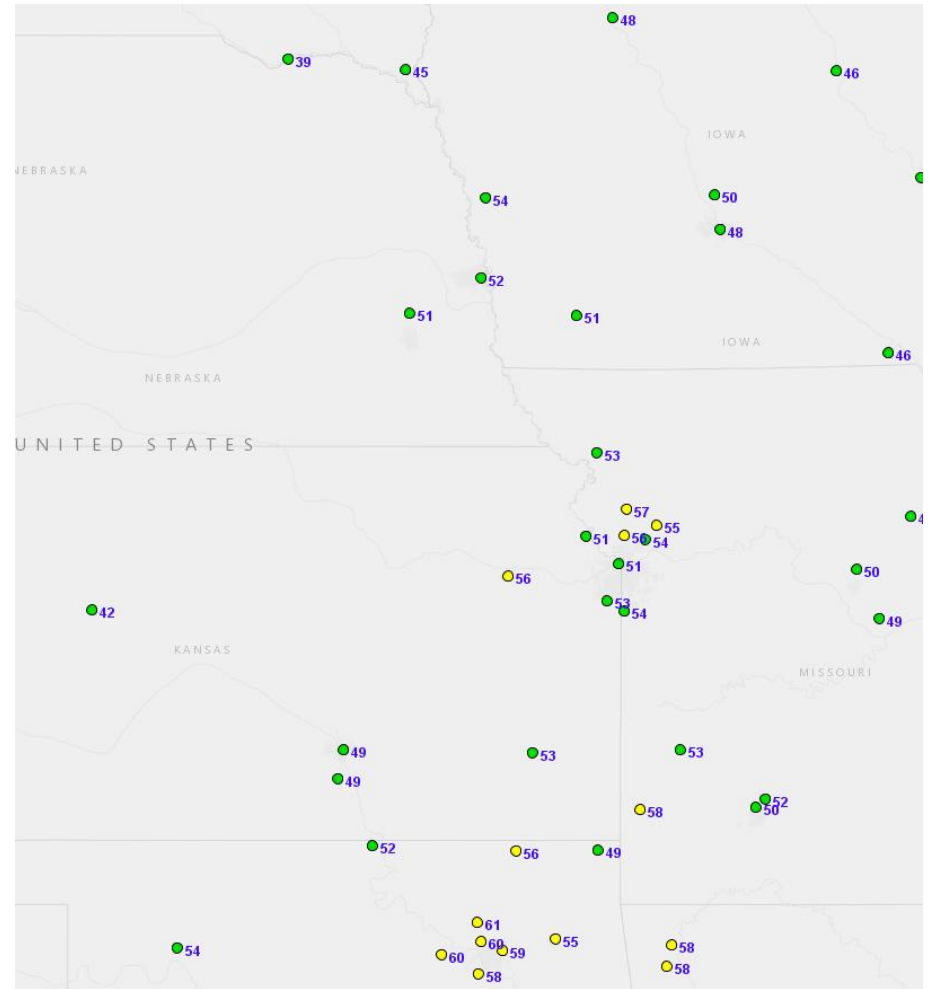
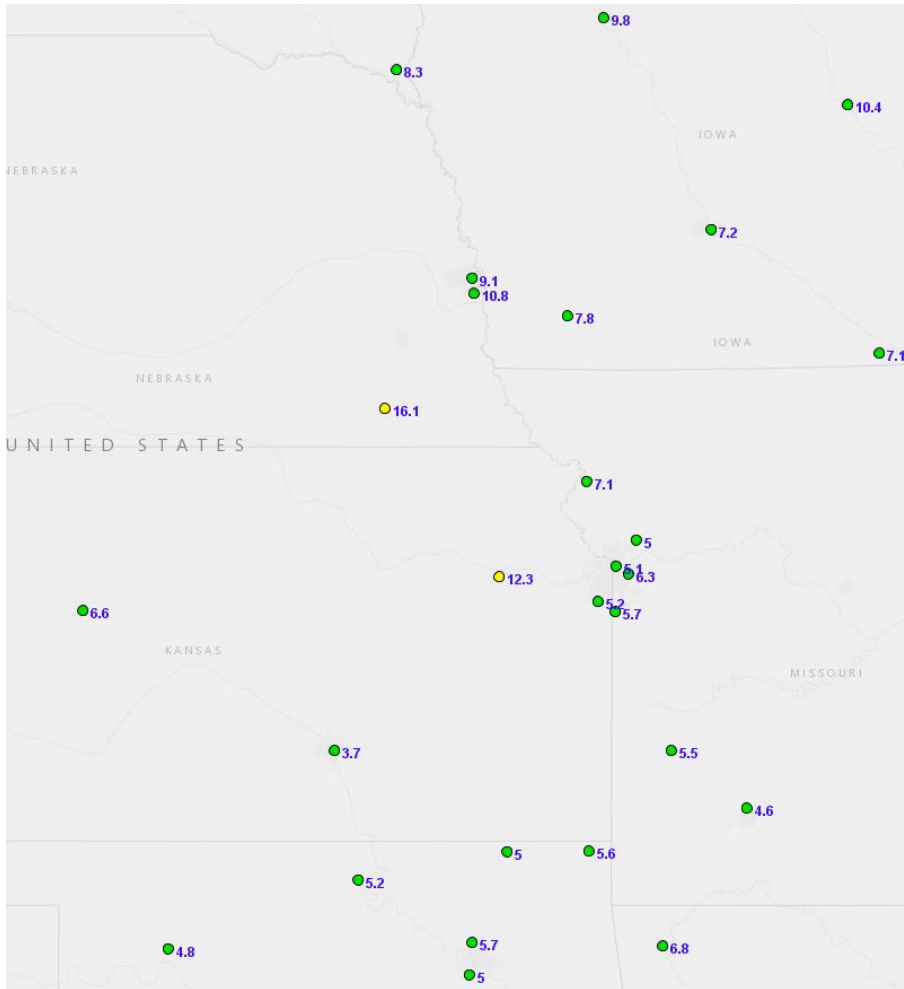
Flint Hills Prescribed Fire Update



Monday, April 15, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)

