

Flint Hills Prescribed Fire Update

March 23, 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.

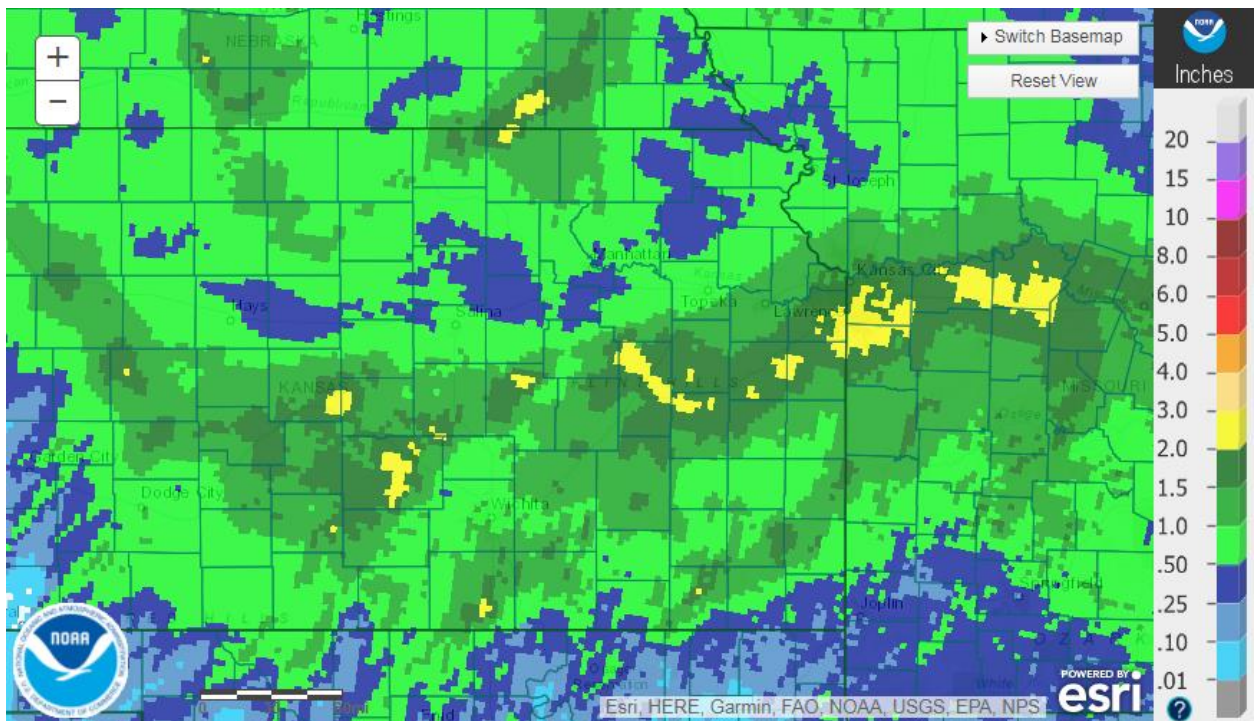




Meteorology

Light rain fell last Friday (March 16) primarily north and east of the Flint Hills, although the far northern Flint Hills did receive some light precipitation. Winds were very gusty, as high as 50 mph, as the storm system skirted by the area. Winds calmed down for Saturday and Sunday (March 17-18) although temperatures were on the cool side. Another round of rain Sunday into Monday (March 18-19) provided a range of 0.25" to more than 2" in some locations across the Flint Hills – the first meaningful rain for many in months! It was a relatively cool day on Tuesday (March 22) with temperature stuck in the 40s for most. Warmer temperatures and light winds were observed on Wednesday (March 21), and a stretch of warm weather continued on Thursday (March 22) although winds increased, and low relative humidity provided increased fire danger.

Precipitation

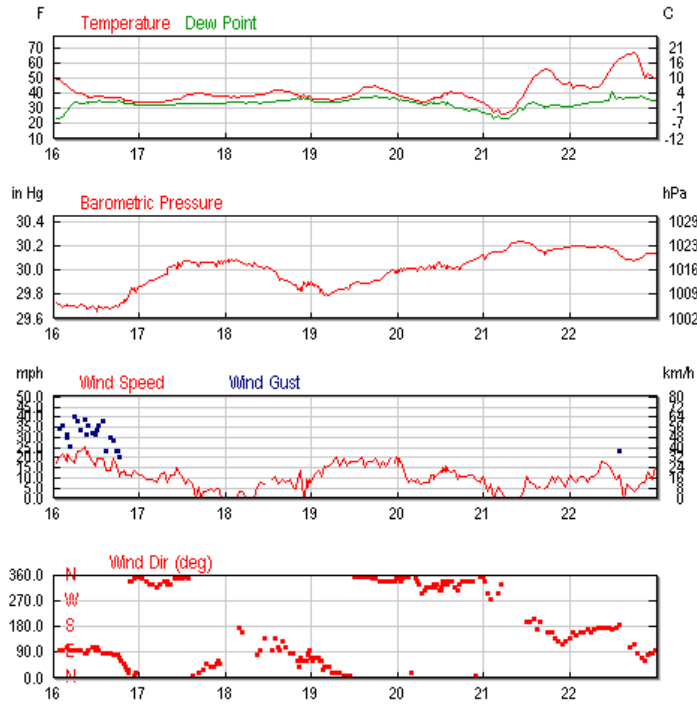


NOAA/NWS Observed Total Precipitation for March 16-22, 2018.

Flint Hills Prescribed Fire Update

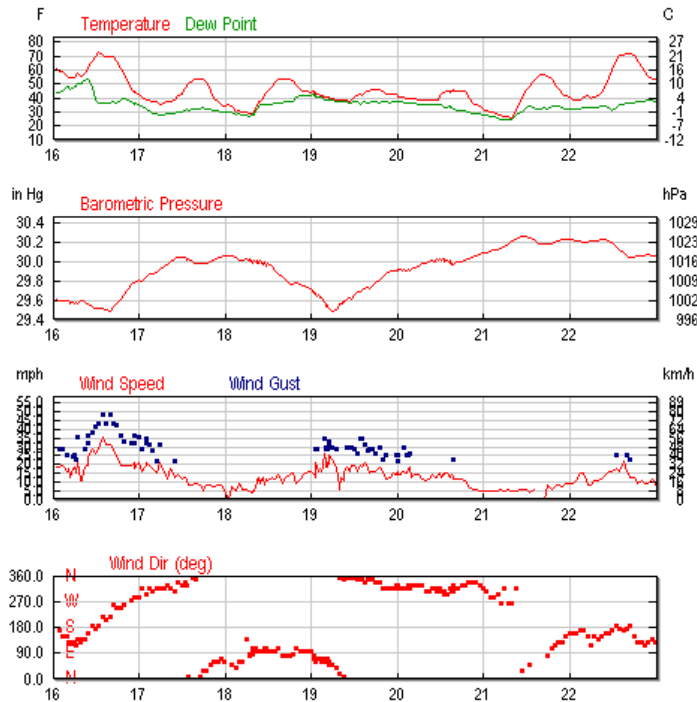


Lincoln, NE



March 16-22, 2018 Observed Weather from KLNK. Graphic: Weather Underground, Inc.

Emporia, KS



March 16-22, 2018 Observed Weather from KEMP. Graphic: Weather Underground, Inc.



Air Quality Data

Air quality data for the period of March 16-22, 2018:

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.

