

Flint Hills Prescribed Fire Update

April 12, 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.

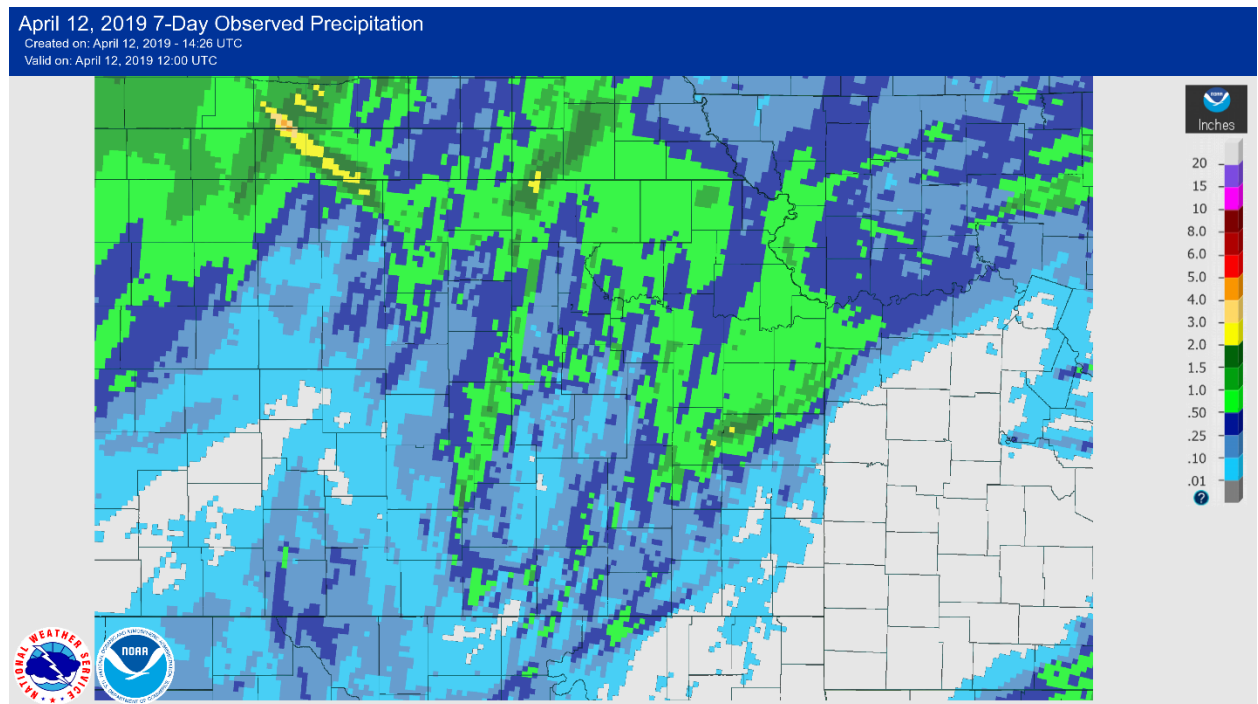




Meteorology

Warm temperatures under south winds and sunny skies occurred on Friday (April 5) and into Saturday (April 6) ahead of a storm system which brought scattered rain showers and thunderstorms to a good portion of the Flint Hills. Any lingering rain showers exited on Sunday (April 7) and winds shifted from the south to the northwest, but temperatures remained warm for much of the Flint Hills. The warm temperatures continued for Monday (April 8) and Tuesday (April 9) under sunny skies and somewhat variable wind direction, but wind speeds remained light with average wind speeds less than 15 mph. Strong south winds were observed on Wednesday (April 10) with gusts upwards of 45 mph for some locations; Combined with temperatures in the 80s this lead to Very High Fire Danger for many Flint Hills locations. A cold front pushed through the Flint Hills Thursday morning and led to a drastic drop in temperatures with strong west winds continuing through the day.

Precipitation

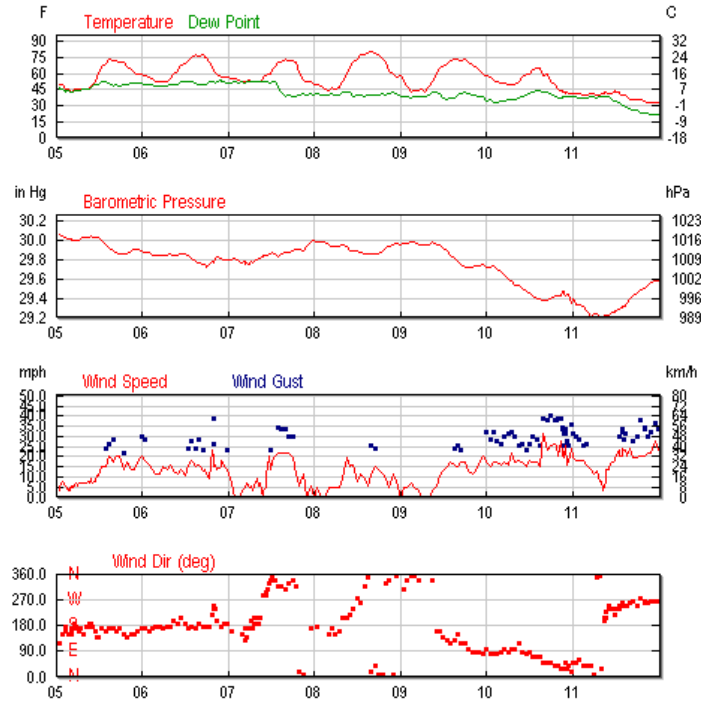


NOAA/NWS Observed Total Precipitation for April 5-11, 2019.

Flint Hills Prescribed Fire Update

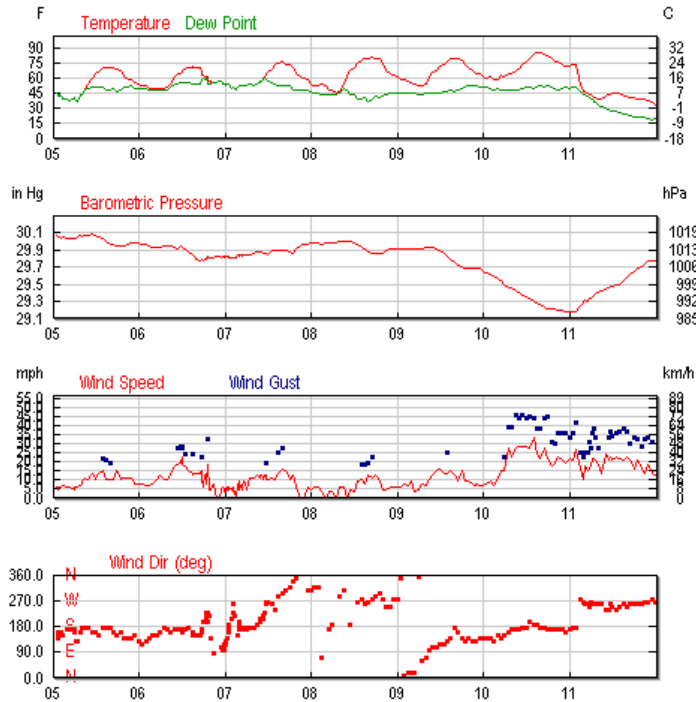


Lincoln, NE



April 5-11, 2019 Observed Weather from KLNK. Graphic: Weather Underground, Inc.