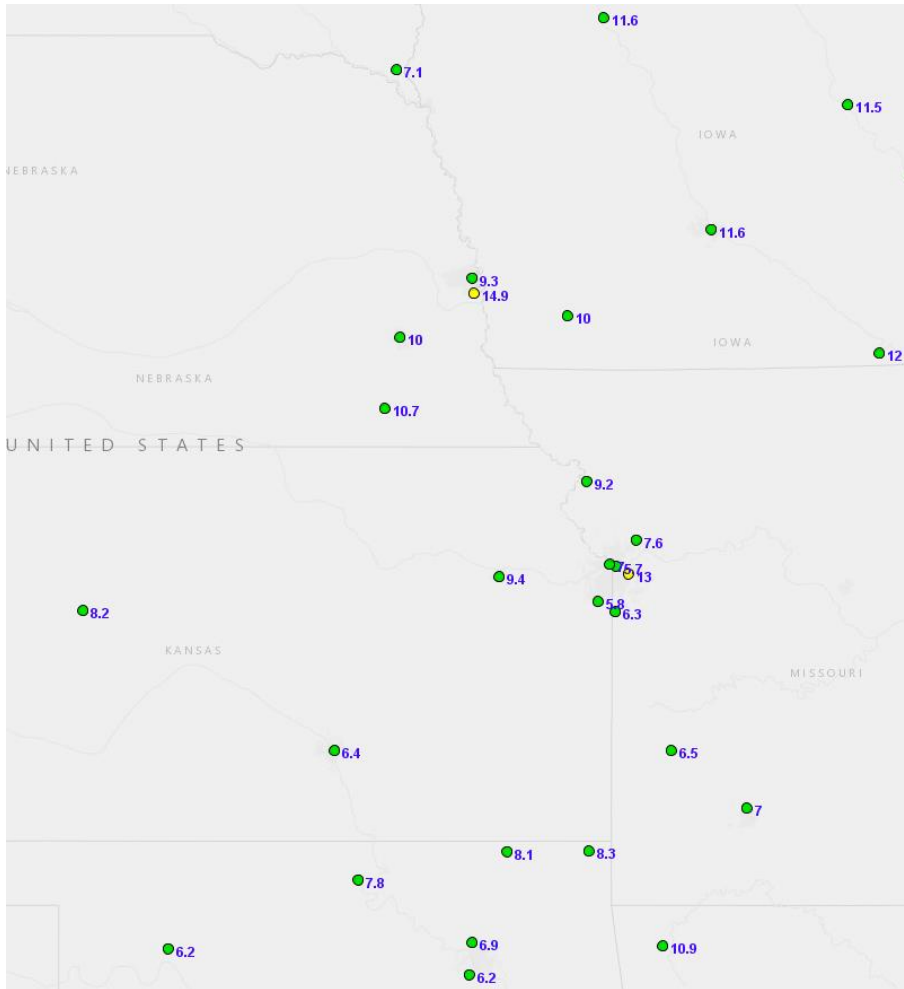


Flint Hills Prescribed Fire Update

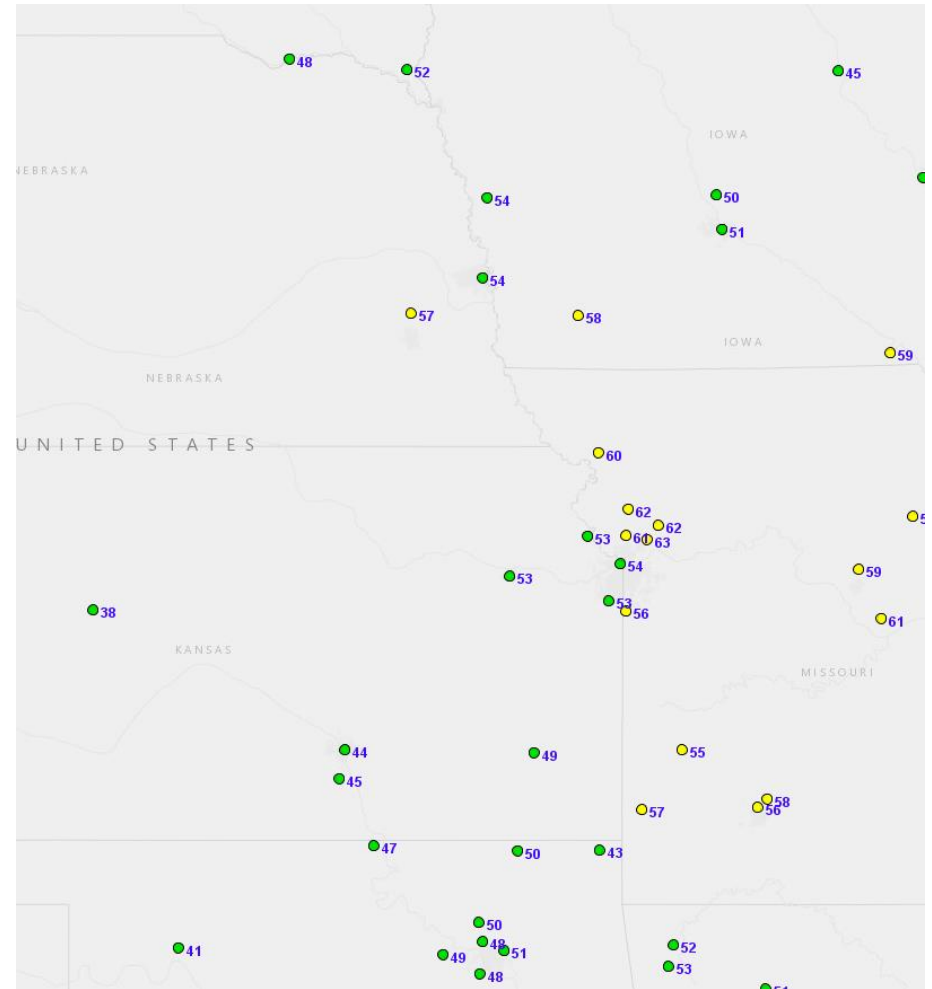


Tuesday, April 16, 2019

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