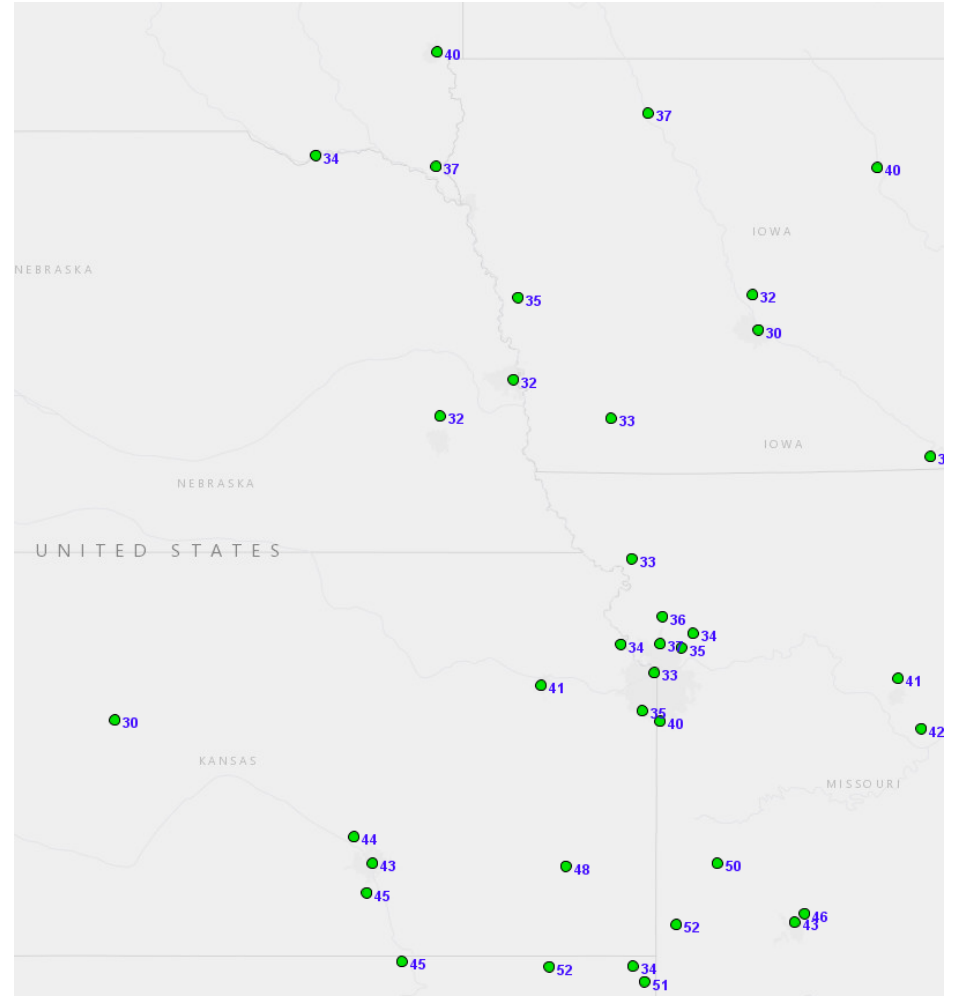
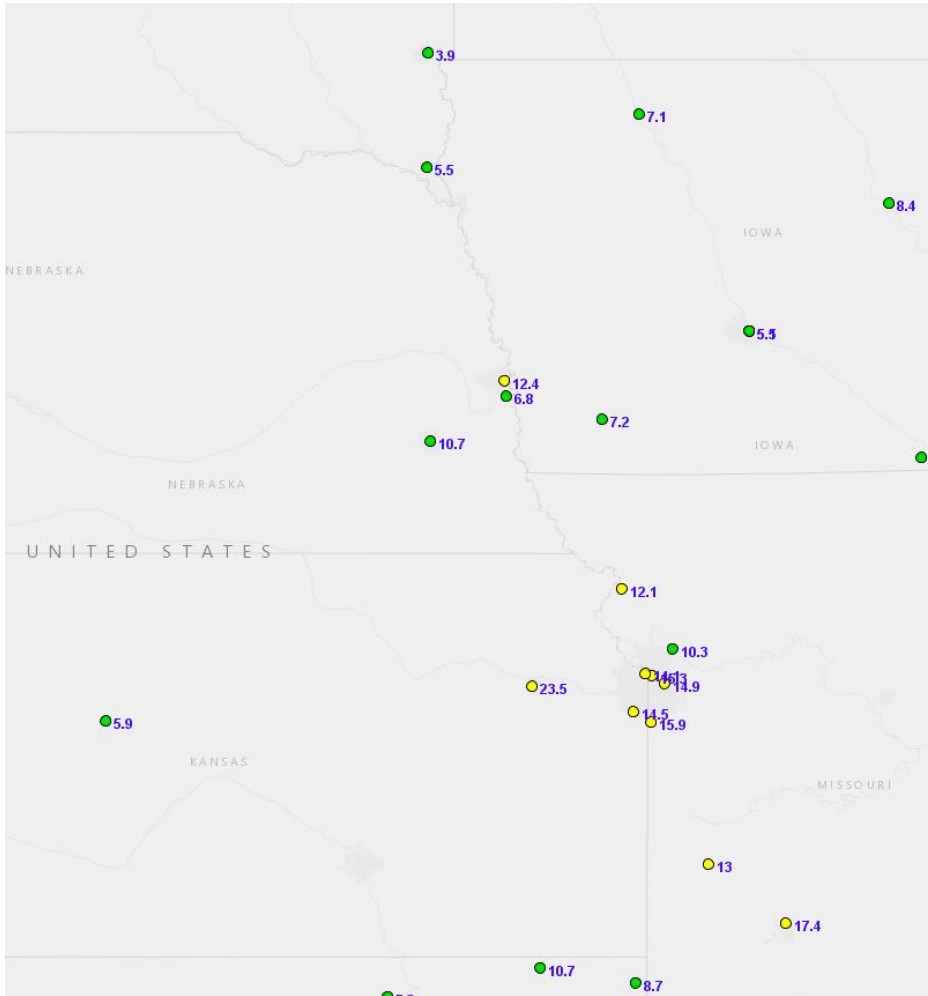
Flint Hills Prescribed Fire Update



Friday, March 16, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



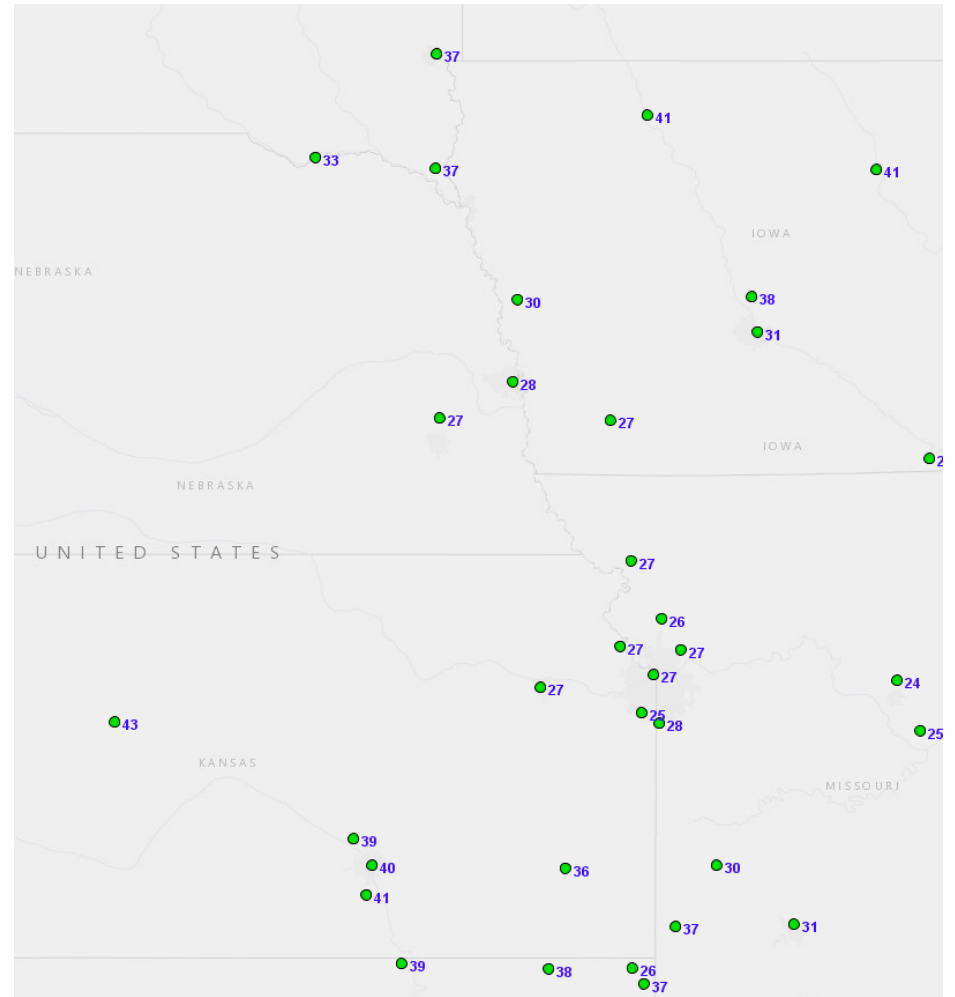
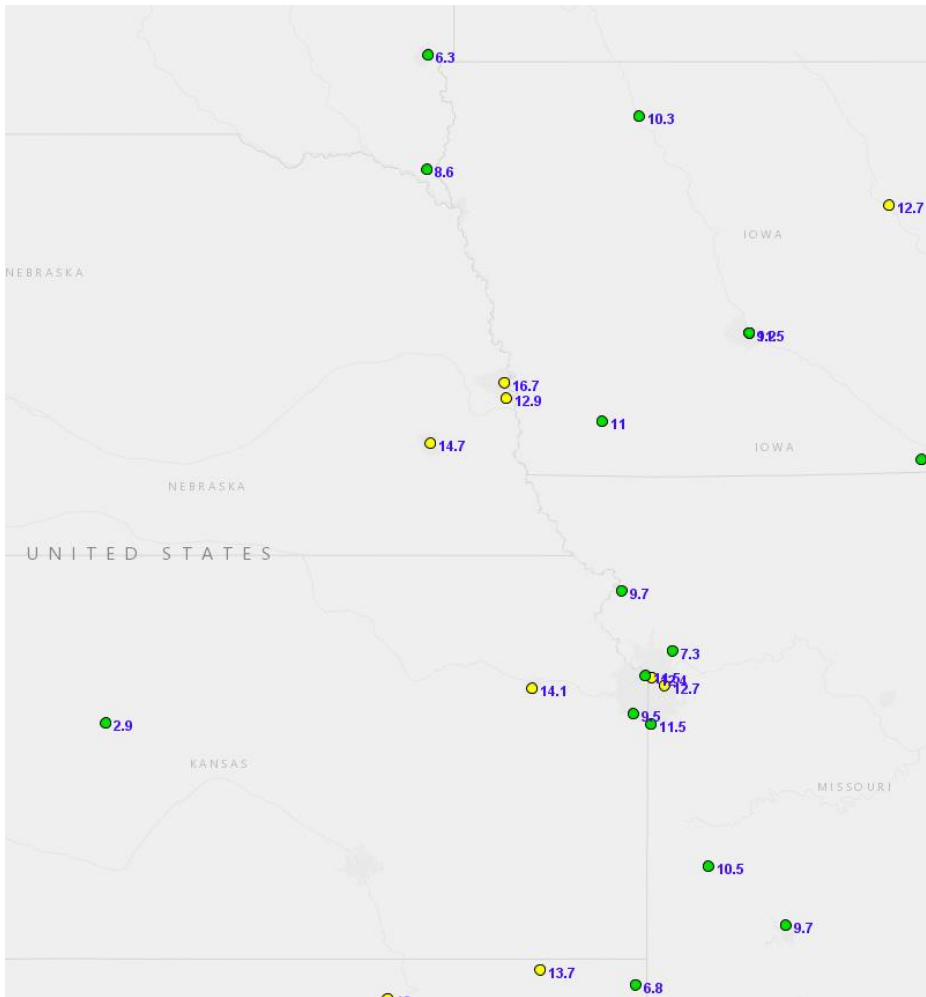
Flint Hills Prescribed Fire Update