Emporia, KS



April 5-11, 2019 Observed Weather from KEMP. Graphic: Weather Underground, Inc.



Air Quality Data

Air quality data for the period of April 5-11, 2019:

Ozone: Preliminary data indicates the following exceedances of the NAAQS daily 8-hour average maximum of 70 ppb:

Chanute, Kansas on April 8, 2019 – 76 ppb

Mannford, Oklahoma on April 8, 2019 – 71 ppb

Joplin, Missouri on April 9, 2019 – 73 ppb

Union, Oklahoma on April 9, 2019 – 75 ppb

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

Union, Oklahoma on April 9, 2019 – 42.4 $\mu\text{g}/\text{m}^3$

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

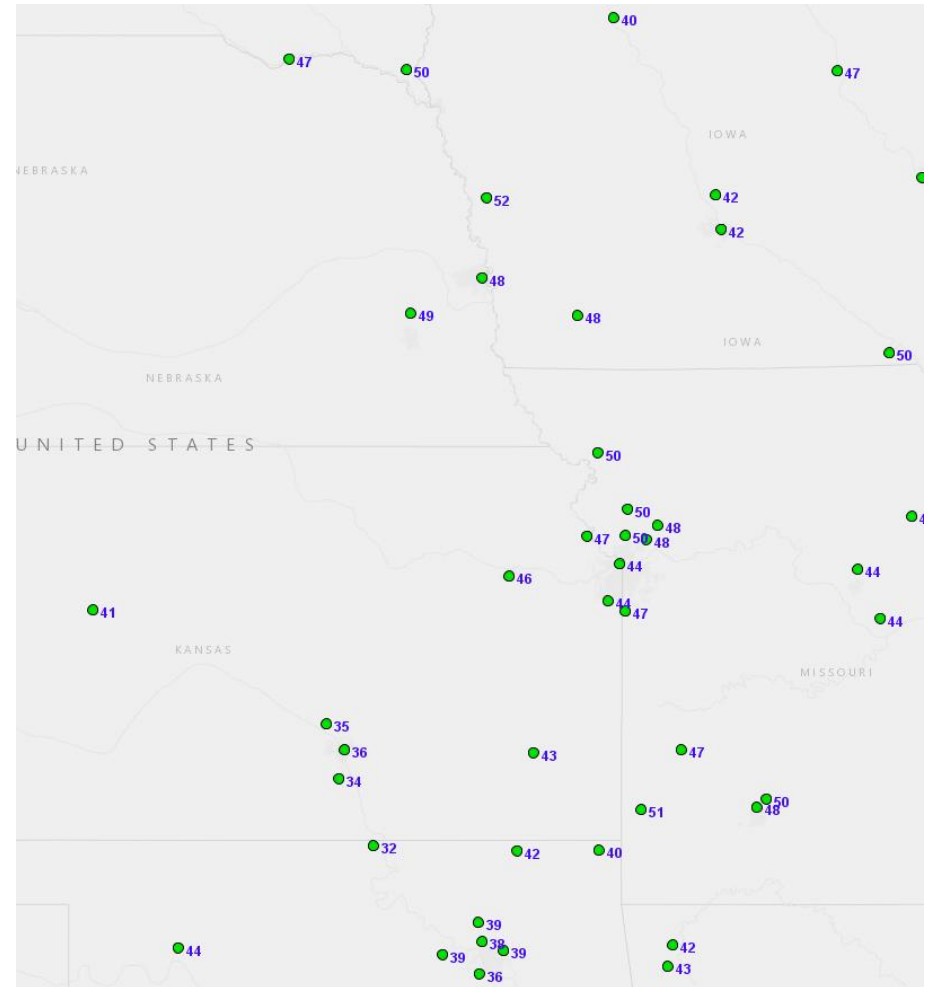
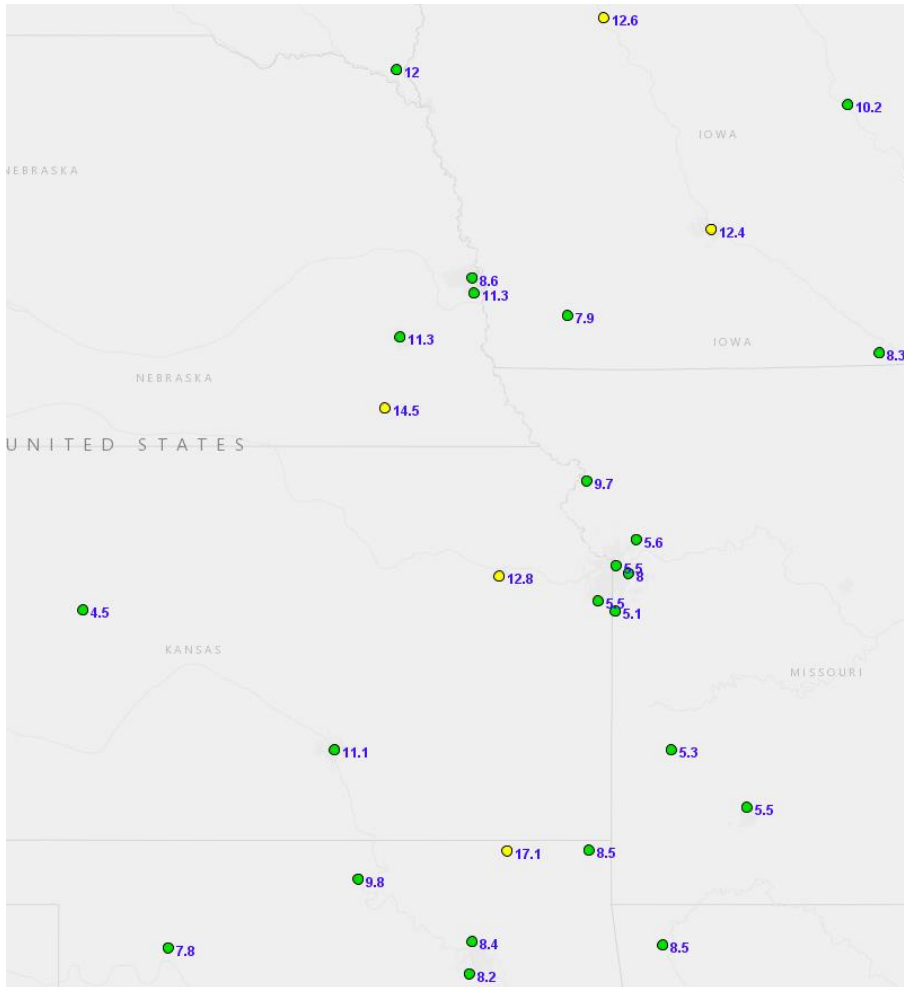
Flint Hills Prescribed Fire Update



