

# Flint Hills Prescribed Fire Update

March 22, 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.

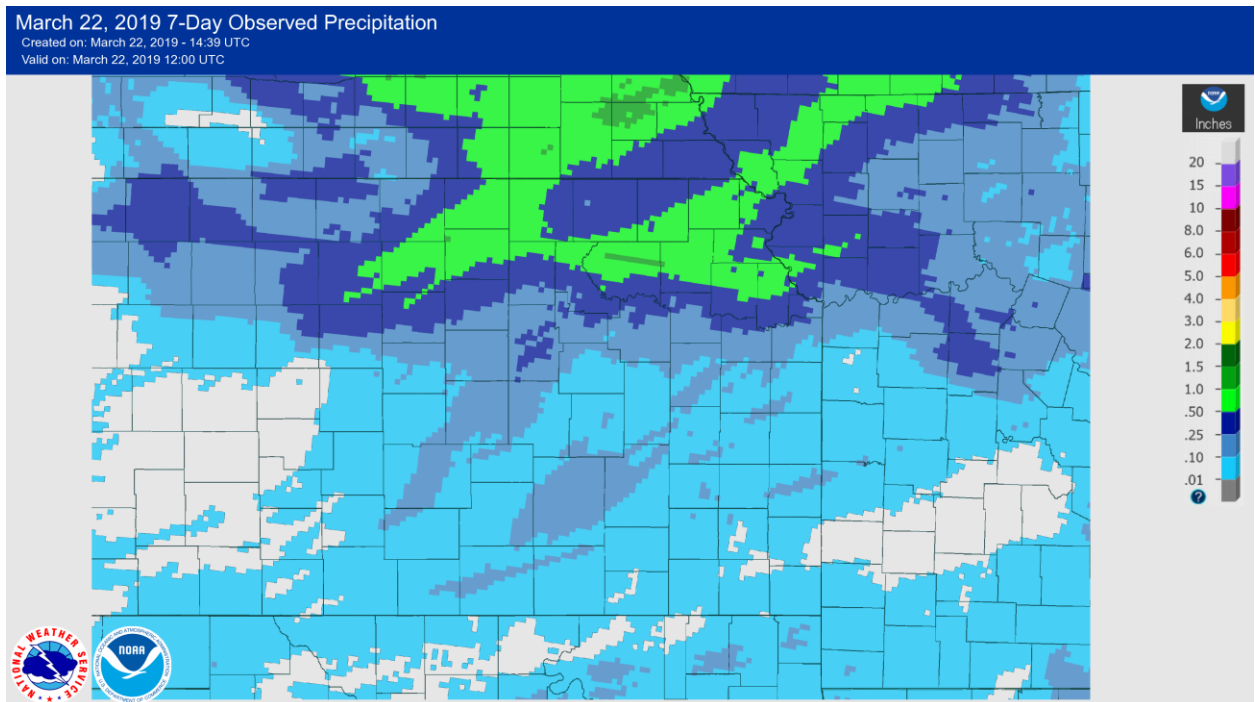




## Meteorology

Spring finally seemed to arrive last week across the Flint Hills and Winter has not attempted to creep back into the picture. Last weekend saw temperatures in the 40s and 50s for much of the Flint Hills, but wind speeds were a bit gusty at 20-35 mph out of the Northwest and West for Friday (March 15) and Saturday (March 16) before winds calmed for Sunday (March 17). Temperatures were a bit cooler for Monday (March 18), but winds remained light out of the South-East. Rain moved into the area Monday night and continued for much of Tuesday (March 19) with precipitation amounts ranging from near a half-inch over the far north Flint Hills to generally a tenth of an inch or less in the south Flint Hills. Dry conditions and warmer temperatures returned for Wednesday (March 20) and Thursday (March 21) with winds on Wednesday gusting near 25 mph, but becoming light Northwest-West winds for Thursday.

## Precipitation

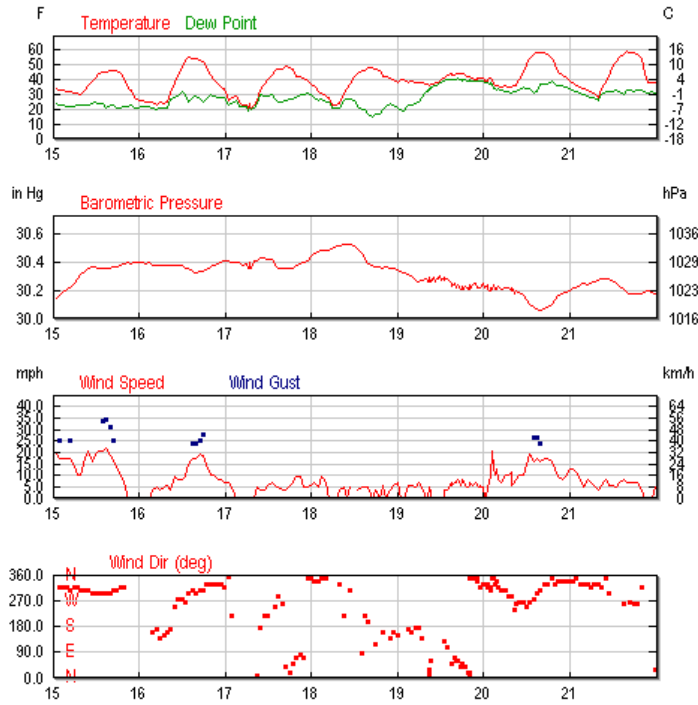


NOAA/NWS Observed Total Precipitation for March 15-21, 2019.

# Flint Hills Prescribed Fire Update

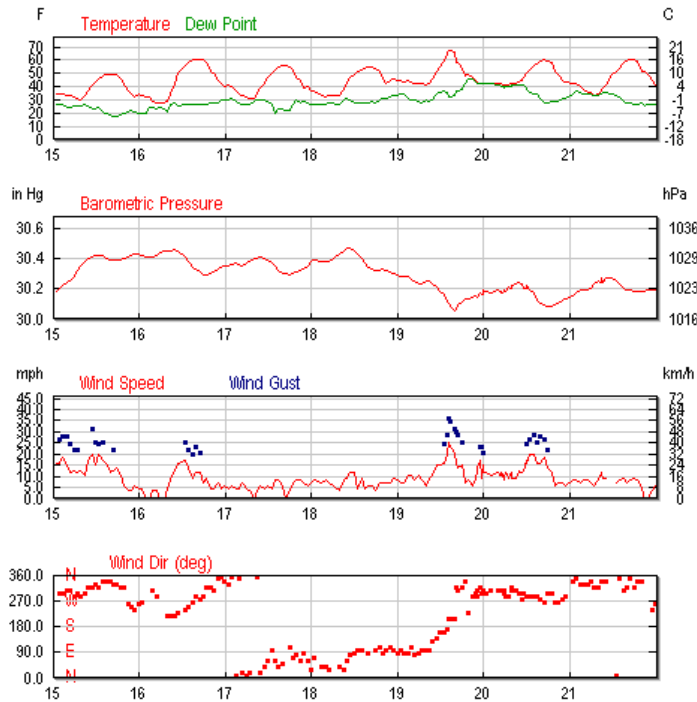


## Lincoln, NE



March 15-21, 2019 Observed Weather from KLNK. Graphic: Weather Underground, Inc.

## Emporia, KS



March 15-21, 2019 Observed Weather from KEMP. Graphic: Weather Underground, Inc.



## Air Quality Data

Air quality data for the period of March 15-21, 2019:

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

**PM2.5:** 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.

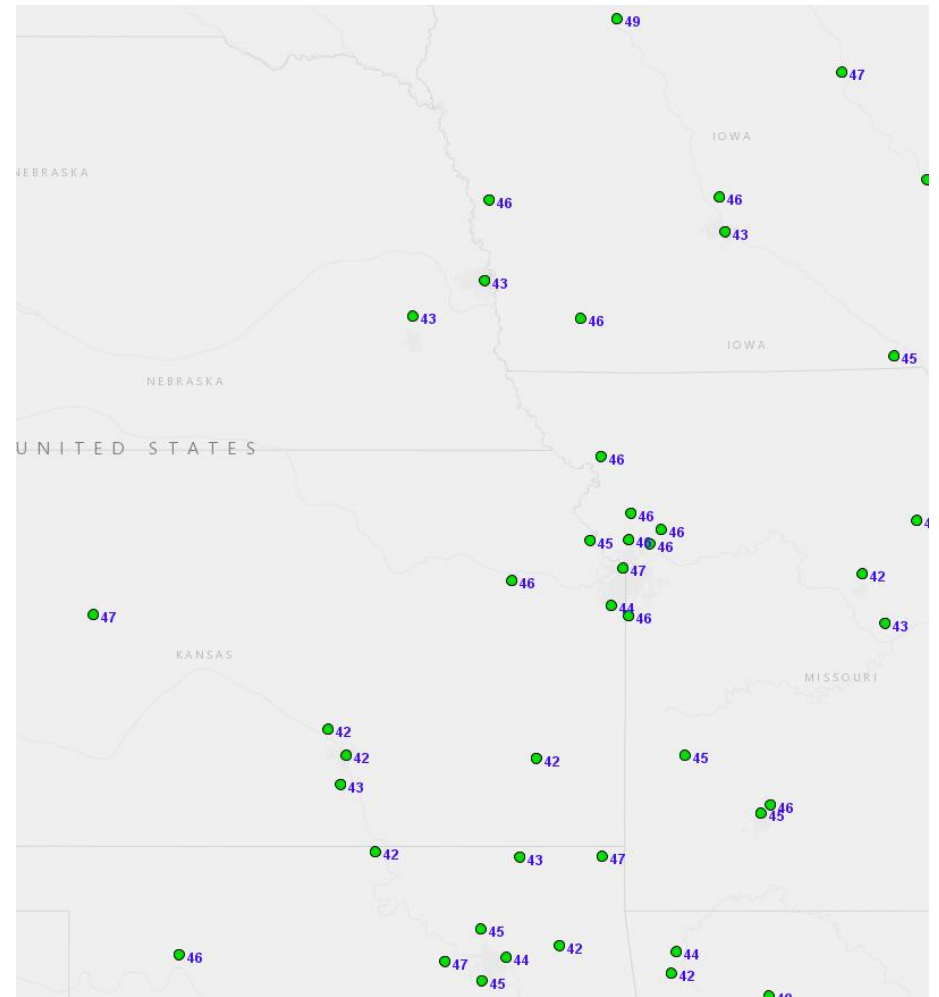
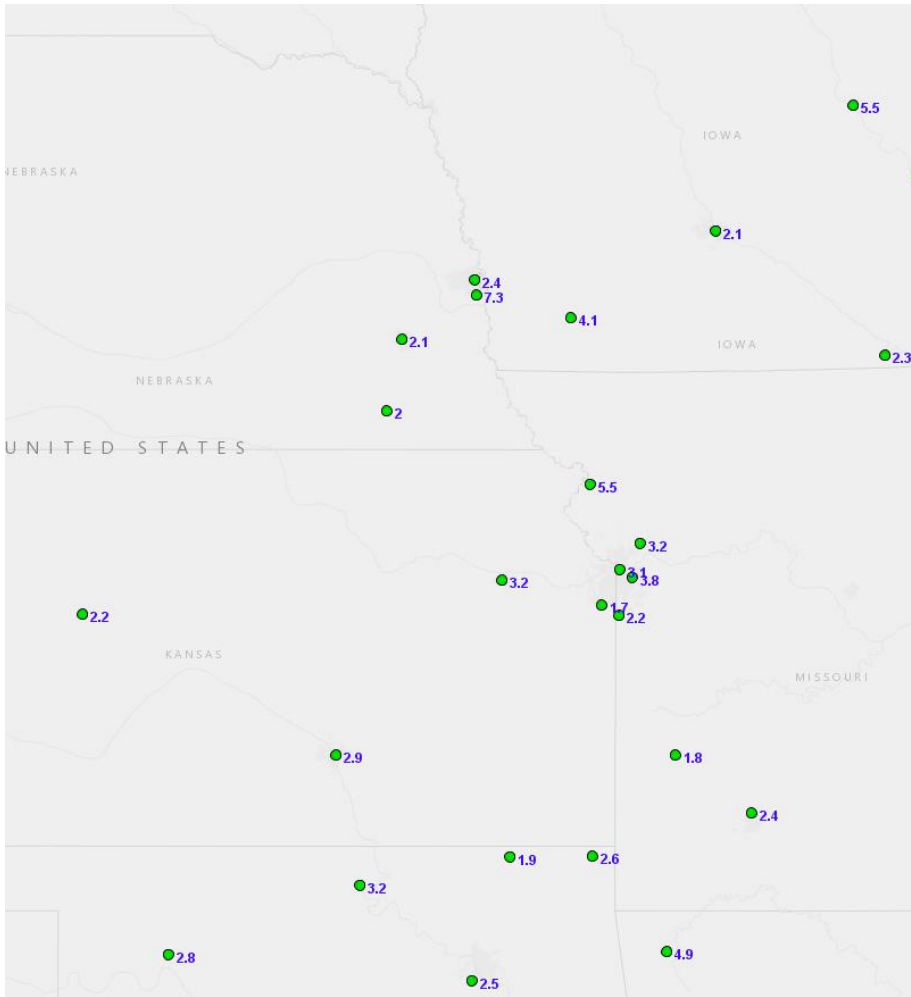
# Flint Hills Prescribed Fire Update



Friday, March 15, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



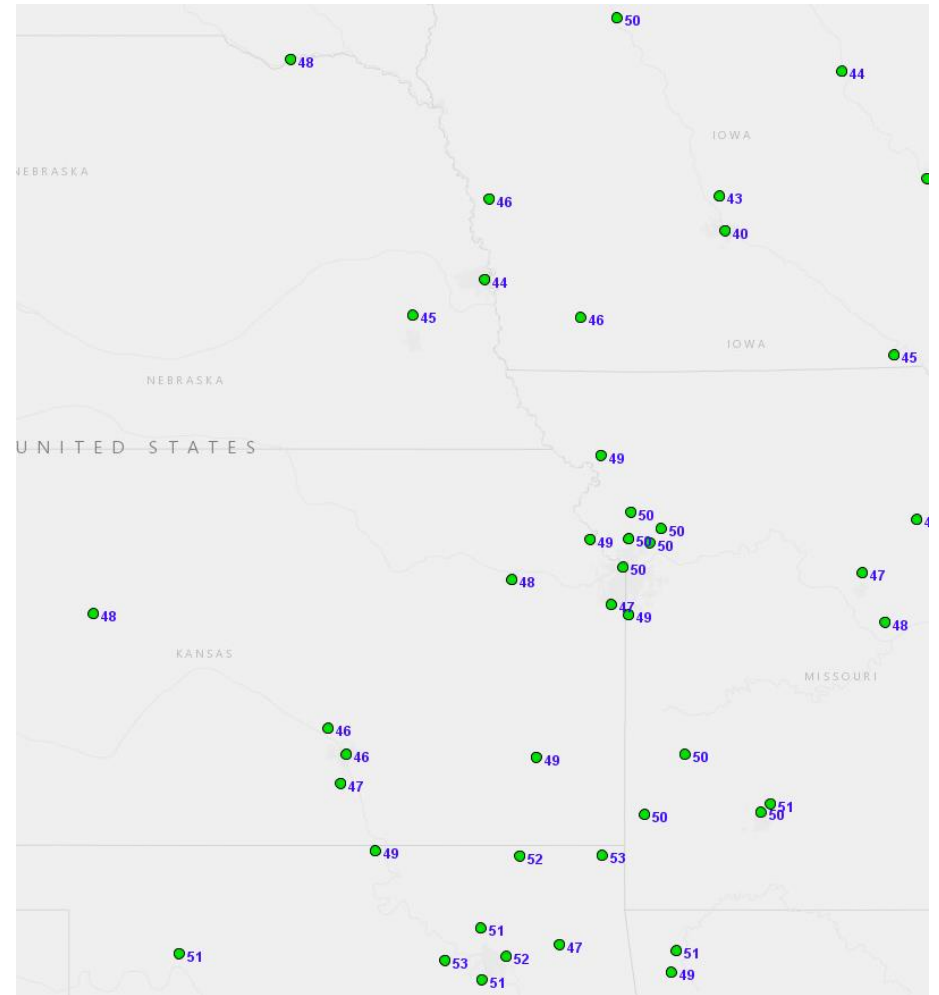
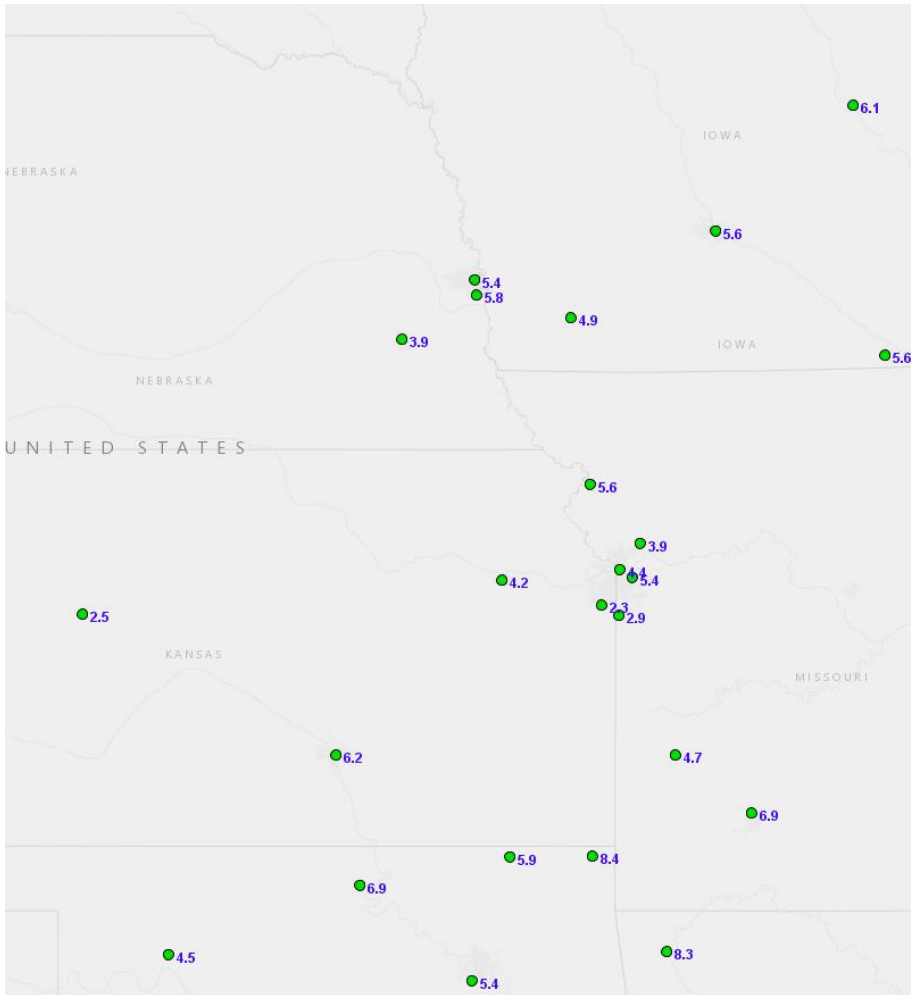
# Flint Hills Prescribed Fire Update