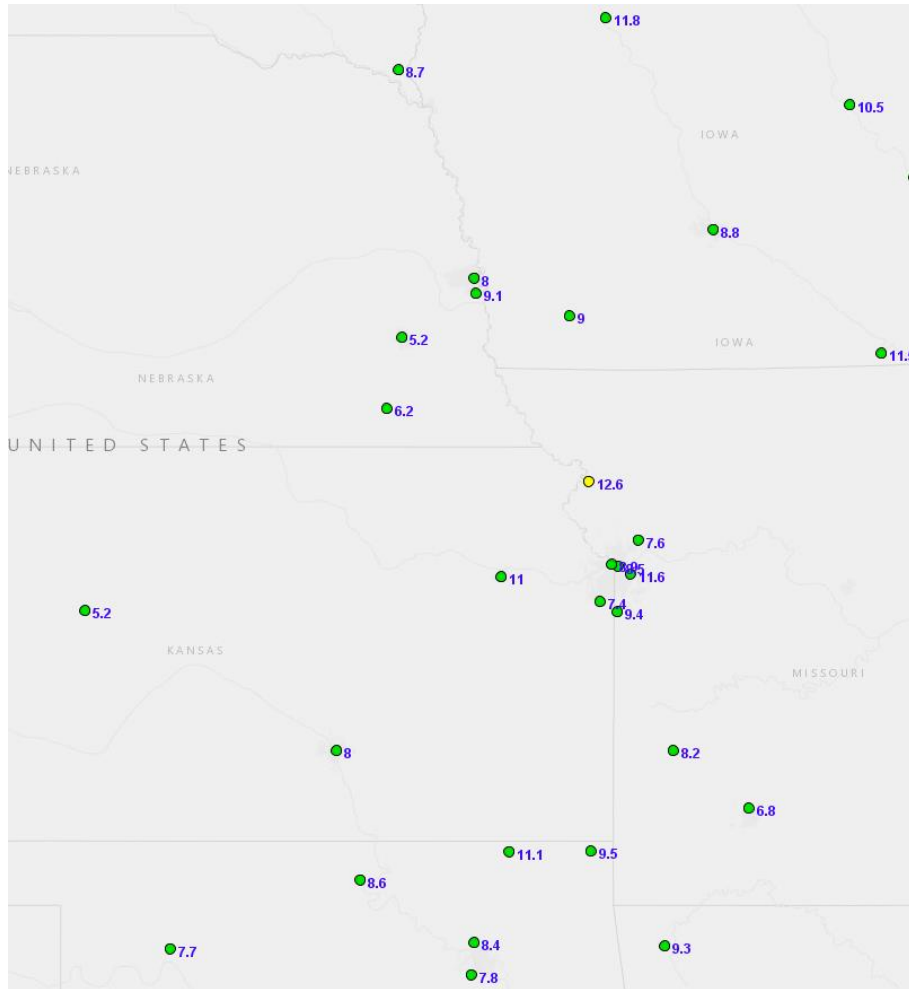


Flint Hills Prescribed Fire Update

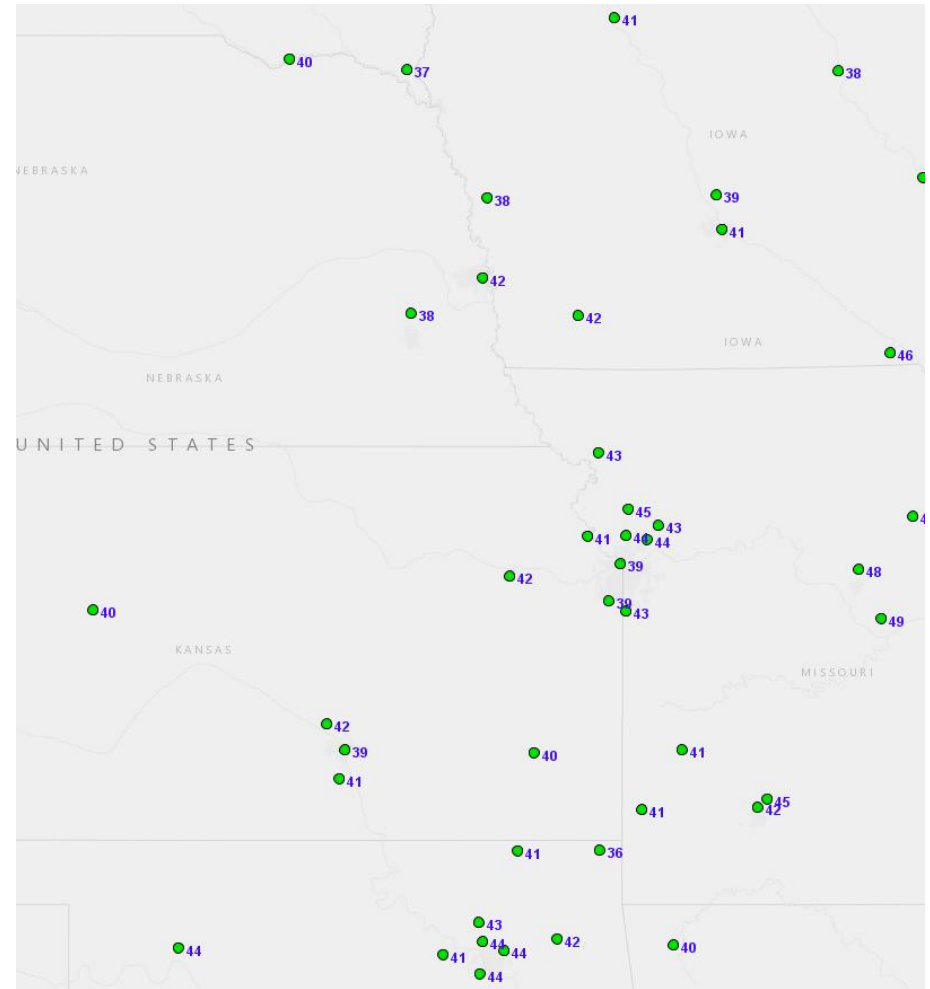


Wednesday, April 17, 2019

PM2.5 (24-hour average)



Ozone (8-hour average maximum)