Saturday, March 17, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



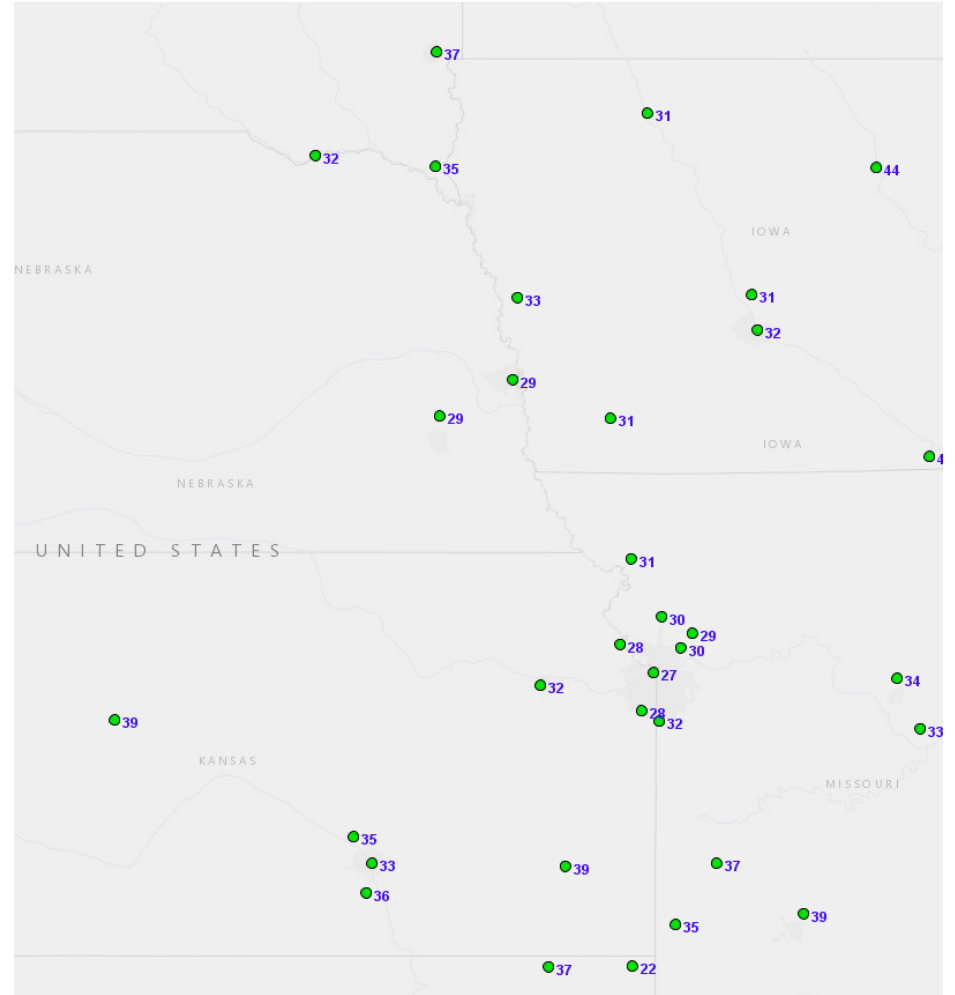
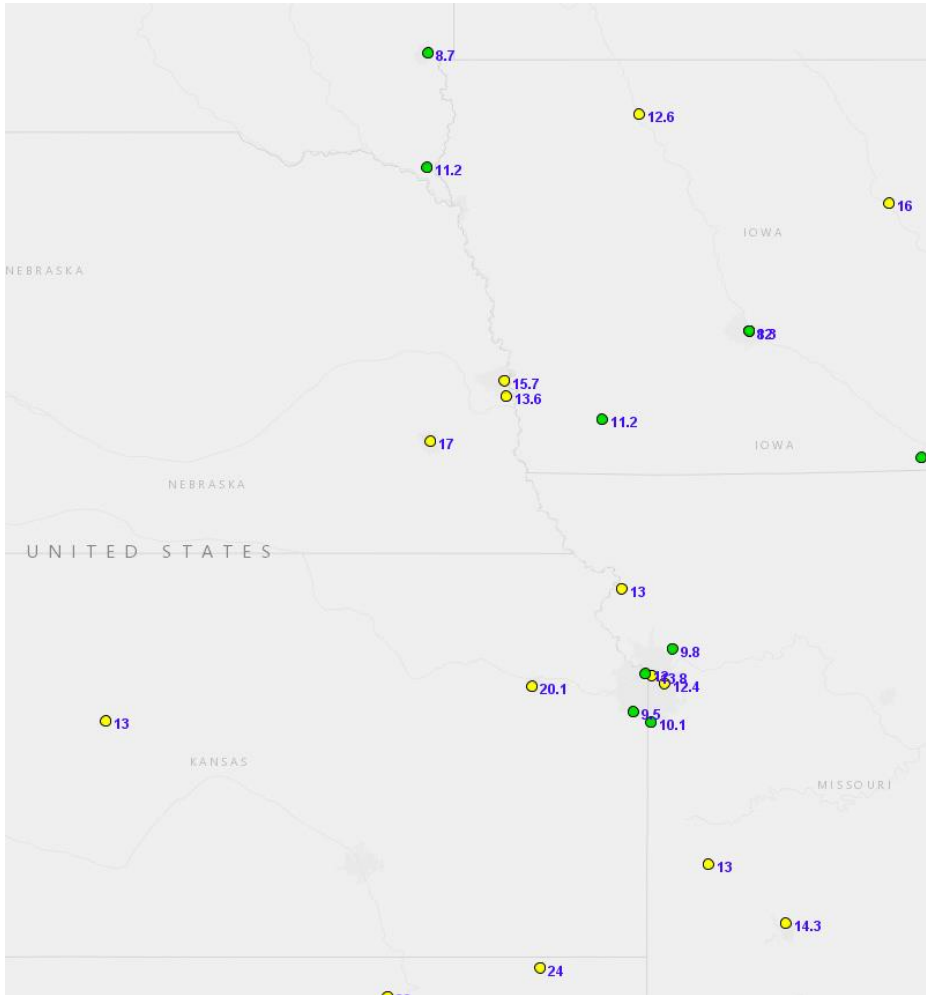
Flint Hills Prescribed Fire Update