Saturday, March 16, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



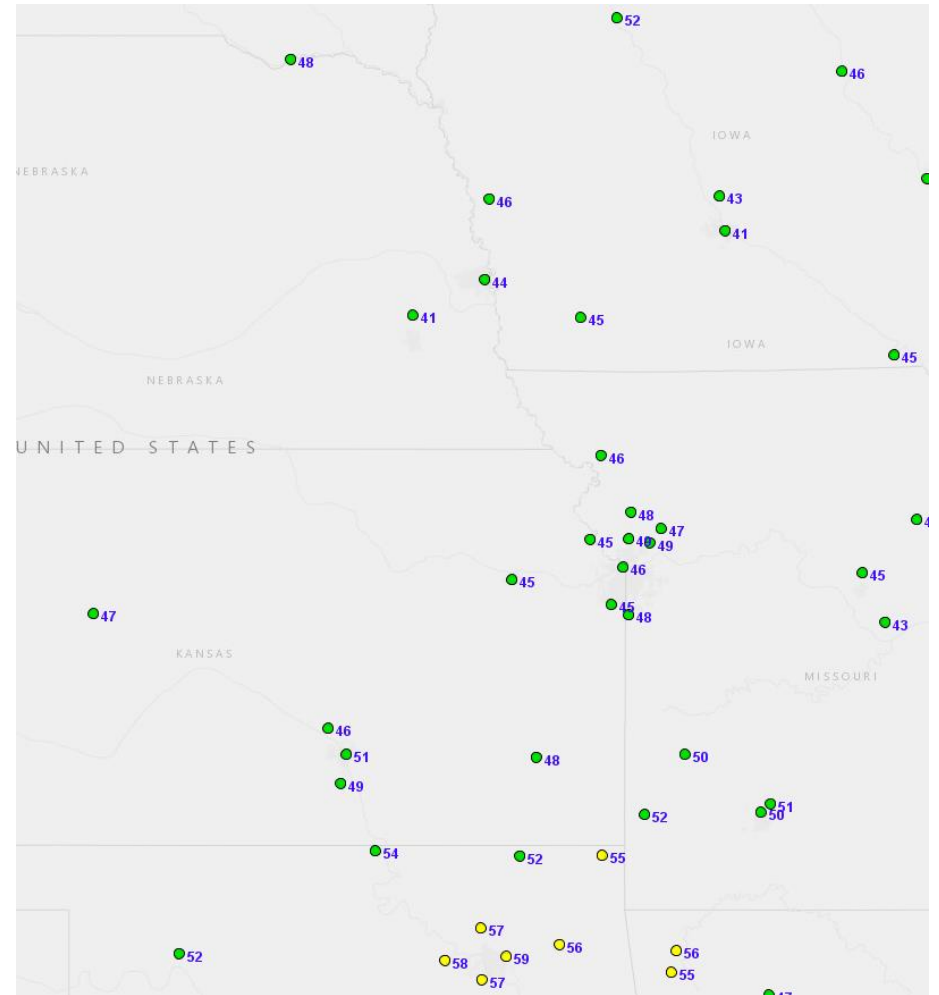
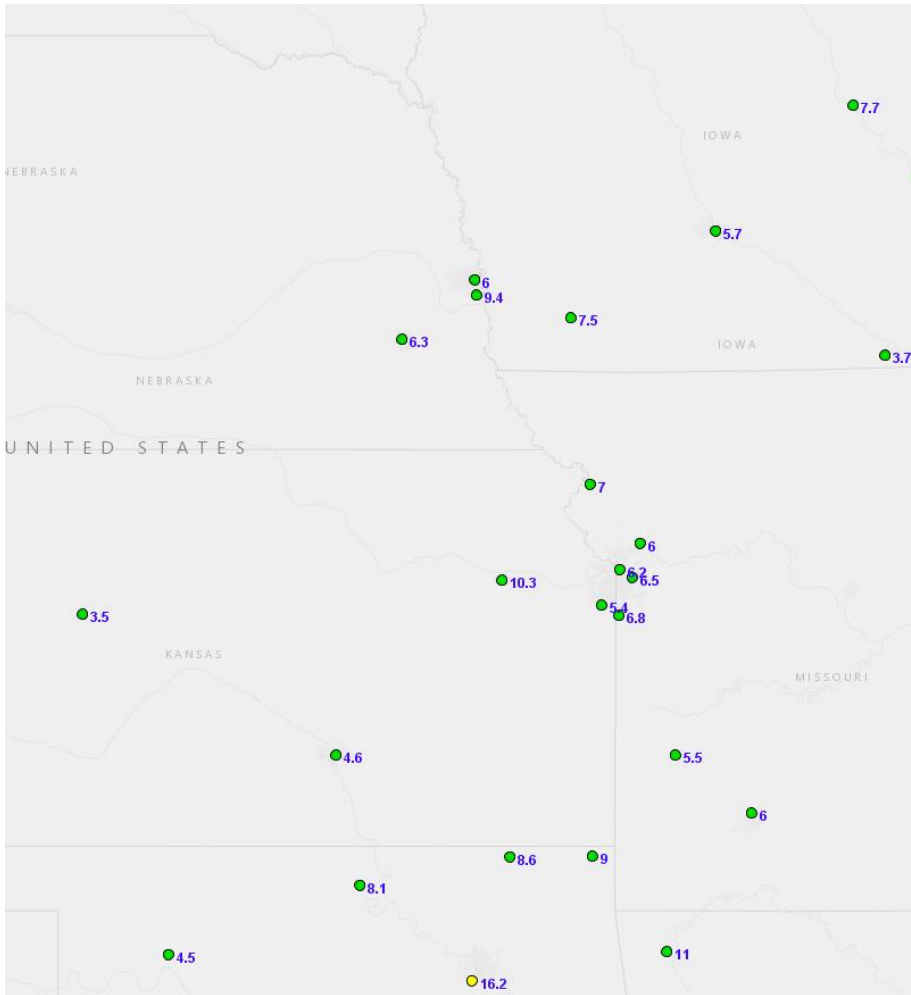
# Flint Hills Prescribed Fire Update