Saturday, April 6, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



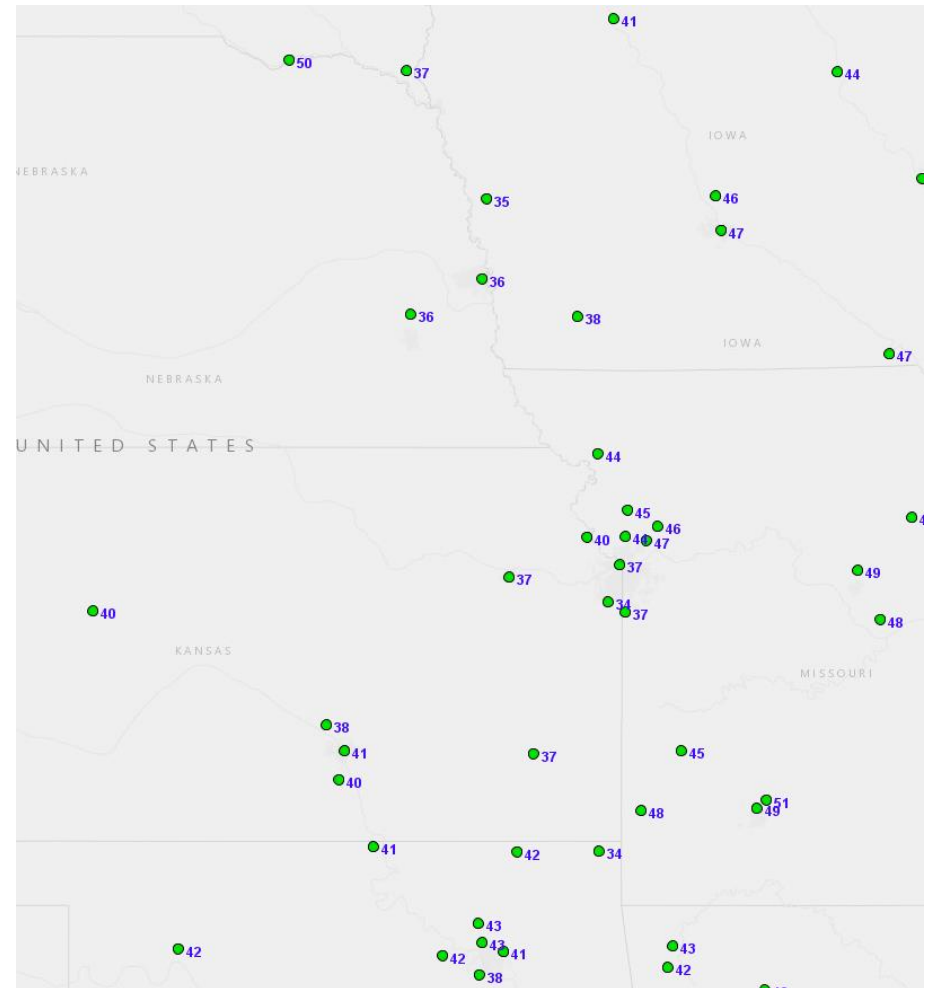
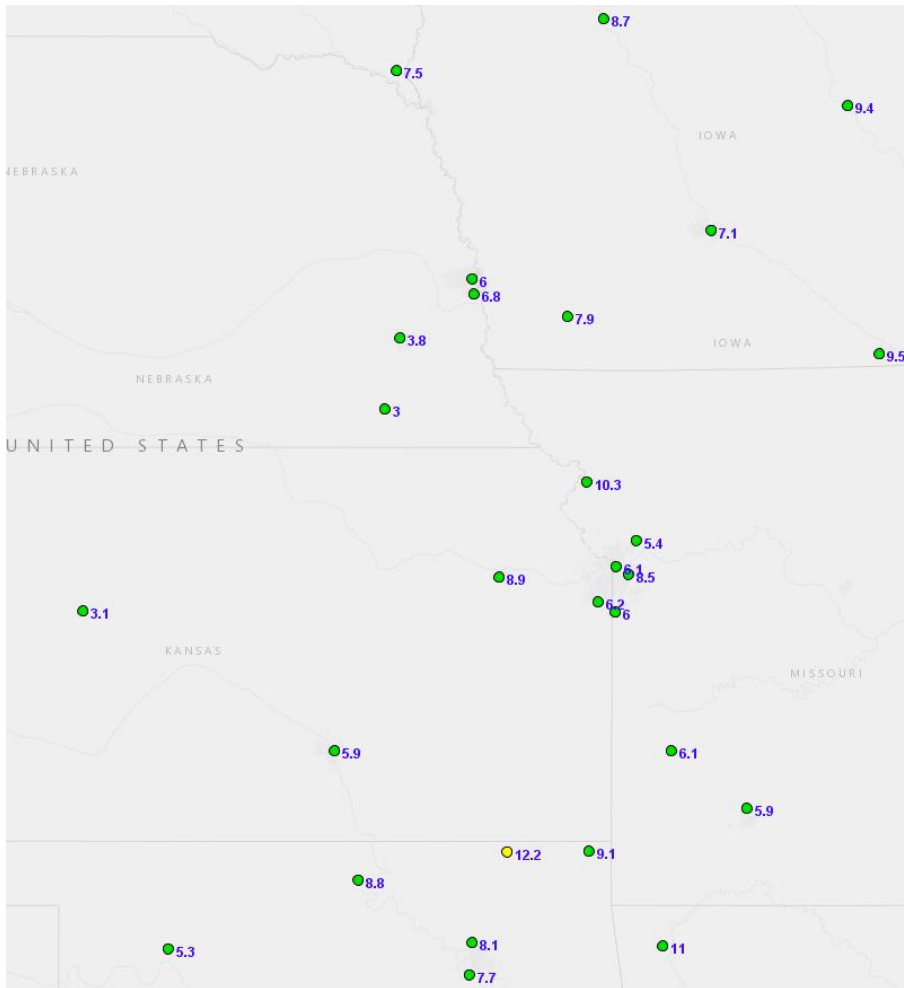
Flint Hills Prescribed Fire Update