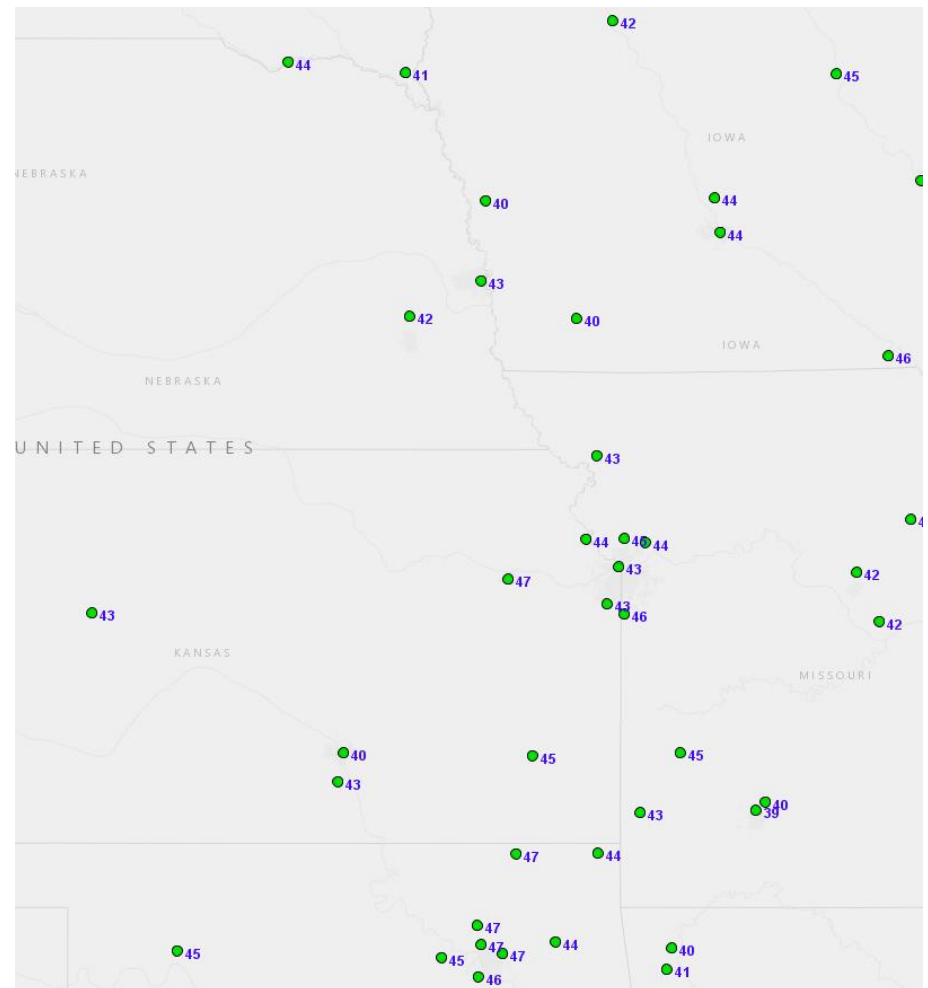
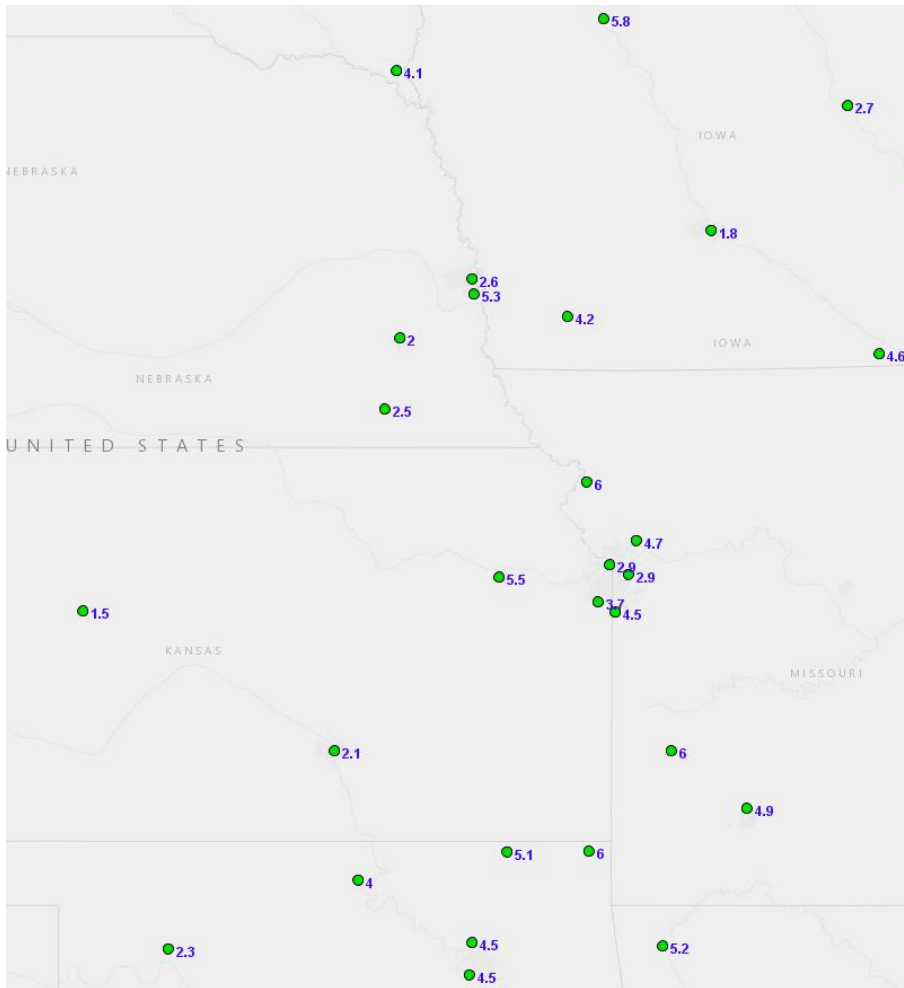
Flint Hills Prescribed Fire Update



Thursday, April 18, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)





Fires and Smoke

Despite some cooler temperatures fire activity was still noticeable across much of the Flint Hills last Friday and Saturday (April 12-13). Smoke was driven to the east on Friday, and to the south on Sunday with the wind direction. Impacts were observed by air monitors with elevated values of both Ozone and PM_{2.5} at Copan, Oklahoma; Union, Oklahoma; and within Wichita, Kansas. There were several large prescribed burns across the southern Flint Hills which likely contributed to the elevated Oklahoma levels due to their vicinity to the monitor.

More widespread prescribed fire was observed across the region on Sunday (April 14) under west to southwest winds over the Flint Hills, and a north to west wind over Iowa and Nebraska. Localized smoke impacts were likely in vicinity of any burns. Winds become south for Monday (April 15) with only light prescribed fire activity due to the stronger wind gusts. This south wind also pushed smoke from the prior day to the north across Nebraska and Iowa where occasional impacts were observed.