Sunday, March 17, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



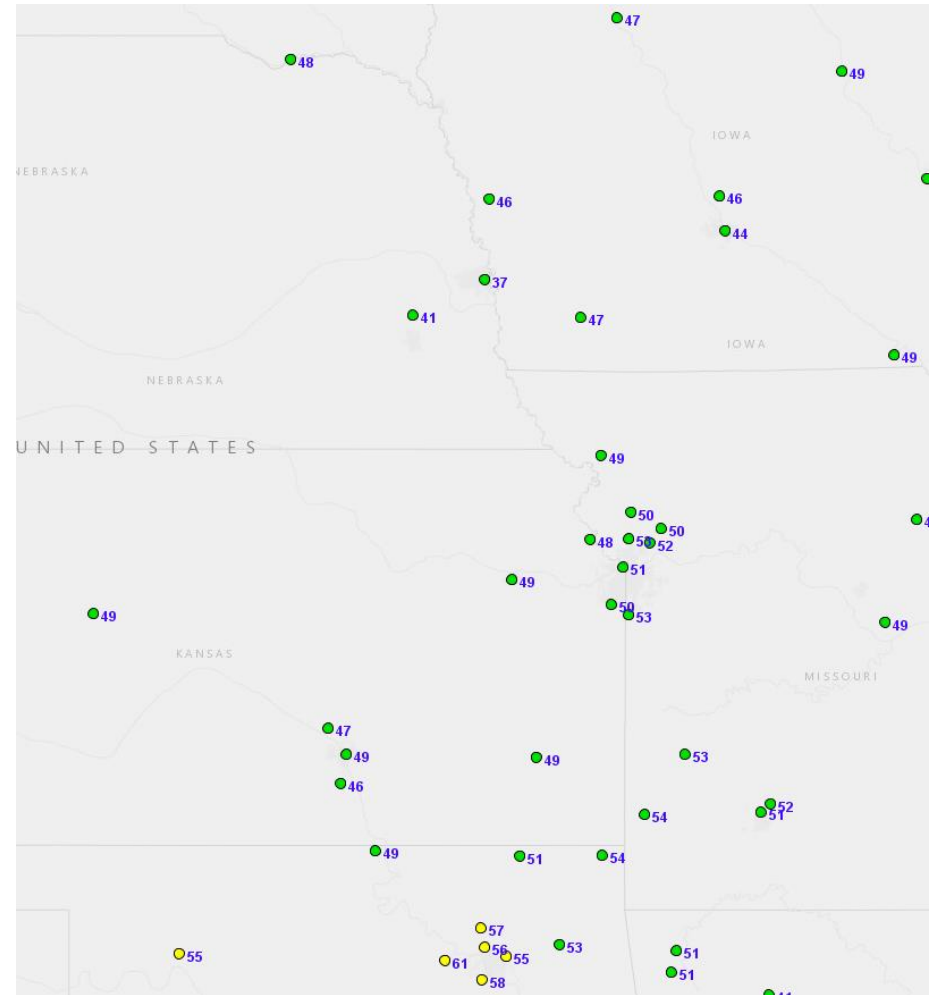
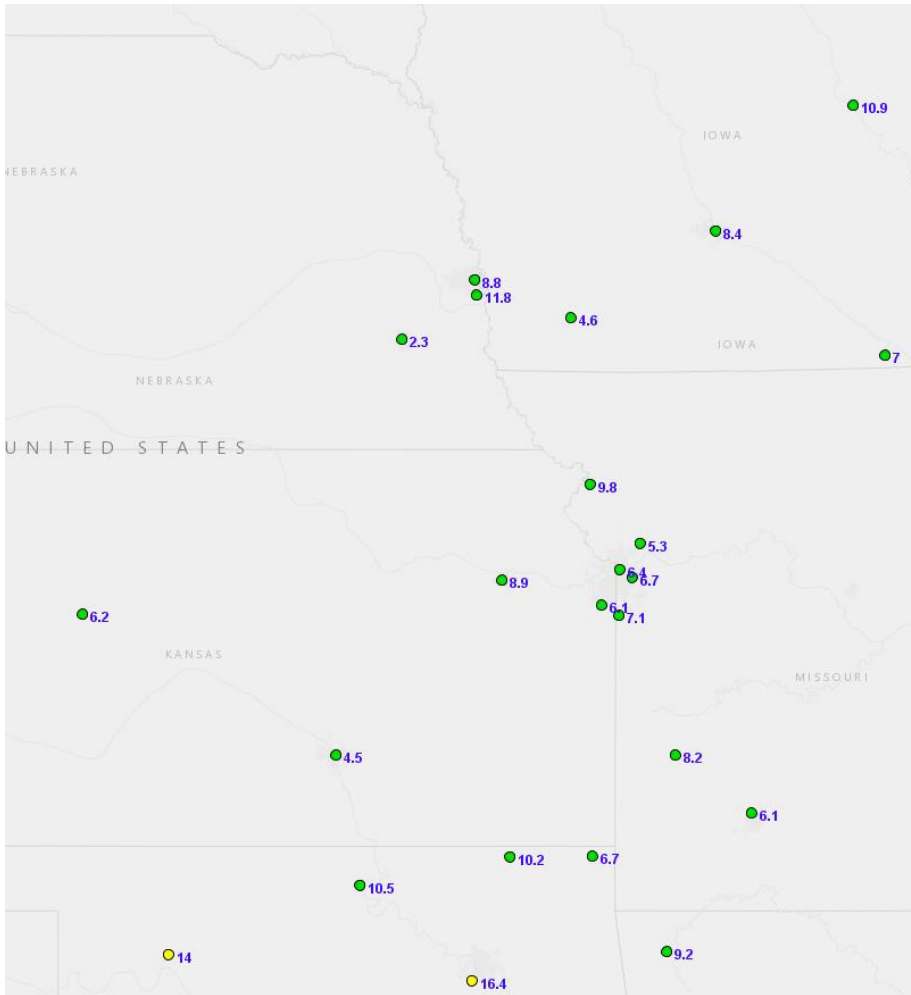
# Flint Hills Prescribed Fire Update



Monday, March 18, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)





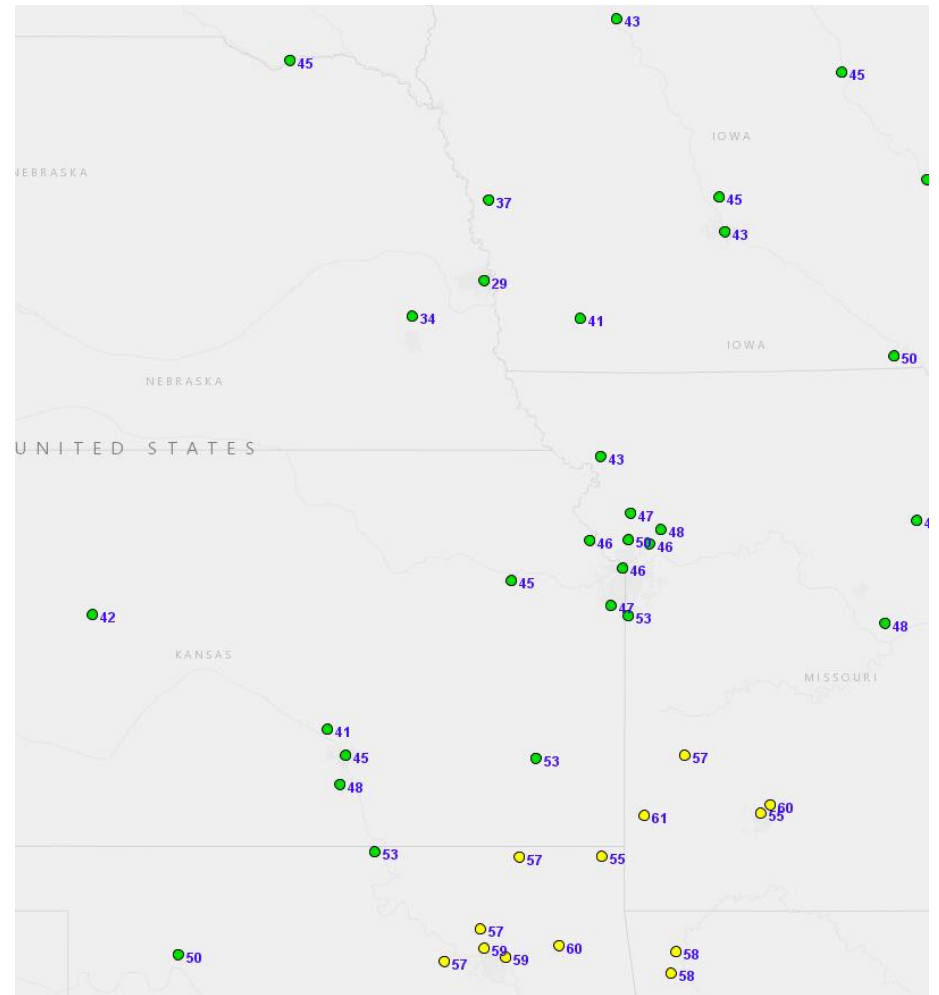
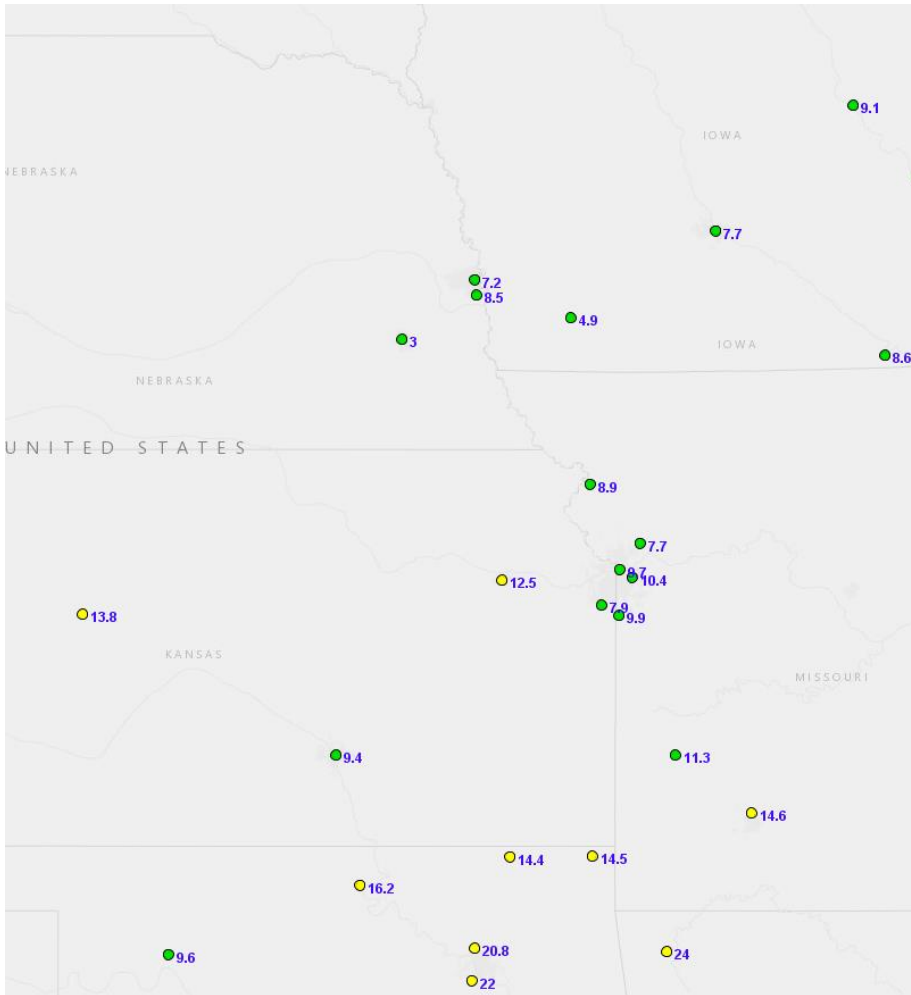
# Flint Hills Prescribed Fire Update