Sunday, April 7, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



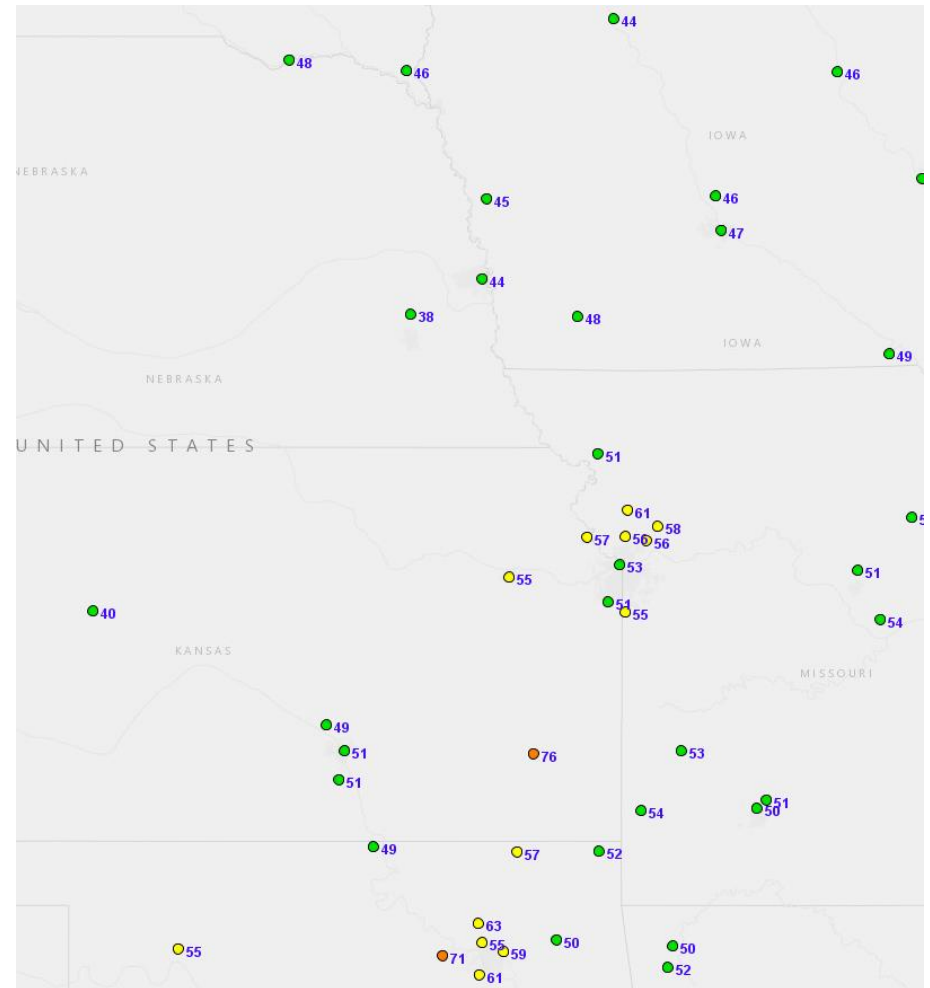
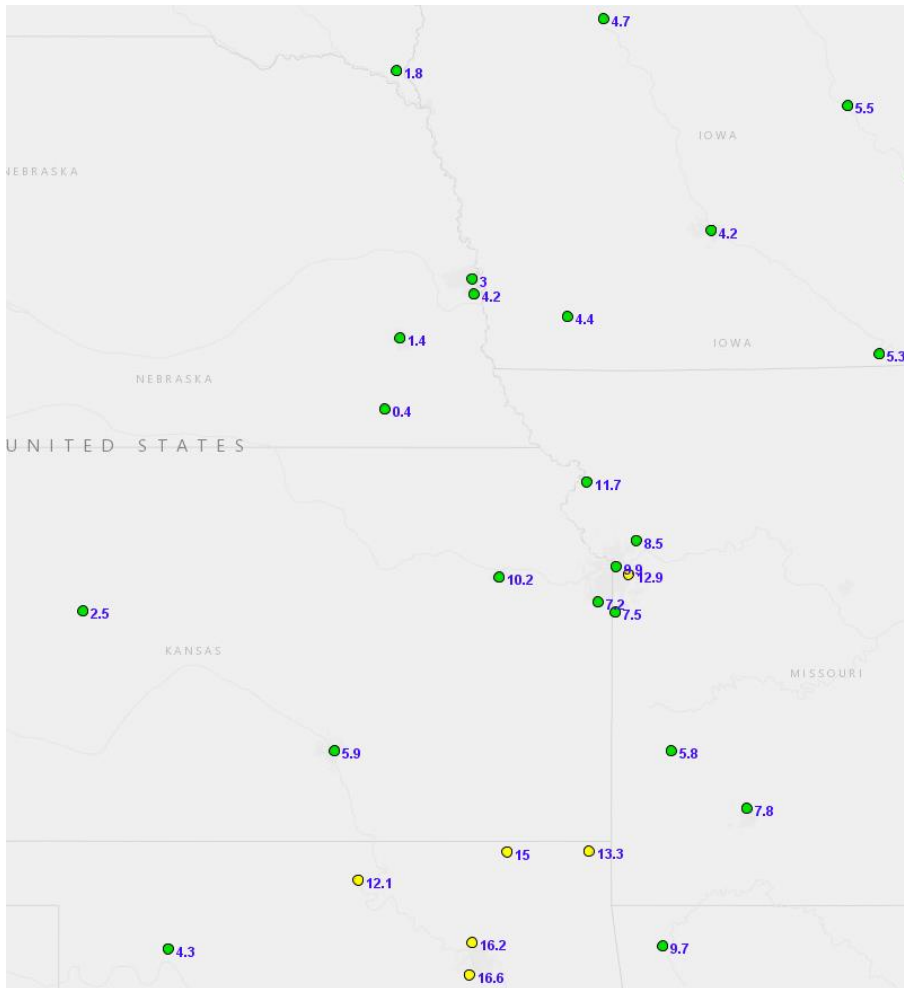
Flint Hills Prescribed Fire Update



Monday, April 8, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)





Fires and Smoke

Lighter winds, warm temperatures, and clear skies led to one of the busiest prescribed fire days of the season last Friday (April 5) with burns occurring in every Flint Hills county. Smoke was swept off to the north, but increasing south winds through the night and into Saturday (April 6) allowed for rather quick dispersion of smoke. Less fire activity was observed on Saturday due to those gusty winds and the risk of scattered showers and thunderstorms. Strong northwest winds limited prescribed fire activity on Sunday (April 7) and provided a drying day for those areas who saw rain the day prior.