Sunday, March 18, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



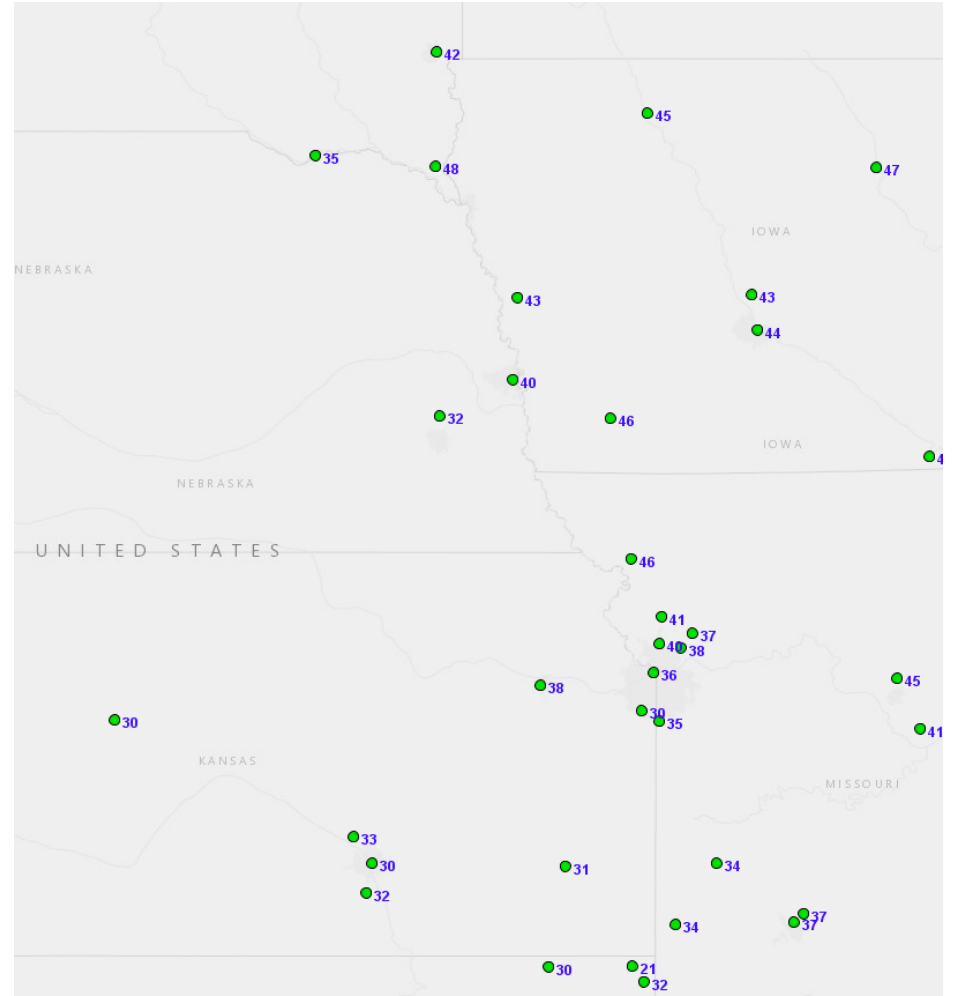
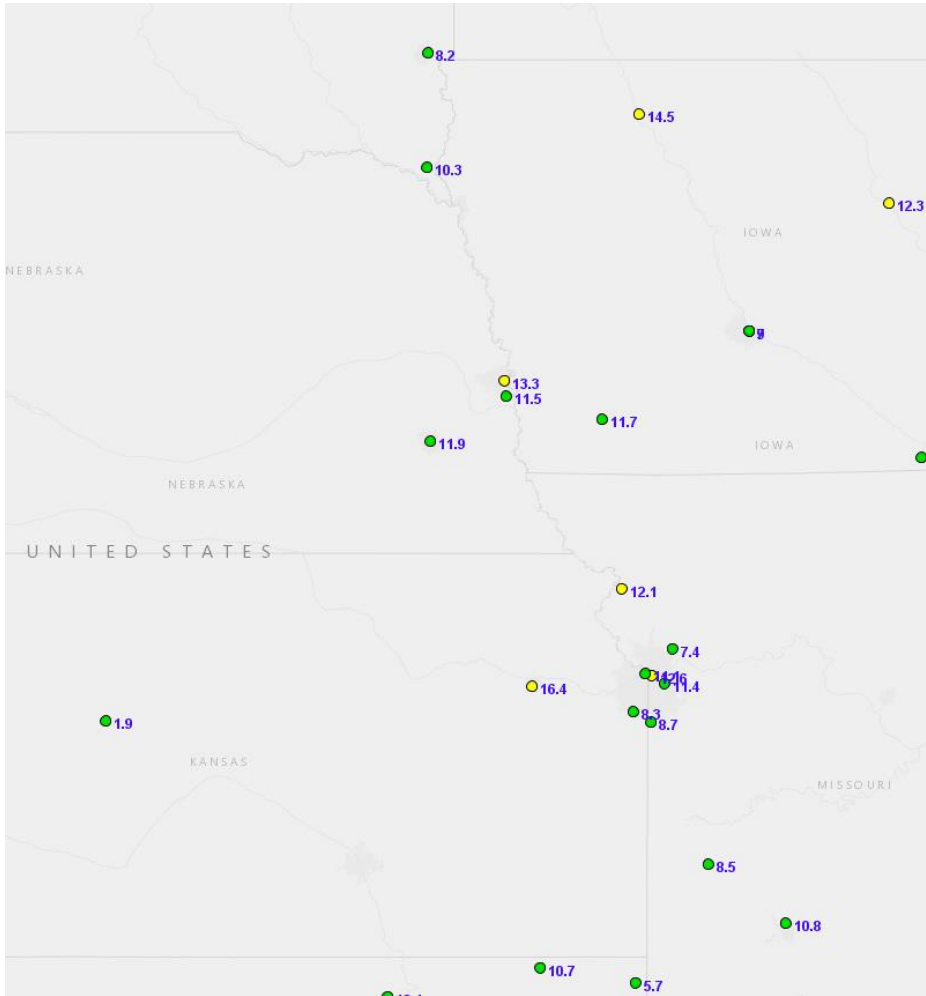
Flint Hills Prescribed Fire Update



Monday, March 19, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



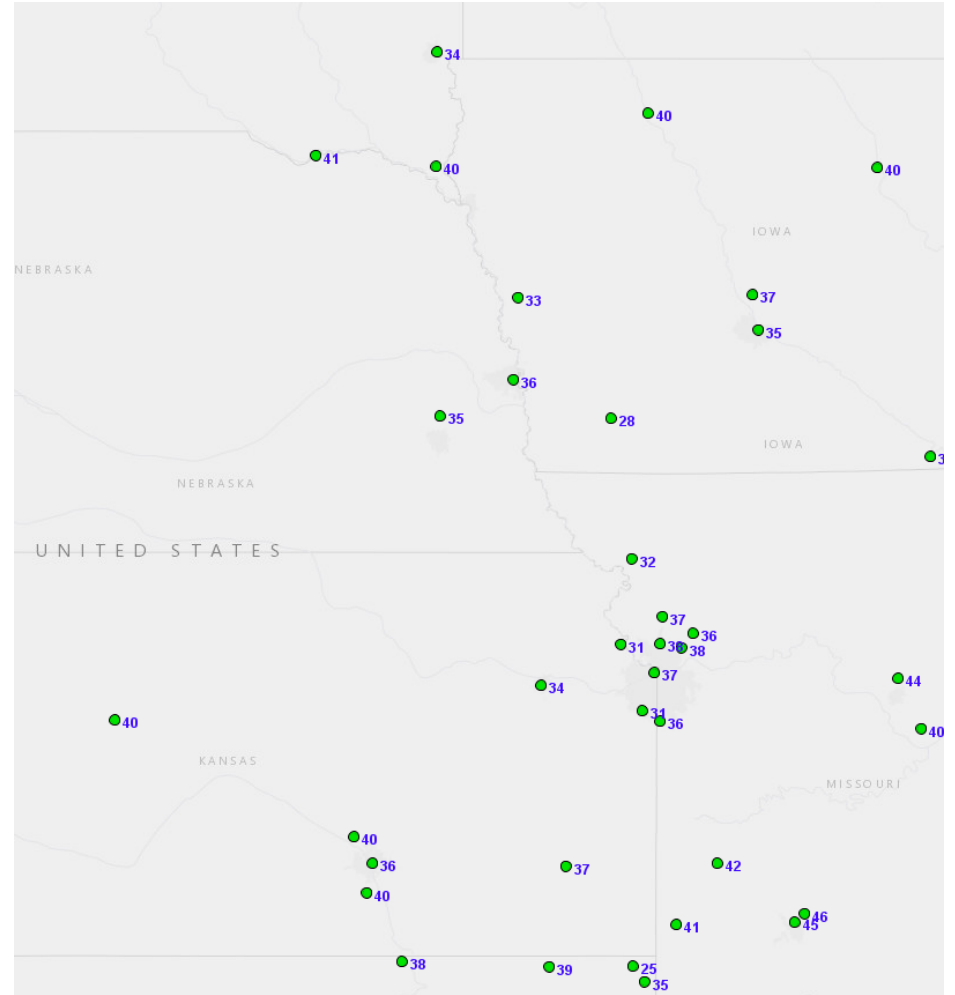
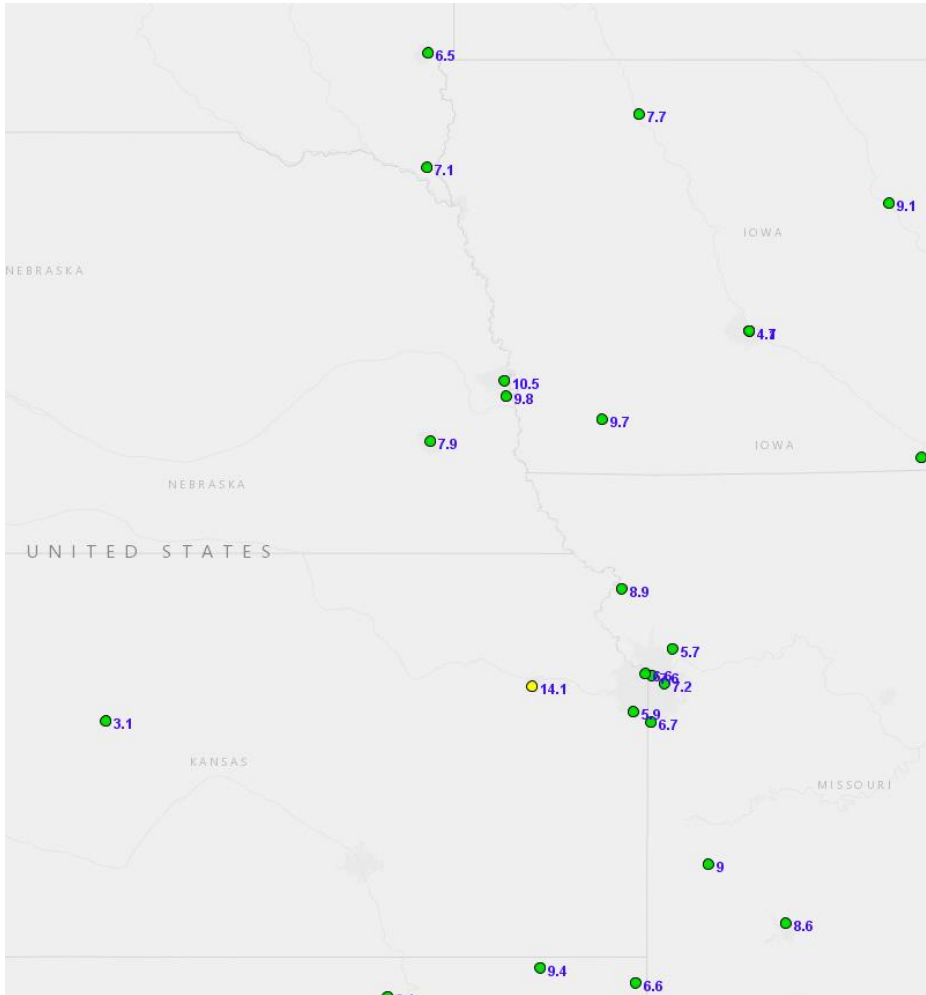
Flint Hills Prescribed Fire Update