The strong south wind kept burning limited on Tuesday (April 16), but any fires that did occur likely had very good smoke dispersion to the strong winds and mixing. The continued gusty winds, cloud cover, and risk of thunderstorms kept burning to a minimum on Wednesday (April 17). Wet and cooler conditions alongside a strong breeze limited burning for Thursday (April 18).

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

KSFIRE.ORG

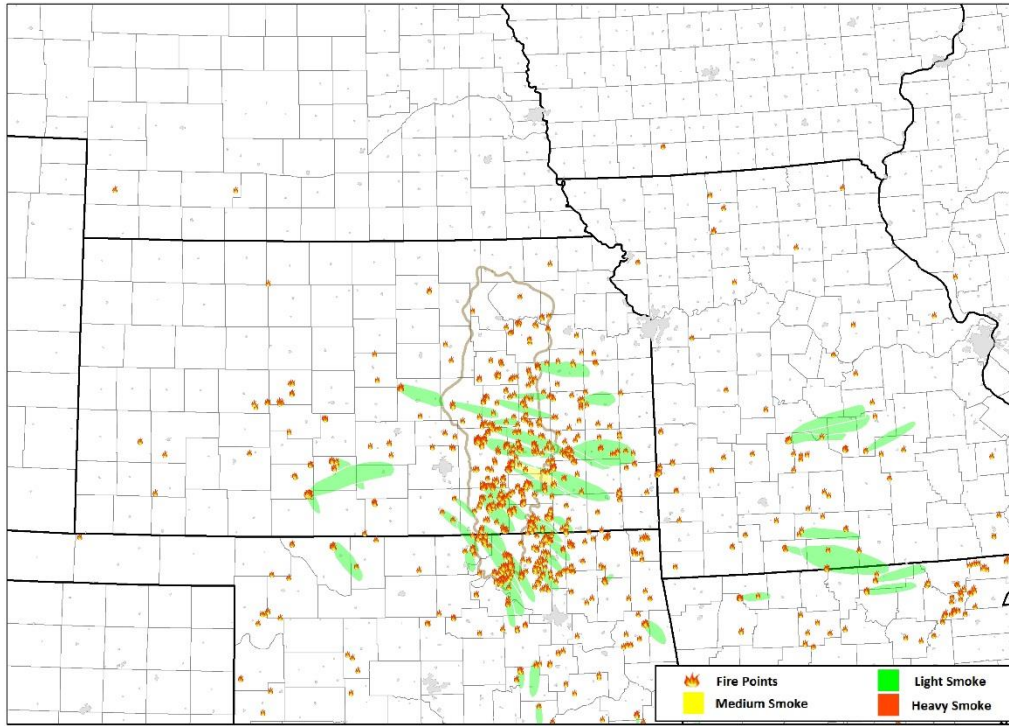


This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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

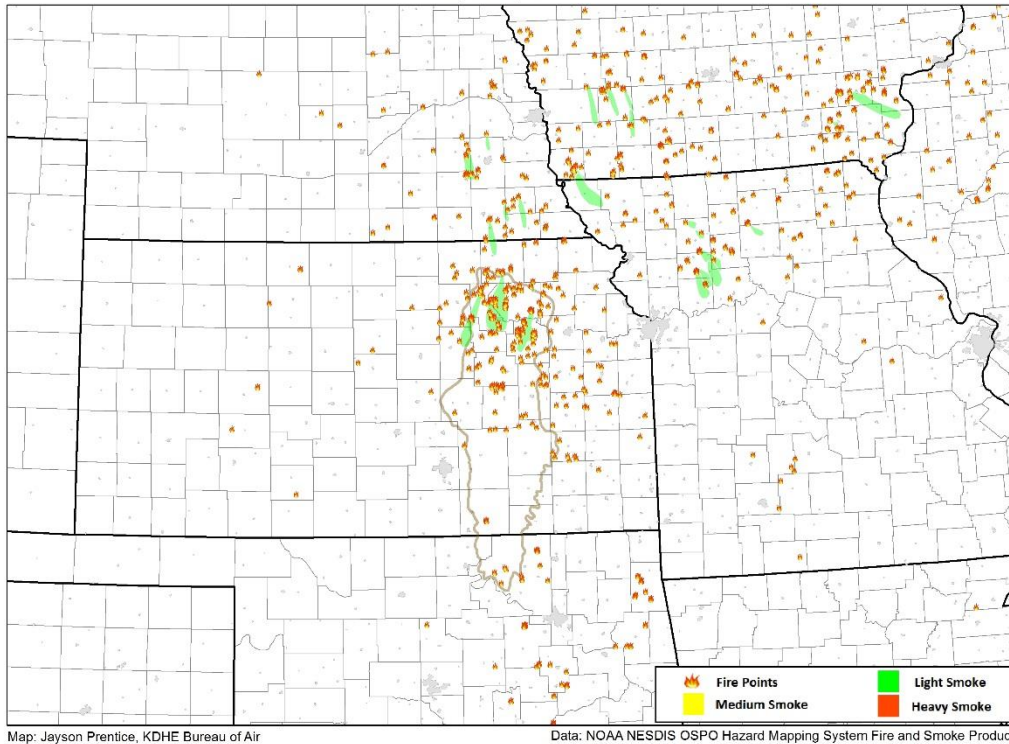
Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis April 12, 2019