Tuesday, March 19, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



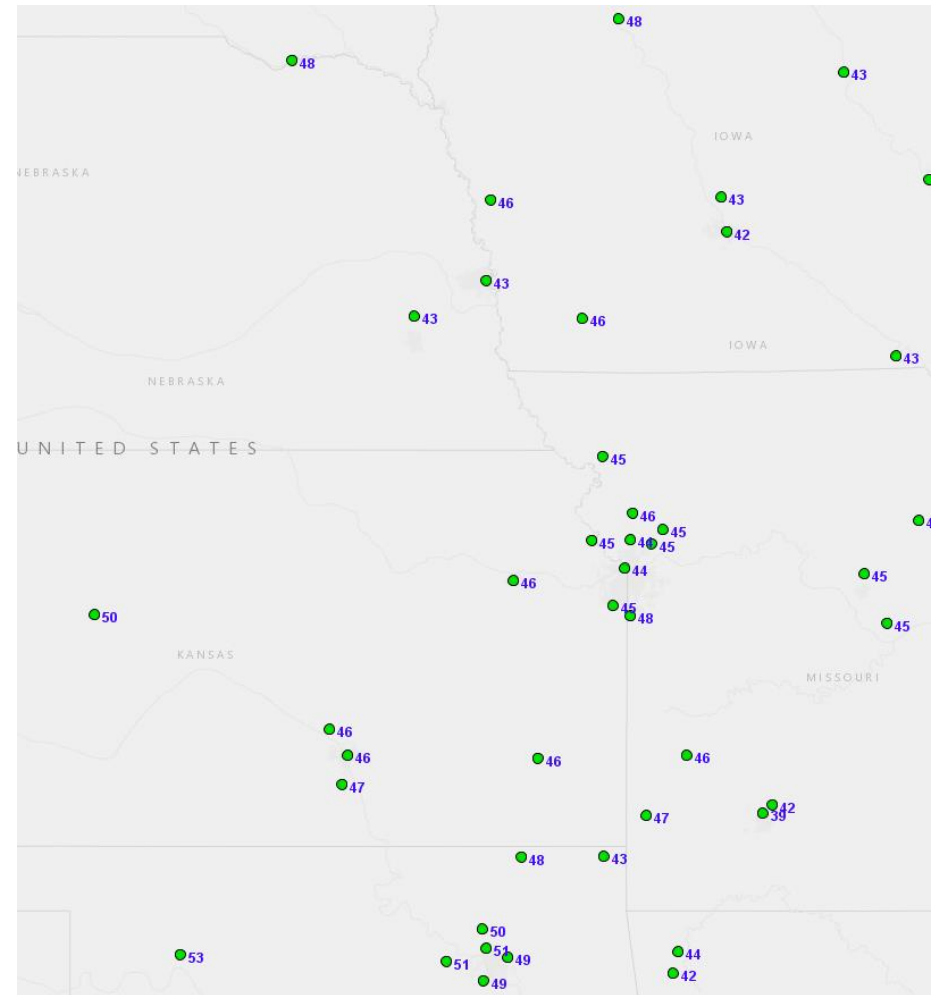
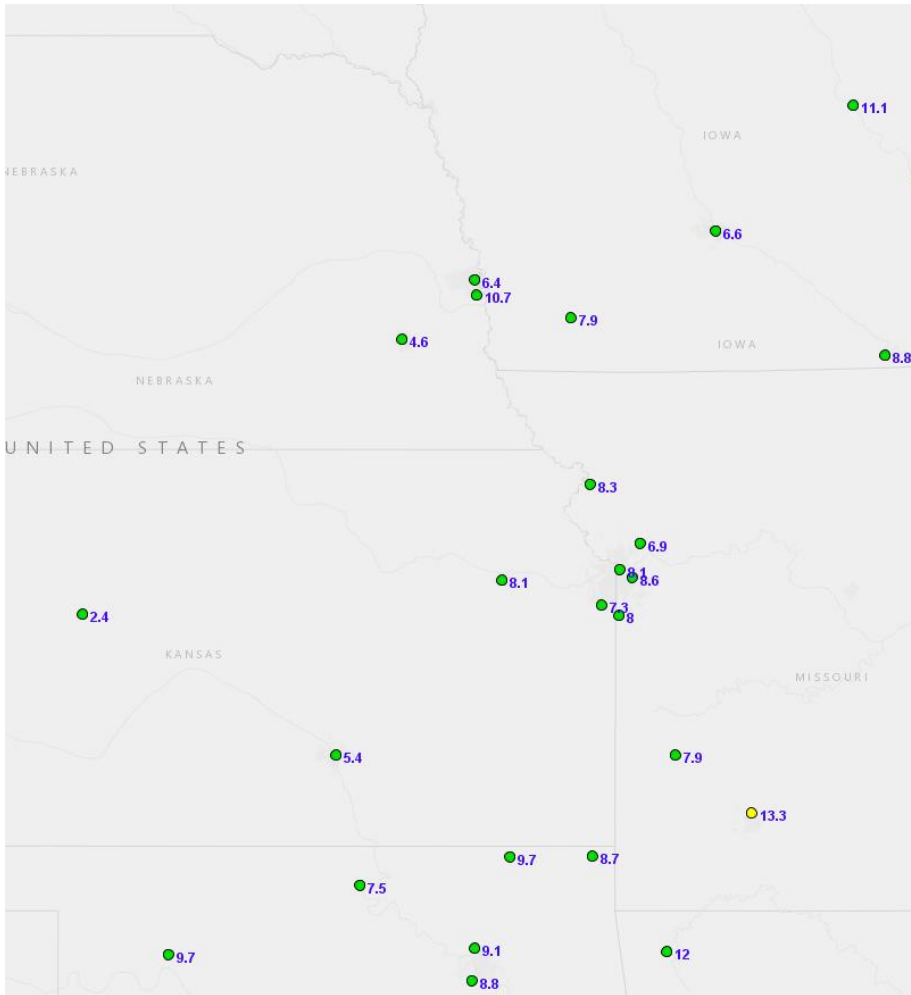
# Flint Hills Prescribed Fire Update



Wednesday, March 20, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



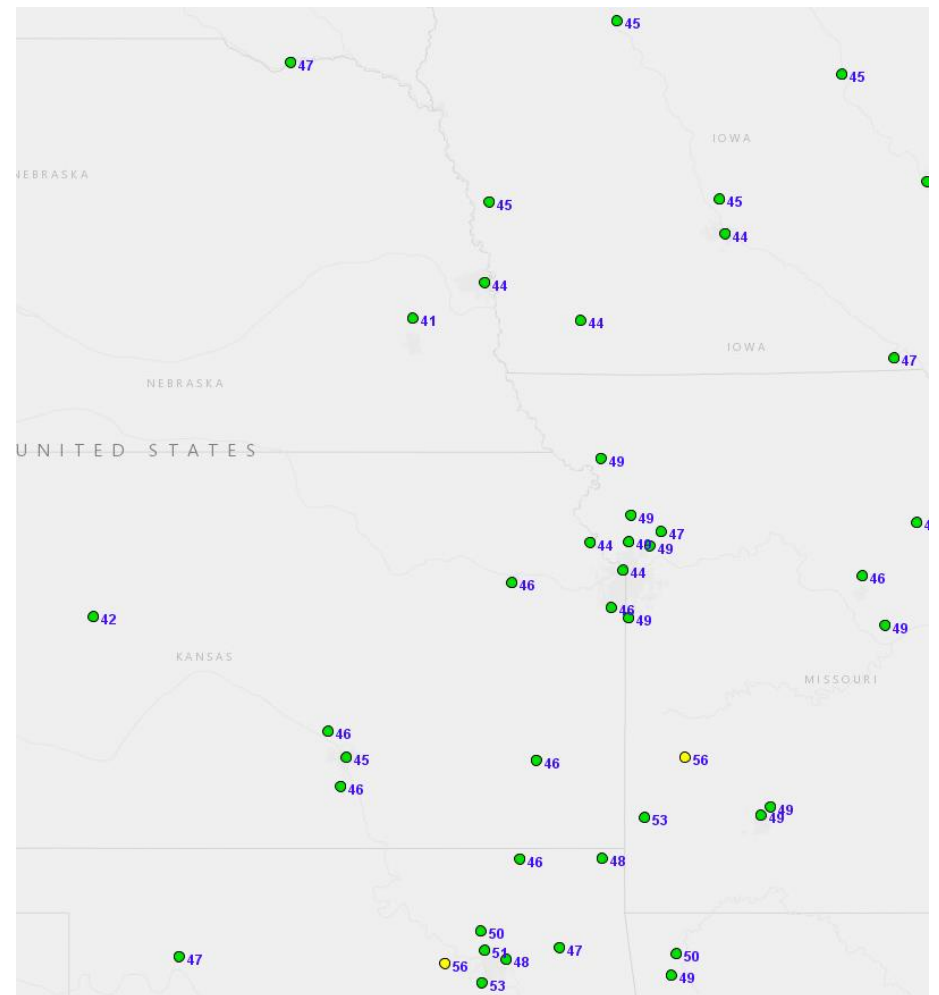
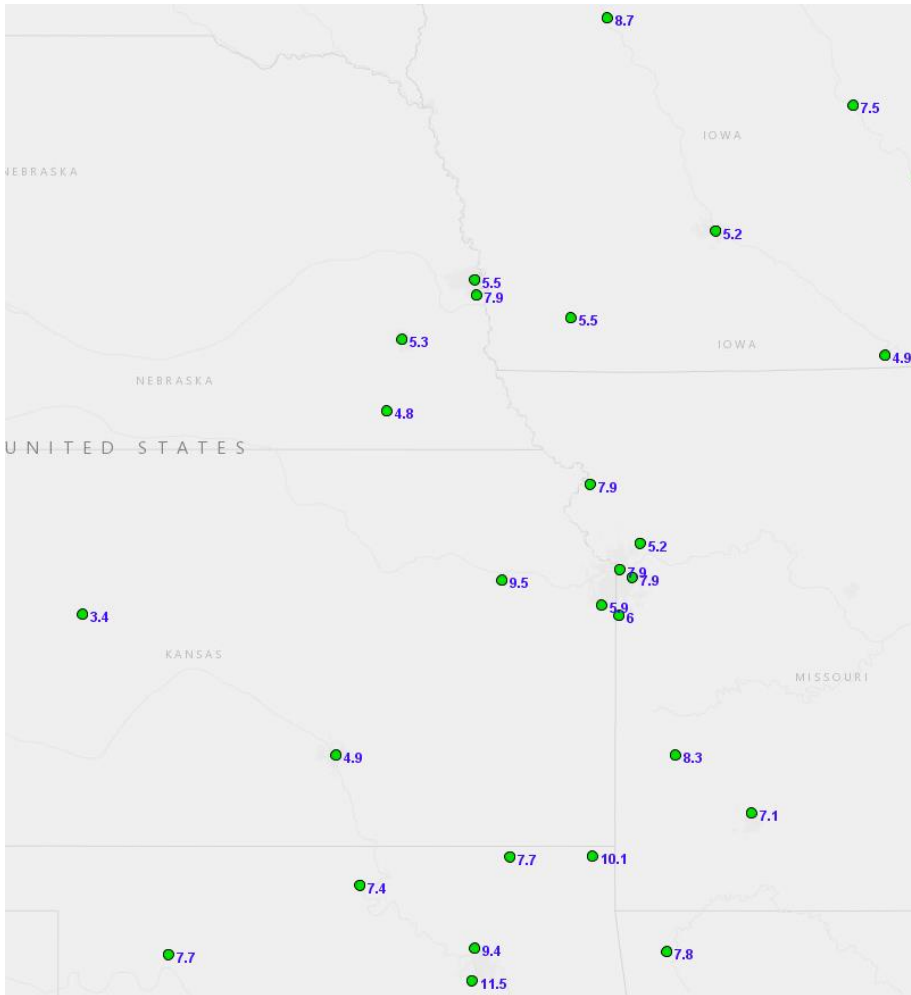
# Flint Hills Prescribed Fire Update