Tuesday, March 20, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



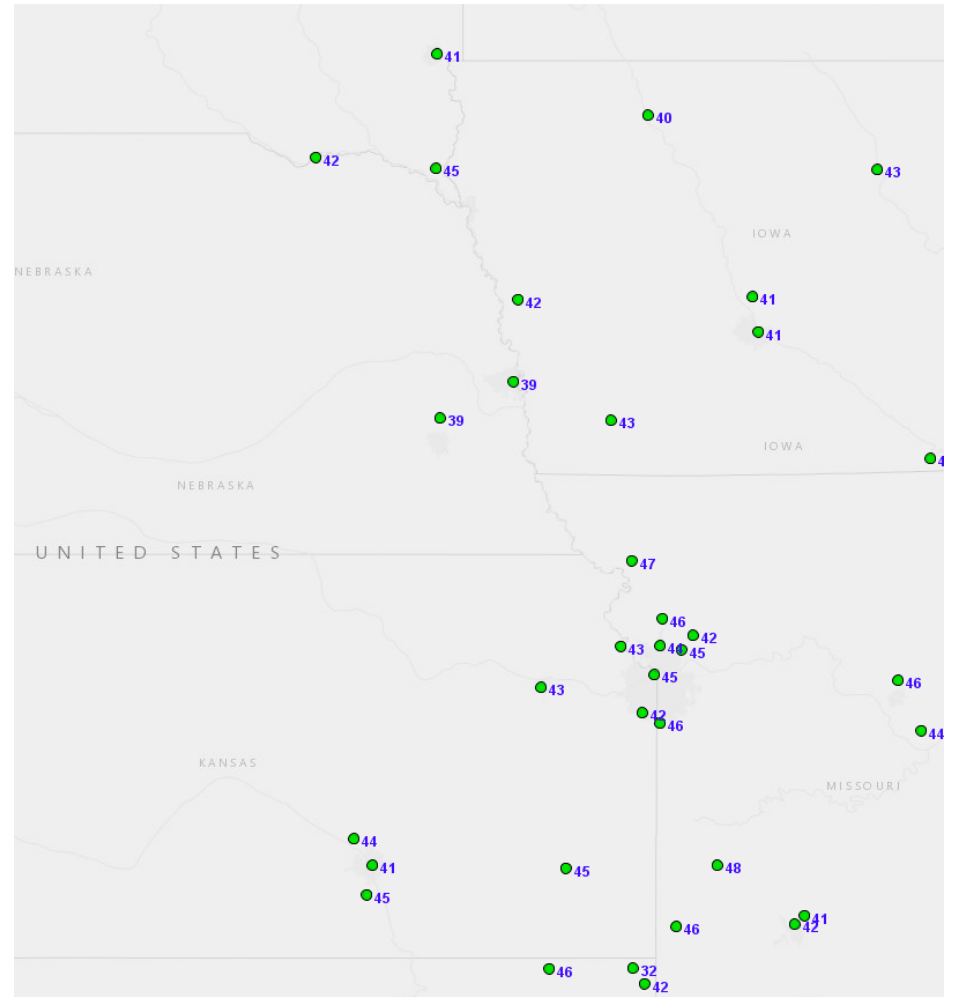
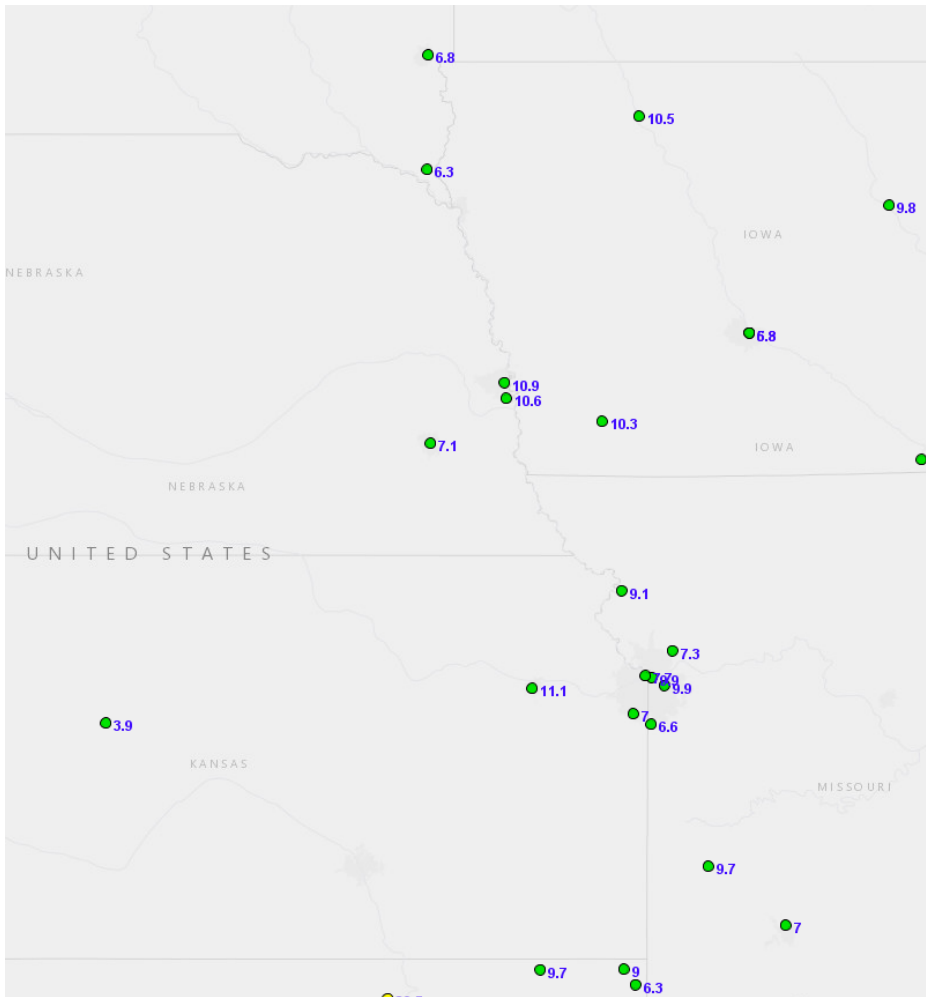
Flint Hills Prescribed Fire Update



Wednesday, March 21, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



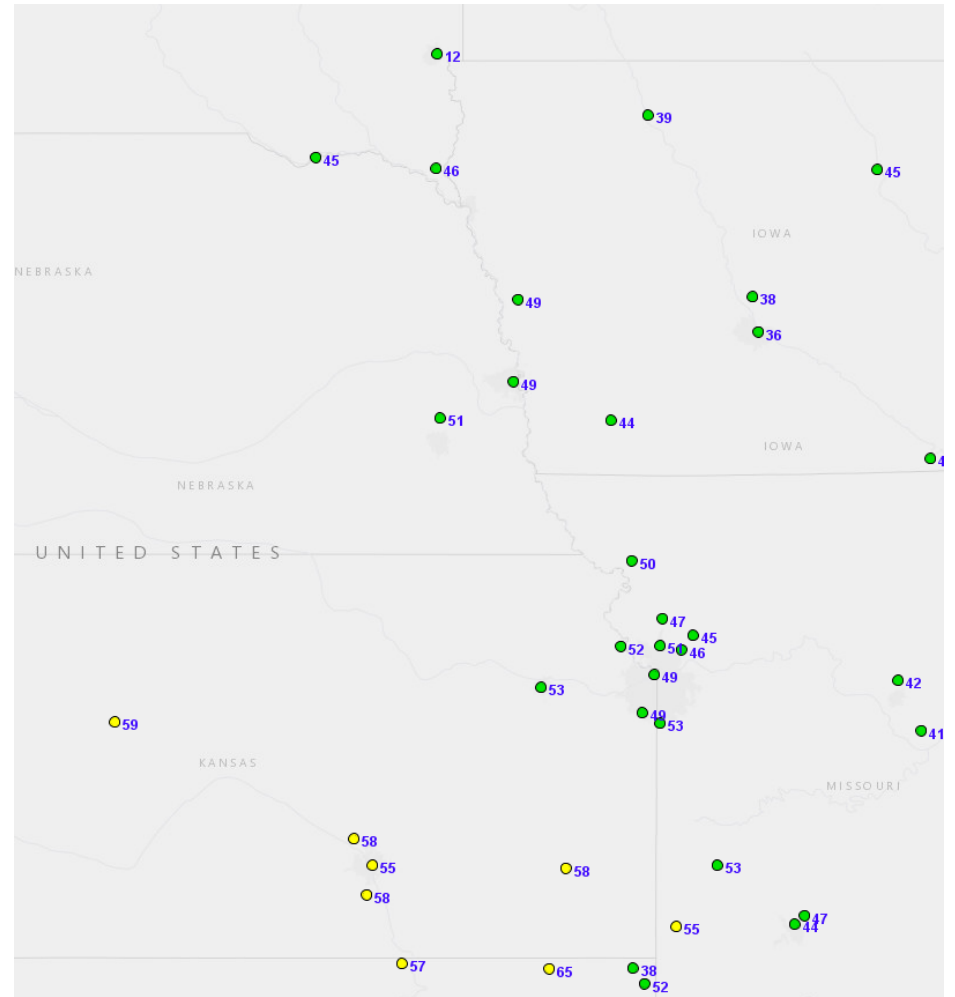
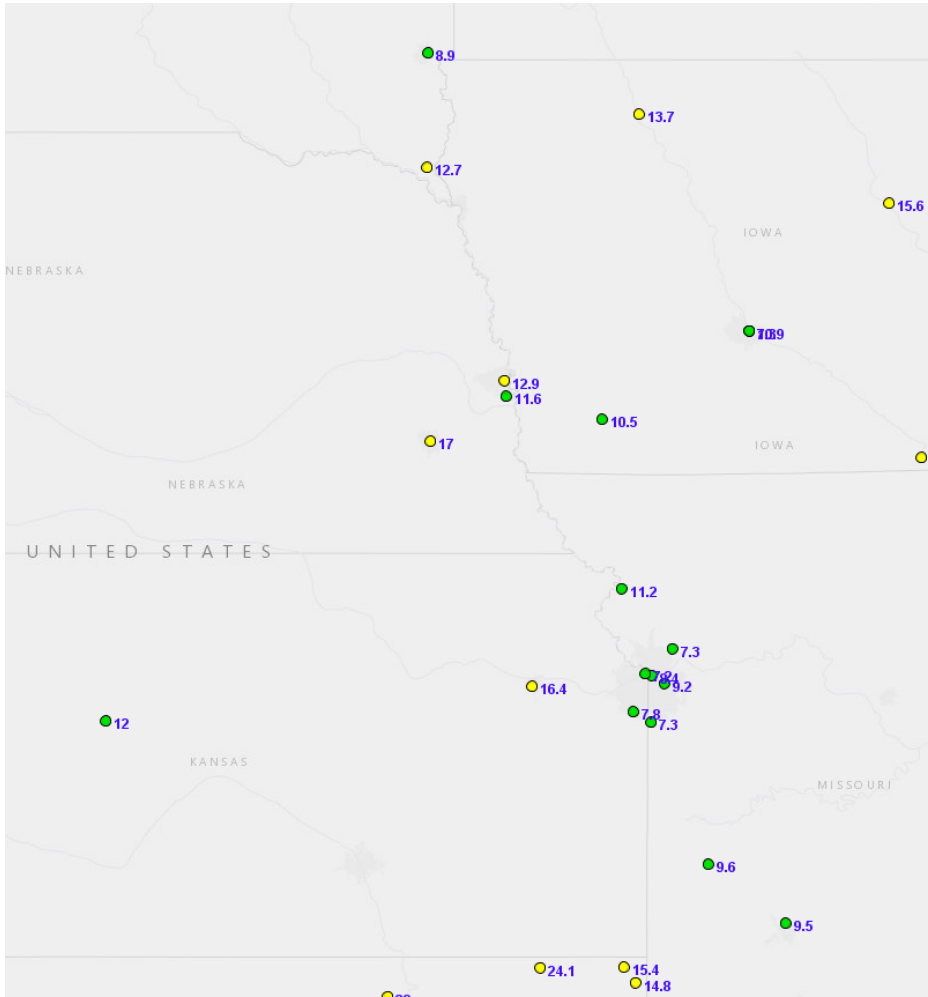
Flint Hills Prescribed Fire Update