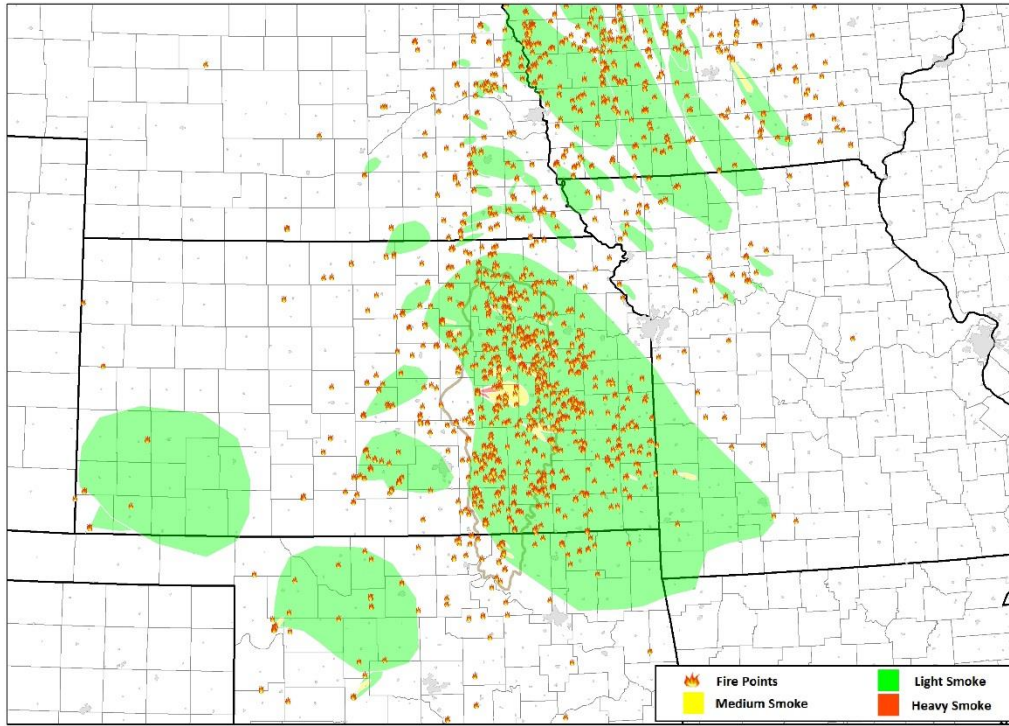
HMS Fire & Smoke Analysis April 13, 2019



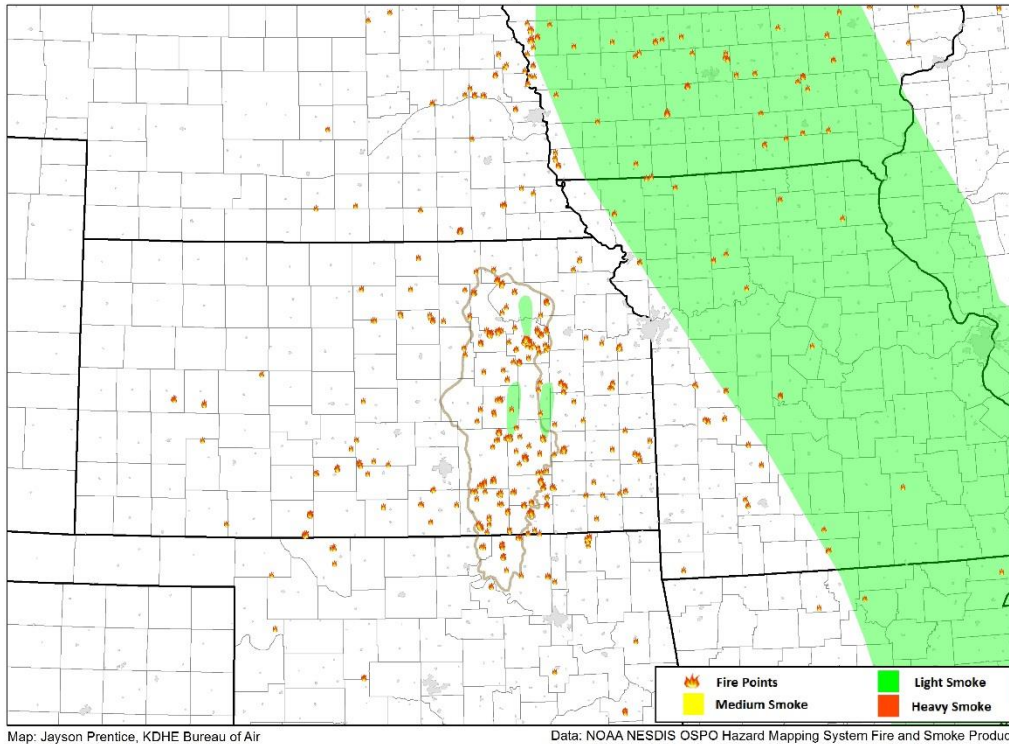
Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis April 14, 2019



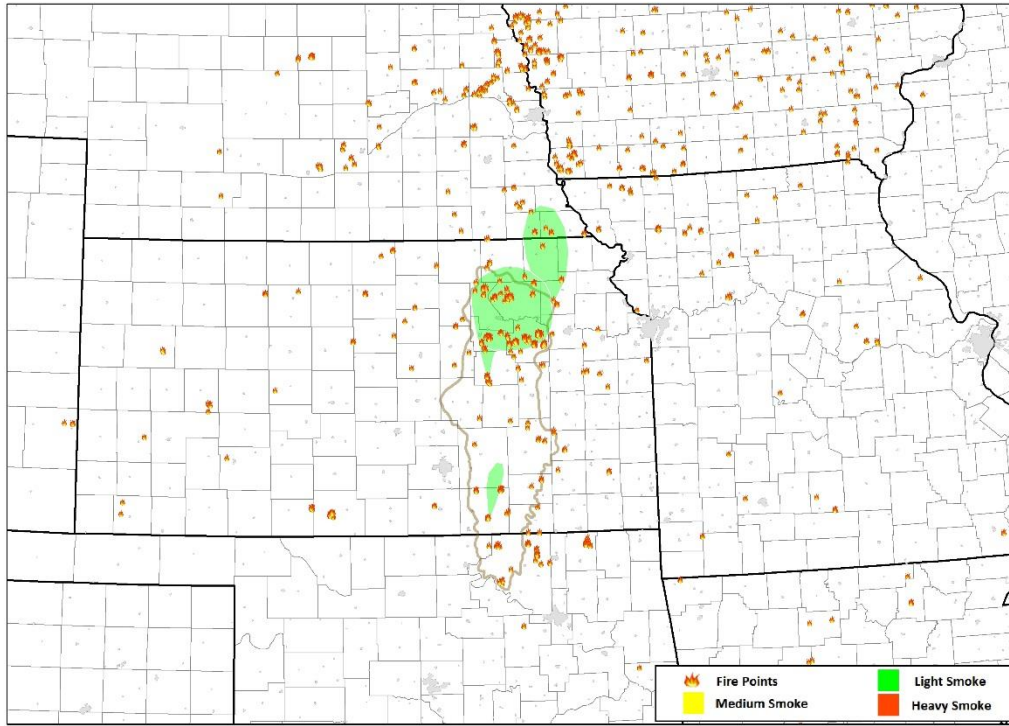
HMS Fire & Smoke Analysis April 15, 2019