Thursday, March 21, 2019

PM2.5 (24-hour average)

Ozone (8-hour average maximum)





## Fires and Smoke

Prescribed fire activity steadily increased from Friday (March 15) through Sunday (March 17) as conditions continued to dry out for many in the Flint Hills. A considerable amount of the burning observed was conducted outside of the Flint Hills region. West to Northwest winds kept smoke confined to those areas with a considerable amount of burning, including Oklahoma where elevated particulate matter (PM) and ozone values were observed.

Light east winds on Monday (March 18) allowed for a large prescribed burn to take place along the Kansas Turnpike to ensure smoke would not cross and impact the highway. Smoke was dispersed northward ahead of the weather system which still allowed for elevated PM and ozone values for some locations. Other sporadic burning occurred ahead of clouds and light rain on Tuesday (March 19) which inhibited most fire activity.

A limited number of fires occurred on Wednesday (March 20) as grasses dried out. With sunny skies and light winds an increase in fire activity was observed on Thursday (March 21) with Northwest winds leading to elevated PM levels over primarily Oklahoma by Friday morning (March 22).

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

## KSFIRE.ORG

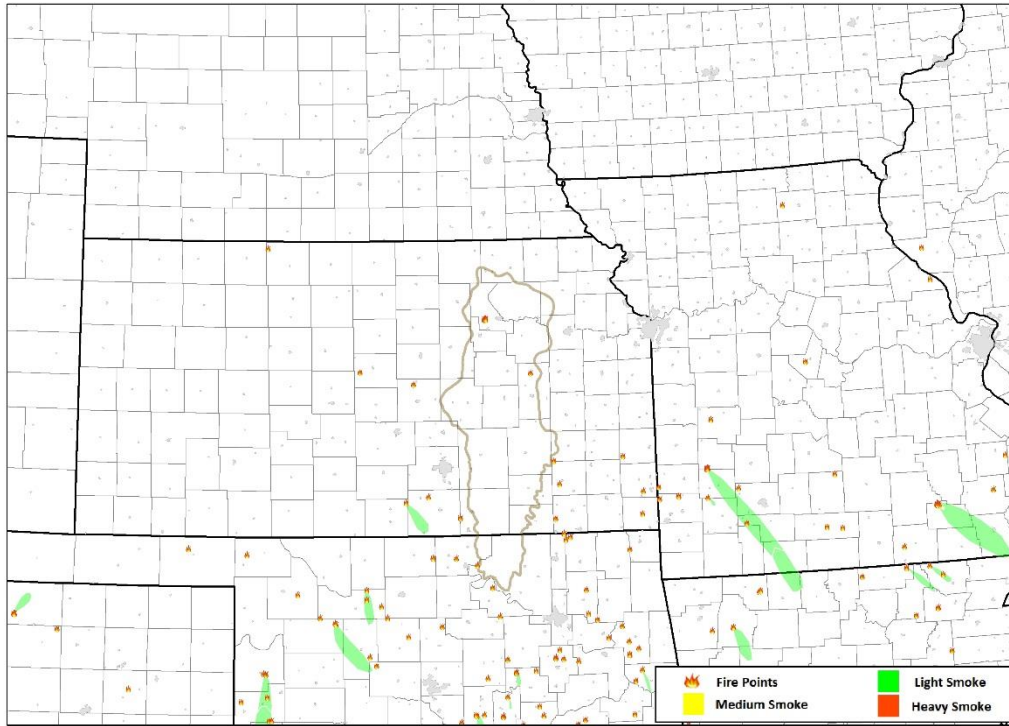


This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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

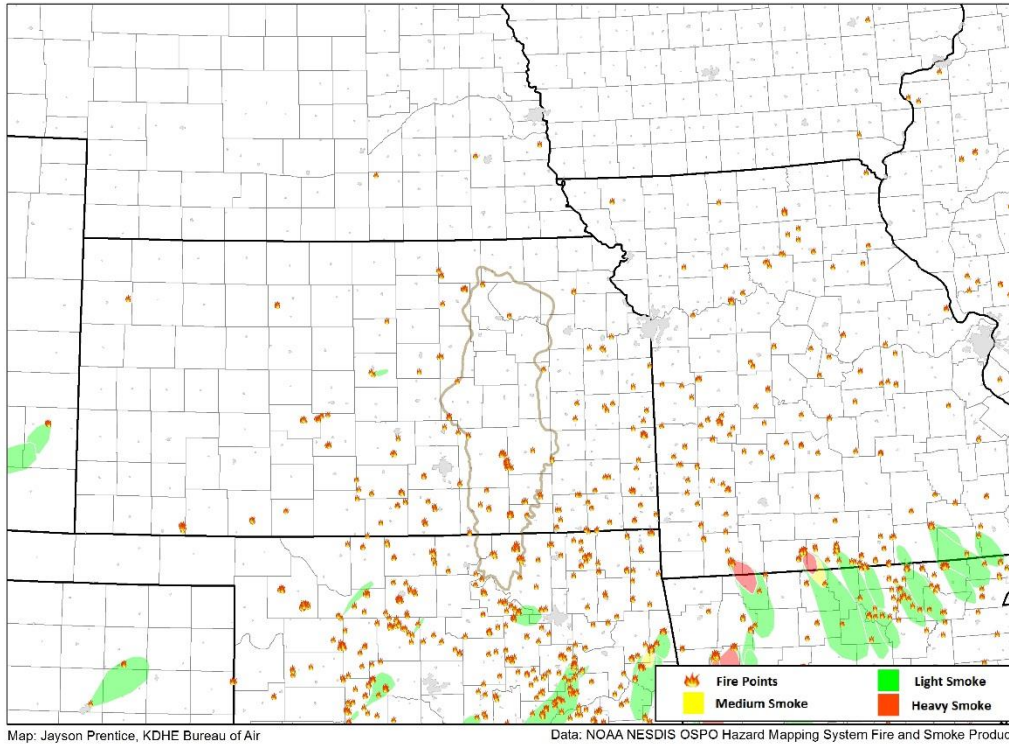
# Flint Hills Prescribed Fire Update



## HMS Fire & Smoke Analysis March 15, 2019



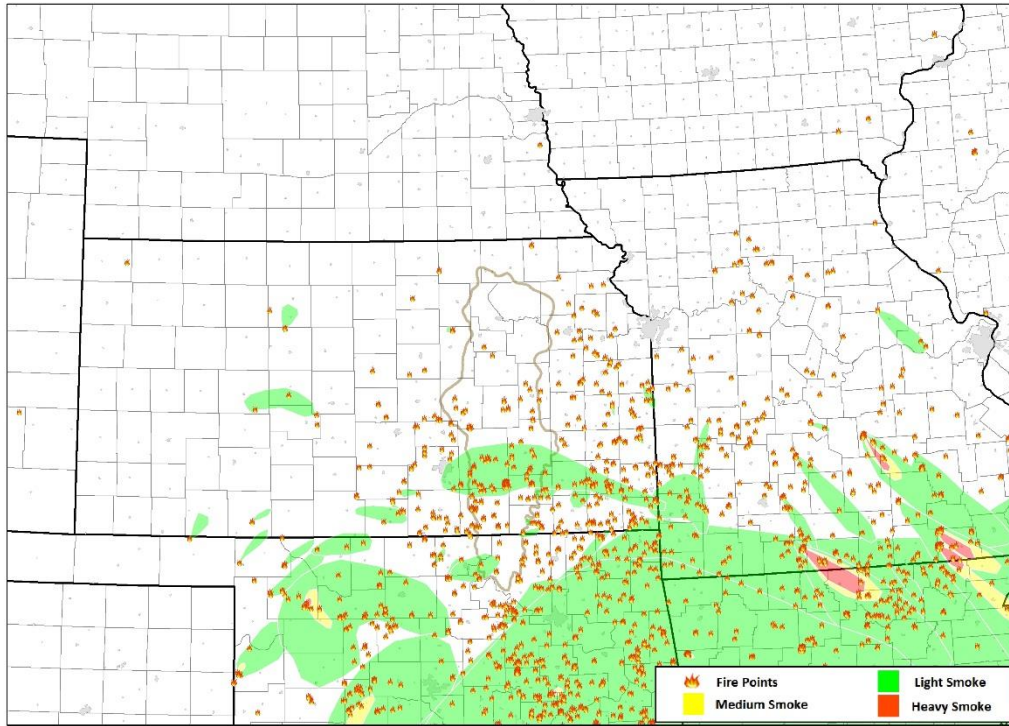
## HMS Fire & Smoke Analysis March 16, 2019