Thursday, March 22, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)





Fires and Smoke

Strong west winds last Friday (March 16) combined with low humidity and dry vegetation allowed for several wildfires across Kansas and Oklahoma. Lighter winds on Saturday (March 17) allowed for some prescribed burning, primarily south and east of the Flint Hills. Cloudy and wet conditions limited burning for Sunday and Monday (March 18-19). Clouds and wet ground alongside somewhat breezy conditions kept prescribed burning to a minimum on Tuesday (March 20).

Light winds allowed for numerous prescribed burns on Wednesday (March 21). Smoke from these fires initially drifted south and east, then wrapped back west before being transported north as winds switch Wednesday night into Thursday. Burning was limited more on Thursday (March 22) as winds increased out of the south. Smoke from Wednesday and Thursday was transported north which prompted elevated particulate matter and ozone values across Oklahoma, Kansas, and into Nebraska.

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

KSFIRE.ORG

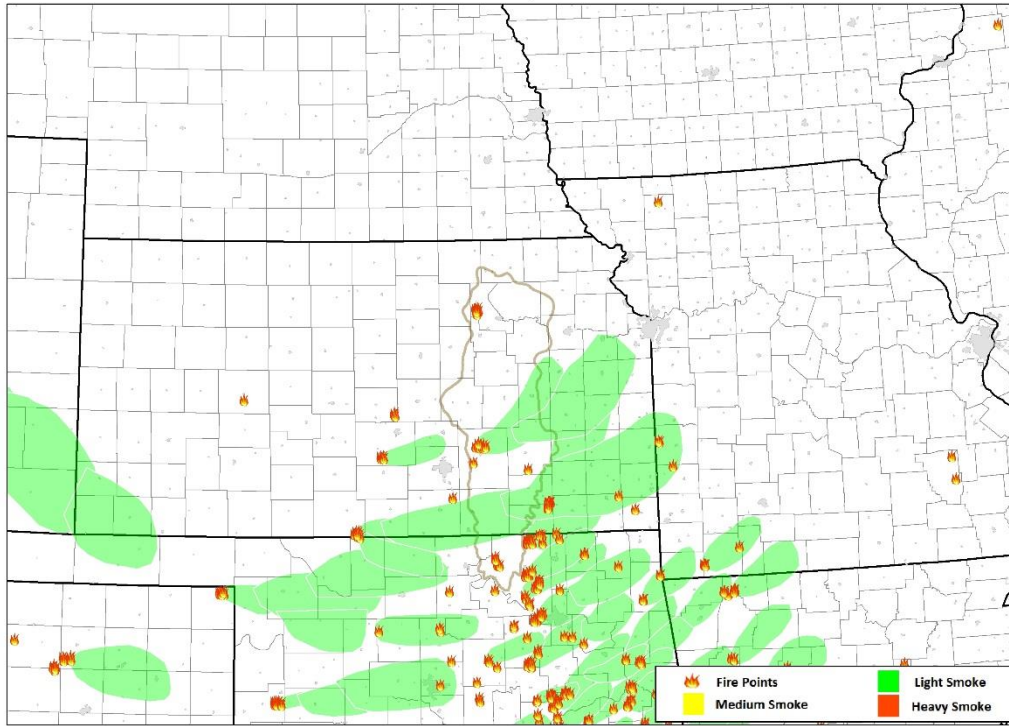


This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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

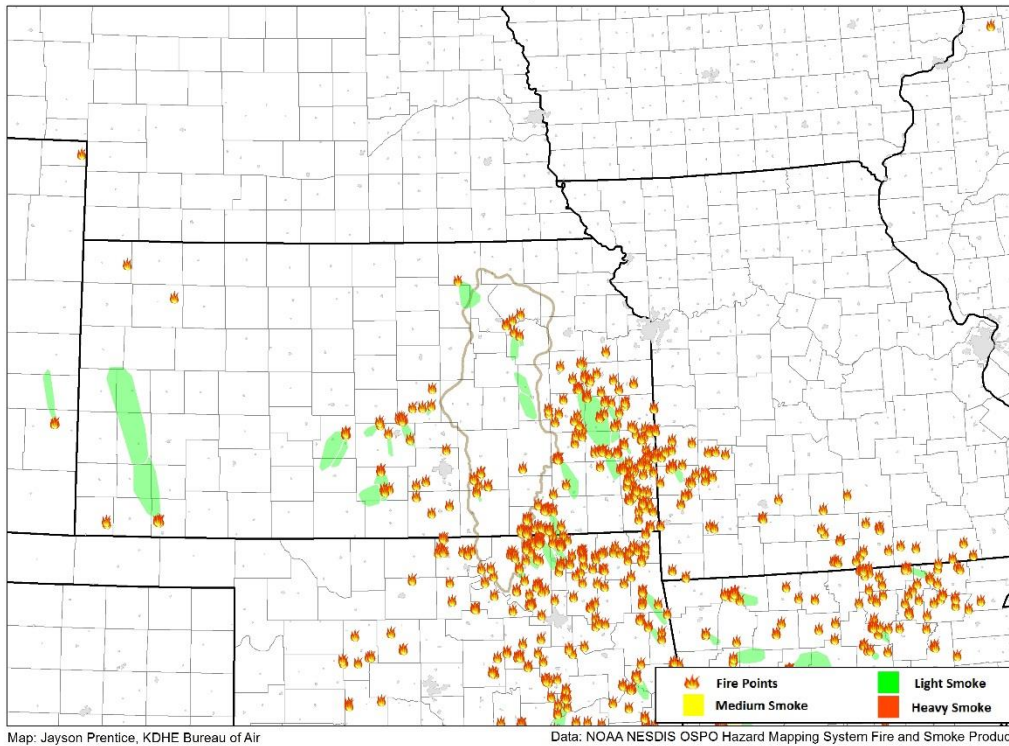
Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis March 16, 2018