Lighter west-northwest winds on Monday (April 8) alongside clear skies and warm temperatures led to another very active prescribed fire day on the Flint Hills and surrounding region. Smoke dispersion was good, but impacts were still seen throughout the Flint Hills and areas to the east. Winds slowly transitioned to the south on Tuesday (April 9) with another very active day of prescribed fire. Smoke from the day prior settled into the southern Flint Hills and adjacent locations, especially during the morning hours, and then was dispersed to the north under the south winds by afternoon.

South winds became very gusty on Wednesday (April 10) for much of the Flint Hills. Some prescribed fire activity still occurring in the south where winds remained lighter, however good dispersion with the strong winds and very warm temperatures minimized smoke impacts. Much cooler and continued breezy conditions limited prescribed fire activity for Thursday (April 11) throughout the Flint Hills.

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

KSFIRE.ORG

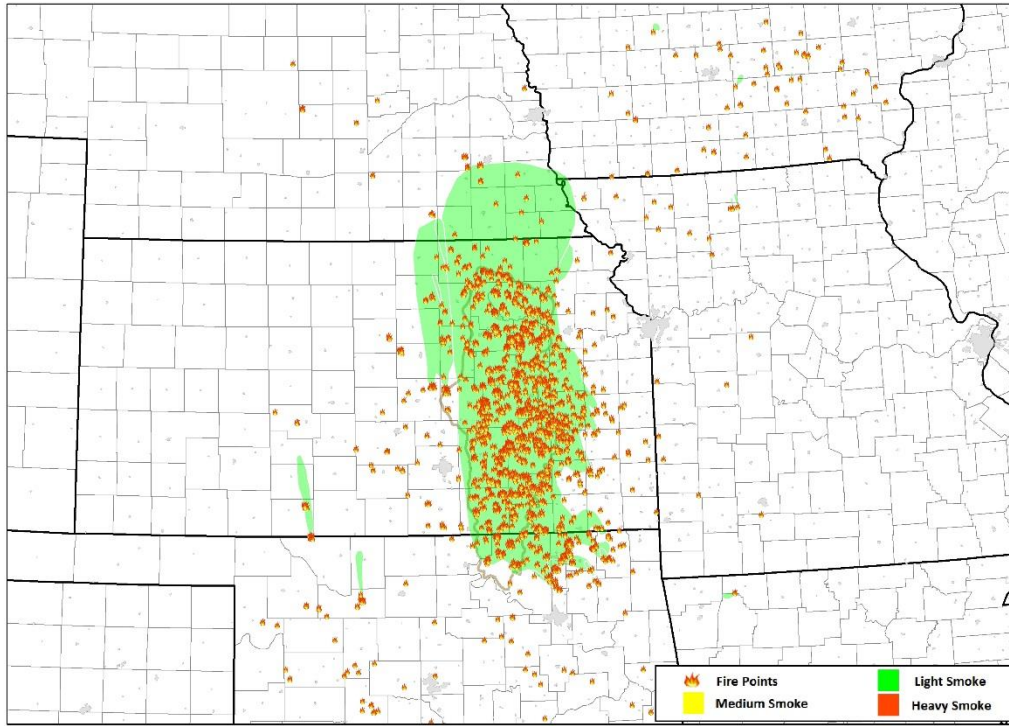


This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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

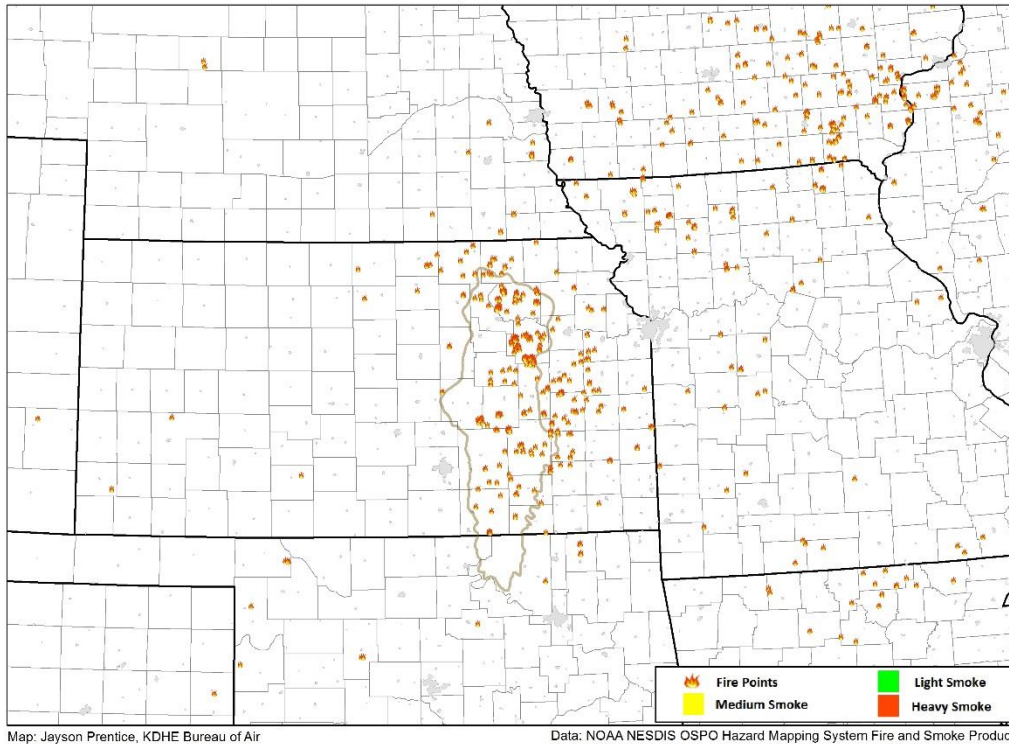
Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis April 05, 2019