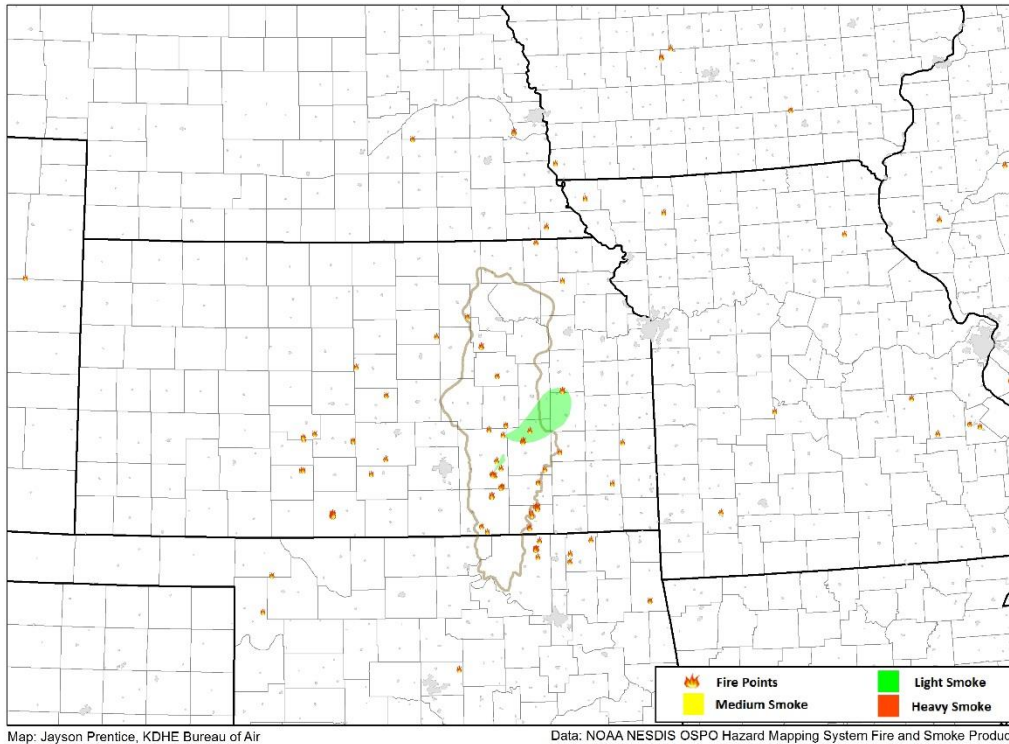
Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis April 16, 2019



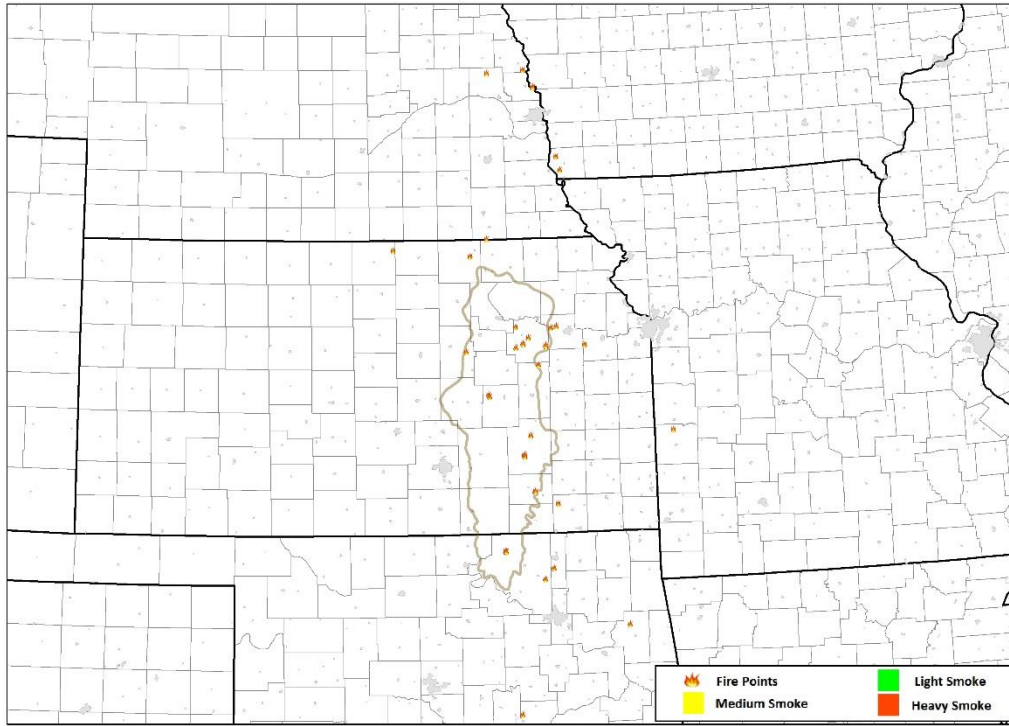
HMS Fire & Smoke Analysis April 17, 2019



Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis April 18, 2019



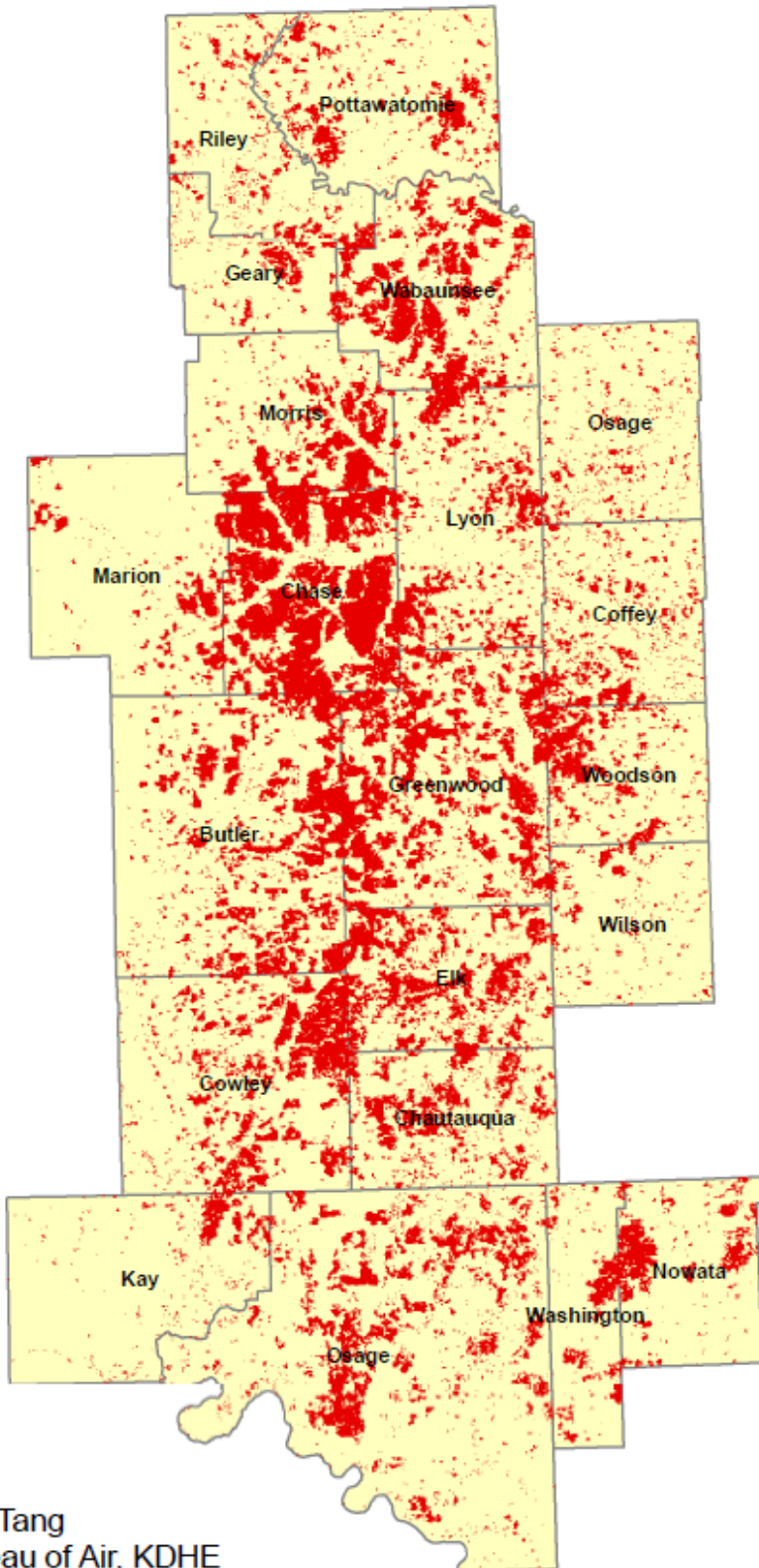
Map: Jayson Prentice, KDHE Bureau of Air

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

Flint Hills Prescribed Fire Update



Flint Hills Acreage Burned (March 15 – April 14, 2019)



<u>Counties</u>	<u>Acres Burned</u>
Butler	206,013
Chase	304,038
Chautauqua	90,921
Coffey	60,959
Cowley	165,919
Elk	140,436
Gearly	29,391
Greenwood	259,017
Lyon	108,420
Marion	46,472
Morris	95,230
Osage (KS)	32,449
Pottawatomie	69,870
Riley	43,908
Wabaunsee	148,390
Wilson	23,568
Woodson	65,839
Nowata (OK)	54,750
Osage (OK)	212,391
Washington (OK)	33,082
Kay (OK)	31,043
Total	2,222,106
<i>* Denotes county was partly or completely covered by clouds during latest analysis.</i>	

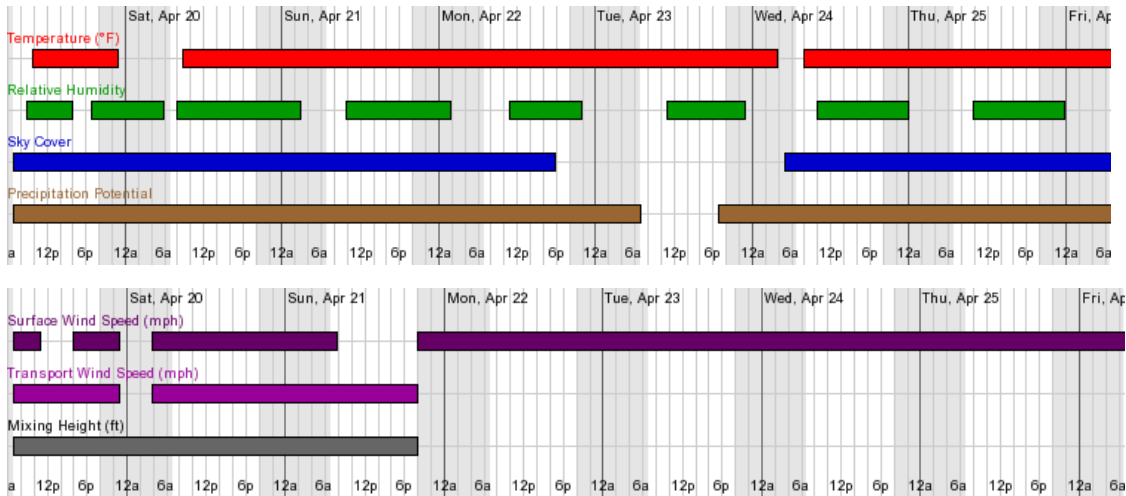
Yao Tang
Bureau of Air, KDHE



Upcoming Look at Fires and Smoke

Seasonable to above normal temperatures for the upcoming week will continue the green-up across the Flint Hills region. Recent rainfall for the southern Flint Hills combined with the warm temperatures may signal the end for much of the Spring prescribed burn season. Additional rain showers and thunderstorms are possible on Sunday, Monday, and especially Tuesday for much of the Flint Hills. Winds will be somewhat gusty today, early Saturday, and on Sunday which may limit prescribed burning before the additional rain chances. Winds today will continue to be northerly, but look for south winds to return for the weekend and through early next week. Overall, look for limited prescribed burning opportunities given the winds, rain chances, and the overall green-up that is occurring.

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 19, 2019.

For more information, contact:

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