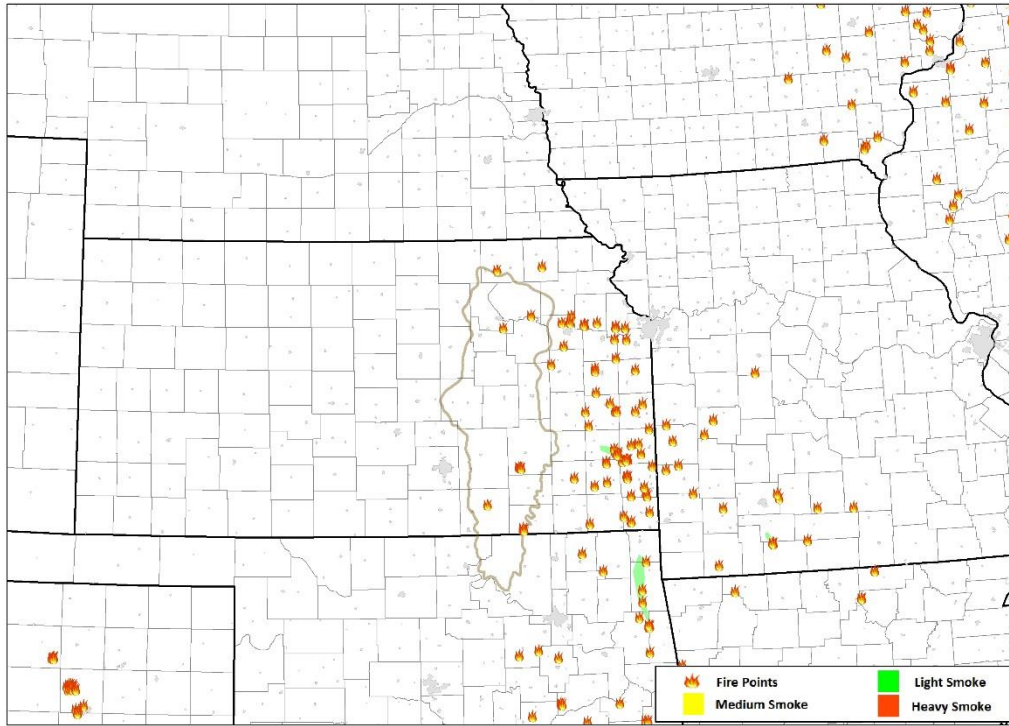
HMS Fire & Smoke Analysis March 17, 2018



Flint Hills Prescribed Fire Update



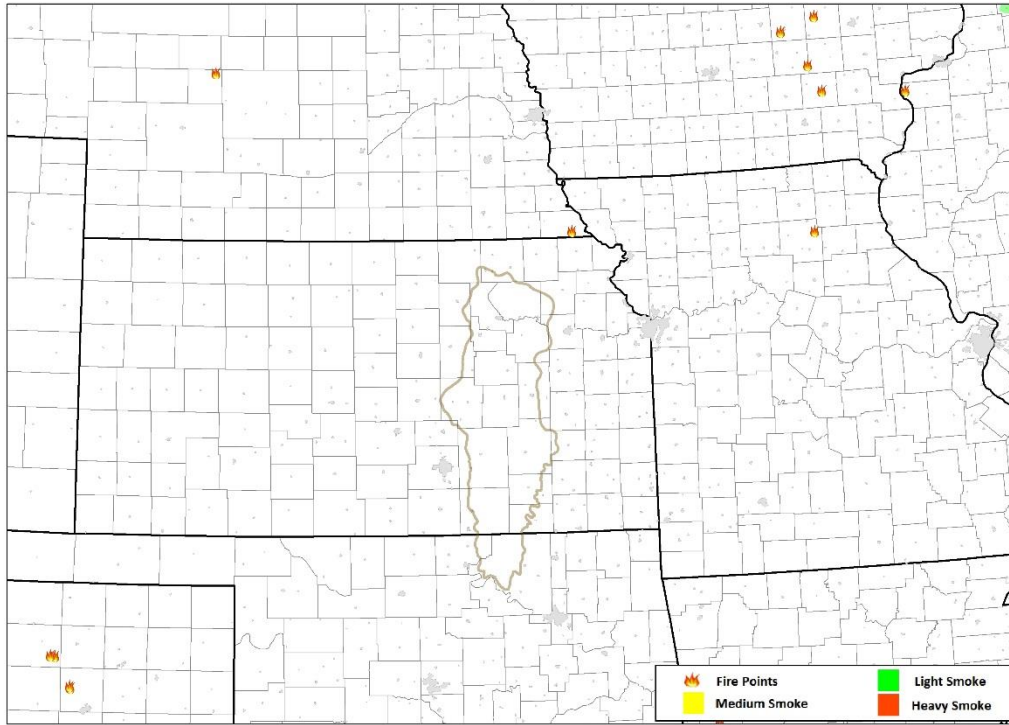
HMS Fire & Smoke Analysis March 18, 2018



Map: Jayson Prentice, KDHE Bureau of Air

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

HMS Fire & Smoke Analysis March 19, 2018



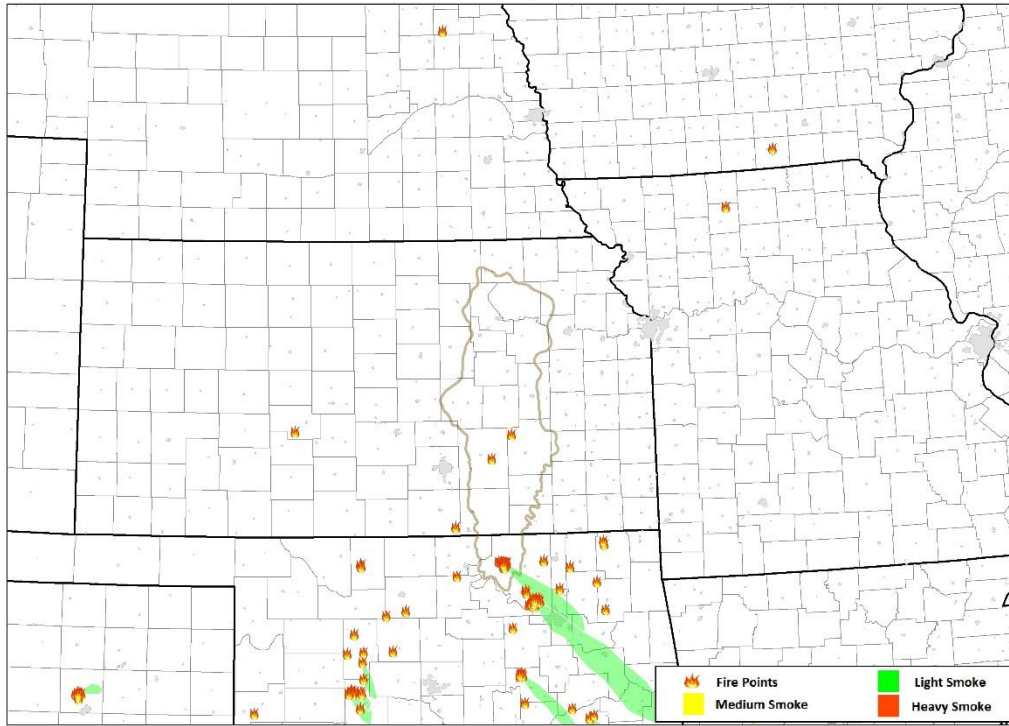
Map: Jayson Prentice, KDHE Bureau of Air

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

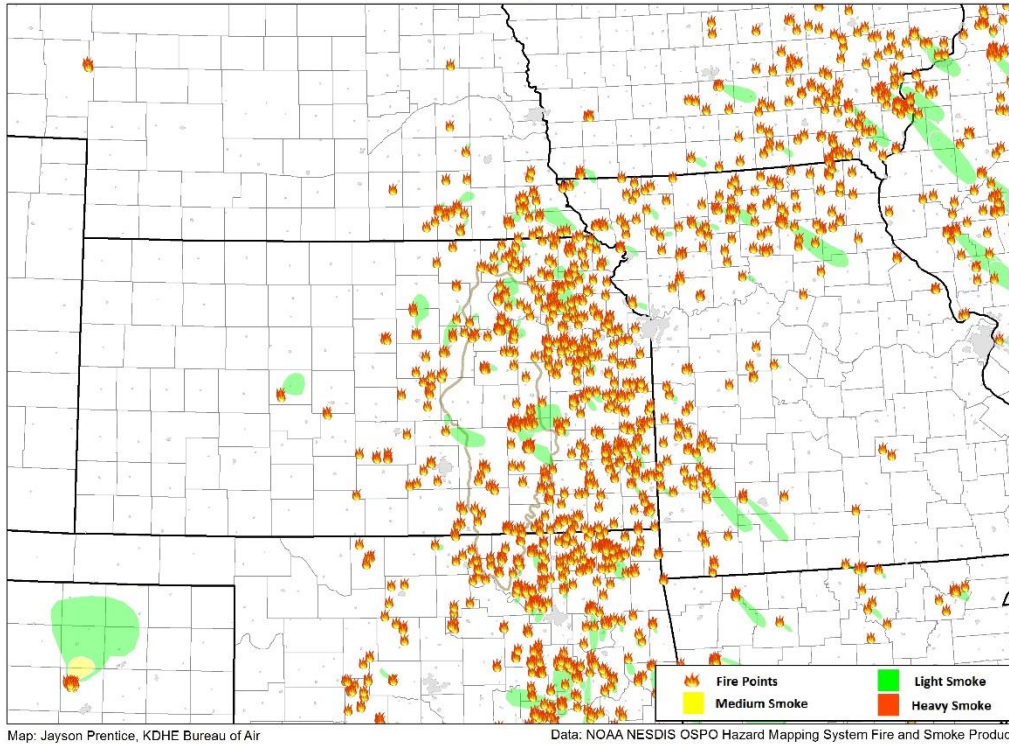
Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis March 20, 2018