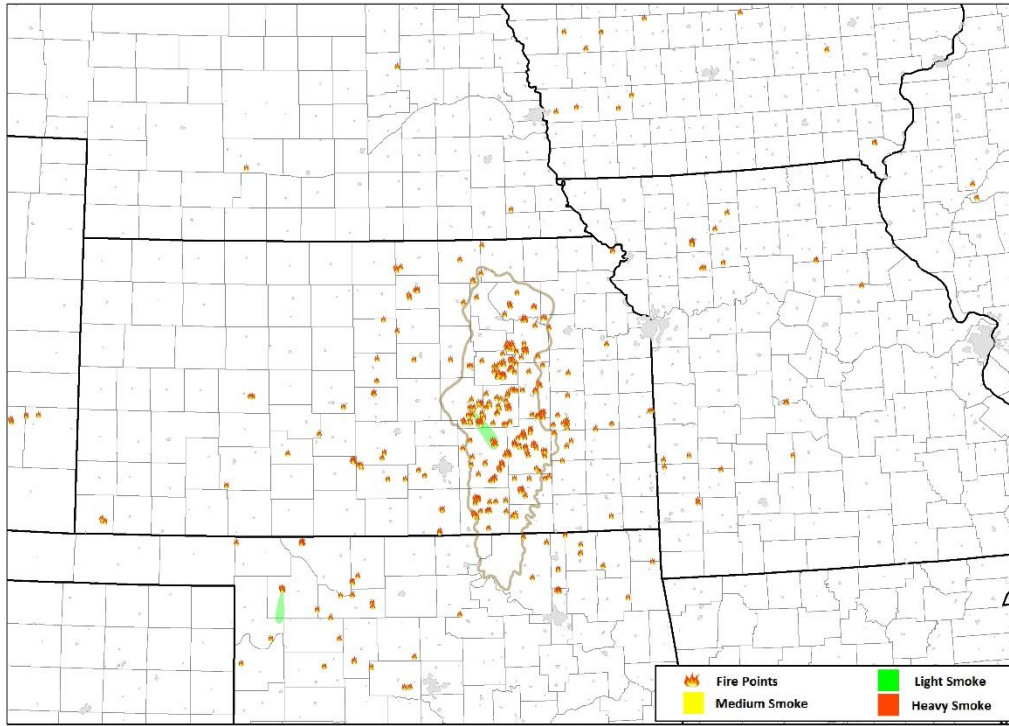
HMS Fire & Smoke Analysis April 06, 2019



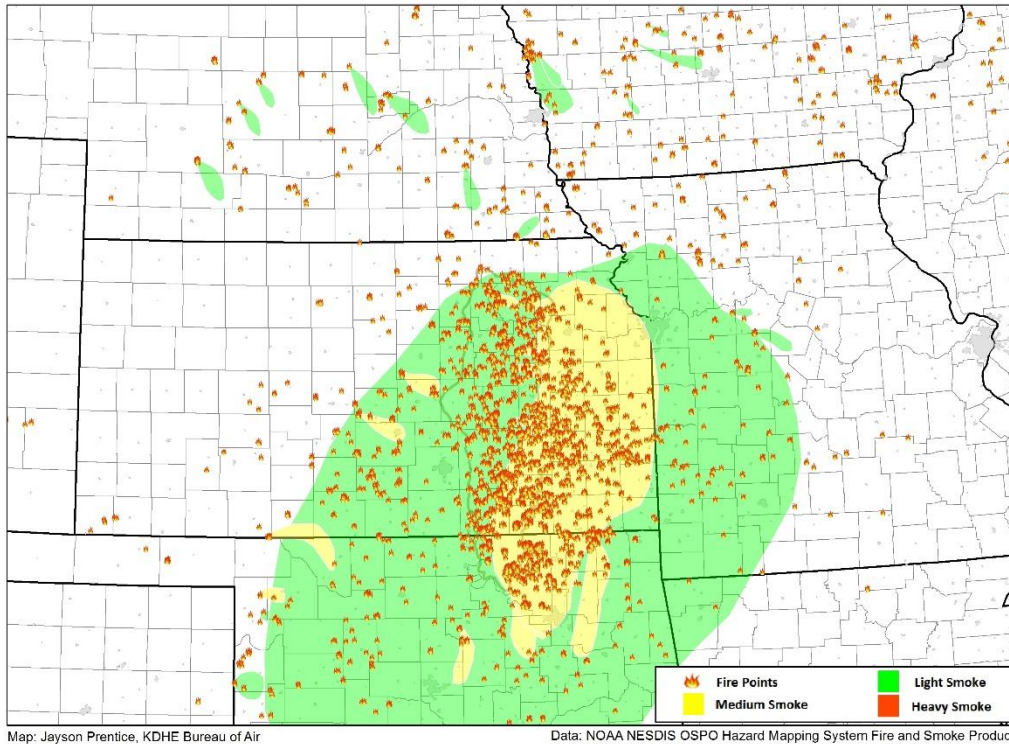
Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis April 07, 2019



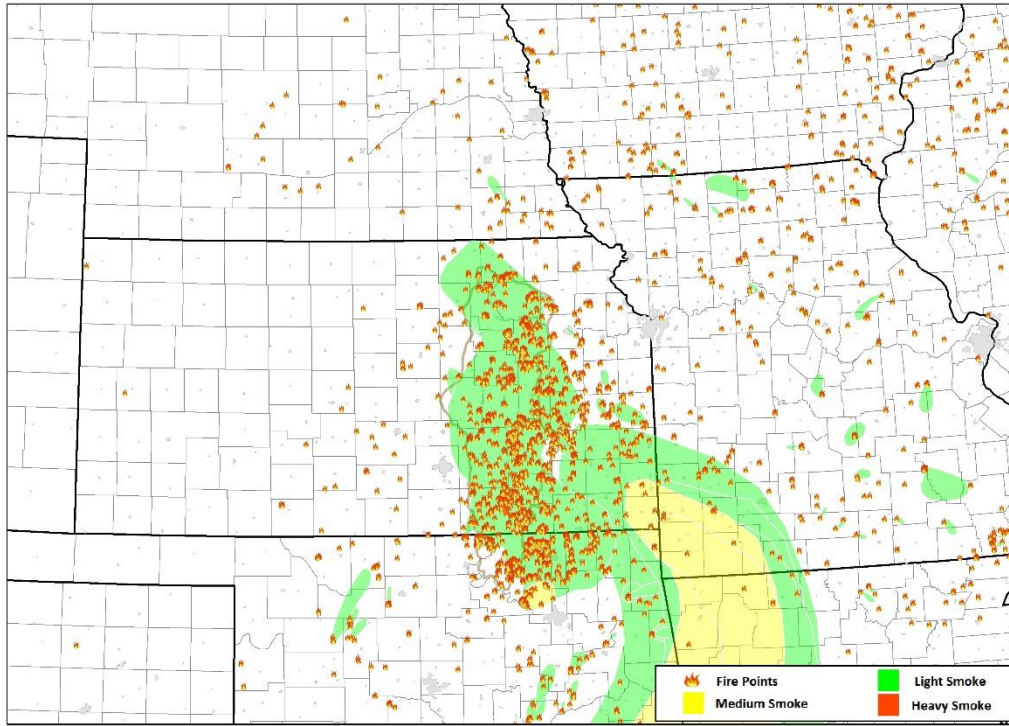
HMS Fire & Smoke Analysis April 08, 2019