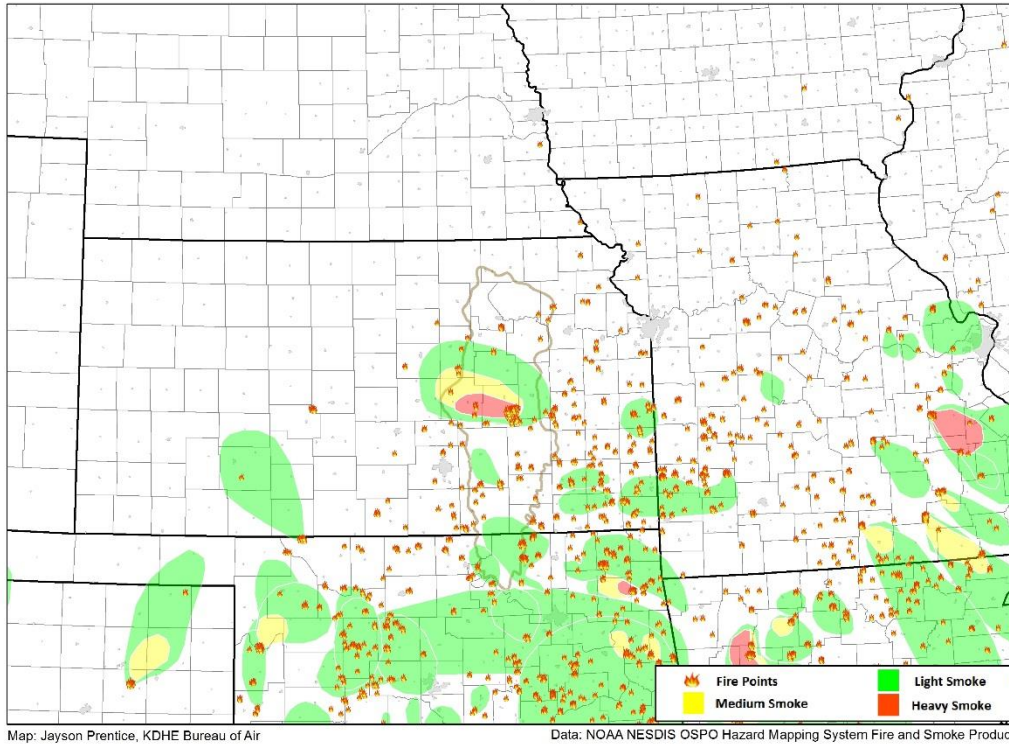
# Flint Hills Prescribed Fire Update



## HMS Fire & Smoke Analysis March 17, 2019



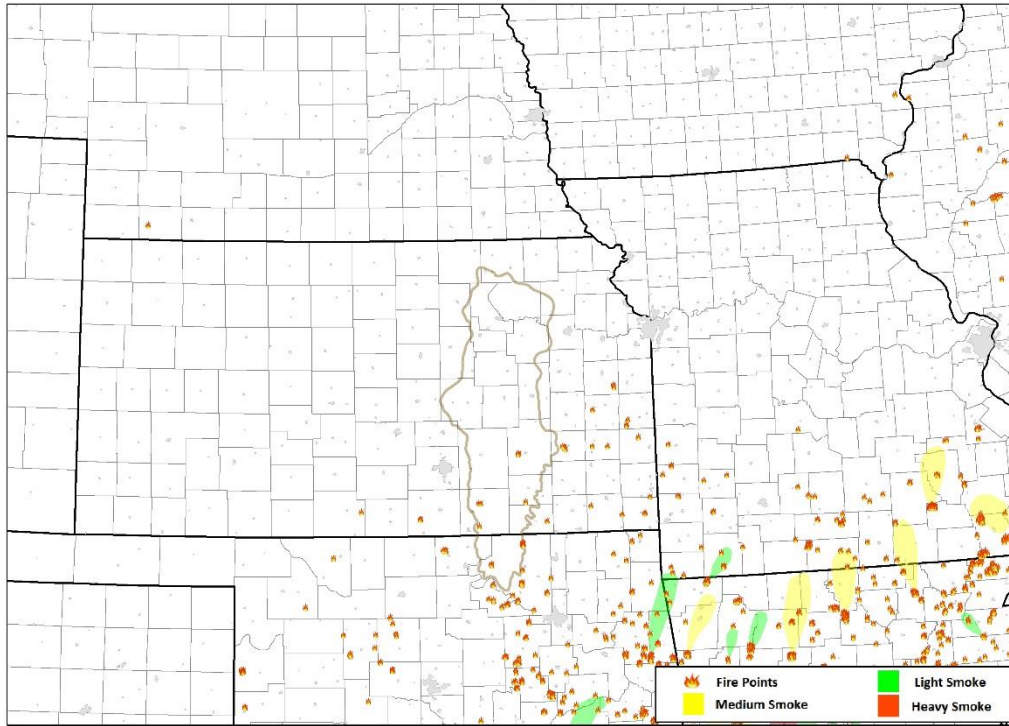
## HMS Fire & Smoke Analysis March 18, 2019