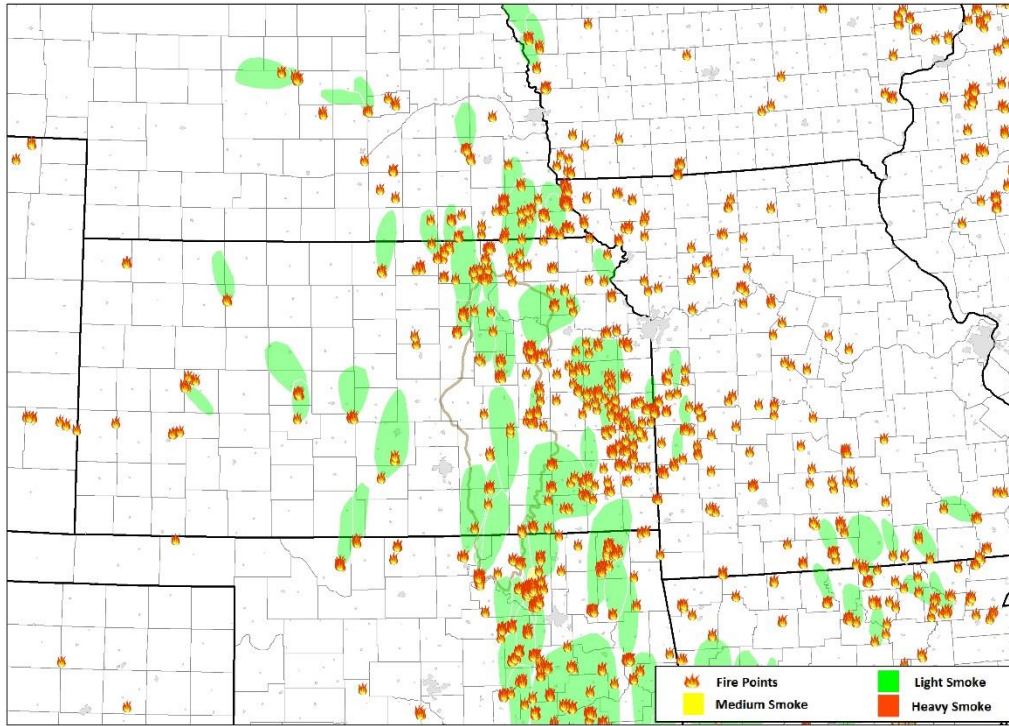
HMS Fire & Smoke Analysis March 21, 2018



Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis March 22, 2018

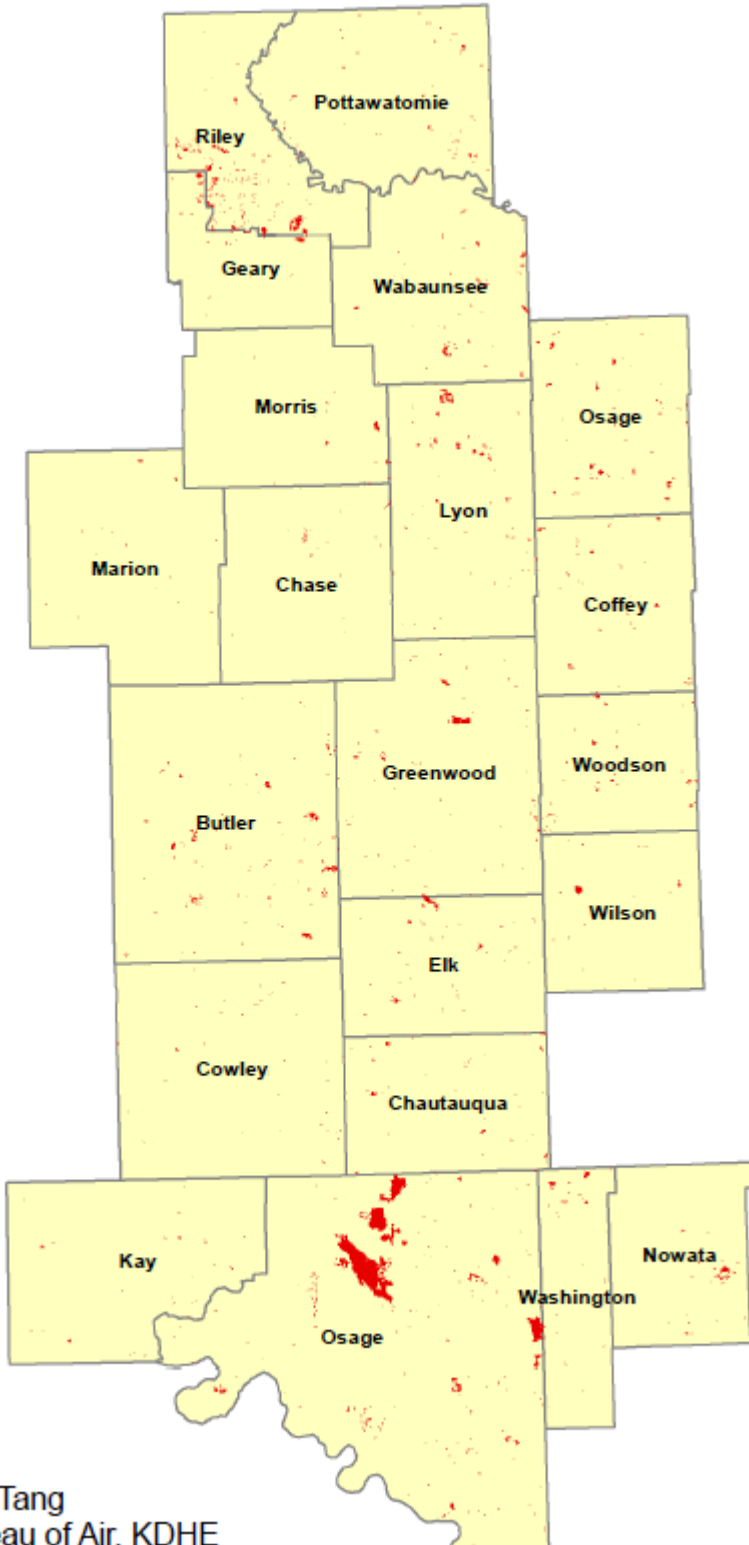


Map: Jayson Prentice, KDHE Bureau of Air

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



Flint Hills Acreage Burned (February 17 – March 13, 2018)



| <u>Counties</u> | <u>Acres Burned</u> |
|---|---------------------|
| Butler | 5,359 |
| Chase | 679 |
| Chautauqua | 1,498 |
| Coffey | 1,436 |
| Cowley | 896 |
| Elk | 2,193 |
| Geary | 1,791 |
| Greenwood | 3,367 |
| Lyon | 3,383 |
| Marion | 494 |
| Morris | 958 |
| Osage (KS) | 2,981 |
| Pottawatomie | 1,745 |
| Riley | 7,089 |
| Wabaunsee | 2,811 |
| Wilson | 1,097 |
| Woodson | 1,606 |
| Nowata (OK) | 1,544 |
| Osage (OK) | 41,854 |
| Washington (OK) | 1,591 |
| Kay (OK) | 865 |
| | |
| Total | 85,237 |
| * Denotes county was partly or completely covered by clouds during latest analysis. | |

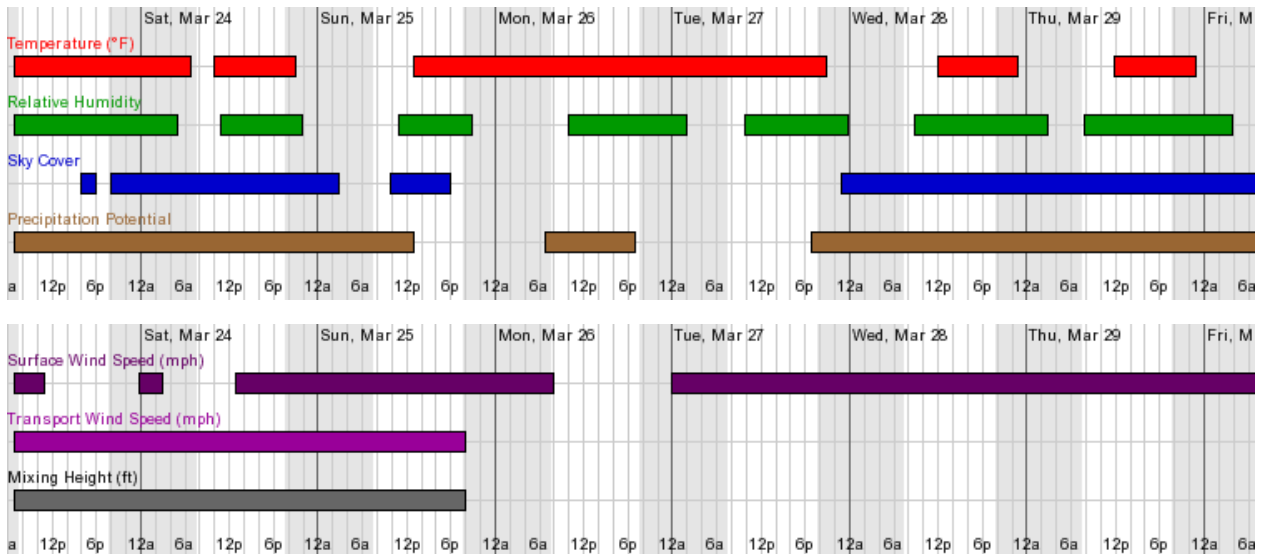
Yao Tang
Bureau of Air, KDHE



Upcoming Look at Fires and Smoke

Breezy conditions and cloudy skies will likely inhibit much of the Flint Hills and nearby areas from burning today. Winds decrease Saturday afternoon which may provide for a small window for burning under north winds 10-15 mph. Showers and perhaps a few thunderstorms are expected Sunday night into Monday, and again Monday evening into Tuesday. When it is not raining during that period look for it to be breezy. Wednesday is dry for now and may provide an opportunity to burn if land managers can make access despite wet ground. Thursday may be on the breezy side with stronger north winds.

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: 7am March 23, 2018.