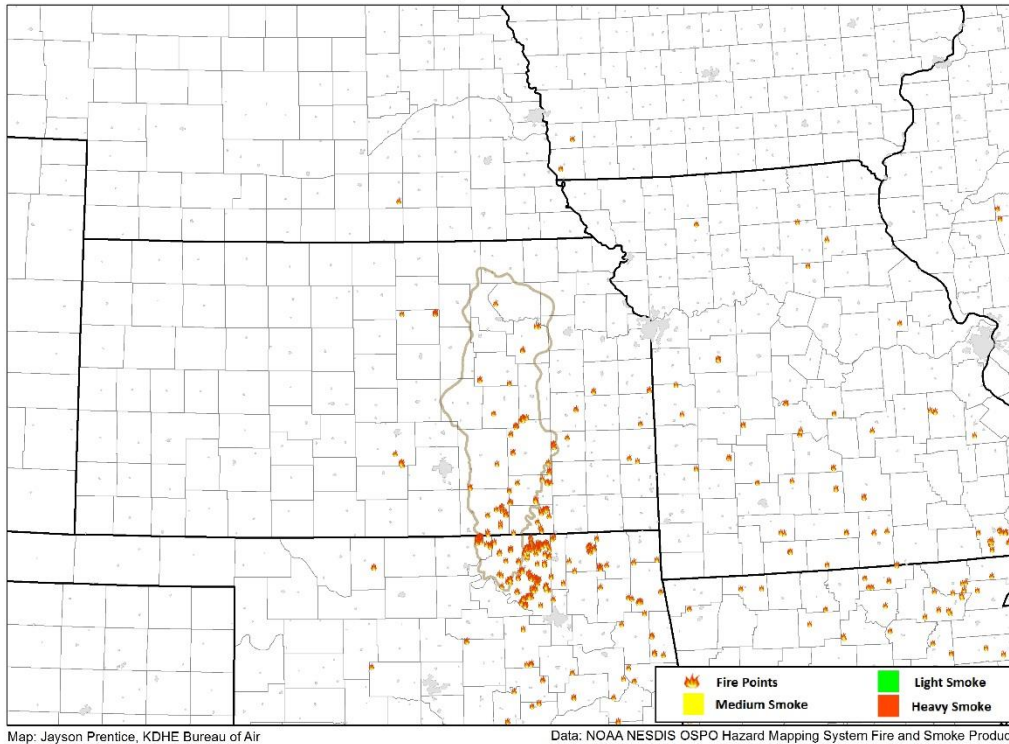
Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis April 09, 2019



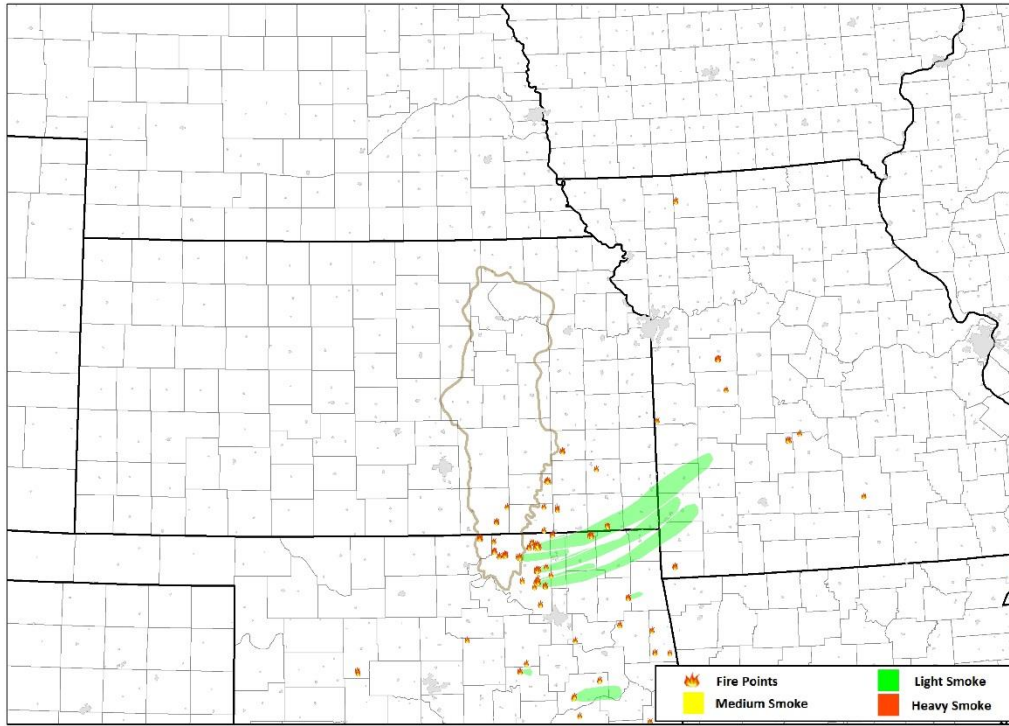
HMS Fire & Smoke Analysis April 10, 2019