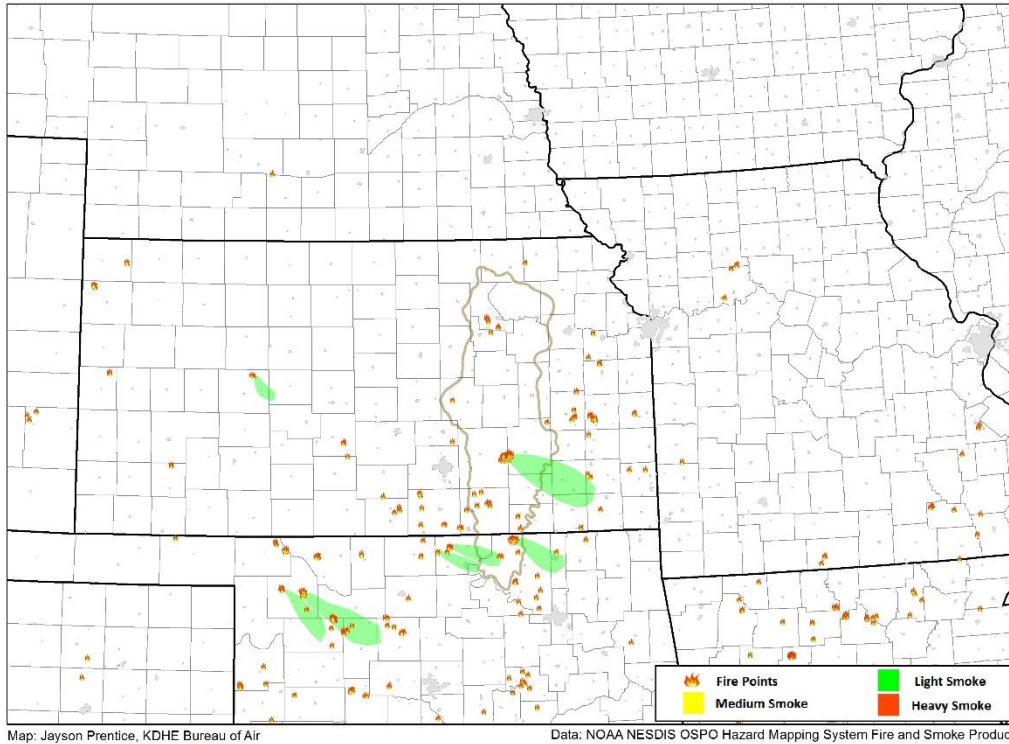
# Flint Hills Prescribed Fire Update



## HMS Fire & Smoke Analysis March 19, 2019



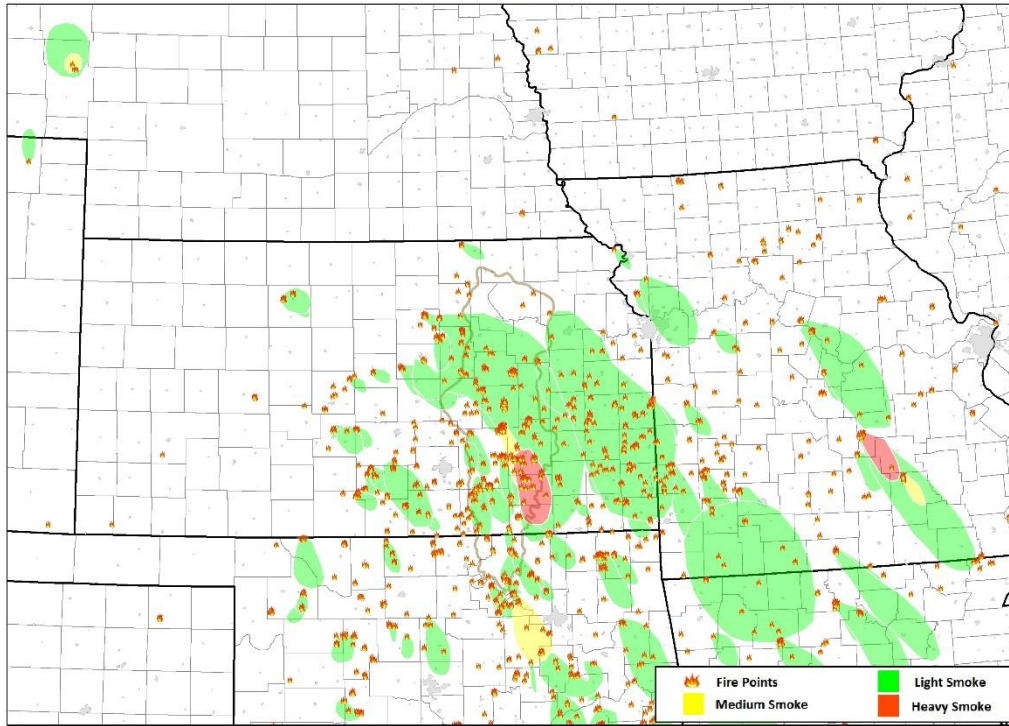
## HMS Fire & Smoke Analysis March 20, 2019



# Flint Hills Prescribed Fire Update



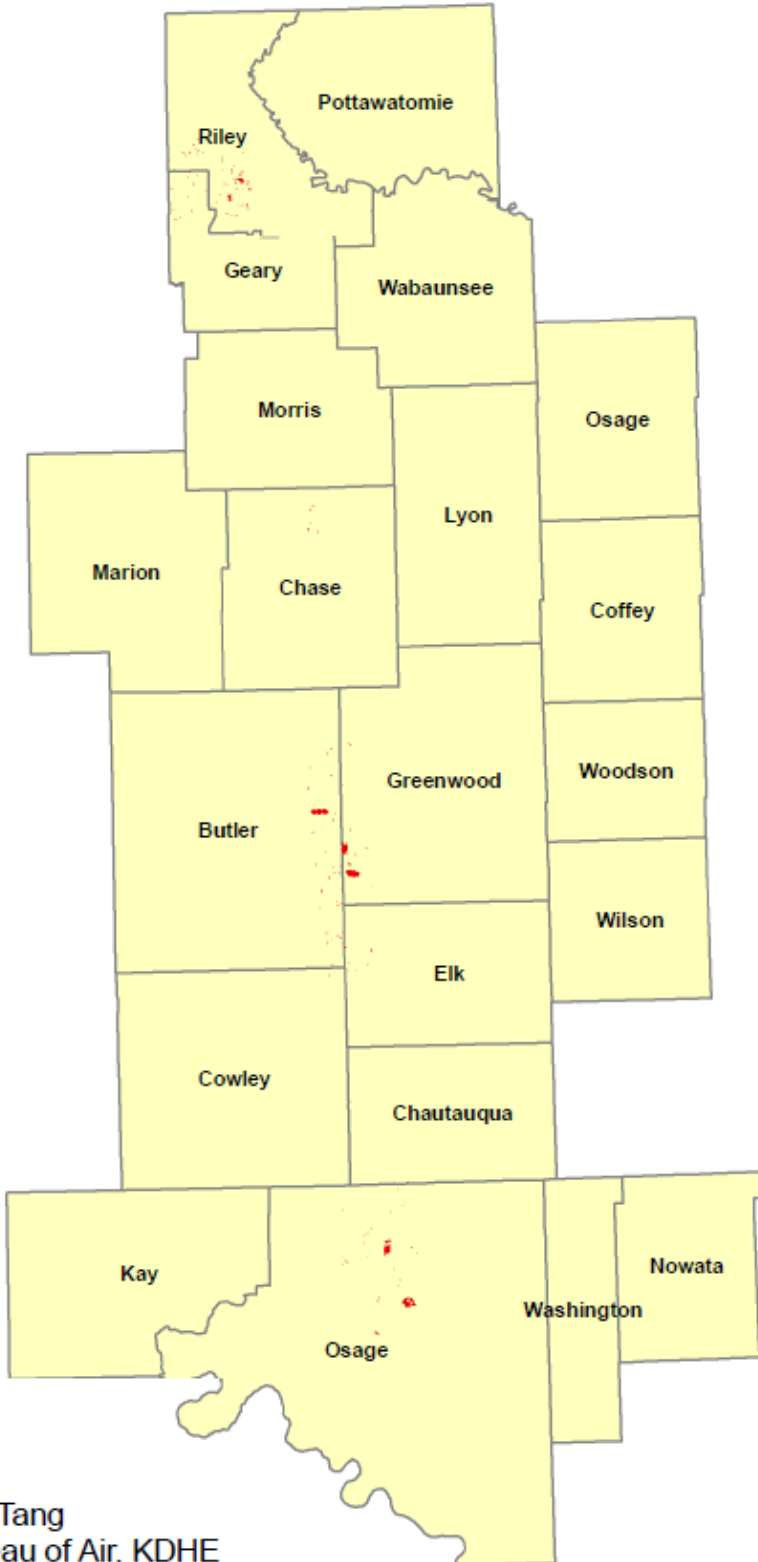
## HMS Fire & Smoke Analysis March 21, 2019







**Flint Hills Acreage Burned (March 15 - March 18, 2019)**



<u>Counties</u>	<u>Acres Burned</u>
<b>Butler</b>	7,074
<b>Chase</b>	6,858
<b>Chautauqua</b>	494
<b>Coffey</b>	216
<b>Cowley</b>	973
<b>Elk</b>	1,931
<b>Geary</b>	170
<b>Greenwood</b>	2,625
<b>Lyon</b>	0
<b>Marion</b>	185
<b>Morris</b>	0
<b>Osage (KS)</b>	154
<b>Pottawatomie</b>	0
<b>Riley</b>	1,313
<b>Wabaunsee</b>	0
<b>Wilson</b>	154
<b>Woodson</b>	31
<b>Nowata (OK)</b>	93
<b>Osage (OK)</b>	4,556
<b>Washington (OK)</b>	216
<b>Kay (OK)</b>	309
<b>Total</b>	27,352
* Denotes county was partly or completely covered by clouds during latest analysis.	

Yao Tang  
Bureau of Air, KDHE

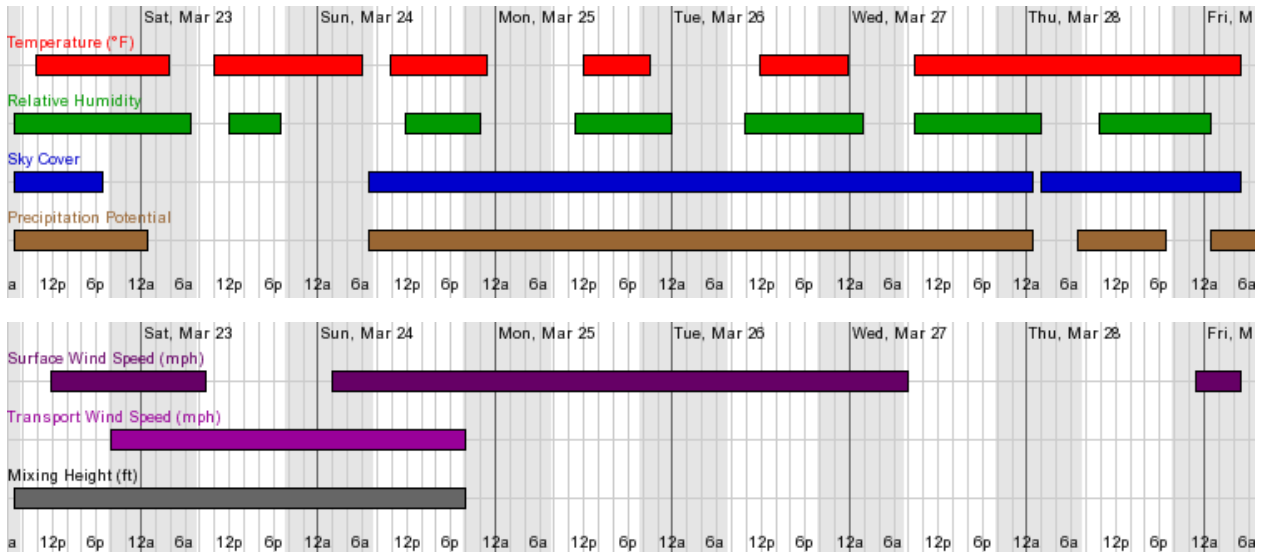


## Upcoming Look at Fires and Smoke

Warm temperatures, modest humidity, sunny skies, and light winds today should lead to considerable burning this afternoon. The only downfall will be the light winds will likely be slowly shifting from Northeast to Southeast as the next storm system approaches. Transport winds are also expected to be light until this evening.

Rain moves in for Saturday which will likely inhibit burning for most of the area. Favorable burning conditions return for Sunday through Tuesday of next week, but precipitation amounts from Saturday may dictate how quickly folks can get back onto their land as soil conditions remain quite soft. Winds are expected to increase for Wednesday and Thursday of next week with some precipitation chances also appearing possible.

### 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](http://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 22, 2019.