Flint Hills Prescribed Fire Update



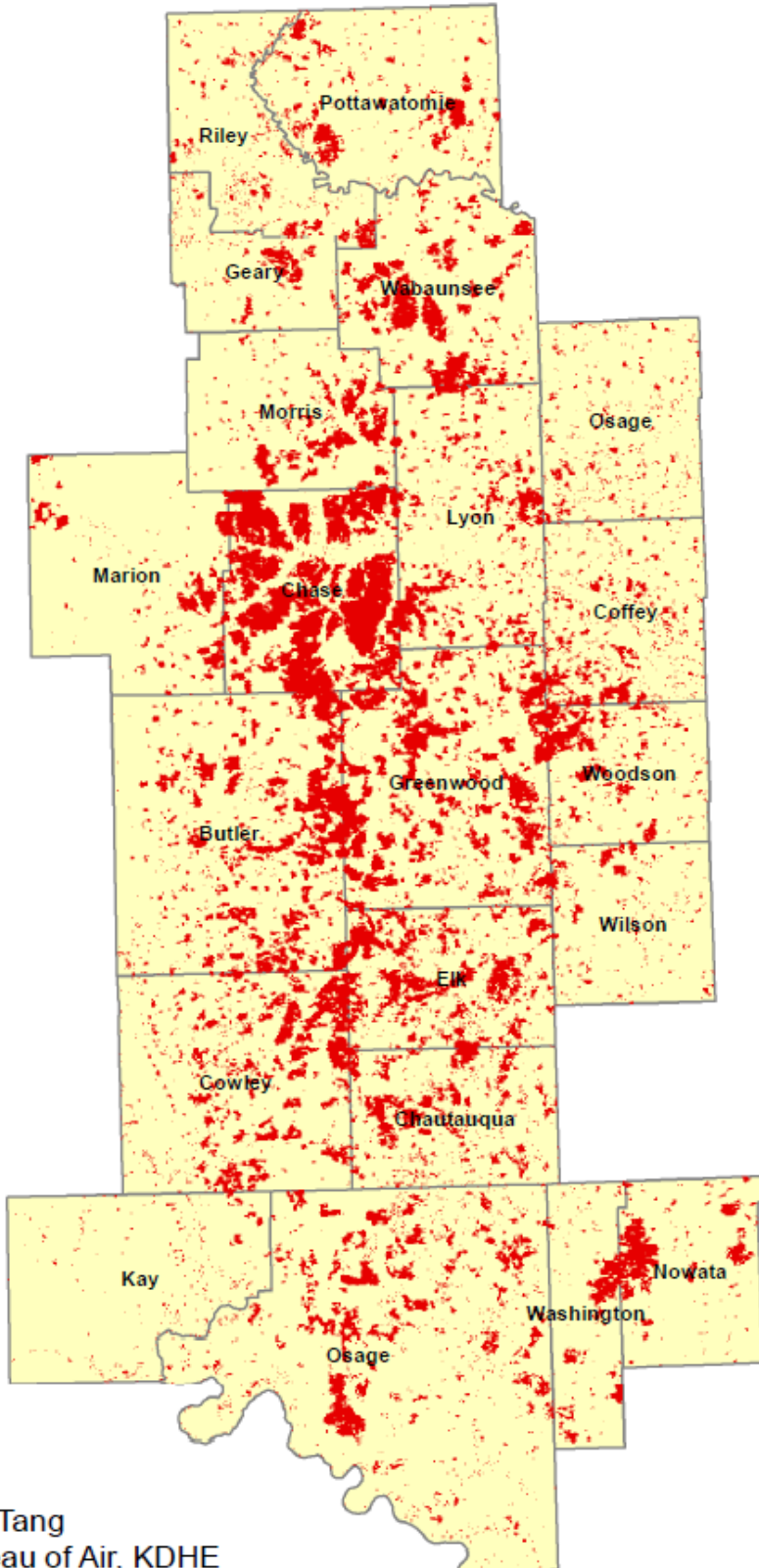
HMS Fire & Smoke Analysis April 11, 2019



Flint Hills Prescribed Fire Update



Flint Hills Acreage Burned (March 15 – April 8, 2019)



<u>Counties</u>	<u>Acres Burned</u>	
Butler	164,004	
Chase	270,215	
Chautauqua	68,357	
Coffey	49,283	
Cowley	120,744	
Elk	111,555	
Geary	20,727	
Greenwood	191,556	
Lyon	79,183	
Marion	39,553	
Morris	57,098	
Osage (KS)	24,294	
Pottawatomie	49,499	
Riley	30,533	
Wabaunsee	94,010	
Wilson	20,665	
Woodson	45,221	
Nowata (OK)	43,043	
Osage (OK)	144,034	
Washington (OK)	26,410	
Kay (OK)	11,552	
Total	1,661,536	
* Denotes county was partly or completely covered by clouds during latest analysis.		

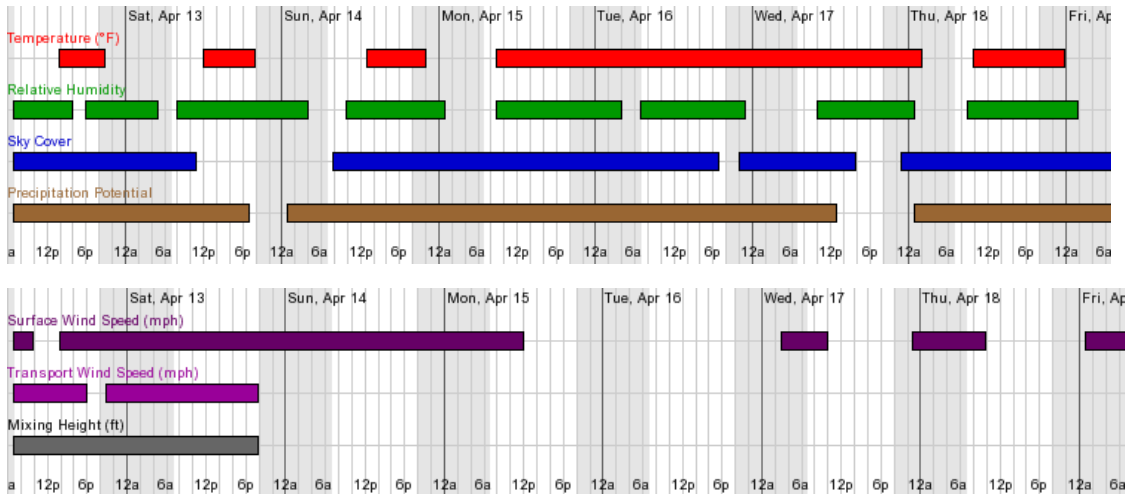
Yao Tang
Bureau of Air, KDHE



Upcoming Look at Fires and Smoke

Temperatures will take their time warming up today with highs only into the 50s. Gusty west winds are also likely today which likely inhibit burning for some locations, especially with relative humidity values dipping below 30 percent during the afternoon as well. Temperatures remain on the cooler side for Saturday (April 13) and while winds are favorable look for sky cover to be increasing with the potential for rain showers arriving Saturday evening – minimal burning is likely. Sunday (April 14) has temperatures struggling in the 50s for most again, however clear skies and lighter winds may allow for some burning. Temperatures warm-up for the remainder of the week, Monday-Thursday (April 15-18) however wind speeds are forecast to be windy with gusts greater than 25 mph each day. Another chance of showers and thunderstorms is possible by Wednesday as well.

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 12, 2019.

For more information, contact:

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